1st American Systems and Services LLC

NIST NCPDP Analysis – SCRIPT in Long-Term and Post-Acute Care

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Introduction

This document presents a high-level overview of e-prescribing in long-term and post-acute care (LTPAC) settings. It provides a background on the underlying medication management processes in those settings and a description of how e-prescribing fits in to the facility and pharmacy workflows—focusing on SCRIPT messages starting with version 10.1, when LTPAC support was introduced. Concluding the document is an informal assessment of current industry adoption, obstacles to electronic processes in theses settings, and opportunities for the future.

Document sections:
- Medication management in long-term and post-acute (LTPAC) settings
- Electronic prescribing workflows in LTPAC
- SCRIPT support for LTPAC
- Current adoption obstacles and future opportunities

Overview: Medication management in long-term and post-acute care settings

John Derr, chief technology strategic officer and senior vice president for Golden Living—one of the largest providers of care for seniors in the US—describes long-term and post-acute care (LTPAC) as below:

> "Unlike traditional acute and ambulatory healthcare settings—primarily hospitals and physician offices—LTPAC patients may be cared for in a wide variety of environments, depending on the individual patient's changing needs. LTPAC care sites include skilled nursing, nursing and assisted living facilities; home, independent and adult care environments; rehabilitation facilities; long-term acute care hospitals; and hospice."
>
> *McKnight's Long-Term Care News and Assisted Living (October, 2009)*

Some important common characteristics among these settings related to medication management are…

- **Resident patients.** The patient resides in an environment that offers medication management services that include maintenance of a medication profile ("med list"), ordering and obtaining refills as needed, medication administration assistance ("med passes"), and independent review of their medication regime by a consultant pharmacist. These services may be offered "ala carte" (e.g., in an assisted living setting), or may be included in a full range of care in a skilled nursing facility.

  The resident patient's location in the care setting (unit, wing, floor, room, bed, etc.) is included in orders sent to the pharmacy, and frequently needed for packaging and delivery of medications to the setting. For example, the pharmacy may mark administration packaging with the resident's unit, room and bed, and further may sequence medications in drug carts or other administration aids according to the patient's facility location.

- **Partner institutional pharmacy.** The care setting has a relationship with an institutional pharmacy that offers specialized services for resident patients including delivery, packaging of medications into

special packaging to facilitate administration by facility staff, and consultant pharmacist services.
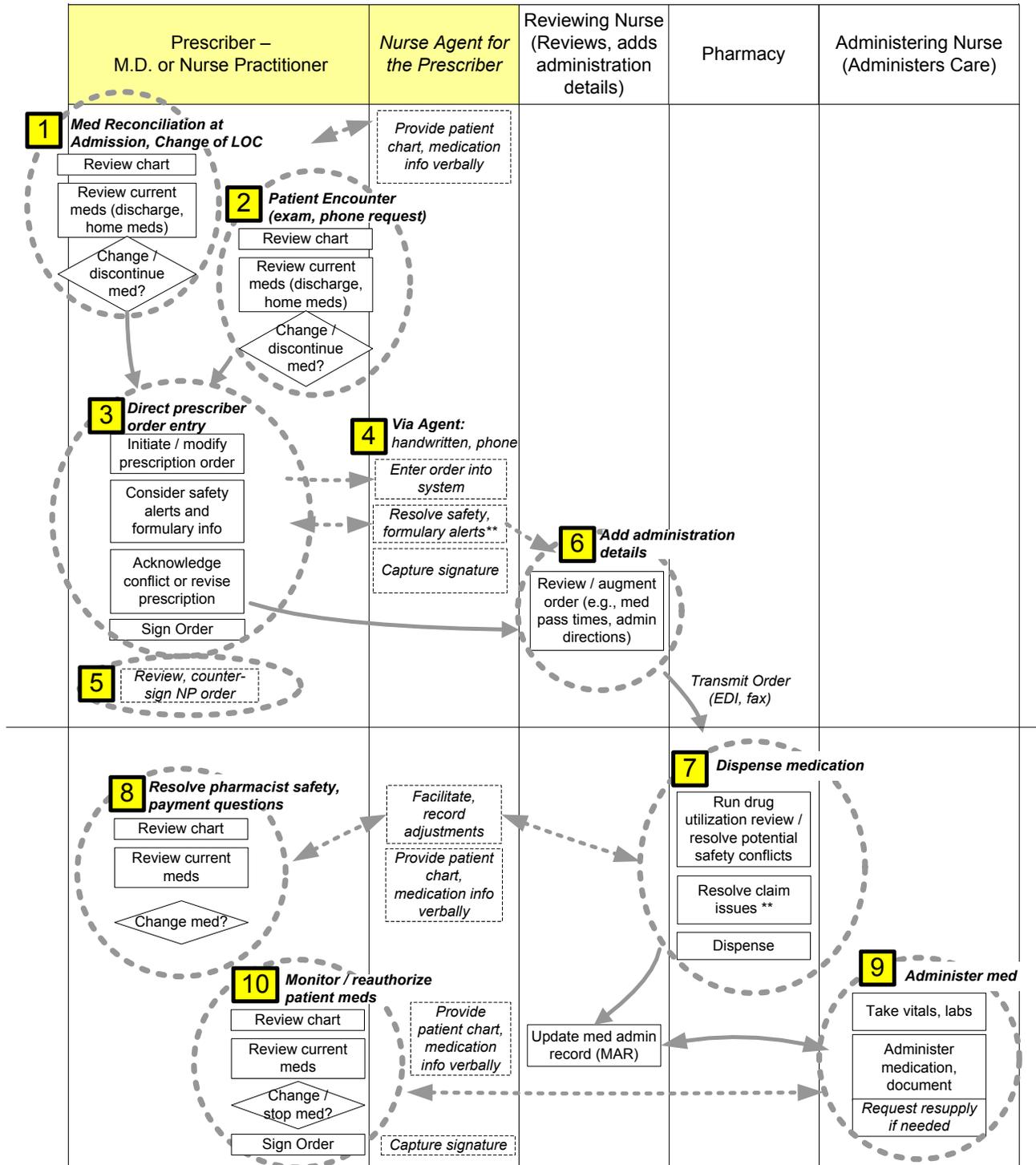
While patients have the option to use other pharmacies of their choice, the majority typically utilize the partner pharmacy—and certain services needed by residents are only offered by institutional pharmacies.

- **Open-ended orders.** For patients receiving more comprehensive care for longer periods of time, medication orders may be "open-ended"—stated in terms of daily doses rather than a fixed quantity of medication to be dispensed. The partner pharmacy takes responsibility for maintaining a sufficient supply of such medications at the facility, and may deliver weekly, daily monthly, or on some other time schedule. When the patient's condition changes, the pharmacy receives a cancelation of the previous order and potentially a new order for an adjusted therapy.

- **Cooperation between the prescriber, facility staff, and pharmacy.** Especially in skilled care settings, the patient's physician works closely with facility staff to set and manage treatment. Likewise, the pharmacy has responsibilities in the management of medication therapy for resident patients that goes beyond those in the ambulatory setting. These relationships result in additional communication needs in the medication management process, especially:

  - review of patient orders by facility nursing staff prior to forwarding to the pharmacy and maintenance of a consolidated medication list containing drugs prescribed by all clinicians treating the patient
  - annotation of medication orders by facility staff with care setting-specific information including patient location (unit/room/bed), facility administration times ("med passes") and patient administration-related information such as tolerance for certain drug forms (e.g., patient meds are administered through a gastric tube)
  - sharing of patient demographics, clinical "profile" information, and admission / discharge / transfer information with the partner pharmacy
  - communication of the particular dispensed drug product from the pharmacy to facility, to aid in medication administration at the care setting and facility inventory management.

These characteristics drive the differences between e-prescribing in the ambulatory setting and LTPAC—resulting in the need for additional message content and LTPAC-only message types. The next section outlines the steps in an LTPAC medication management process, reflecting these unique aspects, and relates it to NCPDP SCRIPT messaging.

LTPAC medication management steps and unique messaging needs

Illustration: LTPAC medication order life cycle (skilled setting)

Prescriber – M.D. or Nurse Practitioner	Nurse Agent for the Prescriber	Reviewing Nurse (Reviews, adds administration details)	Pharmacy	Administering Nurse (Administers Care)
1 *Med Reconciliation at Admission, Change of LOC* Review chart Review current meds (discharge, home meds) Change / discontinue med?	*Provide patient chart, medication info verbally*			
2 *Patient Encounter (exam, phone request)* Review chart Review current meds (discharge, home meds) Change / discontinue med?				
3 *Direct prescriber order entry* Initiate / modify prescription order Consider safety alerts and formulary info Acknowledge conflict or revise prescription Sign Order	**4** *Via Agent: handwritten, phone* *Enter order into system* *Resolve safety, formulary alerts*** *Capture signature*	**6** *Add administration details* Review / augment order (e.g., med pass times, admin directions)		
5 *Review, counter-sign NP order*			*Transmit Order (EDI, fax)*	
8 *Resolve pharmacist safety, payment questions* Review chart Review current meds Change med?	*Facilitate, record adjustments* *Provide patient chart, medication info verbally*		**7** *Dispense medication* Run drug utilization review / resolve potential safety conflicts Resolve claim issues ** Dispense	
10 *Monitor / reauthorize patient meds* Review chart Review current meds Change / stop med? Sign Order	*Provide patient chart, medication info verbally* *Capture signature*	Update med admin record (MAR)		**9** *Administer med* Take vitals, labs Administer medication, document *Request resupply if needed*

*   Conflicts include contraindications, formulary coverage limitations, or other conflicts identified by the CPOE system
** Pharmacy may dispense a provisional supply of the ordered medication as it works with the physician to resolve formulary / payment issues. Pharmacy notifies facility of dispensed medication. CPOE updates resident electronic medical record.

Unique messaging needs during the LTPAC medication management process

Medication Reconciliation at Admission

- *Resident intake / discharge and medication reconciliation.* Resident transfer between hospital and LTPAC settings is commonplace, and involves special consideration regarding:
    - Choice of hospital discharge medications and communication to the LTC facility and pharmacy
    - Transfer of resident's demographics and medical information (EHR) when the resident moves between the two settings.

Informed Prescribing Process

- *Drug Utilization Review / safety checking.* Certain patient safety checks are especially pertinent in LTC settings, e.g., geriatric alerts associated with certain medications (Beer's list)
- *Payer benefits / formulary / medication cost management.* There are several unique LTC drivers that influence medication cost, reimbursement, and coverage approval:
    - Medicare A periods
    - Part D formularies and coverage rules, including prior authorization requirements
    - Facility stock
    - Pharmacy "formulary" reflecting negotiated pricing

Communication of Patient "Census" Information

- *Resident information to the pharmacy.* A key difference in LTPAC is that the "patient" is not present at the point of dispensing, and so is unable to provide information to the dispensing pharmacist. In this setting, medical information such as allergies and conditions, as well as insurance and delivery information, must be shared with the pharmacy, separate from a given medication order:
    - Resident allergies, diagnoses
    - Insurance information, responsible party
    - Delivery information (facility, unit / room / bed)
    - Special administration needs or tolerances

    Because LTPAC orders are commonly open-ended, the need for up-to-date resident information is ongoing—to support dispensing / delivery of the medication past the initial dispensing. For example, it is critical that the partner pharmacy be notified of resident unit / room / bed transfers, updates to diagnoses and allergy information, etc.

Prescription Communication: Prescriber / Facility Staff Interaction

Facility nursing review of prescription orders. The LTPAC setting typically manages the full range of care for resident patients, and has the most complete view of therapies ordered by multiple clinicians—as reflected in the patient's chart (in an electronic medical record system or other form). Therefore, it is critical that all medication orders are reviewed by facility staff in the context of the patient's full set of care, to prevent conflicts and identify other potential care issues. In addition, facility staff may recognize additional patient needs not currently being addressed, which may result in changes to the patient's medications after being communicated to the prescriber.

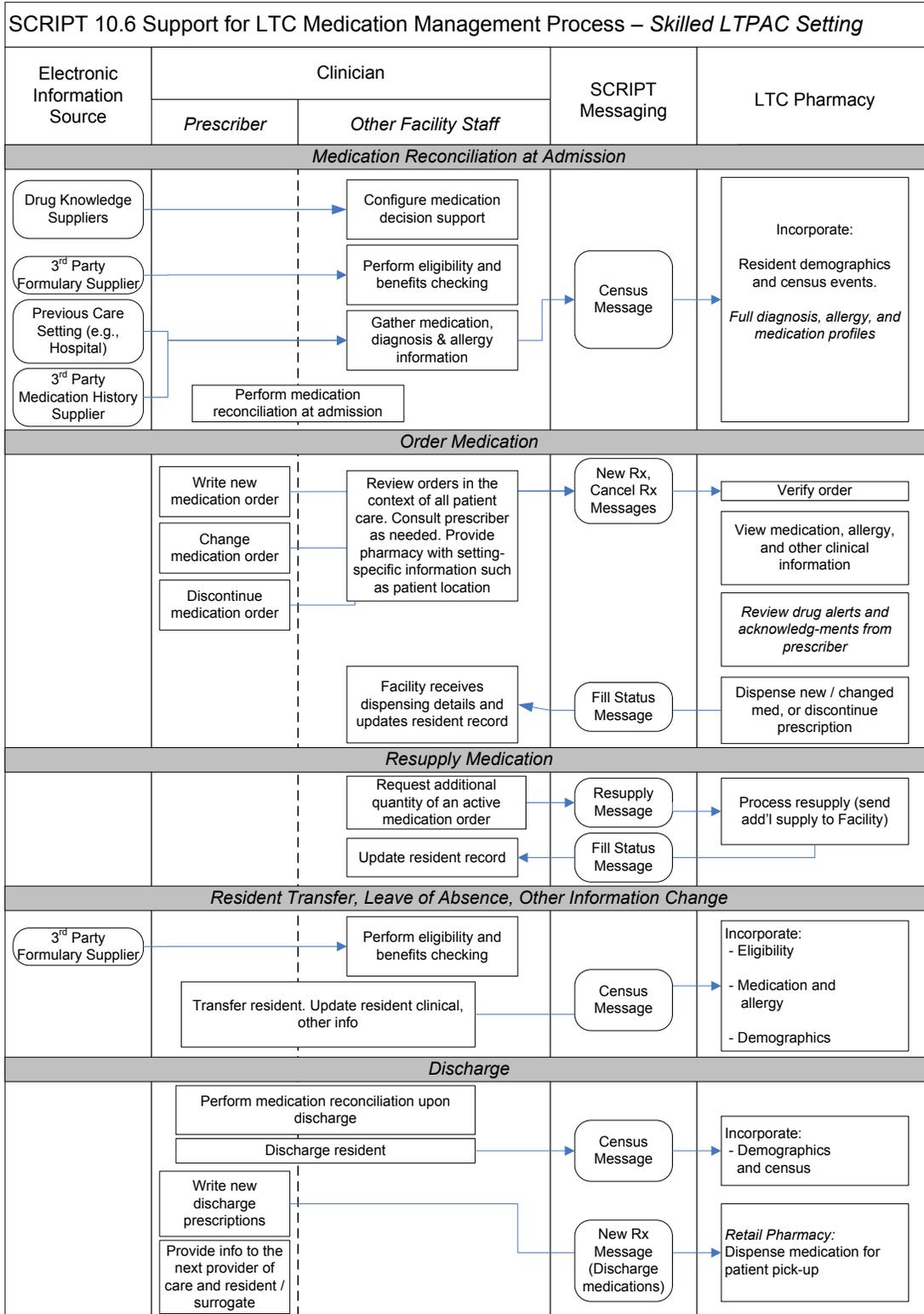**Additional Care Setting-Related Annotations to the Medication Order**

- *Administration information to the pharmacy.* An LTPAC pharmacy has unique responsibilities with respect to dispensing and delivery of medications in a manner that supports their directed administration. Prescription messaging must support administration-related elements such as the following:
  - Stat orders
  - Administration times
  - Special administration directions (G-tube, half tablet, etc.)
  - Patient location (unit, room, bed) information
  - Multiple administration directions for a single "prescription," e.g., tapered doses

- *Open-ended orders.* In long-term care settings, it is common for a physician to create open-ended orders for certain maintenance medications. These orders do not have a pre-defined end date, and are to be dispensed by the pharmacy until it is notified of the order's discontinuation. Special communication requirements associated with open-ended orders include:
  - Conventions for explicitly identifying an order as "open-ended," with dispense quantity to be determined by the pharmacy according to protocol
  - Message to communicate the discontinuation of an open-ended order
  - Messaging conventions to communicate changes to open-ended orders
  - Message to request "re-supply" or additional dispensing per an open-ended order

Dispensing Information

- *Communication to the facility of actual dispensed medication information.* Notification to the LTPAC setting of the actual dispensed medication is critical to medication administration and other facility processes. Further, dispensed medication details can potentially vary from delivery to delivery. In this setting, the dispensed medication may vary from that ordered due to several reasons, some unique to LTPAC:
  - Generic substitution
  - Therapeutic interchange resulting from consultation with the prescriber ("call back")
  - Therapeutic interchange per predetermined protocol agreed to by the prescriber, facility, and pharmacy
  - Pharmacy inventory

SCRIPT support for LTPAC medication management flows

The diagram below identifies the points in the LTPAC medication management process supported by NCPDP SCRIPT messages.

SCRIPT 10.6 Support for LTC Medication Management Process – *Skilled LTPAC Setting*

Electronic Information Source	Clinician		SCRIPT Messaging	LTC Pharmacy
	Prescriber	*Other Facility Staff*		

Medication Reconciliation at Admission

Electronic Information Source	Prescriber	Other Facility Staff	SCRIPT Messaging	LTC Pharmacy
Drug Knowledge Suppliers		Configure medication decision support		Incorporate: Resident demographics and census events. *Full diagnosis, allergy, and medication profiles*
3rd Party Formulary Supplier		Perform eligibility and benefits checking	Census Message	
Previous Care Setting (e.g., Hospital)		Gather medication, diagnosis & allergy information		
3rd Party Medication History Supplier	Perform medication reconciliation at admission			

Order Medication

Electronic Information Source	Prescriber	Other Facility Staff	SCRIPT Messaging	LTC Pharmacy
	Write new medication order	Review orders in the context of all patient care. Consult prescriber as needed. Provide pharmacy with setting-specific information such as patient location	New Rx, Cancel Rx Messages	Verify order
	Change medication order			View medication, allergy, and other clinical information
	Discontinue medication order			*Review drug alerts and acknowledg-ments from prescriber*
		Facility receives dispensing details and updates resident record	Fill Status Message	Dispense new / changed med, or discontinue prescription

Resupply Medication

Electronic Information Source	Prescriber	Other Facility Staff	SCRIPT Messaging	LTC Pharmacy
		Request additional quantity of an active medication order	Resupply Message	Process resupply (send add'l supply to Facility)
		Update resident record	Fill Status Message	

Resident Transfer, Leave of Absence, Other Information Change

Electronic Information Source	Prescriber	Other Facility Staff	SCRIPT Messaging	LTC Pharmacy
3rd Party Formulary Supplier		Perform eligibility and benefits checking		Incorporate: - Eligibility
		Transfer resident. Update resident clinical, other info	Census Message	- Medication and allergy - Demographics

Discharge

Electronic Information Source	Prescriber	Other Facility Staff	SCRIPT Messaging	LTC Pharmacy
		Perform medication reconciliation upon discharge		Incorporate: - Demographics and census
		Discharge resident	Census Message	
	Write new discharge prescriptions		New Rx Message (Discharge medications)	*Retail Pharmacy:* Dispense medication for patient pick-up
	Provide info to the next provider of care and resident / surrogate			

Summary of LTPAC messages: SCRIPT and other standards

Transaction	Code	Hospital / Other Care Setting	Prescriber / Facility	LTC Pharmacy	Payer
Chart Summary	HL7 CCD	Send, Receive	Send, Receive	Receive	
Patient Info, Census	CENSUS		Send	Receive	
New Prescription	NEWRX		Send	Receive	
Cancel Request	CANRX		Send	Receive	
Cancel Response	CANRES		Receive	Send	
Change Rx Request	RXCHG		Receive	Send	
Change Rx Response	CHGRES		Send	Receive	
Resupply Open Order	RESUPP		Send	Receive	
Fill Status Notification	RXFILL		Receive	Send	
Med History Request	RXHREQ		Send (Receive**)	Send**	Receive
Med History Response	RXHRES		Receive (Send**)	Receive**	Send
Formulary & Benefits	F&B 1.0		Receive		Send
Eligibility Inquiry	X12 270		Send		Receive
Eligibility Response	X12 271		Receive		Send

Current adoption obstacles and future opportunities

This section identifies some of the key obstacles impacting use of SCRIPT version 10.6 in LTPAC settings, and opportunities to address those in order to advance the use of e-prescribing there.

Inconsistency of SCRIPT implementation

Because the largest institutional pharmacies have added support for SCRIPT messaging in recent years, the majority pharmacies used by LTPAC facilities today have some level of support for electronic prescribing using SCRIPT version 10.1 or higher. However, the particular SCRIPT message types and versions supported vary by pharmacy, as well as implementation details, due to the fact that most facility-to-pharmacy messaging in the setting is accomplished using point-to-point connections negotiated separately between facility and pharmacy vendors rather than through networks such as Surescripts or Emdeon.

The lack of direction on LTPAC e-prescribing standards in the CMS e-prescribing standards for Medicare Part D has contributed to this inconsistency, by leaving a vacuum of guidance to vendors implementing e-prescribing in this setting. CMS has indicated its intent to remove the LTPAC exemption in the Part D e-prescribing standards, but not until SCRIPT version 8.1 is no longer allowed by those standards (because 8.1 lacks support for the LTPAC workflow). Timing of LTPAC support has not been set, but removal of the exemption will likely not occur within the next 2-3 years.

Further, the system certification that has been required of ambulatory prescribing systems in conjunction with the MIPPA and HITECH incentive programs has not included LTPAC, since those incentive programs do not pertain to the LTPAC setting.

Limited LTPAC support by the major prescription routing network

The largest prescription routing network, Surescripts, has declined to fully support the LTPAC market—instead focusing its attention and resources on the ambulatory setting. As noted above, this has led interested pharmacy and LTPAC facility system vendors to establish point-to-point network connections between themselves, resulting in a lack of consistency in standards implementation. Perhaps more importantly in the long term, this has also resulted in a lack of access by these stakeholders to the full set of healthcare providers and institutions participating in the larger networks.

The transition to SCRIPT 10.6 offers another opportunity for the large prescribing networks to offer LTPAC support, since unlike previous SCRIPT versions, 10.6 provide robust support for LTPAC as well as ambulatory settings.

Full, convenient integration with community physician processes

Most LTPAC patients continue to receive care from the same community physicians they saw prior to entering into the setting. As a result, a considerable proportion of medication orders for these patients are initiated from outside the facility, via telephone or fax.

In order to address this issue, some facilities have implemented web-based or portal-accessible EHR/ e-prescribing systems which can be accessed remotely by prescribers. Because the system is maintained by the facility, it includes complete medication, problem, allergy lists, reflecting care provided by all clinicians treating the patient.

However, practitioners typically see the majority of their patients at their ambulatory clinic, while also treating their LTPAC patients. As such, these providers prefer to utilize the electronic medical record and prescribing systems they've implemented in their "home" clinics, rather than the systems present at the LTPAC facilities where their elderly or other patients are currently residing.

The NCPDP LTPAC E-Prescribing Task Group is currently developing a proposal for a messaging process that would enable such providers to use their ambulatory prescribing systems to create medication orders for their LTPAC patients and transmit them to the facility for review and addition of facility-specific details prior to routing to the pharmacy. The goal of this process is to accelerate the adoption of e-prescribing in the LTPAC setting by building on adoption in the ambulatory realm, while supporting the need for facility participation in the process.

Support for prescribing of controlled substance medications

A higher proportion of medications used in the LTPAC setting are controlled substances, as compared to the ambulatory setting. These medications present a further obstacle to LTPAC e-prescribing adoption due to the additional requirements established by the DEA in its interim final rule. Especially problematic are rules that would effectively require prescribers in this setting to have an uncommonly formal employment relationship with their patient's LTPAC facilities in order to use the facilities' prescribing systems to create electronic controlled substance prescriptions.

However, as a result of NCPDP comments to the initial DEA controlled substance rule, the interim final rule contains directional language supporting an electronic workflow by which a prescriber creates an electronic controlled substance prescription and routes it to an LTPAC facility for review and annotation, after which it is forwarded to the pharmacy. As noted above, the NCPDP LTPAC E-Prescribing Task Group is currently working on a messaging process that would enable that workflow—protecting the prescriber's medication order while enabling the facility to review, annotate, and forward the order to the patient's pharmacy.

 SCRIPT in LTC and Post-Acute Care