



# Achieving Lean in Long-Term Care Facility Medication Management



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# Executive Summary

Long-term care (LTC) is a segment of senior care that is undergoing many unique challenges. Declining occupancy rates, changing reimbursement models and an insufficient number of nurses to meet growing demand sit at the center of these challenges. According to the Bureau of Labor Statistics, by 2022 there will be over one million unfilled nursing positions. Nurses face their own pressures due to tighter discharge networks based on quality scores, budget constraints, increased governmental oversight and higher acuity residents requiring immediate access to medications.<sup>1</sup>

While other segments within the continuum of care have been quicker to embrace systematic improvements to modernize their operational environments, technology adoption has been slow with long-term care providers as they work to manage numerous staffing and reimbursement challenges. Sweeping changes made by the Centers for Medicare & Medicaid Services (CMS) to reimbursement models have created a complex layer of challenges as value-based care models replace traditional volume-based models with a strong focus on outcomes. LTC facilities must also deal with increased performance pressure through the CMS scale star rating system. Finally, LTC facilities must position themselves to attract investors as well as acute care referral partnerships. To do so will require systematic improvements as well as conducting a

long overdue automation of tedious manual, time intensive processes.

One set of processes that negatively impacts efficiency and puts added stress on LTC nursing staff is that of medication management and “passing”, the process of organizing, sorting and administering medications to ensure that each resident is given the correct medication in a timely manner. It is a highly specialized process that must be conducted by a licensed nurse or a certified nurse’s assistant (CNA). Medications passing requires a great degree of tedious, time consuming piecework and is, therefore, highly stressful and prone to human error which, in turn, leads to waste. Each year billions of dollars can be attributed to medications waste.<sup>2</sup> Furthermore, errors made by nurses and CNAs in medications preparation and dispensation can lead to receiving a deficiency citation after a CMS survey is conducted. Errors also expose LTC facilities to the risk of injury, death and, subsequently, potential lawsuits.

Fortunately, technologies, such as in-facility packaging and dispensing systems, have emerged to automate the process of medication management. Traditionally, however, LTC facilities have been slow to adopt these new technologies, often due to established management styles that may limit innovation. The result has been a continuing lack

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## SOURCE

- 1 — Bureau of Labor Statistics, Economic News Release, Occupations with the Largest Projected Number of Job Openings due to Growth and Replacement Needs, 2012 <https://www.bls.gov/news.release/ecopro.t08.htm>
- 2 — Matthew Herper, Healthcare, Forbes “Does Medication Waste Cost the US \$418 Billion?”, June 28, 2013. <https://www.forbes.com/sites/matthewherper/2013/06/28/does-medication-waste-cost-the-u-s-418-billion/#3f15339b25e9>



of efficiency, medications waste and a revolving door of nurses, CNAs and other key team members.

Recognizing automation as key to meeting the challenges that lie ahead, however, many forward-thinking LTC facilities are increasingly turning to “lean” management principles. Lean focuses on eliminating waste and increasing efficiencies so that all work performed is adding value and serving the needs of the customers. It carves out a set of processes that, collectively, are geared to arm an organization with a means to establish and sustain optimum operational efficiencies and put more concentration on quality measures and growth. Lean also paves the way for technologies, such as in-facility medication dispensing systems, that are increasingly being adopted by LTC pharmacies and associated LTC facilities as a new model for optimizing efficiencies to minimize waste and enable nurses to put a greater focus on residents and improving outcomes.

**This white paper examines ways in which lean principles can benefit LTC facilities and pharmacies, more specifically as they relate to the critical role of medication management as part of an overall program for LTC facilities to compete and thrive in a new era.**



# The 5 Principles of Lean

These five principles of lean, together help to form a closed loop of continuous process improvement that helps eliminate waste and maximize efficiencies. The principles are as follows:

## Principle 1: Identify customers and define value

Who are your customers? For LTC pharmacies, the customer is the LTC facility, and those responsible for medications management and dispensation. For the LTC facility, the customers are those individuals who are either directly involved in medications management or are impacted by it. This would include nurses, CNAs, physicians and, most importantly, the residents whose health depends upon receiving accurate and timely medications.

The term “value” refers to the worth assigned to the services that the pharmacy provides to the LTC facility and that the facility, in turn, provides to those who manage the medications and the residents who receive them. The value equation, in healthcare terms, can be expressed as follows:

$$\text{Value} = \frac{\text{Quality (Outcomes of Care, Safety, Service)}}{\text{Cost Per Patient Over Time}^3}$$

For LTC facilities the term “value” takes on added significance in light of the new CMS Patient Driven Payment Model (“PDPM”), which has adjusted the Medicare reimbursement model towards value-based care, moving away from quantity (time-based) to quality outcomes-based reimbursement.

The move to value-based care represents a significant shift for LTC facilities. Making a successful transition will be critical for those wishing to grow and sustain their organizations. This is not only important for reimbursement compliance purposes, but also to grow acute provider referral networks of providers who seek partners who are operating successfully within the new, value-driven model.

SOURCE

3 — Smoldt, Robert, K. MBA; Cortese, Denis, A, MD “Pay-for-Performance-or-Pay-for-Value” Mayo Clinic Proceedings, February 2007, 82(2), p.211.



## Principle 2: Map the value stream

Any program geared towards process improvement must first examine the efficacy of the processes and mechanisms already in place to deliver care. Lean refers to this as “current state mapping” which is used to assess where performance gaps and other operational issues lie and how they may be negatively impacting the efficiency and quality of services provided. Mapping is an integral part of the foundation necessary to apply lean principles.

**Mapping the process of medication management requires examining multiple steps, each of which must be carried out efficiently in order to properly support the “7 rights” of medications administration.<sup>4</sup>**

The LTC facility environment, however, is dynamic which means that, in addition to standard “textbook” steps, nurses must regularly take additional steps to adjust for interruptions and unanticipated situations. These might include being called away to address an emergency, re-checking medications where an error is suspected or searching for misplaced medications. Including all steps in the mapping process is important to properly benchmark performance, both against history as well as that of industry peers. It will also help LTC pharmacies identify the key performance indicators (KPIs) that they can use to properly calculate a Return on Investment “ROI”.

### SOURCE

4 — Safe Medication Administration: How Many Rights are There? rn.com, AMN Healthcare, Inc., 2015. <https://www.rn.com/nursing-news/safe-medication-administration/>



### **Principle 3:** **Create efficient workflow and eliminate waste**

This principle could be considered the cornerstone of the lean methodology. The process of streamlining operational efficiencies and eliminating wasteful activities that take up valuable employee time is central to creating a highly effective organization. For LTC pharmacies, asking questions such as “Does this step help us deliver greater value to LTC facility staff?” or, for LTC facilities, “What tasks allow nurses to deliver a positive resident experience?” will help all participants in the medication management processes to clarify where workflow improvements can potentially shorten the path to a more favorable outcome.

The medication management process is ideally positioned to benefit from the application of Principle 3 in that each step of the process must be evaluated and categorized as “creates value”, “does not create value but is necessary” or “creates no value”, which is thereby identified as waste. The process then undergoes further refinement to eliminate or reduce wasteful steps, working towards what is termed a “Future or Ideal State Process”.

**The value of eliminating waste has been shown to save LTC facilities thousands of dollars per month. Reducing the amount of unused medications that need to be destroyed or returned saves an average of \$4,000 in waste processing per month per facility.<sup>5</sup> Most importantly, the elimination of wasteful and time-consuming activities frees up nurses and CNAs to conduct high value activities that provide more hands-on quality care with patients/residents.**

#### SOURCE

5 — Estimate based off customer data from 2018. Calculations were generated from the average daily cost for brand medication multiplied by the number of brand medications days wasted per patient, plus the average daily cost for generic drug medication multiplied by the number of generic medication days wasted per patient, minus the shared technology fee from the Long Term Care Pharmacy.



## **Principle 4:** **Respond to customer pull**

The “pull” processes of push/pull methodology of meeting demand relate to those processes that respond on demand to resident needs. “Push” processes anticipate resident needs by making educated “guesses” about which medications and/or services might be needed and queuing them up in advance to meet demand. The pull component is critical in medication management, as no resident should be required to wait for needed medications. The push component, having the right amount of medications available at all times, is especially important for first dose administration as well as PRN or STAT medication needs. Questions should be asked, such as, “What medications do our residents need at what time and frequency?”, “How can we ensure dose accuracy?” and “How are we managing our inventory?”

The challenge for medication management is to balance push/pull to ensure that processes are properly aligned to deliver value within the context of the major demand driver; the need for timely delivery of required medications. Many LTC facilities are turning to in-facility medications dispensaries, which enable instant access to medications stored on site. This reduces the guesswork and subsequent reactive deliveries associated with traditional pharmacy-to-LTC facility medication provisions.

## **Principle 5:** **Pursue perfection through continuous improvement**

The concept of continuous improvement is key to lean management. All processes must be continuously analyzed and evaluated to ensure that non-value steps aren’t inadvertently added that may knock an entire process off track and negatively impact performance.

The philosophy of continuous improvement helps LTC facilities ensure that ongoing monitoring of their medication management processes continues to be an active part of the value chain and that any processes that begin to show signs of degradation are quickly brought up to the desired quality levels.

A continuous improvement model also demonstrates a commitment to the nursing staff that their time is valuable and that steps are being taken, on an ongoing basis, to minimize time-consuming, redundant tasks that prevent them from providing quality care to residents.



# The Role of Automation in Achieving Lean in Long-Term Care

Once lean management principles have been deployed by an LTC facility, they become ideally suited to automation. Organizations can drive higher accuracy and time savings by automating certain processes that previously took valuable employee time. Automation can also save a facility thousands to millions of dollars over time.

Over the years, technologies serving the medical industry have gained inroads into automating various pieces of the process of medication management. These include hub and spoke pharmacy arrangements, as well as pre-packaged medication blister cards. However, these methods still require considerable manual effort, leading to significant and costly medications waste.

One of the most advanced breakthroughs in the last five years has been the in-facility packaging and dispensing system model. This model involves an on-site dispensary, stocked with high volume medications canisters which are managed remotely by technology-enabled pharmacies. This eliminates the need for multiple truck deliveries of medications to LTC facilities. It supports modern security and automation methods by delivering each dose packaged, labeled and dispensed 'just-in-time' directly into the nurses' hands. The result is optimized accuracy, convenience and waste reduction/elimination. For these reasons, the

in-facility packaging and dispensing system model is steadily being embraced by LTC facilities. It also has the support of the Drug Enforcement Administration (DEA), CMS and the Environmental Protection Agency (EPA).



## SOURCE

6 — John Lavitt “Nearly \$2 Billion in Prescription Drugs Wasted Every Year”, University of Chicago Study, 2015. <https://www.thefix.com/content/nearly-2-billion-prescription-drugs-wasted-every-year>



**«The savings by using this model can be significant. One study conducted over a 9-month period, before and after deployment of an in-facility packaging and dispensing system estimates annual drug savings of 18% (22% for Medicare A PPD).»<sup>7</sup>**

In-facility medication packaging and dispensing systems have tackled the expensive issue of medication waste in ways that other solutions are not able to. The following are eight types of medication management waste that can be virtually eliminated through in-facility dispensing.

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SOURCE

7 — Butler Business Consulting Group, Westchester Gardens study, 2013.



# Avoiding Eight Types of Waste through In-Facility Packaging and Dispensing

## Medication Management Waste #1: WAITING

Waiting is one of the most wasteful, costly and unproductive activities for nurses and CNAs. Time is a perishable commodity and minutes quickly add up to hours. This time, if spent idly waiting, results in unutilized skills and talents. Considering the median salaries for registered nurses at \$70,000 and CNAs (able to assist in 20 states) at \$25,700, each single percent of wait time translates to waste, due to waiting, of \$7,000 and \$2,600 respectively, per year.<sup>8</sup>

What are some of the most wasteful waiting scenarios? They typically involve waiting for the pharmacy to fill orders, processes that include phone calls (which often leads to voicemail, being put on hold, etc.), waiting for verification that the medications have been ordered and waiting for medications to be delivered from the pharmacy.

Because in-facility packaging and dispensing systems are controlled directly by the LTC pharmacy and loaded regularly with canisters that can contain thousands of hard oral medications, waiting for pharmacy trucks is largely eliminated. The pharmacy interface enables pharmacists to directly communicate with the dispensing systems, removing wait times for verification. Reducing wait times is important in that it eliminates the discomfort of residents having to wait for medications and the negative impact it has on their health. Reducing wait times is critical to the LTC facility to meet quality of care standards.

### SOURCE

8 — US News & World Report, Registered Nurse Salary and Nurse's Aide Salary, 2017. <https://money.usnews.com/careers/best-jobs/registered-nurse/salary>; <https://money.usnews.com/careers/best-jobs/nursing-aide/salary>



## Medication Management Waste #2: OVERPRODUCTION

One of the primary causes of waste in medication management for LTC facilities is overproduction. Most LTC patient medications arrive in the form of blister cards packaged in pre-set quantities. Each resident will typically consume only a portion of the entire blister card. After the nurse removes the correct number of pills for the resident, the remainder of pills on the card must be recorded by the nurse. The packages must then be stored in a secured area of the facility until the next scheduled pharmacist visit. At that time, a nurse and pharmacist together destroy the extra medications. This is a tedious process, resulting in a waste of time, money and medications.

Using an in-facility system eliminates blister card waste altogether because it is designed to deliver “on demand” prescribed medications, which enables the exact dosage to be dispensed directly to the nurse, on demand as needed. This also eliminates the process of recording, storing and destroying medications.

## Medication Management Waste #3: REWORK

Errors made in manual medications passing processes invariably lead to valuable time and medications waste when nurses must rework processes and re-dispense medications. Often, pills must be destroyed and the potential for additional human error increases. Correcting medication errors also increases the stress on nurses who are already on a tight schedule.

«Errors occur when doses are omitted, incorrect strength is administered, the wrong medications are given to a patient, a med pass “window” is missed or the wrong medications passing route is taken. The total cost of nurse medications errors, across all health environments, has been estimated anywhere between \$17 billion and \$29 billion per year.»<sup>9</sup>

In-facility packaging and dispensing systems dispense accurately barcoded, labeled and organized doses on demand. This ensures that there is no mix up of patient medication during administration that may require a re-dispense. This greatly reduces the potential for error in medications administration. The in-facility system keeps track of all dispensing activity, providing information to facility and/or nursing management as to how frequently re-dispenses are occurring, which further helps to reduce rework.

### SOURCE

9 — MedCom Trainex, Medication Errors In Nursing: Common Types, Causes, and Prevention, 2015. <https://www.medcomrn.com/index.php/articles/common-nursing-medication-errors-types-causes-prevention/>

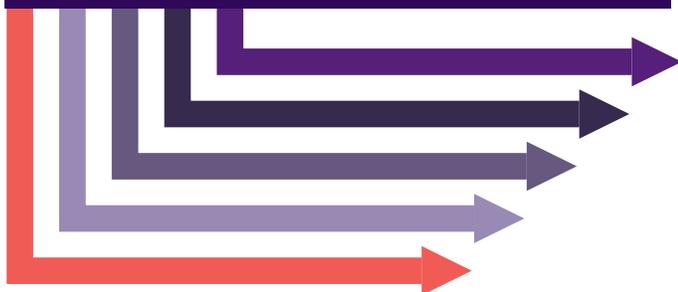


## Medication Management

### Waste #4: MOTION

The process of medications passing for nurses is anything but a passive function. Nurses must move back and forth between drug cabinets, burst medications from blister cards, move medications to stocking carts and often return to replenish the supply, or if an error is found. Motion waste refers to the unnecessary movement of products, data or personnel in a process. Lean management principles analyze motion as a component of the overall process. It is important to assess how much walking, reaching or even small movements are necessary for nurses to access medications, burst from blister packs, count out and organize them, and perform other tasks associated with sorting and loading medications. Even floor layout and the location of supplies can be modified to improve motion efficiency.

A good illustration of using lean principles to eliminate motion waste is at a Cleveland, Ohio Clinic. Specialists analyzed 68 workflows to find that 38% of tasks (251/664) required employees to walk away from their workstations. After using lean to revise their processes, only 9% of tasks required leaving a workstation. Thus, an average of 3.4 travel events were eliminated, each taking between eight and 70 seconds in travel time.



One of the goals of in-facility packaging and dispensing systems is to dramatically reduce the motions a nurse must make to conduct each medication pass. Systems are designed to facilitate simple computer-based input to access and verify a medication and instant “just in time” dispensation of the correct medications direct from the dispensing system.

## Medication Management

### Waste #5: PROCESSING

Processing waste involves any set of steps that do not add value to the dispensation of medication to residents. A good example of this is the process of organizing blister cards in medications carts. As medications are burst from these cards, the partially used cards become increasingly cumbersome to handle and organize. Yet, each partially used card must be safely and securely placed back into the cart. This results in dozens of blister cards which can inadvertently be misplaced or fall out of the cart. Process steps that must be reversed also result in waste – for example, going back to replenish blister cards or to retrieve a card that was omitted. Minutes add up to hours’ worth of processing waste. Using an in-facility packaging and dispensing system that dispenses the correct medications on demand removes the processing waste associated with blister cards and potential errors that require reverse process steps.

## Medication Management

### Waste #6: INVENTORY

Maintaining medications inventory is critical to ensuring residents have their medications when they need them. Unfortunately, issues arising from changing prescriptions, patient discharges, mishandling of medications during passing and lost medications, create an enormous amount of medications waste. The EPA estimated in 2015 that about 740 tons of drugs are wasted by nursing homes each year.<sup>10</sup>

Discarded partially empty blister cards are prime causes of waste, followed by medications being discarded due to incorrect dosage or out of code medications. Medication tackle boxes, often used for emergency or patient first dose, are another time consuming and error prone method of medications management. There are often issues with security, processes, procedures and keeping these boxes filled with the correct inventory. As soon as the tie on the tackle box is cut, the pharmacy must remove it from the facility and return it to the pharmacy to cycle count the entire box. This involves manual work to bill the customer and replenish the box, and the transportation cost to transport the box.

The application of lean methodologies, along with the use of in-facility medications dispensaries, are making a positive impact in this area.

**«A Butler study conducted at Westchester Gardens compared medications costs six months before and three months after implementation of an in-facility packaging and dispensing system. It reported a monthly savings in drug costs of 18% (22% in Medicare PPD drug charges) after deployment.»<sup>11</sup>**

In-facility packaging and dispensing systems not only update an antiquated, manual inventory control process, they also create a seamless conduit between the pharmacy and the LTC facility dispensation of the medications. Using these systems, long-term care pharmacies can provide specified medications based upon the actual utilization. They no longer need to purchase 30 days' worth of blister cards at a time. This results in significant savings, as they are eliminating the substantial amount of medication waste generated by discarded, unused blister cards. Using in-facility dispensing, first-dose, PRN or STAT medication orders are supported by correct inventory management and process controls.

#### SOURCE

<sup>10</sup> — Side Effects Public Media, Nursing Homes Toss Tons of Medicine and Millions of Dollars Into the Garbage Each Year, June 8, 2017. <https://www.sideeffects-publicmedia.org/post/nursing-homes-toss-tons-medicine-and-millions-dollars-garbage-each-year>

<sup>11</sup> — Butler Business Consulting Group, Westchester Gardens study, 2013.



## Medication Management

### Waste #7: INTELLECT

While intellect waste is more conceptual in nature, it is just as important. An LTC environment that is not optimized according to lean principles can create a toxic, demoralizing environment for nurses and CNAs. It is evident primarily in the waste of the nurses' skill sets, education and experience, as they spend time manually performing tasks that could be automated. This intellectual waste can have serious consequences for resident care, as nurses are less able to spend valuable "face time" with residents.

**Eliminating intellect waste in LTC represents an essential step towards embracing the shift to value-based care and outcomes as well as stemming nurse attrition. To meet this standard, LTC facilities need to relieve nurses from tedious, stressful, repetitive tasks to use a higher percentage of their skills and experience to tend to residents' needs. These might include spending more time on clinical care, consulting with residents, education and training.**





## Medication Management Waste #8 TRANSPORTATION

The best example of transportation waste for both LTC pharmacies and the LTC facilities they serve can be found in repetitive pharmacy truck deliveries of medication totes. Pharmacies must ask themselves, “How many resources and dollars are spent on multiple truck deliveries of medications to LTC facilities?” LTC facilities might ask, “How do transportation processes negatively impact medications for late admits and Rx changes?”

Systems that allow months’ worth of medications to be stored within the LTC facility remove the need for continuous, often ad-hoc, pharmacy deliveries. The canisters in an in-facility packaging and dispensing system can hold large volumes of medications, thus reducing the necessity of multiple pharmacy transits. This also reduces issues associated with late admits and changes to medications, as the pharmacist, with on-line access to the in-facility dispensary can make adjustments immediately. The elimination of one daily trip from the pharmacy to one facility can decrease transportation costs alone by over \$20,000 per year<sup>12</sup>

### SOURCE

12 — Estimate based off customer data from 2018. Calculations were generated from using the delivery rate of \$1.21 and an average distance from the pharmacy to the facility of 45 miles.

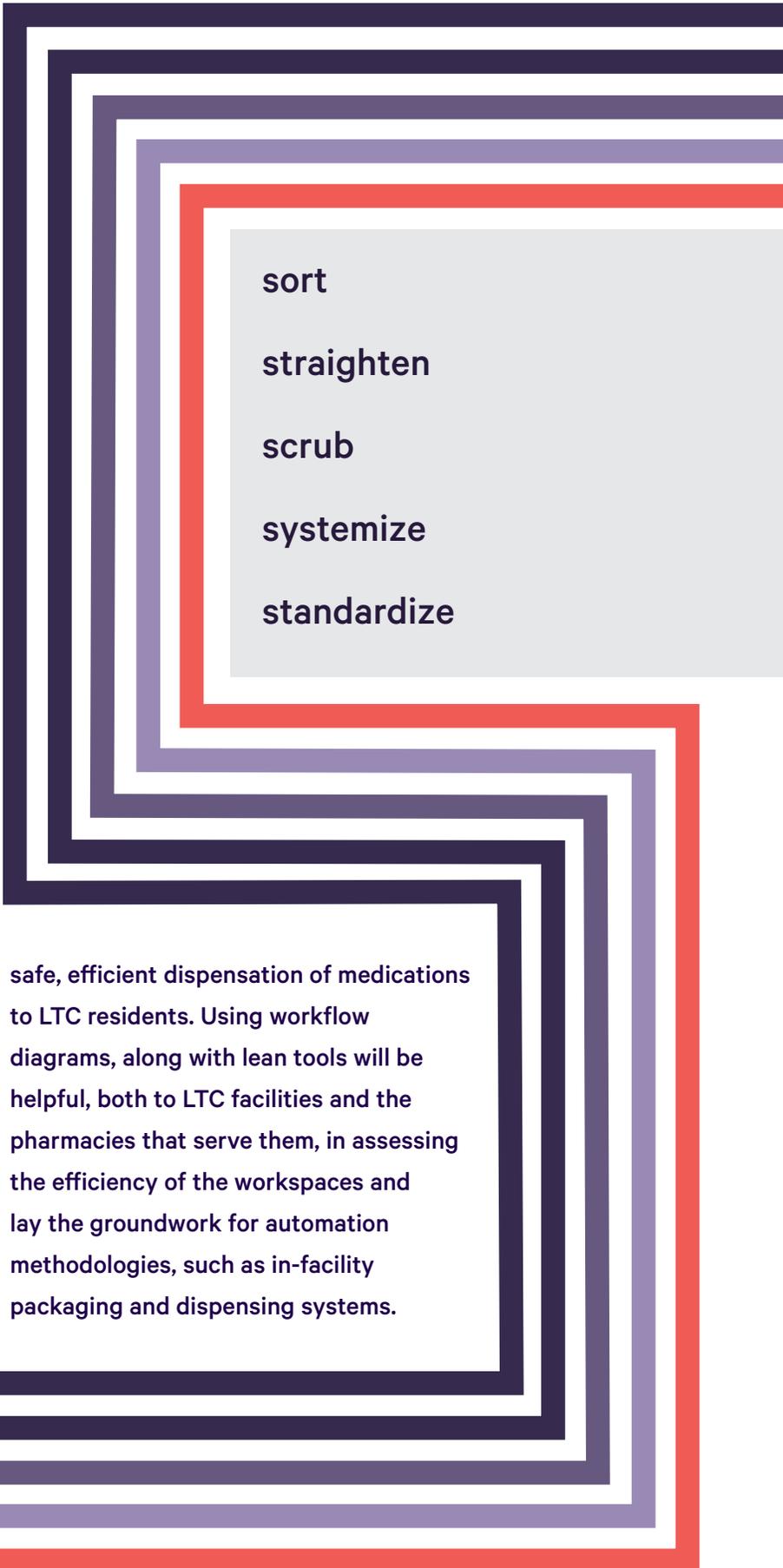


# Using the 5Ss to Improve LTC Facility Workflow

The concept of 5Ss (sort, straighten, scrub, systemize and standardize) has been effective in healthcare settings to unclutter the environment and better organize workspaces to optimize process flow. The process of medications management in LTC facilities lends itself well to the application of 5S principles. Traditional methods of medications passing required clean counter spaces to sort and organize medications prior to being put on the cart. Using an automated in-facility dispensary removes the need to use unsecured spaces for the critical task of medications dispensing and passing. Furthermore, the process of organizing blister cards in carts requires diligence, especially as used blister cards are returned to the cart. Bent cards with burst backings become easily tangled and can come loose and either intertwined with other items or fall from the cart. An in-facility system dispenses the exact dosage for each resident, thereby eliminating used blister cards altogether.

Creating an optimized structural and procedural environment contributes to the

safe, efficient dispensation of medications to LTC residents. Using workflow diagrams, along with lean tools will be helpful, both to LTC facilities and the pharmacies that serve them, in assessing the efficiency of the workspaces and lay the groundwork for automation methodologies, such as in-facility packaging and dispensing systems.



sort  
straighten  
scrub  
systemize  
standardize



# Four Good Reasons to Apply Lean to Your LTC before Implementing Automation Solutions

## Reason #1:

### To maximize the benefits that automation solutions deliver

Automation of processes has the power to transform an LTC facility from an organization tied to time consuming, error prone manual tasks to one that has optimized efficiencies and is able to turn its attention to providing high value-based care to residents. Automating inefficient activities releases highly trained nurses and CNAs from tedious, time consuming work to caring for residents.

However, simply applying automation without first incorporating lean management principles can have potentially hazardous results. That is because automation, alone, cannot correct waste producing processes. In fact, it has the opposite effect, simply enabling LTC facilities to create more waste, faster.

As an example, consider a situation in which automation solutions go live without leveraging the input of an LTC facility's valuable nurses. Which steps could interfere with the pharmacy verification of dosages and inputting those dosages into the system? Could it result in an incorrect dosage? Could the nurse assume it was correct because "the system dispensed it" and they were never involved in a preliminary leaning of their own processes to better understand the electronic links between the pharmacy and the LTC facility?

Automation and the implementation of technology involves a substantial investment for the LTC pharmacy as well as the LTC facilities they service. Therefore, it is in management's best interests to do everything they can in advance to ensure a successful deployment. Applying lean to LTC facility medication management processes also serves to document the environment and processes. By mapping current state and future state processes, the LTC facility will create a more accurate gap analysis. This will be helpful for pharmacies as they prepare to evaluate technology providers and prepare request for proposal (RFP) requirements. Leaning the medication management process in advance will enable pharmacies to work with the LTC facility to more accurately align automation strategically to an already re-designed, lean set of processes.

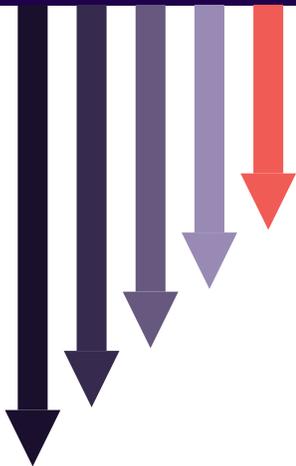


## Pre-leaning helps avoid “hit or miss” results.

Another benefit of mapping out future state processes before automating is that it enables both the pharmacy and the LTC facility to gain a picture of what success will look like. This will help tailor the LTC facility environment to maximize the value derived from the technology. It will also focus on pharmacy employees as well as all LTC facility participants – nurses, support staff and other stakeholders – on working together to achieve the LTC facility’s goals.

By applying lean principles in advance of automation, the LTC facility team will be better able to discern which features will be most valuable and needed up front. Those features can thereby be “turned on” and implemented more quickly as part of a schedule calibrated for roll out according to level of value.

When pre-leaning is not done in advance of automation, it can result in an untargeted technology roll out that lacks focus. This “hit or miss” approach can impede progress and impact the result. ROI and overall satisfaction may suffer as well.



### Avoid common implementation pitfalls

Leaning processes identifies and addresses LTC facility workflow issues and bottlenecks prior to implementation. This will help avoid the need to correct problems amid hectic daily operations. Moreover, it increases the chances of a smooth and satisfying implementation.

Collaboration between the LTC pharmacy and facility is critical to implementation success. Only through tight collaboration can a hand-in-glove integrated implementation be established in advance of the go-live date. The last thing a LTC facility needs is a rough start that instills doubt in users’/stakeholders’ minds. It can rapidly become a breeding ground of pessimism and distrust of the technology. This mindset can be time-consuming and painful to reverse.



## Reason #2:

### To promote a lean healthcare culture focused on value

One of the key challenges faced by LTC facilities is attracting and retaining nursing talent. Leaning medication management processes in advance of automation sends a message to nurses and staff that a premium is placed on their skills and talents. Leaning tedious, stressful and wasteful activities and enabling the nursing staff to focus on providing high quality of care for residents will help the LTC facility attract and retain better talent.

By leaning processes, LTC facilities are also making a commitment to value-based care models as they become the norm. Embracing the core lean process of “continuous improvement” will help LTC facilities further promote a culture of dedication to quality care for residents, along with the recognition of the value of all team members. By doing so in advance of automation, employees will gain a fuller appreciation of how the technology can improve their lives.

## Reasons #3:

### To calculate Return On Investment (ROI)

A key benefit for pharmacies in applying lean management principles in advance of automation is that it helps them calculate a more accurate ROI. Working together to apply lean management principles will help both pharmacies and LTC facilities to develop key performance indicators (KPIs). These KPIs can be used to more accurately quantify improvements to the medication management processes as they occur. They also help pharmacies communicate the value of the in-facility model to the LTC facility, demonstrating how the benefits outweigh shared technology fees.



## Reason #4: To increase user buy in, acceptance and adherence

Change is difficult for everyone. This is particularly true in LTC facility settings which often involve more rigid hierarchies, with strong command-control styles of operating. Unfortunately, this can stifle a sense of involvement by staff in “change” operations.<sup>13</sup>

Maintaining the status quo is the norm in most LTC facilities and the implementation of automation without first leaning the processes can lead to an overall resistance or refusal to adapt to new procedures. Given the challenges of LTC facilities to retain nursing talent, this could have potentially disastrous results. Leaning medication management processes before implementation helps to avoid this. It must, however, be approached in a positive manner. Nurses may develop negative assumptions that lean principles are being deployed to “get people in line” rather than to liberate them from cumbersome, wasteful processes to do more of what they were trained to do.

One positive way to approach this is to include nurses and other stakeholders in the current/future state process mapping. This gives nurses an opportunity to voice their suggestions and/or concerns up front. No one understands the process of medications passing better than the LTC facility nursing staff. The process also encourages them to visualize the benefits of being relieved of stressful, wasteful activities to conduct more person-centered, high value work.

**This inclusive approach, if taken with care, will begin to increase user buy in, acceptance and ultimately, adherence; all of which are objectives of a successful change management program. It will also promote a more connected, engaged nursing team and help work towards a value-add culture. Ultimately, the better LTC facilities become at managing change, the greater the chances that their medication management automation objectives will be achieved.**

### SOURCE

13 — Sean Carey, Lean Management Healthcare Principles, March 27th, 2015 Hitech Answers.  
<https://www.hitechanswers.net/lean-management-healthcare-principles/>



# Summary

Over the last several years, LTC providers have struggled to adjust to a veritable tidal wave of changes; from a new generation of residents and employees to a nursing shortage that continues to increase, to occupancy challenges and a more complex care environment. Added to that are sweeping CMS changes moving healthcare away from the old volume-based reimbursement model to a value-based model with an emphasis on outcomes. Emerging to help fill the performance gaps are advancing technologies that enable automation to a degree never thought possible before.

The good news for LTC facilities is that there are tools to help them survive and thrive within this new operational landscape. This is especially true in the critical area of medication management, traditionally a tedious, time-consuming activity, often costing millions of dollars in medications waste.

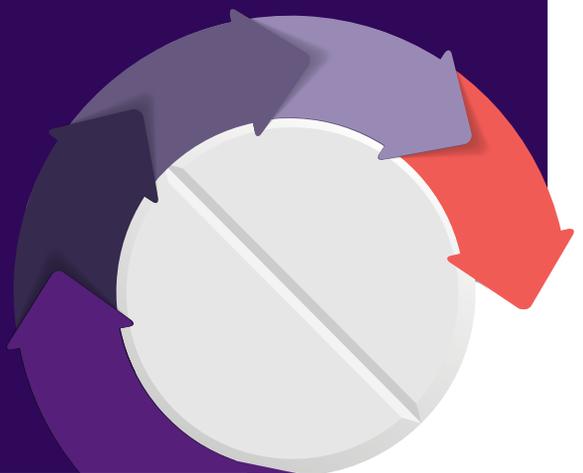
Before applying automation to the medication management process, however, LTC facilities must first identify ways to update old processes that

produce waste. They must first concentrate on analyzing and improving the processes to optimize efficiencies. Lean principles are steadily gaining traction in the LTC facility environment and helping to pave the way for a more strategic and mindful use of automation.

The adoption of lean principles in advance of automation is yielding dramatically better results for residents (quality, outcomes, cost), greater efficiency (less waste and errors), improved user adherence (to optimize the technology's benefits), and ultimately, a stronger ROI for LTC pharmacies.

In-facility packaging and dispensing systems support the lean model because they are designed to eliminate wasteful, tedious activities, while empowering nurses to provide a higher quality of care to residents. Lean principles, however, should be applied in advance of deployment of these systems to optimize the impact of the automation, rather than simply increasing waste more quickly.

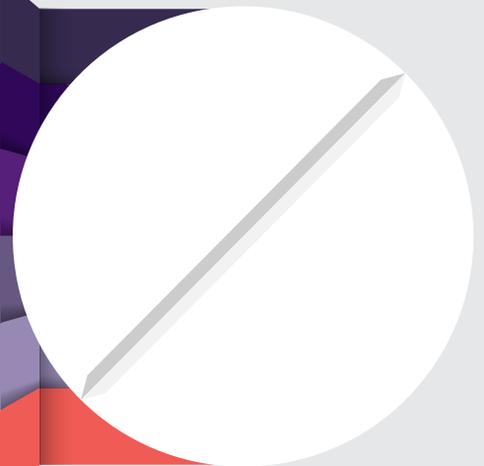
New opportunities are on the horizon for LTC facilities positioned for productive, sustainable growth. Using lean management principles to conduct current/future state mapping and create a continuous improvement environment will pave the way for the strategic use of new technologies, such as in-facility packaging and dispensing technologies. Doing so will help increase efficiencies and reduce waste. Finally, it will help LTC facilities build a more productive, person-centered environment to attract and retain valuable nursing talent, create a stronger referral network and build resident census.



# Steps for Success

Contact Swisslog Healthcare to learn how our in-facility packaging and dispensing solutions can help you:

- Improve medication management workflows
- Lean the processes associated with medications “passing”
- Replace manual medications “passing” with automation
- Deliver on-demand medications direct into nurses’ hands
- Reduce medication waste due to loss and diversion
- Manage medication preparation, storage, retrieval and delivery expenses



## CONTACT

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