

Evaluate different systems for storing pharmacy inventory. Describe the benefits of a perpetual inventory system. Discuss the hurdles when technology downtimes occur and ways to mitigate service interruption.

GUNDERSEN HEALTH SYSTEM

- Physician led, not-for partit healthcare system
- Teaching hospital with 325 beds and Level II
 Trauma Center
- 30-bed Inpatient Behavior Health Center and5 renal dialysis sites
- Regional referral center with 6 affiliate hospitals in 3 states
- 22-county service area with 30+ regional clinics

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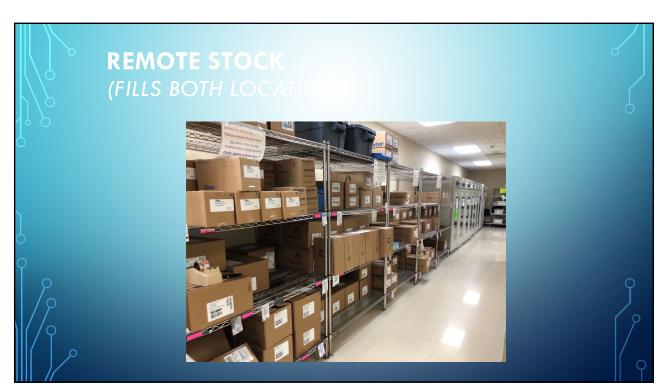
GUNDERSEN LUTHERAN MEDICAL CENTER

- Built new hospital and new inputient pharmacy in 2013
- New pharmacy transitioned to a perpetual inventory system and use of carousels
- Transitioned from ADM use to nurse servers
- Centralized purchasing for the flagship hospital and
 2 infusion pharmacies (staff of 3)
- 2019 began decommissioning nurse servers and now have 100+ ADMs















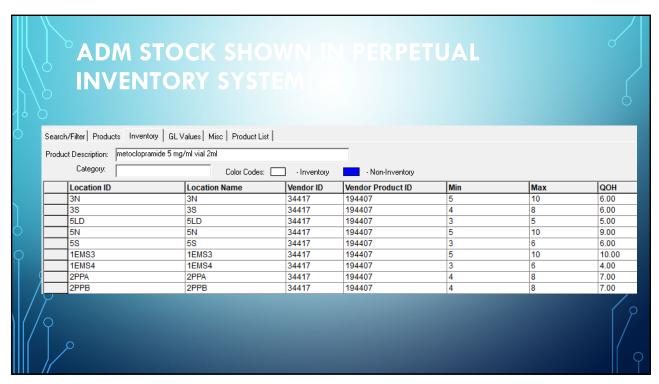
PROS OF PERPETUAL INVENTORY

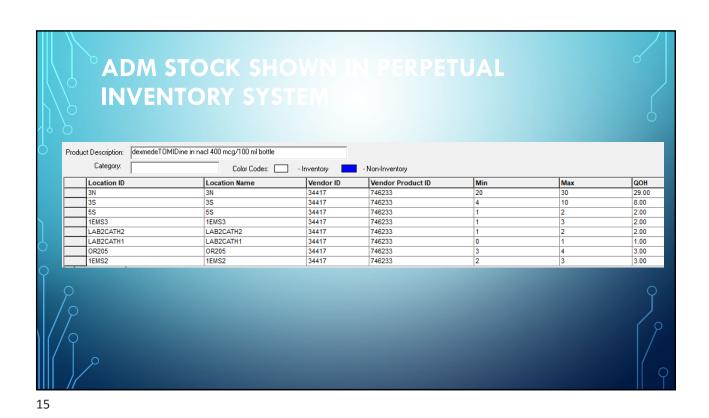
- All inventory at a click of your fingertip
- Annual or semi-annual inventory is relatively fast and easy
- Unlimited tracking of purchasing, receiving, picking, checking, etc.
- Patient safety factor—everything is scanned

PROS OF PERPETUAL INVENTORY (CONTINUED)

- •Short term backorder—can pull overstock quickly
- Recall—can locate remote stock quickly
- Expired meds—all done via reports
- Purchasing can be done remotely in the short term (multiple COVID illnesses)

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CONS OF PERPETUAL INVENTORY

- Human error (remote stock quas don't get picked correctly fat fingers, sudden high use not communicated)
- Human error (easy to botch your inventory if picking/checking steps aren't done correctly)
- Staff often don't log off the system (difficult to determine which individuals are making errors)
- Extremely time consuming to manage (update pars, change defaults)
- Difficult to move drugs when sizes of boxes change significantly between NDCs (ondansetron, metoprolol, glycopyrrolate)

CONS OF PERPETUAL INVENTORY (CONTINUED)

- Monthly cycle counts is a most and very time consuming
- Verify inventory is more than just glancing at the shelf
- Controlled substances do not interface with the perpetual inventory system
- Designated receiving time, however, daily order can be late and shipments are received all day
- Equipment (scanners and bio ID) wear and tear and have a high replacement rate

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CONS OF PERPETUAL INVENTORY (CONTINUED)

- Unexpected downtimes insoftware
- Unexpected downtimes in hardware
- Relying on third party support, which is variable and not always helpful
- Hardware and software are serviced by different third-party vendors which makes coordinating more difficult
- Regular maintenance is a must, but results in scheduled downtimes

MAJOR UNPLANNED DOWNTIME

- Lasted 5 days (Jan 201
- Planned downtime due to moving a major server from one city to another.
- Server never came back up and resulted in no interface communication between EHR, ADMs, and Perpetual Inventory System.
- Took most of the medication out of the carousels and in bins on rolling shelving system.

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MAJOR UNPLANNED DOWNTIME (CONTINUED)

- Each carousel has a binate with medications listed in alpha order. This shows the location in the carousel and was used to tally all use and try to place daily purchasing orders.
- Needed to revert to manual ordering and manual inventory monitoring.
- Needed to do a cycle count on every single product once resolved.

REPLACEMENT OF HARDWARE

- Carousel life expectancy = 10-20 years.
- Our carousels are used 24-7, 365 days a year.
- Would like to replace them before a major issue occurs.
- What is the expected downtime?
- If all goes well, how do we replace our current carousels? During overnights and/or weekends? How to function off-line for an extended period?

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REPLACEMENT OF SOFTWARE

- What are our options?
- How do we test all interfaces and plan for the transition?
- What is the expected downtime?



