

OUTPATIENT PHARMACY SERVICES

1. REASON FOR ISSUE. This Veterans Health Administration (VHA) Handbook provides specific direction, guidance, and procedures related to outpatient clinical activities, automation, and the appropriate handling and dispensing of drugs, hand hygiene, and supplies to outpatients.

2. SUMMARY OF MAJOR CHANGES. There are three new topics included in this document:

- a. Outpatient Clinical Services, paragraph 10;
- b. Hand Hygiene, paragraph 11; and
- c. Automated Pharmacy Systems, paragraph 12.

3. RELATED DIRECTIVE. VHA Directive 1108 (to be published).

3. RESPONSIBLE OFFICE. The Chief Consultant, Pharmacy Benefits Management Strategic Health Group (119) in the Office of Patient Care Services is responsible for the contents of this Handbook. Questions may be addressed to 202-273-8429.

4. RESCISSIONS. VHA Manual M-2. Part VII, Chapter 4, is rescinded.

5. RECERTIFICATION. This VHA Handbook is scheduled for recertification on or before the last working day of May 2011.

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OUTPATIENT PHARMACY SERVICES

1. PURPOSE:

This Veterans Health Administration (VHA) Handbook provides specific direction, guidance, and procedures related to the appropriate handling and dispensing of drugs and supplies to outpatients.

2. DEFINITIONS

a. **Patient's Agent.** A family member or caregiver whom the patient has identified to act on the patient's behalf.

b. **Licensed Pharmacist.** A pharmacist licensed by a State, Commonwealth, or territory of the United States.

c. **Oral Nutritional Supplementation.** The process of increasing oral intake by the addition of nutrients and calories to compensate for nutritional deficit caused by inadequate consumption, increased requirements, or excess losses.

3. AUTHORITY

The Pharmacy Service must be in compliance with relevant standards of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO); the practice standards, guidelines, and technical bulletins of the American Society of Health System Pharmacists (ASHP); and the United States Pharmacopeia (USP). In addition, VA must follow all applicable Federal and State laws (where adopted) and regulations concerning the dispensing of medications to outpatients.

4. SCOPE

Prescription drug services are a major component of outpatient services provided to eligible patients of the Department of Veterans Affairs (VA). These services include direct and indirect patient medication counseling, drug and supply dispensing services, and clinical pharmacist activities as a component of the interdisciplinary health care team.

a. All outpatient services are to be provided in a safe, appropriate, timely, and cost effective manner.

b. A licensed pharmacist or designee must offer prescription education to patients and/or caregivers on all prescriptions dispensed from the outpatient pharmacy. Patient education must be provided at the inception of any new therapeutic agent.

c. All outpatient prescriptions must be filled under the supervision of a licensed pharmacist and checked by a licensed pharmacist prior to issuance to the patient or the patient's agent.

d. The average outpatient prescription processing time must be 30 minutes or less. The time to process starts when the patient presents to the outpatient pharmacist or processing initiates, and concludes when the prescription is released for pick-up by the patient.

e. Appropriate pharmacist Scopes of Practice for clinical pharmacy activities are to be submitted by the Chief of Pharmacy or designee and approved by Medical Staff with oversight by the office of the Chief of Staff.

f. Pharmacists must interact with medical, nursing, and ancillary staff to formulate pharmacy related policies and procedures. These policies and procedures must incorporate the effective utilization of pharmacist expertise to: perform patient assessment, prospectively evaluate medication therapy and recommended life-style modifications, educate patients and other health care providers, and coordinate all dispensing activities for prescribed medications and medical supplies.

g. Work spaces, where medications are prepared and processed, are to be kept clean, orderly, well lit and free of clutter, distraction, and noise.

5. PRESCRIPTIONS

a. Prescriptions are to be ordered electronically using the Computerized Patient Records System (CPRS), or when required, (i.e., Class II Controlled Substances, research medications, etc.), they must be written on VA Form 10-2577F, VA Prescription Form, or VA Form 10-1158, Doctor's Order Sheet.

b. All prescriptions using VA Form 10-2577F for dispensing must be completed in a legible manner by an authorized provider in accordance with local medication error prevention policies. These prescriptions must contain the following:

- (1) Patient's full name;
- (2) Social Security Number (SSN) last four digits;
- (3) Patient's current address;
- (4) Name of medication. **NOTE:** *The generic form is preferred.;*
- (5) Dosage form;
- (6) Strength. **NOTE:** *The metric dosage is required.;*
- (7) Quantity;
- (8) Specific directions, including indication for use (when an agent may be prescribed for the treatment of multiple disease states). **NOTE:** *As directed or as needed (prn) are not acceptable.;*

(9) Refills, if indicated;

(10) Drug Enforcement Agency (DEA) number, or Hospital DEA number and assigned suffix, for controlled substances; and

(11) Patient's service status (i.e., service connected (SC), non-service connected (NSC) for the condition being treated). **NOTE:** *Unapproved abbreviations can not be accepted.*

c. The provider must print or stamp the provider's name on the form, then sign and date the prescription. **NOTE:** *Only one medication may be prescribed on each VA Form 10-2577F. The use of a pre-signed prescription form is not authorized.*

d. No prescription can be filled for more than a 3 month (90-day) supply of medication. No prescription may exceed 12 months of therapy (including refills). For some prescriptions, a one-month (30 days) or less limitation may be established. These include, for example Class II controlled substances (unless specified by Handbook 1108.1, Controlled Substances), research medications, or any agent with a restriction not to exceed 30 days as specified by the VA National or Veterans Integrated Service Network (VISN) Formularies. In all instances, the Pharmacy and Therapeutics Committee must consider safety, patient care needs, and VISN resources when establishing such guidelines or restrictions.

e. VHA medical facilities may establish local policies for transmission and/or receipt of verbal orders or for the acceptance of facsimile copies of outpatient prescriptions. However, if adopted, the policy must be consistent with the following guidelines:

(1) Only a licensed pharmacist (or pharmacy intern authorized by a state to dispense controlled substances under the supervision of a pharmacist licensed by such state) can accept the verbal orders following standard medical center verbal order policy;

(2) The policy must adhere to all DEA regulations and must include appropriate processes to prevent diversion and ensure accuracy and accountability;

(3) Verbal orders can only be used in emergency situations; and

(4) The pharmacist (or pharmacy intern, where appropriately authorized), to ensure accuracy, must immediately transcribe the verbal order and then read back the order to the provider.

f. All patient-specific information utilized during the pharmacy dispensing process must be shredded or properly disposed of in a manner to ensure the privacy of this information.

6. PATIENT ELIGIBILITY

a. Determining patient eligibility is a function of the Eligibility Office. Patient eligibility data is available in Veterans Health Information Systems and Technology Architecture (VistA) and visible to the pharmacist at the order entry routine. When prescriptions are written on VA Form 10-2577F, the provider must include the patient's eligibility status, and when appropriate,

indicate if the prescription is for a SC indication. Patient eligibility may limit the quantities of medications that certain patients can receive. The following eligibilities are authorized to receive medications or medical supplies in quantities not to exceed a 3-month supply (with three refills) per prescription; in some circumstances the supply provided is considerably less.

(1) **Authorized Absence (AUTH ABS).** Necessary medications and other supplies for treatment need to be furnished as determined medically appropriate.

(2) **Employee (EMP).** Prescriptions must be limited to emergency treatment and minor ailments which interfere with the immediate ability to perform duties. Medications cannot exceed a 72-hour supply. Larger supplies may be authorized for employees treated in conjunction with workman's compensation.

(3) **Home-based Primary Care (HBPC).** Patients who are furnished HBPC status following an episode of VA-authorized inpatient care, must be dispensed medications and medical supplies from the Pharmacy Service.

(4) **Regular Discharge (REG DISCH).** A patient given a regular discharge may be dispensed a supply of medications sufficient to maintain the prescribed regimen of care.

(5) **Aid and Attendance (A&A) and/or Housebound (HB).**

(a) Any veteran may be authorized for needed outpatient treatment on a staff or fee-basis for any medical condition including medications and/or medical supplies, if in receipt of increased pension for:

1. Additional compensation or allowance based on the need of regular aid and attendance; or
2. The reason of being permanently housebound.

(b) Veterans who elect to obtain treatment at other than VA expense, which is not part of authorized VA hospital or outpatient care, are eligible to receive prescribed medications and medical supplies from a VA pharmacy.

(6) **Community Nursing Home (CNH).** When it is specified in the nursing home agreement that certain services and supplies are not included in the per diem rate (i.e., medications and medical supplies), such services must be provided by the VA medical center that authorized the care in the community nursing home. Nursing homes having contracts with private pharmacies under which a complete medication monitoring and delivery system is furnished must be encouraged to provide the same service to veteran patients.

(7) **Outpatient Treatment (OPT) for SC and NSC Veterans.** When medications and medical supplies are prescribed for treatment of veterans for SC and NSC conditions, those must be furnished by the VA medical center providing the care.

(8) **Other Federal (OTHER FED).** When properly authorized, inpatient and outpatient services may be furnished to beneficiaries of other Federal agencies with whom the Secretary of

Veterans Affairs has approved agreements, as well as Canadian, British, and Allied beneficiaries. The current VA per-diem rate, or per visit rate, includes drugs which are normally provided for VA beneficiaries under the same circumstances.

(9) **Other 1-month (no refills).** Medication may be prescribed for dispensing at VA pharmacies to non-veterans under unusual circumstances for humanitarian or legal liability purposes.

(10) **Against Medical Advice (AMA).** Prescriptions are not normally provided, but may be dispensed at the discretion of the provider.

(11) **Incarcerated Patients.** Incarcerated patients are not eligible for the VHA prescription benefit.

(12) **Active Duty Personnel.** When VA is in receipt of proper authorization through the Department of Defense (DOD), medications can be dispensed.

(13) **CHAMP-VA.** Medications can be dispensed when a patient receives care directly from a VHA facility.

(14) **Fee Basis (FEE) Care.** When a patient is approved for specific care by a non-VA provide, medications can be dispensed.

7. RESPONSIBILITY

a. Pharmacy Service is responsible for the storage and issuance of Outpatient Prescription Blanks, VA Form 10-2577F, a controlled form which must be ordered in sufficient amounts by each facility from the VA Forms and Publications Depot.

(1) According to local policy, each VA medical center must maintain perpetual records on the forms received, forms issued, dates of issuance, serial numbers (received and issued), person issuing these forms, and receiving party (i.e., provider, clinic, or service representative). Local medical center written policy must define "receiving party."

(2) The records must specify the representative and bed service, ward, clinic, or individual provider who has received prescription forms by sequential number. The Director, through the Controlled Substance Coordinator, is responsible for establishing the system of accountability and level of security for these forms after they are issued from the pharmacy. Once issued to a provider, the individual provider or authorized user is responsible for security of prescription forms.

(3) The records must be maintained in Pharmacy Service and reconciled monthly as a component of the monthly controlled substance inspection process. Any loss of forms must be reported to the medical center Director who must inform the Chief of Police and Security who initiates an investigation. The Director must report the loss through the VISN Director, to the Associate Deputy Chief Patient Care Services Officer (111H). Records of all losses must be maintained and reviewed annually as a risk management indicator.

b. Prescriptions must be filed in a manner that facilitates retrieval when verification of computer-based data is necessary. All non-current prescriptive documents must be disposed of in accordance with VHA Records Control Schedule 10-1. Prescriptions for controlled substances must be filed as required in Handbook 1108.1.

c. Oral nutritional supplementation of all commercially-prepared dietary tube feedings and nutritional products must be prescribed according to VISN policy as defined in the VA National Formulary Process.

d. Prescription refills for recurring and/or continuous need medications and medical supplies, must be dispensed in accordance with the authorization of the provider. Local facility policy may further limit the number of refills to the next scheduled clinic visit. Prescriptions can be refilled only on a request from the patient and must not be automatically dispatched.

e. Prescriptions renewed by the provider must be evaluated by the pharmacist to prevent unwarranted dispensing of additional medication if the patient has a sufficient supply on hand.

f. A Medication Refill Request is generated by VistA to provide a convenient method for the veteran to request refills of their medications and medical supplies. Other methods for requesting refills may include using the telephone refill line and/or the internet by using My HealtheVet.

g. General and prosthetic medical supplies, determined to be expendable stock items required for outpatient care and treatment, must be dispensed on prescription (CPRS or VA Form 10-257F). Pharmacy Service is not responsible for filling prescriptions for non-expendable medical equipment. Pharmacy Service may dispense refills for expendable supplies upon receipt of requests from patients with continuing eligibility for a period not to exceed 1 year from the date of the last signed order. Expendable stock items may include: catheters; colostomy sets; ileostomy sets and/or supplies, plastic and rubber gloves, skin preparations and powders, urinal bags and drainage supplies; incontinence supplies, etc.

h. Authorized medications and medical supplies must be provided to eligible veterans when a prescription is completed by an authorized provider who is licensed to practice their profession in a state, commonwealth, or territory of the United States.

i. Prescriptions written by one VA facility for dispensing by another VA facility is discouraged. The facility of the provider prescribing the medication or supply is responsible for all dispensing. This does not apply to prescriptions written at a physically separate location of the same facility. Any loan or transfer of medications, medical supplies, etc., to other agencies or VA facilities must be accomplished by the Chief, Acquisition & Materiel Management Service. In emergency situations, Pharmacy Service is authorized to borrow from, or loan to, any other medical facility. **NOTE:** *Appropriate records of such transactions must be maintained.*

j. Prescription medications or medical supplies dispensed by mail delivery must be securely packaged and properly addressed.

(1) Oversight of these medications and supplies must be maintained by Pharmacy Service until such time that the carrier accepts the packages for delivery.

(2) Upon notification that mailed medications are not received by the patient, this occurrence must be documented in narrative section of the veteran's medication profile.

(a) In the event of a recurring loss, registered, certified, or private mail, (Federal Express, United Parcel Service, etc.) a process must be instituted for all prescriptions for that patient.

(b) When appropriate, the patient's provider must to be notified.

k. Two forms of patient identification are to be requested prior to dispensing prescriptions. One form of identification may be a verbal response communicating a specific personal detail such as social security number or address.

l. VA pharmacies are authorized to fill and mail prescriptions including controlled substances Schedule II, III, IV, and V. Controlled substance prescriptions must be handled in accordance with Handbook 1108.1, Controlled Substances Pharmacy Stock.

8. SUPPLEMENTAL (EMERGENT NEED) AND FEE-BASIS PHARMACY SERVICES

a. Every effort must be made to utilize VA pharmacies for prescription services. When appropriate, arrangements can be made for emergency prescription services through a community pharmacy or the Fee Basis program. In these instances, the patient must not incur additional expense. These arrangements are to be made on a selective, individual patient basis, after careful determination of the type and recurring nature of the prescription. Any pharmacy licensed by a state, commonwealth, or territory of the United States is eligible to accept and fill prescriptions for VA patients, when required and approved in accordance with current VHA policy.

b. In addition to dispensing prescriptions, VA pharmacies must be used to fill authorized Fee-Basis prescriptions in accordance with applicable Public Law, VA regulations, and current VHA policy in such a way that it is consistent with the needs and in the best interests of the patient.

(1) Eligible veterans with an approved Fee-Basis Card must be reimbursed, based on acquisition cost of an acceptable generic drug, plus a VA-determined dispensing fee for prescribed medications purchased in emergencies as defined by the facility of jurisdiction. The facility of jurisdiction is also used to define medication quantity limitations for these urgently needed medications.

(2) When there is a reasonable doubt about the relationship of the prescribed medications to the approved Fee-Basis disability listed, the participating pharmacist must contact the prescribing Fee-Basis provider for validation. If the provider verifies that the medication is for a condition listed, the pharmacist needs to annotate that the verification was made. Payment must then be approved by the VA facility of jurisdiction.

(3) When the pharmacist and the prescribing provider are in disagreement as to the status of the prescription for Fee-Basis care, a reviewing VA facility provider must be consulted to validate that the medication was appropriate for the condition authorized. When agreement cannot be reached between the VA facility provider and the Fee-Basis provider, appropriate notification must be made to the participating pharmacy that payment is not to be approved for additional prescriptions or refills of the medication in question.

(4) National and VISN Formulary policy must be applied to Fee-Basis medication orders. In most cases only formulary medications are to be provided; however, if the clinical justification is consistent with VA Non-Formulary Policy, non-formulary medication may be dispensed.

NOTE: *Eligibility issues must be resolved quickly so as not to unduly delay the processing of the prescription.*

(5) Prior to filling a prescription written by a Fee Basis provider, Pharmacy Service must verify that the provider is authorized to prescribe by the State licensing board and possesses DEA certification. Additionally, some health care providers are prohibited by law from doing business with Medicare, Medicaid, and all Federal health care programs, including VA's. These providers are placed on the Department of Health and Human Services (HHS), Office of the Inspector General (OIG) List of Excluded Individuals and Entities (LEIE). Prescription orders from parties who have been excluded on or after August 5, 1997, can not be filled. **NOTE:** *Details regarding the LEIE and affected individuals are available from the HHS OIG at <http://exclusions.oig.hhs.gov/>. All patient medications received from VA, or from outside VA, must be available for reference and review.*

9. UTILIZATION OF VA PHARMACIES

a. All original prescriptions and refill requests for formulary medications that are identified for mail delivery must be processed for filing within two working days of receipt. Prescriptions which are not routine, such as those requiring clarification from the provider or non-formulary requests, may take longer.

b. The Chief of Pharmacy Services, or designee, must review the outpatient pending file and Consolidated Mail Outpatient Pharmacy (CMOP) status to ensure timeliness of service. When a review indicates that a backlog of seven calendar days exists, a report (to include the date, period covered by the report, date of duration of the backlog, the number of unfilled prescriptions, and the unusual circumstances causing the backlog) must immediately be submitted to the facility Director. This report needs to include recommendations to:

- (1) Ensure that all patients receive their medications prior to running out; and
- (2) Pending actions to correct the backlog.

c. When prescription backlog reports are submitted for more than four consecutive weeks to the facility Director, the Director must submit a report to the VISN Director and to the VHA Central Office Pharmacy Benefits Management Strategic Health Group citing: the deficiencies,

the unusual circumstances involved, all corrective action taken, and the projected timeline for correction.

10. OUTPATIENT CLINICAL SERVICES

a. It is the consummate goal of Pharmacy Services to enhance medication-related therapeutic outcomes in an effort to improve the patient's quality of life. In order to realize this goal, pharmacy services are encouraged to embrace clinical activities.

b. Clinical Pharmacy Specialists and clinical pharmacists are key members of the health care team and can assist in the optimization of drug therapy and improve medication safety for outpatients. Clinical Pharmacy Specialists may be granted prescribing privileges based on their Scope of Practice as defined by the local facility. Examples include, but are not limited to:

- (1) Pharmacist-based anticoagulation clinics;
- (2) Pharmacist-based pharmacy (or other specialty) clinics;
- (3) Optimization of chronic drug therapy (i.e., hypertension, lipids, etc.);
- (4) Smoking cessation;
- (5) Diabetes management and teaching services;
- (6) Pain Management services;
- (7) Non-formulary and restricted drug request review and approval;
- (8) Drug information services; and
- (9) Staff education related to safe medication practices and pharmacotherapy.

c. All patients, including those discharged from inpatient facilities, are to be educated about their medications prior to, or at the time of, dispensing. Such counseling needs to be tailored to the patient by focusing on their individualized drug regimen. Select activities that are required for the support of this effort are:

- (1) Pharmacists are to review the patient medication profile to:
 - (a) Discuss the necessary drug information with the patient.
 - (b) Determine if potential drug-drug and drug-food interactions and make recommendations to health care providers as appropriate.
 - (c) Evaluate laboratory tests deemed necessary for monitoring the outcomes of medication therapy (such monitoring needs to be tailored to the individualized drug regimen of the patient).

(2) Pharmacists are to review the patient medical record for the presence of allergy information and the potential for adverse drug events prior to the dispensing of medication to the patient.

(3) Pharmacists are to evaluate the medication order for appropriate dosing, taking into account the renal and liver function of the patient, in addition to other parameters related to patient specific needs.

(4) Pharmacists need to view remote medication profiles in VistA to ascertain if the patient is receiving medications at other VA sites.

11. HAND HYGIENE

a. Hand hygiene, a consideration in pharmacy practice and management, and other hygienic and procedural practices associated with preparing sterile compounded medications are described in the USP, Chapter <797>. Hand hygiene practices for those who provide direct patient care are described in the Centers for Disease Control and Prevention (CDC) Guideline for Hand Hygiene in Healthcare Settings, and current VHA policy.

b. Pharmacists assigned clinic responsibilities need to adhere to the hand hygiene practices required as they pertain to the activities of pharmacists in patient care areas.

c. For pharmacy staff working to prepare non-sterile preparations and packaging drugs for distribution to outpatients, they must adhere to aspects of hand hygiene relevant to pharmacy practice.

(1) Pharmacy Staff must wash their hands with antimicrobial soap and water (or alcohol based antimicrobial hand rub) in the following situations:

- (a) Whenever hands are visibly soiled;
- (b) Prior to starting work and prior to returning to work after leaving the pharmacy area;
- (c) After all significant patient contact;
- (d) After removal of gloves;
- (e) After using the bathroom; and

(f) Before eating. **NOTE:** *Eating and drinking must be confined to those areas of the pharmacy where it is not prohibited.*

(2) Pharmacy Staff must decontaminate their hands with antimicrobial soap and water or with an alcohol based hand rub in the following situations:

- (a) After coughing, sneezing, or wiping their nose with a tissue or handkerchief; and

(b) Before donning gloves for any pharmacy work.

d. Pharmacy staff preparing sterile products, such as medications that are administered intravenously, must follow Sterile Drug Preparation Procedures in accordance with applicable USP Chapter <797> provisions. Therefore, artificial fingernails are not permitted; pharmacy staff who provide direct, hands-on care to patients must not wear artificial fingernails or extenders.

e. The Chief, Pharmacy Service, must ensure that disposable gloves, antimicrobial soap, alcohol-based hand rub, and hand lotion designed for use in health care settings are made available in all pharmacy staff work areas.

12. AUTOMATED PHARMACY SYSTEMS

a. Automated pharmacy systems, utilized in pharmacies to improve the efficiency and accuracy of the pharmacy, include, but are not limited to mechanical systems that perform operations or activities (other than compounding or administration) relative to the storage, packaging, dispensing, or distribution of medications. These devices may collect, control, and maintain all transaction information.

b. Automated pharmacy systems must include standardized HL-7 interface with the Vista computer systems.

c. Pharmacy service must establish performance requirements for the manufacturer, pharmacy service personnel, and the automated pharmacy system during and after implementation, including installation, workflow assessment, maintenance, and training.

d. Pharmacy service must establish local policies and procedures to define maintenance, troubleshooting techniques, performance and standardization of the equipment, filling and/or restocking procedures, and device operations. These policies must be written to include:

(1) Minimum competency requirements for all personnel who have access to and/or operate the equipment.

(2) Protocol on how drugs can be safely delivered from the automated distribution machine to the patient (the main area of concern is when multiple drugs are being delivered to multiple patients and the potential for errors).

e. These written policies and procedures must be in place prior to initiation of the equipment to ensure safety, accuracy, security, patient confidentiality, and to define access and limits to equipment and medications.

f. An ongoing quality assurance program that monitors performance of the Automated Pharmacy System, and that includes standards and required documentation, must be implemented in each Pharmacy Service.

g. A contingency plan in the event of a system, power, or process failure must be established in each Pharmacy Service. This plan must include who needs to be contacted and how medications stored in the system are to be secured and/or obtained. **NOTE:** *It is recommended that a system be established to determine: how to recognize when a system failure occurs or is imminent; how to compensate to protect patient safety when failures occur; and how to get failures corrected expeditiously.*

h. Patient confidentiality must be ensured and maintained in each Pharmacy Service in accordance with Health Insurance Portability and Accountability Act (HIPAA) standards. Safeguards must be established to prevent “outside” access to patient data.

13. MEDICATION SAFETY

a. It is the responsibility of the Chief, Pharmacy Service, in conjunction with the appropriate department or service representatives, to ensure that the medical center identifies drug-related problems, and to implement measures to improve medication safety.

b. Services or processes that may be utilized to successfully measure or improve medication safety are:

- (1) Computerized physician order entry (where available);
- (2) Medication error reporting and multidisciplinary analysis;
- (3) Adverse drug event reporting and multidisciplinary analysis; and
- (4) Utilization of Clinical Pharmacy Specialists to provide:
 - (a) Pharmacist-based Anticoagulation Clinics,
 - (b) Pharmacist-based Pharmacotherapy or other specialty clinics,
 - (c) Multidisciplinary team meetings,
 - (d) Concurrent medication review,
 - (e) Pharmacokinetic dosing services,
 - (f) Antibiotic surveillance services,
 - (g) Diabetic teaching services,
 - (h) Pain management services,
 - (i) Non-formulary and/or restricted drug request review and approval,
 - (j) Medication use measures, and

- (k) Drug information services and newsletters.

14. REFERENCES

- a. American Society of Health-System Pharmacists. ASHP Guidelines on the Safe Use of Automated Medication Storage and Distribution Devices. *Am J Health-Syst Pharm.* 1998; 55:1403-7.
- b. American Society of Health-System Pharmacists. ASHP Guidelines on the Safe Use of Automated Compounding Devices for the Preparation of Parenteral Nutrition Admixtures. *Am J Health-Syst Pharm.* 2000; 57:1343-8.
- c. American Society of Health-System Pharmacists. ASHP statement on the pharmacist's role with respect to drug delivery systems and administration devices. *Am J Hosp Pharm* 1993; 50:1724-5.
- d. American Society of Hospital Pharmacists. ASHP statement on the pharmacists role in clinical pharmacokinetic monitoring. *Am J Health-Syst Pharm* 1998; 55:1726-7.
- e. American Society of Hospital Pharmacists. ASHP Statement on Pharmaceutical Care. *Am J Hosp Pharm* 1993;50:1720-3.
- f. American Society of Consultant Pharmacists. ASCP policy statement on automation in pharmacy. ASCP July 18, 1997.
- g. Barker KN., Felkey BG, Flynn EA, Carper JL. White paper on automation in pharmacy. *The Consultant Pharmacist* 1998;13(3):256-93.
- h. Barker KN. Ensuring safety in the use of automated medication dispensing systems. *Am J Health-Syst Pharm* 1995;52:2445-7.
- i. The Balanced Budget Act of 1997, Public Law 105-33, section 4331.
- j. The Health Insurance Portability and Accountability Act of 1996, Public Law 104-191.
- k. National Association of Boards of Pharmacy Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy June 2003.
- l. Title 42 U.S.C. 1320a-7.
- m. Title 42 U.S.C. 1320a-7b(f).
- n. Title 42 CFR Parts 1000, 1001, 1003, and 1005, Office of the Inspector General-Health Care, Dept. of Health and Human Services.

o. Pharmaceutical Compounding - Sterile Preparations, (General Information Chapter <797>). In: The United States Pharmacopoeia, 28th rev., and the National Formulary, 23rd ed. Rockville, MD: United States Pharmacopoeia Convention; 2005:2461-2477.

p. Pharmaceutical Compounding – Nonsterile Preparations, (General Information Chapter <795>).In: The United States Pharmacopoeia, 28th rev., and the National Formulary, 23rd ed. Rockville, MD: United States Pharmacopoeia Convention; 2005:2457-2460.