

Electronic Medication Management Systems in Long-term Care and Beyond

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The move by Medicare and other payers toward pay-for-performance initiatives to improve quality will not only produce better outcomes for patients but also provide financial benefits for providers. In long-term care (LTC), there are special issues pertaining to accessing medications through Medicare Part D and additional requirements under the State Operations Manual (SOM) that make efficient and effective management of medications essential. Much of what is being measured and paid for can be accomplished more easily through electronic medication management systems.

Most programs involving electronic healthcare management have focused far from the LTC setting—this despite the fact that the IOM's 2006 report *Preventing Medication Errors* noted that 800,000 medication errors occur in LTC. Many of these errors are the result of latent failures that can be improved through electronic medication management systems, including¹:

- Incomplete information about a LTC resident
- Unclear communication of a drug order
- Lack of an independent medication check before dispensing or



- administering a medication
- Lack of computer warnings (interactions, allergies, dosages)
- Drug storage in which look-alike and sound-alike drugs are stored near each other
- Lack of staff education

Real-life Applications

Because of these facts, a Philadelphia company, NewCourtland Elder Services, set out to implement a full electronic medication management system throughout its network of LTC facilities. This network of facilities was created in 1995 through the sale of Presbyterian Hospital to the University of Pennsylvania Health System; it consists of 6 nursing homes, housing options, and programs.

NewCourtland's electronic medication management system is being developed in partnership with Millennium Pharmacy Systems, a Pennsylvania company. It's a nurse-developed system that combines proprietary software, bar-coded prescription packaging, and handheld bar-code scanning devices to help eliminate errors in medication administration.

This type of system is critical in LTC because of issues such as Medicare Part D and the SOM. Medicare Part D is especially problematic in LTC given that prescription plans have an incentive to restrict access to medications. Under their Conditions of Participation, LTC facilities have a responsibility to ensure that all medications needed for their residents are provided in a timely manner. As a result, if LTC facilities are unable to manage the Medicare Part D benefits for their residents, they are forced to cover the cost of medications not covered by the plan. Electronic medication management systems that can verify coverage at the time of prescribing can ensure that medications are provided efficiently and on time.

Another issue specific to LTC is the SOM. Recent revisions to the SOM have focused on reducing the

use of psychotropic medications through mandatory gradual dose reductions. These dose reductions and the need to ensure that medications are provided at the appropriate dose and duration are more effectively managed through an electronic medication management system.

The benefits of an electronic medication management system in LTC include the following:

- Prescribing
 - Elimination of handwriting and other communication issues
 - Prospective drug regimen review
 - Coordination with Medicare Part D formulary requirements

Electronic prescribing is safer because it eliminates problems with handwriting legibility.

- Dispensing
 - Bar coding of medications
 - Electronic completion of the medication administration record (MAR)
 - Automated process for monthly physician orders

Applications beyond LTC

The use of an electronic medication management system has special applications to LTC because of the Medicare Part D requirements, the SOM, and the frailty of residents. But equally frail patients exist outside the nursing home, which is why these same systems will have application beyond the LTC facility. This will be especially true as CMS moves to apply the same requirements under Medicare Part D and the SOM to nursing home-eligible seniors without regard to where they live. In a move to apply regulations and benefits to senior needs instead to loca-

tion of care, CMS is developing a system of payment and benefits that follow patients. This move will make the need for electronic medication management important in caring for all frail seniors without regard to where they live.

Computerized systems for prescribing medications and other applications of information technology show promise for reducing the number of drug-related mistakes while improving medication access. Studies continuously indicate that paper-based prescribing is associated with high error rates. Electronic prescribing is safer because it eliminates problems with handwriting legibility and, when combined with decision-support tools, automatically alerts prescribers to possible interactions, allergies, and other potential problems. While the IOM committee acknowledged that significant regulatory issues and problems with automated alerts need to be worked out in electronic medication management systems, the committee said that by 2008 all healthcare providers should have plans in place to write prescriptions electronically. By 2010 all providers should be using e-prescribing systems and all pharmacies should be able to receive prescriptions electronically. The Department of Health and Human Services (DHHS) appears ready to push the implementation of IT systems for ordering, administering, and monitoring drugs. The problem and solution seem clear but what appears to be lacking is the will and leadership to implement electronic medication management systems on a wide scale.

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References

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