

**SOCIAL and ADMINISTRATIVE SCIENCES
SUPPLEMENTAL EDUCATIONAL OUTCOMES
BASED on CAPE 2004**

- 1. PHARMACEUTICAL CARE** Provide pharmaceutical care in cooperation with patients, prescribers, and other members of an interprofessional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, economic, and professional issues, emerging technologies, and evolving biomedical, sociobehavioral, and clinical sciences that may impact therapeutic outcomes.
1. Apply the following social/behavioral principles and theories in the design, delivery and evaluation of pharmaceutical care.
 - A. Differentiate between psychosocial and drug therapy approaches to providing pharmaceutical care and employ both approaches in practice.
 - B. Identify and describe relationships between patient and practitioner knowledge, attitudes, beliefs, and behaviors, and use information to design pharmaceutical care plans.
 - C. Describe relevant behavioral theories of health, illness and medication use, and apply these theories to the pharmacotherapy plan.
 - D. Identify and describe social and behavioral factors associated with medication non-adherence, and identify strategies to improve adherence.
 - E. Apply social and behavioral research to understand and improve pharmaceutical care.
 - F. Apply concepts of behavioral change to facilitate improved patient outcomes in health promotion, disease prevention and medication management.
 - G. Demonstrate sensitivity to the various multicultural factors involved in pharmaceutical care.
 - H. Display professional attitudes, beliefs and behaviors in the delivery of pharmaceutical care.
 - I. Use ethical principles and theories to consider alternative sides of a pharmaceutical care and/or health care dilemma.
 2. Communicate with prescribers, patients, caregivers, and other involved health care providers to engender a team approach to patient care.
 - A. Develop verbal, non-verbal, written, and graphic communication skills to communicate effectively with patients, physicians, and others.
 - B. Apply effective communication skills in interprofessional relationships to improve the clinical, economic, and humanistic outcomes of patients.
 - C. Demonstrate provision of culturally and linguistically appropriate pharmaceutical care services to diverse patient populations.
 - D. Use communication skills in educating and counseling patients, e.g.,
 - i. Setting the stage
 - ii. Establishing rapport
 - iii. Eliciting information from the patient (Question asking)
 - iv. Providing information to the patient (Patient Education)
 - v. Organizing the encounter
 - vi. Promoting adherence to appropriate therapy
 - vii. Encouraging patient involvement
 - viii. Demonstrating sensitivity to and adjustment of communication based on contextual or cultural factors, including health literacy, literacy, cognitive impairment, etc.
 - ix. Exhibiting professional demeanor
 - x. Exhibiting professional decision-making
 - xi. Concluding the encounter

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2. **SYSTEMS MANAGEMENT** Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.

1. Describe and demonstrate appropriate utilization of management principles and use of health care resources in the American health care system.
 - A. Identify the key features of private and public payers of health care.
 - i. Differentiate modes and mechanisms of paying for health and pharmaceutical care
 - ii. Describe benefits provided under Medicare.
 - iii. Describe the roles of state and federal governments in financing and administering Medicaid.
 - B. Describe the objectives of health insurance and managed health care programs.
 - i. Differentiate between insuring health and managing health care.
 - ii. Describe the evolution of pharmacists' roles in the health care system.
 - iii. Understand the impact of health care costs on the medication distribution and use systems.
 - iv. Define the role of the pharmacist in providing medication therapy management.
 - v. Demonstrate the role of pharmacists in providing access to pharmaceutical care to all patients.
 - vi. Demonstrate an awareness of health disparities and means of addressing the problem.
2. Manage pharmacy operations.
 - i. Evaluate a pharmacy for ownership or management using principles of financial management and business indicators.
 - ii. Conduct a basic analysis to diagnose and resolve financial and management problems.
 - iii. Establish a mission statement with component goals and actions.
 - iv. Develop a strategic plan to achieve the identified goals.
 - v. Apply the principles of business planning to develop a business plan that supports the implementation and provision of pharmaceutical care services, identifies and acquires necessary resources, and assures financial success of the practice, i.e.,
 - a. Address the financial, legal, accounting, and managerial role of the management/technical team.
 - b. Determine the cost to dispense a prescription and the appropriateness of pricing strategies.
 - c. Determine a budget for financial resource allocation.
 - d. Predict patient care needs and professional service opportunities.
 - e. Establish effective time management and priority-setting procedures.
 - f. Determine strategies for managing organizational change.
 - g. Evaluate the achievements of a practice in relation to the established mission, fiscal resources, and customer needs.
 - vi. Apply marketing principles to effectively market a pharmacy or pharmaceutical care service.
 - a. Assess demand (among patients, providers, and payers) and competition, and identify a viable market within a target location.
 - b. Develop strategies to address marketing needs (products/services, price, promotion, place, personnel).

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- c. Document services and outcomes to enhance marketing and reimbursement.
 - d. Develop direct-selling skills for approaching patients, providers, and payers to engage in medication therapy management or pharmaceutical care services.
 - vii. Identify the impact of the government and third party payers on pharmacy operations and understand the basic principles/strategies for negotiating contracts with payers.
 - viii. Develop strategies for reimbursement of pharmacy services, such as medication therapy management.
3. Manage personnel.
- A. Determine the organizational structure of a pharmacy.
 - B. Identify the components of a job description.
 - C. Identify a staff of persons (professional, technical and supportive) capable of fulfilling the practice mission.
 - D. Interpret state and federal regulations that affect personnel policies.
 - E. Understand the role of staffing plans in maintaining workforce productivity.
 - F. Determine the process used to recruit, retain, and reward an individual.
4. Optimize physical and technological resources required to fulfill the practice mission.
- A. Evaluate a pharmacy's layout.
 - B. Design/redesign a pharmacy to maintain efficiency and enhances patient-focused care services.
 - C. Utilize automated medication storage and distribute systems, which improve the practice mission.
 - i. Determine the benefits of medication storage and distribution systems, medication-packing systems, and bar-code labeling systems.
 - ii. Identify electronic information systems that assists in the transfer of patient information needed for medication management.
 - iii. Identify the role of pharmacists when computerized prescriber order-entry systems are utilized.
5. Manage medication distribution and control systems.
- A. Utilize inventory control concepts to develop and implement an inventory control system.
 - i. Determine and maintain optimal inventory mix/level.
 - ii. Select drug products based on bioequivalence and therapeutic equivalence.
 - iii. Assess and evaluate the utility of automated medication storage and distribution devices.
 - iv. Maintain records of products received and removed from inventory.
 - v. Perform drug control, storage and security functions.
 - B. Design, select, implement, and/or manage drug distribution systems for various practice settings.
 - i. Recognize distinguishing characteristics of drug distribution systems in a variety of settings, including automated systems.
 - ii. Develop appropriate job descriptions for a given drug distribution system.
 - iii. Develop and utilize policies and procedures that provide quality assurance/control for improving the efficiency and effectiveness of a given drug distribution system.
6. Manage medication use systems.
- A. Participate in the pharmaceutical care system's process for reporting and managing medication errors and adverse drug reactions.

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- i. Identify and report medication errors and adverse drug reactions to appropriate individuals and organizations (including institutional and federal).
 - ii. Evaluate information obtained from adverse drug reaction and medication error reporting systems to identify preventable causes.
 - iii. Recommend and implement actions to minimize the occurrence of adverse drug reactions and medication errors.
- B. Participate as part of a multidisciplinary team in the pharmaceutical care system's process for conducting medication use evaluations.
- i. Develop appropriate criteria and outcome indicators.
 - a. Identify appropriate drugs for review.
 - b. Identify appropriate criteria or indicators developed by national organizations and regulatory agencies.
 - c. Adapt and/or modify existing criteria for use in a given situation.
 - d. Develop criteria and/or indicators based on analysis of the literature, and site-specific considerations.
 - ii. Conduct medication use evaluations.
 - a. Collect data for a medication utilization review.
 - b. Apply criteria to collected drug utilization review data.
 - c. Implement corrective actions to improve drug use, if necessary.
 - d. Assess outcomes of these corrective actions through a multidisciplinary system.
- C. Participate in the development and implementation of a formulary system.
- a. Develop standards for drug product inclusion in the formulary.
 - (a) Compile and evaluate relevant scientific literature and drug use data across patients and prescribers within the system.
 - (b) Develop therapeutic interchange guidelines.
 - b. Implement and manage the formulary system.
 - (a) Compile and evaluate data necessary to review therapeutic and/or generic classes of drugs and new products for formulary considerations.
 - (b) Monitor prescribers and pharmacists compliance with formulary standards.
 - (c) Implement corrective action if variances from the formulary standards occur.
 - (d) Communicate with managers and caregivers regarding formulary decisions.
 - (e) Re-evaluate formulary decisions and their impact on patient care on a continual basis.
- D. Apply principles of outcomes research and quality assessment methods to the evaluation of pharmaceutical care.
- i. Use appropriate structure, process, and outcome measures to evaluate the quality of pharmaceutical care.
 - ii. Apply elements of continuous quality improvement to pharmaceutical care.
 - iii. Apply appropriate drug use management methods to evaluate the quality of pharmaceutical care.
 - iv. Use appropriate critical pathways, clinical practice guidelines, and disease management protocols in the delivery of pharmaceutical care.
 - v. Document quality assurance activities according to the specifications of relevant accrediting and regulatory bodies.
 - vi. Explain and demonstrate use of report cards in assessing the quality of health care.
 - vii. Apply principles of pharmacoconomics in making pharmaceutical care decisions.
 - viii. Apply principles of humanistic outcomes in determining impact of pharmaceutical care services on patient's quality of life.

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7. Carry out duties in accordance with legal, ethical, social, economic, and professional guidelines.
 - A. Comply with federal, state, and local statutes and regulations that affect pharmacy practice.
 - B. Apply principles of civil law to the practice of pharmacy.
 - i. Recognize professional practice situations that may give rise to liability under civil law.
 - ii. Predict the likelihood of liability that may arise from errors of omission or commission in professional practice situations involving civil law.
 - C. Ensure that medication distribution systems (including Internet sources) provide timely and appropriate pharmacy services.
 - D. Identify ethical and moral decisions faced by pharmacists during the medication distribution process.

3. PUBLIC HEALTH Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers

1. Assure the availability of effective, quality health and disease prevention services.
 - A. Assure access to rational, safe, and cost-effective drug therapy and pharmaceutical care.
 - i. Provide clinical preventive services to improve outcomes and quality of life
 - ii. Educate patients about behaviors that promote health, maintain wellness, prevent and control disease, and reduce health disparities
 - iii. Evaluate the quality and effectiveness of clinical and community-based interventions designed to improve health
 - iv. Use communication strategies strategically to improve health.
 - B. Define and assess the health status of individuals and populations, including determinants of health and illness, factors contributing to health promotion and disease prevention, factors influencing the use of health services, and epidemiology (e.g., incidence, prevalence) of diseases.
 - C. Assess and monitor at-risk populations to identify and report health problems, and to prioritize interventions in collaboration with patients, other health professionals, members of the community, and policy makers
 - D. Select and implement strategies to prevent or detect disease in the target population.
 - i. Determine the pharmacist practice activity domains in public health initiatives and responses and promoting safe medication use in society.
 - ii. Formulate strategies to offer disease detection and prevention programs to the public.
 - iii. Implement disease detection and prevention health care services (e.g., smoking cessation, weight reduction, diabetes screening, blood pressure screening, immunization services) to prevent health problems and maintain health.
 - iv. Provide public health related educational material or services tailored to the needs and background of a given audience.
 - v. Identify the roles pharmacists play in emergency preparedness (e.g., bioterrorism and chemical terrorism, natural disasters) and response (e.g., medication dispensing, information provision, vaccination response teams, medical reserve

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- corps) on the local community and national levels. Provide care and evaluate outcomes.
 - vi. Provide patients with access to poison control and treatment information.
 - E. Identify methods to ensure that public health initiatives/programs continue to achieve stated goals.
 - i. Conduct a continuing assessment of community health assets and needs.
 - ii. Prioritize pharmacy-based programs based on identifiable criteria and standards.
 - iii. Amend existing programs or develop additional services.
 - iv. Recognize the importance of promoting a healthy lifestyle, including the appropriate use of screening tools and immunizations.
 - v. Consult and collaborate with other members of the health care team and public agencies; provide follow-up and referral when necessary.
 - F. Evaluate the outcomes of the program/intervention.
 - G. Advocate for improved policies that increase access to health services and reduce health risks.
2. Develop strategic efforts to collaborate with policy makers, payers, members of the community, health providers and other stakeholders and decision-makers to promote public health and resolve public health problems.
- A. Collaborate with pertinent local and state organizations, health care providers and policy makers responsible for the development of the public health initiatives and identify methods to stimulate their support.
 - B. Synthesize a solution through an action plan in collaboration with community leaders and organizations, such as the following
 - i. Develop a written plan for provision of informational and preventive efforts and identify potential methods and/or plans to generate physical or financial support from internal and external sources.
 - ii. Evaluate the conclusion and action plan to ensure goals will be met.
 - iii. Implement the action plan through collaboration with the ability to provide support for the position taken.
 - C. Tailor activities by identifying clinical characteristics of the pharmacy practice and community and learning about diseases associated with the service population and community
3. Carry out duties in accordance with legal, ethical, social, economic, and professional guidelines.
- A. Describe local, state, federal and international regulations affecting public health policy development.
 - B. Evaluate and resolve ethical dilemmas that arise in the development of public health policy or find a solution that is acceptable to all parties involved.
 - C. Describe legal and ethical implications of intervention in life threatening situations such as poisoning or drug overdose.
 - D. Demonstrate the ability to place health care and professional issues within appropriate historical, cultural, social, economic, scientific, political, and philosophical frameworks.
 - E. Display a respect and sensitivity for patient and family attitudes, behaviors and lifestyles, paying particular attention to cultural, ethnic and socioeconomic influences and incorporate cultural preferences, spiritual and health beliefs and behaviors into the patient care plan.

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- F. Incorporate the needs and perceptions of a culturally diverse society in public health policy.
- G. Apply principles of pharmacoeconomics in public health policy development.
- H. Evaluate public health policy in terms of costs and effectiveness.
- I. Identify and collaborate with appropriate government agencies in the development of public health policy.
- J. Explain the role of professional organizations in the development of public health policy.
- K. Determine how professional standards and guidelines are incorporated into specific public health policies.

The supplemental outcomes were developed by Educational Outcomes and Objectives Supplements Task Force Members: Donna Dolinsky, Long Island University (chair); Stephaine Crawford, University of Illinois-Chicago; Doug Ried, University of Florida; Mary Roth, University of North Carolina; and Betsy Sleath, University of North Carolina.