Drug Distribution Services for Long Term Care Facilities

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Drug distribution

The process:
- Receipt / transcription of order
- Interpretation / evaluation of order
- Filling and packaging order and checking it
- Delivery
- Administration
New orders

- Can be verbal or written, electronic, fax, or via phone

- Involves communication between
  - Physicians
  - Nursing staff
  - Pharmacists
  - Patient
Evaluation of orders

- Prospective review
- Ensure appropriate:
  - Indication
  - Dosage and dosage form
  - Route of administration
  - Dosing interval
- Check allergy profile, concomitant disease states, other medications
- Assess interactions – drug, disease, food
Filling and packaging

- Manual and semi manual systems
  - Vials
  - Unit dose and cassettes
  - Modified unit dose
  - Medisets
- Automated systems
Traditonal vials

**Advantages**
- Time effective for pharmacy
- Less costly

**Disadvantages**
- Time consuming for facility
- Increased chances for errors
- More medication waste
Unit Dose Systems

- First used in the 1960s in the hospital setting
- Used to decrease errors, support nursing in medication administration, and reduce medication waste
- Standard of practice in hospital settings today
Unit Dose and Modified Unit Dose Systems

**Advantages**
- Less waste
- Easy to track usage
- Decreased errors of commission and omission
- Decreased nursing time

**Disadvantages**
- Increased pharmacy time
- More storage space
- Increased cost
Unit Dose / Modified Unit Dose examples

- Manufacturer unit dose
- Blister packs / bingo cards
- Medication cassettes
Manufacturer unit dose
Medication cassettes
Blister / Bingo cards
Medisets

**Advantages**
- Less waste
- Flexibility
- Less nursing time
- Ease of use for patients

**Disadvantages**
- Cost of medisets
- Increased pharmacy time
- Difficult for nursing to check for accuracy
- Increased errors
Mediset examples
Automation

Advantages:
- Decreased pharmacy assimilation time
- Reduce medication errors by decreasing dispensing errors
- Authorized access only enhances security
- Availability of medications where needed
- Improved pharmacy inventory

Disadvantages:
- Does not effect decrease nurse administration time
- Training considerations
- System downtime
- Expensive!
Automation considerations

- Dispensing rate
- Flexibility and dose capabilities
- Labeling capabilities
- Accuracy and quality assurance safeguards
- Reporting and documentation capabilities
- Training requirements
- Cost
Automation examples

- Small systems
  - Baxter ATC
  - Script-pro 200
  - Pyxis medstation

- Larger systems
  - Baker cells
  - Baxter international bottle filler
Baxter ATC

- Usually installed in the pharmacy
- Medications stored in calibrated canisters.
- An order is sent to the system and the medication is dispensed from the correct canister.
- Packages unit dose tablets and capsules into labeled and sealed strip packs
- Found to be 99.98% accurate (vs. 92.62% for manual filling) — Kratz K. Hosp Pharm 1992.
Script-pro 200

- Usually installed in the pharmacy
- Fills vials directly from dispensing cells
- Can print prescription and auxiliary labels
Pyxis medstation

- Kept on nursing unit
- Nurses can access medications out of drawers
- Pharmacy responsible for filling unit with medications
Baker cells

- In pharmacy system
- Counts a 30 count vial in 3-5 seconds
- Option to use software that dispenses medication after prescription is scanned
Drug delivery and administration

Drug delivery
- On time delivery to correct facility
- Correct nursing area / staff
- Ensure emergency back-up

Medication administration
- Correct:
  - Patient, Dose, Dosage form, Route, and Time
Documentation of drug administration

The medication administration record (MAR)
- Monthly record of dispensed medications for each patient
- List of medications and administration times
- List of PRNs to chart usage
- Nursing/facility staff sign/initial when med dispensed
- Tracks missed doses and changes in medications
Emergency Kit

- Supply of short term emergency meds tailored to specific nursing facility needs
- Gives dispensing services to facility to be used when pharmacy services not available
- Contents determined by nursing facility and pharmacy. Guided by state regulations.
- Box is sealed and locked when delivered to NF
- Broken seal indicates usage
- Nurse documents usage and returns records inside emergency kit to pharmacy for refill
Medication distribution errors

- Human Error
  - Medication orders
    - Omissions, incorrect transcription
  - Interpretation/evaluation
    - Dose appropriateness, concurrent meds and diseases, drug interactions
  - Filling and checking
  - Medication administration
    - Wrong person, dose, dosage form, route, frequency
    - Missed doses or missed documentation
Medication distribution errors

System errors

- Inadequate staffing or untrained staff
- Poor communication between providers, facility, pharmacy
- Poor coordination between pharmacy and nursing facility for drug ordering and delivery
Consultant pharmacist role

Order processing

- Review patient health and medication profile
- Perform prospective review
- Consider economic issues
- Communicate with prescribers and other health care workers
Consultant pharmacist role

Dispensing and delivery

- Ensure accurate packaging, labeling, and timely delivery
- Track usage and monitor medication returns
- Ensure accuracy of MAR
- Monitor reconciliation of controlled substances
Consultant pharmacist role

Other

- Determine contents of emergency kits
- Ensure proper documentation and refills for emergency kits
- Determine house supply stock
- Provide drug information to staff, residents, and family members
- Ensure compliance with applicable laws and regulations governing drug distribution