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Barriers to entry

Costs and other factors are holding back EHR implementation in this sector

Image illustration: Mark Speakman

By Kimberly Marselas

Post-acute care providers still think of electronic health record systems that talk to one another as too burdensome and costly, according to a recent federal report.

The Government Accountability Office criticized the Department of Health and Human Services for its failure to measure how well it has promoted interoperability and its lack of a plan to increase adoption among long-term care facilities and other post-acute providers.

Through a series of interviews with stakeholders that included vendors, experts and professional associations, the watchdog agency found cost was the top factor inhibiting the widespread exchange of health information at the post-acute level.

Facilities often report they are too financially strapped to cover initial implementation costs of an EHR, as well as the ongoing costs of system maintenance and electronic exchange.

Meaningful use incentives that propelled many hospitals and ambulatory care providers toward technology adoption weren't made available to post-acute providers, which has hindered progress, according to industry observers.

"If we really want to meet the three goals of improving care quality and improving person-centeredness while reducing costs, we really need to seriously consider long-term and post-acute care providers who are touching and taking care of the sickest and most vulnerable populations," says Majd Alwan, Ph.D., LeadingAge's senior vice president for technology and the executive director of its Center for Aging Services Technologies. "Otherwise, we're never going to achieve those objectives."

In her report to members of the U.S. Senate Committee on Health, Education, Labor, and Pensions, the GAO's Carolyn Yocom emphasized technology's potential to improve patient outcomes and reduce costs.

She cited research showing failed coordination of care leads to duplicated tests, unnecessary medications and other errors at an

Photo: Ryan McVay/ DigitalVision/Getty Images

Meaningful use incentives ignored long-term care providers, leaving them without a funding stream made available to other caregivers.

estimated cost of $25 million to $45 million in a single year.

"When patients transition from acute care to post-acute care settings, it is vital that the providers share patient health information, such as health records and test results," she reiterated in an email to *McKnight's*. "Absent proper evaluation, it will be difficult to determine whether any of HHS's efforts are promoting EHR use, and thus lose the opportunity to make improvements to increase the effectiveness of EHR use."

of the National Coordinator for Health Information Technology doesn't address how to facilitate or encourage vendors to implement better technology.

Staffing concerns abound

The staffing required to implement and manage such IT products also remains a real concern in long-term care settings.

Lorren Pettit, vice president of HIS and research for the Healthcare Information and Management Systems Society, ongoing stereotypes around clinical settings and a lack of sophistication in their technology efforts.

When they do have IT staff — especially in independent settings — those individuals often aren't dedicated to tech efforts or championing adoption of better tools.

A HIMSS leadership and workforce survey wrapped in January found that 13% of LTPAC respondents had no full-time IT positions, and 37% have fewer than five. In addition, 24% grew their IT staff last year, compared with 53% of hospital-affiliated respondents.

"It's not like LTPAC providers cannot learn how to manage a disruptive workflow, or work around technologies that do not interact with one another," Pettit says. "But the lack of staff acts as a bottleneck to the progression. You must have players before you can field a team."

Post-acute providers also told

lenges also were cited as barriers to EHR use.

The report highlighted four efforts by the Department of Health and Human Services to encourage EHR use in the post-acute sector, including financial awards and matching funds for interoperability initiatives.

But the department hasn't measured the effectiveness of those efforts, the GAO said, and "lacks a comprehensive plan to meet its goal for post-acute care."

"Without a comprehensive plan to address these issues, HHS risks not achieving its goal of increasing EHR use and the electronic exchange of health information in post-acute care settings," the report reads.

The GAO recommended that HHS evaluate the effectiveness of those efforts, and create a plan on how to achieve its goal of electronic health records' use and information exchange in post-acute settings.

HHS agreed with the recommendations, according to comments supplied with the report.

The department plans to post baseline metrics this year for health IT adoption and interop-

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Majd Alwan, Ph.D., Center for Aging Services Technologies

As an example, she pointed out a lack of evaluation plans for HHS efforts to use data mapping to improve health information exchange during transitions of care and inform post-acute care discharge planning.

The report also found that the Nationwide Interoperability Roadmap designed by the Office

acknowledges IT staffing challenges are universal in health care. But he says post-acute providers face some "unique and remarkable issues."

When hiring, "the margins LTPAC providers operate under make it very difficult to compete against other healthcare organizations," he says. He also notes

the GAO that a lack of staff expertise, coupled with high staff turnover, fuels a "constant need" to train workers on the technology.

Varying implementation standards, finding post-acute relevant health information among exchanged data, workflow disruptions and technological chal-

erability within PAC settings on its Health IT Dashboard.

But the report noted that standardized data elements to be added to the Data Element Library are offered as resources rather than requirements, leaving providers uncertain of the best technical solutions.

LeadingAge CAST has stepped

into that void, offering EHR selection tools including a white paper, case studies and product matrix comparisons. The organization's seven–stage adoption model also can help providers determine which IT tools are worth investment.

"They can help operators see which providers on the market have what they need and are certified," says Alwan. "Fifty percent of the EHRs out there are offering things such as interoperability with pharmacies, e-signature portals and analytics. But we don't even know if these are being put to full use."

HHS officials also acknowledged they don't know how many facilities have certified EHRs or whether they're available at the point of care. A national survey being developed specifically to estimate usage won't be broadened because HHS says it "does not have adequate funding" to look at discouraging factors such as cost or technological barriers.

Even within the industry, estimates vary widely due to a lack of general agreement about what an EHR should include.

"An EHR can be as simple as an electronic version of a medical record or as sophisticated as something that incorporates clinical decision support," adds Pettit. "Until we can come to some agreement about what constitutes an electronic health record, we should continue to expect the claims about adoption rates to vary significantly."

Alwan says there have been no harmonized national surveys that show progress in adoption because the cost is prohibitive, a troubling fact for those who would like to see more investment in programs and measures that could help overcome barriers to adoption.

What is clear, adds Alwan, is that smaller, stand-alone providers, especially those in rural settings, are less likely to have invested in EHRs and other capabilities that promote effective exchange of information. He says many large-market and multi-site providers in competitive markets were encouraged to adopt data-driven systems to compete in the world of accountable care organizations and bundled payments. Revenues made the investment worthwhile.

But the cost of updating old buildings, adding staff on shoestring budgets and finding reliable systems isn't a feasible battle for many independents.

"Personally, I worry about those types of organizations," says Alwan. "In some cases, they are the only healthcare providers in certain areas. We need to ensure those types of organizations have not only the financial resources but also the technical assistance and support." ■

Investing in tech

Operators are spending more on infrastructure that improves information and communication

Photo: NicoElNino/iStock/Getty Images Plus

By Kimberly Marselas

Spending on infrastructure that supports information and communication technology continues to lead the way in a biennial survey that examines how senior living organizations are investing in technology.

Of the 114 chief financial officers participating in the Ziegler CFO Hotline survey, 81% said they had invested in information and communications technology in 2016. Fully 45% said they planned to spend in the same category in 2017.

Many of the respondents said they were investing in wireless, servers and related infrastructure to support or expand the use of other healthcare technologies in the near future.

"The leading investment we see, and it's been there for a number of years, is making your campus wireless for your residents, your families who visit or your staff who might be using tablets around the building," says Lisa McCracken, Ziegler's senior vice president of senior living research and development.

Behind infrastructure, respondents said they were most likely to invest this year in electronic health record systems (35.1%), access control and wander management systems (30.6%), electronic point-of-care or service documentation (29.7%) and resident access to the internet or social networking sites (27.9%).

Those same categories also dominated last year's spending habits.

In other categories, Ziegler found multi-site organizations were up to three times as likely to have invested in a particular technology, including health information exchange, shared care planning tools, telemedicine and medication management technologies.

Although technology remains an industry priority, respondents said they spent an average of 11.8% of their capital budgets on tech in 2016, down from an average of 12.2% in 2014.

The average share of the capital budget spent on tech upgrades for brick-and-mortar facilities (versus home- or community-based services) dropped from 13.4% in 2014 to 6.9% in 2016.

That may be because many completed big-time capital investments

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Operators are making tech investments with future needs in mind.

and are focusing on integrating relatively lower-cost, use-specific tools.

Several respondents indicated as much in anonymous comments, one saying that "heavy capital investment was done in the past" and another noting that previous infrastructure improvements allowed them "to get ourselves to a place where we can consider implementing some of the other health technologies."

Shift in progress

"The other important factor we need to consider is, in the IT world, we're moving away from capital and moving over to the operational side," says Majd Alwan, Ph.D., LeadingAge's senior vice president for technology. "We see many providers downsizing their data centers and outsourcing the handling of applications to third-party operators who are capable of taking these things off their plate."

Alwan is executive director of LeadingAge's Center for Aging Services Technologies, which provided Ziegler with input for the survey.

He says many vendors have likewise moved away from offering locally hosted solutions and now insist their clients connect remotely. That's helped fuel a reduction in costs, as remote services and software have gone down in price during the last two years.

The cloud, along with certified and experienced data centers, offer levels of back-up and security that many healthcare providers grappled to accomplish or finance on their own.

CDW's HealthTech said the cloud has "sky-high potential" for 2017, because healthcare providers that are shedding non-core functions as finances are squeezed by value-based payment models.

"In addition, the cloud plays an essential role in other initiatives to improve outcomes and the quality of patient care, such as population health, precision medicine, mobile health and interoperability," *HealthTech* reported.

In-demand tech

The top investment behind infrastructure for last year and planned for 2017 remains electronic medical or health record systems.

In some cases, Alwan says, providers are re-investing to get better systems that allow them to capture more data points and provide access to partners.

"There's a continuing demand

Photo: apbalboa/iStock/Thinkstock

Providers are increasingly interested in data that can be shared.

for improvements in quality," he says. "Hospitals are deciding where to send post-acute enrollees post-discharge based on data … It's also affecting reimbursements, so there's a double whammy."

Alwan says additional modules provided by some EHR providers may even have skewed the survey results. That's because respondents can overlook the fact that the record system they purchased also has built-in care coordination or information exchange capabilities.

Information exchange is an area where investment by multi-site providers in 2016 (22.5%) outpaces that of independents (12.6%).

That may go back to Alwan's emphasis on potential partners; those who can share information more quickly may be more likely to find themselves becoming part of referral networks.

Across the board, McCracken says survey respondents were interested in products that provide them with data and information they can share with others.

For instance, medication management tools, a potential 2017 investment for 15.3% of respondents, now allow facilities to track when and how often their residents are receiving medication, and let family members know if a prescription is added or ended.

"That kind of technology has come a pretty long way in the last five years," McCracken says. "It's much more sophisticated."

Fully 20% of multi-site organizations planned to invest in activity monitoring tools in 2017, up from 12.5% last year. The category wasn't even tracked in 2014, much less 2012.

McCracken says those tools can be invaluable to providers who want to detect changes in residents' behaviors as a way of implementing proactive care.

"If we know someone's pattern is changing a bit, it can trigger some upstream, preventative stuff," she says.

She notes, as Alwan did, that actual use may be underreported because the tracking is integrated with another system.

But as with any technology, there may be concerns about "Big Brother" when new tools first enter the market. Often, it takes a delicate touch and several success stories to help spread adoption of specific technology types.

Taking a fall

Among the technology options with the least traction heading into 2017 were shared care planning tools (11.7%), and automatic fall detectors (4.5%).

Fall detectors may be more attractive for some patient populations than others. Because the survey is anonymous, it's unclear how many respondents from senior living organizations represented more vulnerable, fall-prone populations found in skilled nursing and dementia care units.

Likewise, telehealth, cognitive training and physical exercise technologies may remain more important to specific users.

Alwan believes, however, that shared planning will become more popular in coming years across the board as both reimbursement initiatives and the focus on person-centered care increase.

"It's starting to get some traction," he says. "We still live in a silo'd world. The primary care provider thinks of treatment as one thing. The therapist thinks of it as something else. Each of them consider their own perspective. Shared care planning takes into the perspective and the goals of that residents and his or her own preferences as well."

As some technological barriers drop and programs provide more room for feedback and collaboration, Alwan expects vendors will fine-tune care-planning products to make them more attractive.

Like all technology initiatives, he says leadership is essential for patient-care tools to succeed.

"There are so many moving parts," he says. "It needs to be coordinated and someone needs to be at the helm." ■

"The leading investment we see, and it's been there for a number of years, is making your campus wireless for your residents, your families who visit or your staff who might be using tablets around the building."

Lisa McCracken, Ziegler

Gone phishing

Cyberattacks have become increasingly harder to detect — and prevent

Image: scyther5/iStock/Thinkstock

By Larry Jaffee

For American Senior Communities, the cyber nightmare arrived in February. That's when an employee at the firm responded to what appeared to be a legitimate government request for wage information.

Unbeknown to the Indiana-based chain, the email was actually a phishing scam. But before that fraud was discovered, tax-related information for more than 17,000 employees had been turned over to hackers.

Welcome to the frightening new world of cyberattacks, where the only thing limiting the ability of fraudsters to steal your information is their imagination.

Preying on ignorance

Forensic analyses show most cyberattacks come via social-engineering trickery, as employees unwittingly leave their organizations susceptible to severe damage. Adversaries may usurp pertinent information from company websites and LinkedIn, for example.

"It's not just malware, riskware and the constant barrage of known threat hackers from China and Russia; it's your own people potentially doing harm to your network without their knowledge," says Marshall Wolf, of data-security expert Gigamon.

Timothy Ryan, principal of EY Fraud Investigation and Dispute Services, and a former FBI agent, last August tracked a massive intrusion using compromised credentials. The attacker moved around the tool-laden system unheeded because there was no malware involved.

"These guys are learning to live off the land," says Ryan, who suggests organizations educate employees to use "out-of-band communication," such as picking up the phone or sending a text to a cellphone, to confirm a colleague sent a suspicious-looking email instead of possibly responding electronically to the disguised hacker.

Trouble ahead

Phishing often is a prelude to something far more sinister. "After gaining access to an enterprise, I've seen adversaries then drop ransomware on servers, locking all the machines up," says Ryan, who typically investigates "an unmitigated, unreported, unescalated smaller breach that led to a massive breach. In the vast majority of the cases, somebody in the company knew about it."

"They've gone from going after individual computers, share drives, servers and databases; now they're compromising software to obtain greater scale."

Jeff Schilling, Armor

Raj Samani, vice president and CTO for Intel Security, agrees that the current spate of ransomware attacks is "particularly nasty." Whereas small-to-medium sized companies were targeted, now it's vertical-specific," he notes.

Ransomware takes less effort and delivers quicker payoff for hackers than stealing and selling data on the black market, notes Jeff Schilling, chief of operations and security for Richardson, TX-based cyber security firm Armor, which services 1,200 clients in 40 countries from five data centers.

Last spring, it tracked ransomware actors going after servers running [Java application] JBoss, taking advantage of a vulnerability that very few users were patching. "Once they gained access to the application with privileges, they'd lock it up," says Schilling, a retired colonel who until 2012 had been director of the U.S. Army's global security operations center under Cyber Command.

Good network hygiene

"I thought that was a big escalation of what threat actors are doing," Schilling notes. "They've gone from going after individual computers, share drives, servers and databases; now they're compromising software to obtain greater scale."

To better protect against attacks, Schilling suggests good network hygiene, such as shutting down shared services between work stations to prevent an actor from being able to move laterally, and also maintaining good

Photo: AntonioGuillem/iStock/Thinkstock

Many facilities lack the infrastructure and financial resolve to embrace the most recent tech developments and opportunities.

backups of computer systems and data. Honeypots sniff out potential attackers within two minutes, he adds.

For potential victims of server attacks, "it's all about patching and staying up to date with all of the applications you run inside your webserver," Schilling points out.

Despite the latest cyberthreats, SQL injection is "still a vector of compromise, 15 to 20 years after being highlighted as something people should be looking out for," points out Rush Taggart, CTO of CardConnect, a Philadelphia area-based financial technology company that processes card payments for 65,000 merchants, of which 125 are Fortune 500 and "probed daily by attackers."

Keeping threats out might be your goal, but Wolf believes organizations should take the view that malware will get into your network. "You have to look at the behaviors in your network to know what's wrong," he says.

Available tools rank and categorize the seriousness of threats and abnormalities, telling organizations via text or other communication means what they should attack first in terms of remediation because a lack of human resources to analyze the level of threat. "We can't react to everything all at once," he explains.

Anti-virus tools can't keep up with hackers figuring out new ways to break in.

"There are constant [hacker] routines out there pinging every IP address known to mankind, trying to look for vulnerabilities and how to get through and plop some problematic injections into your networks to be used now or later," Wolf explains.

Accepting the inevitability of an attack behooves organizations to put together a "coordinated and tested incident response plan," advises Alphonzo Albright, vice president of worldwide global justice services for Montreal-based Abilis Solutions, which handles IT for state governments, healthcare and financial services in the New England area. Albright focuses on securing law enforcement networks.

Government agencies are under constant external threat, but sometimes their employees are the culprits. An IT technician employed by 185,000-resident Livingston County, MI, ran from a government server a password harvesting scheme and illegal movie/music operation, which emitted BitTorrent file-infected malware.

Rich Malewicz, the county's CIO and CISO, quickly caught the employee on a network administrator's PC, trying to obtain higher credentials. The ObserveIT tool captured the keystrokes of the caught employee and some of his colleagues with screenshots of what they were doing.

"We watched them for a month and uncovered this whole ecosystem," says Malewicz, who rebuilt Livingston's security posture in 2013 with a $500,000 overhaul that also included FireEye and

"It's not just malware, riskware and the constant barrage of known threat hackers from China and Russia; it's your own people potentially doing harm to your network without their knowledge."

Marshall Wolf, Gigamon

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Hackers often drop ransomware on compromised servers.

enables monitoring of every county computer to protect against insider threats against long-term care organizations and other businesses.

Are tools performing?

Testing whether your threat assessment and detection tools, such as FireEye, are performing is as important as having purchased them, notes Ondrej Krehel, CEO and founder of LIFARS, a digital forensics and cybersecurity intelligence firm in New York.

"All that you are really trying to do is get more intelligence about what is your current cybersecurity posture," he notes. Companies often think they're "strong [because they purchased tools], but is it really true?"

Network penetration exercises often test just a few areas. A complete survey of the entire IT operation sometimes reveals "an open door that literally is missing or needs to be fixed," points out Krehel, adding that companies should not focus just on particular endpoints.

Isolating critical systems will limit the ability of malware to spread, Taggart notes, adding that CardConnect's firewalls and filters routinely drop malevolent traffic.

Network segmentation denies outbound Internet access. "Even if attackers get in, they can't get the data out," he adds.

But Samani asks rhetorically, "Can a three-person small business realistically deploy sandboxing?"

Besides the cost, there's also the configuration, management, maintenance, licensing, installation of new servers and staff required.

To combat today's escalated threats, Intel Security last July collaborated with Europol, Kaspersky Lab and the Dutch police to offer free decryption tools through *https://www.nomoreransom.org/*.

"In the first 24 hours, we had 2.6 million visitors to the site and just over 4,000 people downloaded the Shade Ransomware decryption tool that we released on that day," Samani reports. That effort alone helped 165,000 people whose computers were infected.

A second takedown has already taken place, and others are imminent, he adds.

An organization's lackadaisical behavior welcomes trouble. Even though Payment Card Industry Data Security Standard (PCI DSS) guidelines require alarms and logs to be examined daily, "the Target breach transpired over three-and-a-half weeks," Taggart notes, "and alarms were going off every single day." ■

Larry Jaffee writes for SC Magazine, *a sister publication of* McKnight's Long-Term Care News.

EHRs: The struggle to keep up continues

Electronic health records are the backbone of interoperability, but long-term care participation is far from optimal

By John Andrews

Electronic health records are being used to a small degree in long-term care. But for the most part, the industry is being left behind in the federal initiative to achieve interoperability across the continuum of care.

There are many reasons why long-term care lags in the adoption and deployment of EHRs that would bring the post-acute care sector in line with its acute-care counterparts on seamless health information sharing, but ultimately it comes down to a high cost for an industry with limited financial resources.

The Government Accountability Office has investigated why EHR adoption is slow in long-term care and determined that providers don't have the financial wherewithal, the technological resources or infrastructure necessary to participate in the exchange of EHR information across the healthcare landscape.

This finding should not come as a surprise to federal officials, since long-term care was excluded from The American Recovery and Reinvestment Act of 2009. This law offered billions of dollars to healthcare organizations that attained interoperability and Meaningful Use criteria for Medicare and Medicaid.

The GAO found that facilities' financial resources are often limited to cover initial implementation costs of an EHR, let alone costs of exchanging information and maintenance.

Varying implementation standards, finding post-acute relevant health information among exchanged data, workflow disruptions and technological challenges also ranked as barriers to EHR use.

Through a recent GAO survey on EHRs, post-acute providers also told the agency that a lack of staff expertise, coupled with high staff turnover, leads to a "constant need" to train staff on the technology. Moreover, GAO officials said while the Department of Health and Human Services encourages EHR use in the post-acute sector, the department hasn't measured the effectiveness of those efforts and "lacks a comprehensive plan to meet its goal for post-acute care. Without a comprehensive plan to address these issues, HHS risks not achieving its goal of increasing EHR use and the electronic exchange of health information in post-acute care settings."

The watchdog agency recommended that HHS evaluate the effectiveness of those efforts, and create a plan on how to achieve its goal of electronic health records' use and information exchange in post-acute settings. HHS reportedly has agreed with the recommendations.

Although HHS encourages post-acute care providers to certify their health IT, including EHRs, GAO said it could better promote adoption by requiring providers to go through its certification process. So far, the Office of the National Coordinator for Health Information Technology has not certified an EHR designed for post-acute care.

While the ONC has provided some financial awards for indirect promotion of EHR use in post-acute settings, as well as Medicaid matching funds, it has not gauged how effective these and other measures have been.

"Without an evaluation plan for all of its four key efforts, HHS cannot determine whether, or to what extent, its efforts are contributing to the department's overall goals," the GAO noted. ■

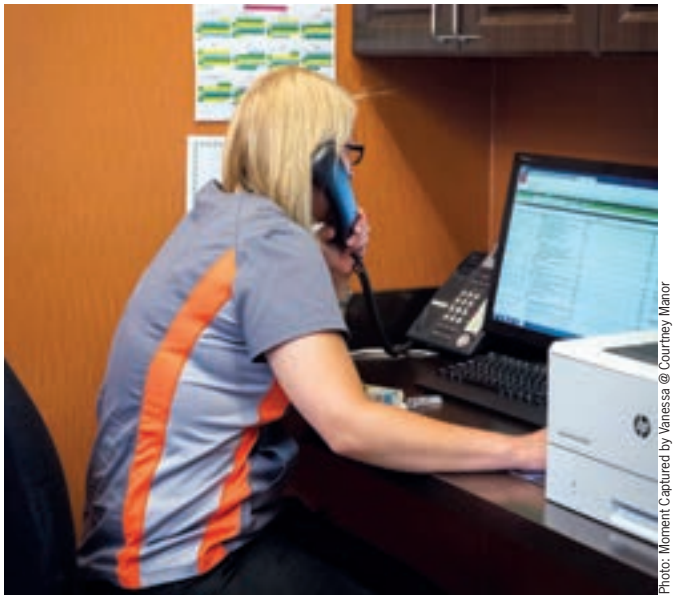

Photo: Moment Captured by Vanessa @ Courtney Manor

Provider progress remains steady but slow, IT experts say.

Three Tips

1. Electronic health records at the long-term care level aren't subject to all federal funding incentives, but adding the infrastructure still provides operational benefits and efficiencies for an organization.

2. Although the Department of Health and Human Services does not require long-term care provider certification in EHRs, it most likely will in the near future.

3. Through multi-dimensional platforms, EHRs can function in tandem with other automated features, such as advanced nurse call systems.

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Medication management gaining traction

With acuity levels increasing, providers need technology more than ever — and in more ways than before

By John Andrews

As acute-care settings transfer patients to eldercare options with rising frequency, seniors are arriving with greater health needs than ever.

The growing acuity levels within skilled nursing facilities, assisted living and independent living communities require providers to have the technology that enables them to assess and manage residents' medical profiles while staying ahead of potential episodes like adverse drug events.

Negative drug interactions are especially challenging in long-term care, according to a 2014 report from the Office of Inspector General. The study, "Adverse Events in SNFs: National Incidence among Medicare Beneficiaries," found that one in three nursing home residents were harmed, if only temporarily, by an adverse event in the first 35 days of their stay. Of these events, 37% were related to medications and 60% were preventable.

Medication errors are not limited to long-term care, however; the Institute of Medicine, commissioned in 2016 by the Centers for Medicare & Medicaid Services to study medication errors, conducted five separate studies that placed the rate of medication errors per 100 doses from 2.4% to 11.1% in inpatient hospital settings.

Photo: John Merkle @ Sedgebrook

Effective distribution of drugs has become increasingly critical for providers in this field.

"There is room to improve the quality of care and medication management in long-term care," acknowledges Doris Yee, PharmD, clinical pharmacist in the Consumer Drug Information Group at First Databank. "There are opportunities and challenges for preventing adverse drug events of which we should be mindful."

Through effective use of electronic medication administration systems, long-term providers can dramatically reduce medication errors that lead to ADEs. A platform that enables enhanced pharmacy communications, data access and e-prescribing can streamline initiation of medication orders, refills and renewals.

The acuity shift has placed a greater responsibility on long-term care facilities to conduct more complex medication transactions than in the past which Yee acknowledges, is a challenge providers are dealing with on a regular basis.

"These new clinical interventions in long-term care may entail new drug therapies not previously employed in these facilities and more monitoring may be necessary by clinical staff of those medications," she says.

Access to resident information, such as the current inpatient medical record, history, diagnoses and lab results, also have been an obstacle for long-term care providers, Yee says. While the best case scenario is an interoperable electronic health record between the health system and long-term care facility, that scenario has not yet developed into reality, as EHRs struggle to gain traction.

"Knocking down this barrier would improve the ability to review the medication profile within the full clinical context and maximize the quality of the medication reconciliation process," Yee says. ■

Three Tips

1. The increasing acuity shift of patients entering the post-acute care sector is requiring providers to use technology necessary to properly manage medications and head off potential adverse drug events.

2. Through effective use of electronic medication administration systems, long-term providers can dramatically reduce medication errors that lead to adverse drug events. A platform that enables enhanced pharmacy communications, data access and e-prescribing can streamline initiation of medication orders, refills and renewals.

3. Mobile health is another emerging technology that has potential application in long-term care. Using mobile devices, mHealth systems can notify patients and caregivers about prescription pickups and renewals, and issue reminder alerts for taking medications.

EMR integration and ongoing support

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Tech is fueling dynamic dementia care

The push is on to reduce pharmaceutical usage through alternative programs and types of cognitive therapy

By John Andrews

Technology and innovative memory care programs can provide a sound solution for long-term care providers in reducing drug prescriptions, agitation incidents, and clinical disorders in residents with dementia.

Given the prevalence of dementia within senior housing populations, providers need to be looking at the role of technology in helping dementia residents and how person-centered care is a key to an effective memory support program.

Presbyterian Homes of Georgia has found the right combination of technology and cultural shift to create a comfortable, accommodating environment for their residents, says COO Gwen Hardy.

"We have a dynamic dementia care program which has had great success," Hardy says. "It is a person-centered approach that uses best practices in creating a culture of care in our community."

The technology is a daily activity assist device called SimpleC Companion, an intuitive touchscreen application that promotes memory, engagement and better communication for seniors. By placing a computer screen monitor that displays personalized images — family photos, videos and meaningful moments from the past — in each room, residents have a slide show that can trigger pleasant memories.

Photo: moodboard/ moodboard/Thinkstock

Tech tools can help deliver person-centered care to residents with cognitive challenges.

"When residents and families look at these images, it can spark happy memories and meaningful conversations," Hardy says. "It reminds them of their past and increases their socialization."

Through a feature called Trusted Voice, families and friends can record audio messages for the resident that can be played at any time to reassure residents that their loved ones are there in spirit.

"If a resident experiences fear or anxiety, the trusted voice can be played to reassure them that everything is OK," Hardy says.

The technology is stored on the cloud and images can be scanned in through a server.

Combined with the Hearthstone engagement program, Presbyterian Homes of Georgia has a solid framework for creating a comfortable environment for residents with dementia. Instead of putting them on a regimented schedule, staff acquiesce to what residents want. For instance, if a resident wants a meal at 2 a.m., it is prepared and served at that time.

One of the biggest benefits of the culture shift has been the dramatic reduction in psychotropic drugs, Hardy says.

"They are at peace, they can communicate and are generally content," she explains.

Person-centered technology and culture are strongly advocated by trade associations like LeadingAge, which recently presented its Award for Excellence in Research and Education to Westminster-Canterbury on Chesapeake Bay in Virginia. Through a partnership with It's Never 2 Late, the Eastern Virginia Medical School and Virginia Wesleyan College, the senior living community pioneered a 24-week study called The Birdsong Initiative.

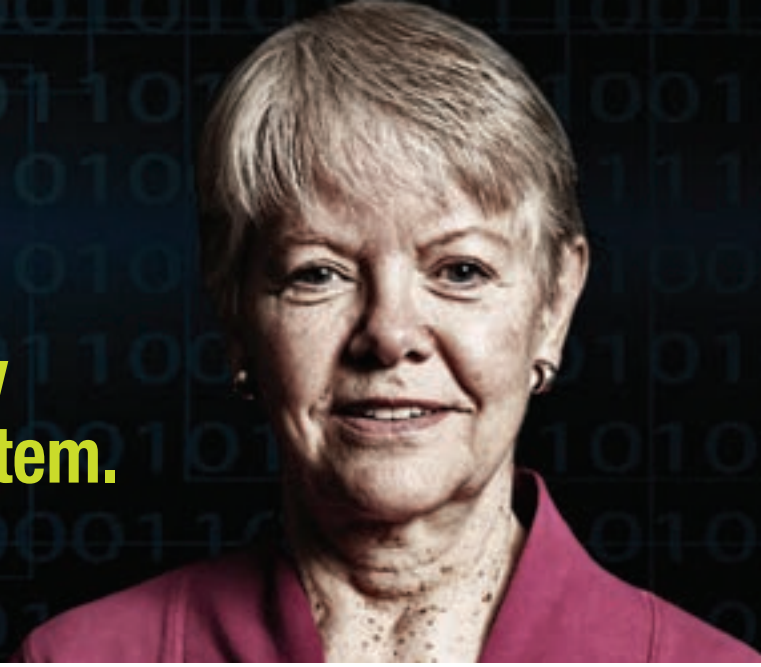
The study's investigators found "statistically significant improvement" in the Affect Balance Scale, a major quality of life assessment. While data analysis is ongoing, some residents in the experimental group experienced lower depression, fewer and less intense behavioral episodes; and higher cognition scoring while aging during the study. ■

Three Tips

1. Technology can provide some great audio-visual tools to help dementia residents spark memories, but it works best in tandem with a culture shift to person-centered care.
2. Visual aids such as photos and videos can help residents remember happy times in their lives, sparking conversation and socialization. Voice recordings of loved ones can provide reassurance to residents when their family is not there.
3. The cognitive benefits of technology can help reduce the prescribing and usage of antipsychotic drugs, and give residents a better sense of well-being.

Dear iN2L,

I wanted to personally thank you for this system.



Within 2 hours after our iN2L training we had our system up and running and have been using it every day since. All of the staff is using & enjoying it thoroughly. We've created profiles for each resident, having their favorite interests a touch away helps with behaviors. We have one gentleman who absolutely loves the aircraft trivia for veterans. He gets every answer right! We split into teams and play The Family Feud® and Price is Right.® We sing karaoke, reminisce, do daily devotions and travel the world.

"In less than two weeks time the system has brought a whole new realm of fun for everyone..."

iN2L is engaging, entertaining, teaching, and interacting with our residents. I can not wait to have families send personal photos and videos to their loved ones. We are teaching families about the system as they come to visit. In less than two weeks time the system has brought a whole new realm of fun for everyone (including family members) in our home. Enriching the lives of our residents is happening even more with this system. I thank you, the staff thanks you, and our residents thank you!

Sincerely,
Elizabeth Thompson, Lifestyle Coordinator
The Arbors at Ravenwood

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To manage staff, it helps to have a system

Workforce management tools allow operators to keep better of track scheduling, attendance and performance

By John Andrews

Any manager will tell you that staff management is an elusive challenge with many moving parts. Those in the know are increasingly calling on operators to consider technologies that aid in tracking all facets of this complicated task. In a best case scenario, a single platform should be at the hub, they suggest.

Workforce management software is the umbrella term for desktop and mobile programs that help a business manage staff scheduling.

Automating the functions of scheduling, attendance and payroll can do more than reduce labor costs. The shift also can help ensure the placement of employees in the places where they are needed most.

The real goal of a workforce management system is to gain visibility into business metrics, such as how many workers are needed at a particular time of day or the amount of time it takes to perform routine services.

Research firm Gartner has determined five core functions for workforce management:

- **Labor scheduling** to help manage employees' skills and compliance requirements more effectively.
- **Time and work data collection** to capture and report highly detailed labor information.
- **Leave management** to process paid time-off requests with visibility into the staffing and liability implications.
- **Task and activity management** to deliver a more detailed view of labor management requirements to help with the sophisticated decision-making required for activity-based management.
- **Time and attendance** to receive input from the other modules and apply rules against the reported times, based on the company's requirements.

Photo: littlehenrraby/iStock/Thinkstock

Managers now have more digital tool available for employee management.

Within the scope of workforce management are several aspects of human resources, such as payroll, benefits administration, talent and performance evaluation and career development.

Assessment is one aspect of workforce management that technology can help, and application is another. In many cases, providing employees with new technology can be a huge part of workforce management's solution phase. Software and technology continues to evolve and by providing it to employees gives them the newest and most advanced tools available for their needs.

Christian Health Center in Wyckoff, NJ, finds its automated workforce management system indispensable.

"An electronic workforce management tool is critical to running a truly efficient operation," says Jennifer D'Angelo, vice president of information services and information security officer for Christian Health Care Center. "It allows us to control expenses, and without an automated system, you run the risk of real inefficiencies and wasted resources."

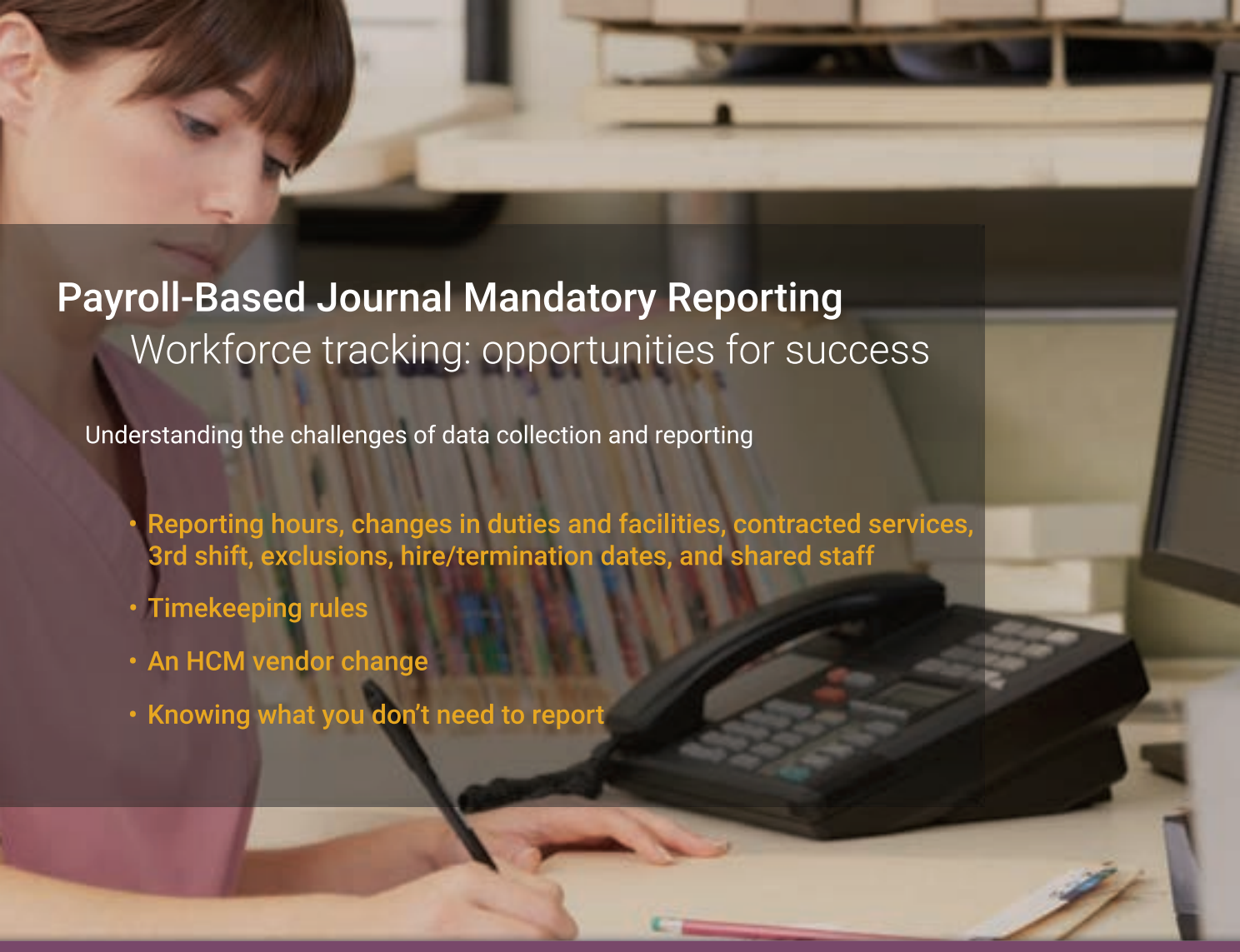
The key to an effective workforce management system, D'Angelo says, is having a multidimensional platform dedicated to healthcare functions that offers a holistic view of the enterprise.

"This allows us to manage our time and maintain operational efficiencies based on our budget and ever-changing census," she says. "Scheduling affords us with master schedules for all employees, census-based PARs, differences and, ultimately, hours per patient day."

Other essential abilities are tracking benefit time, filling open shifts with the appropriate staff with the proper credentials, and daily and monthly unit assignments. The attendance function allows the center to view clocking in and out policies, which also can be restricted at the clock level with overtime approvals. ■

Three Tips

1. Deploy a workforce management system that hosts all the key functions necessary for this essential set of tasks, ideally from a single platform.
2. Among the areas an automated system should address are staff scheduling, time and work data collection, leave management, task and activity management, and attendance.
3. Other essential abilities include tracking benefit time, filling open shifts with the appropriate staff, and daily and monthly unit assignments.



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Data analytics joins the mainstream

Analytics is not just a technology challenge, it is a business-model hurdle for long-term care providers

By John Andrews

Analytics is increasingly at the heart of everything a long-term care provider does, from clinical services to administration to financial management. In order for facility operators to know how they measure up to the competition, they must first understand how they conduct their operations — and analytics is key in this regard, according to experts.

Understanding and quantifying the metrics of every clinical and business process is at the heart of the new value-based healthcare model, says Mark Pavlovich, director of analytics and education at Ethica Health.

"The key to achieving clinical and financial success in post-acute care settings requires paying close attention to the intelligence derived from the massive amount of data generated from day-to-day operations. This is, unfortunately not as easy as it sounds," he adds. Pavlovich spoke at length about analytics at a recent *McKnight's* Online Expo webinar.

He notes that analytics will become increasingly essential for providers who want to perform well in a value-based care environment.

And while the Trump administration has promised fewer regulations going forward, post-acute providers are less likely than other sectors to realize such relief, experts say. That's largely because a push already is underway to achieve greater efficiency, quality and accountability.

Increasingly, post-acute care operators will be sized up by their willingness and ability to perform — and to prove the value of that performance. As a result, clinical analytics and a strong IT infrastructure will be part of the new price of admission for many facilities.

Photo: Wavebreakmedia Ltd/ Wavebreak Media/Thinkstock

Operators are using analytics to improve care — and the bottom line.

That also helps explain why stand-alone facilities are becoming less visible. Many former Mom-and-Pop independents have diversified into different sectors or have become part of hybrid organizations that are in multiple lines of business.

While a few large chains have decided to build data analysis systems that are customized to specific needs, that is hardly the prevailing practice.

In fact, most of the other post-acute players in the game so far have opted to find industry partners with the IT expertise to deliver finely or somewhat tailored predictive analytics systems. Among the latter category, vendors with widely different offerings are in play.

Among providers who have taken the plunge, several suggest that those on the sidelines start by taking stock of their current state of affairs.

Those who have been there also emphasize the importance of selecting the appropriate team leaders in your organization to spearhead the effort. Depending on your organization, it may be the administrator and director of nursing, and somebody from the chief financial officer's department or office.

Once the team is determined, it's probably best to plan for how to incorporate what's discovered into action, or actions.

Providers need panoramic visibility to conduct analytics across their enterprise, including the entire spectrum of care — skilled nursing, senior living with memory care, rehabilitation and home care.

Three key levers to pull are analytics, clinical decision support and care coordination, many experts maintain.

Facility and care center metrics and indicators such as readmission rates, fall rates, prescribing rates and short stay-long stay measures are all important to track, but experts advise facility operators to focus strongly on granular care costs. ■

Three Tips

1. Analytics is the science of tracking activities in order to know how an organization is performing. It requires technology that is able to capture the data accurately so that outcomes can be determined.

2. Since analytics is a business model challenge as well as a technology challenge, providers must learn how to maximize outcomes, not activities, in the value-based environment.

3. Focus on analytics at the enterprise level — spending per beneficiary and population, which is done by aggregating data sources at the care setting level.

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