



**Content Outline
Cardiology Pharmacy Exam
June 2017**

The following domains, tasks and knowledge statements were delineated by the BPS Cardiology Practice Analysis Taskforce and validated through a role delineation study. The proportion of examination items allotted to each domain was determined through analysis and discussion of the results of the role delineation study by the BPS Cardiology Practice Analysis Taskforce and approved by the BPS Board of Directors.

Each of the major areas/domains of Cardiology Pharmacy practice noted below will be tested. Questions will not be grouped by domain on the exam. Rather, items testing each domain are distributed throughout the total examination. Please note this examination will SAMPLE a candidate's knowledge rather than trying to test all of his/her knowledge. Examination items will address problems and situations reflective of the full range of practice.

Domain 1: Patient Management and Therapeutics (approx. 59%) Tasks related to the comprehensive management of a patient with or at risk for chronic and/or acute cardiovascular disease including collecting, interpreting, and integrating pertinent data; and designing, implementing, monitoring, and modifying patient-specific plans of care in collaboration with the multidisciplinary healthcare team.

For the Cardiology Patient:

1.1 Collect and organize both patient-specific and condition-specific data (e.g., patient history, comorbidities, pertinent physical findings, laboratory data, diagnostic testing) necessary to design a pharmacotherapeutic plan for a patient with or at risk for cardiovascular disease.

1.2 Perform targeted cardiovascular physical assessments (e.g., weight changes, presence of edema, breath sounds) to more fully assess patient conditions.

1.3 Interpret, analyze, and integrate all collected information, including patient-specific and data generated from cardiovascular diagnostic tests (e.g., ECG, echocardiogram), to assess and prioritize current or potential medical or medication-related problems.

1.4 Collaborate as a member of a multidisciplinary team to establish and prioritize patient-specific therapeutic goals and plans for the patient with or at risk for cardiovascular disease.

1.5 Design/modify, recommend, and implement an individualized pharmacotherapeutic plan for a patient with or at risk for cardiovascular disease, based on patient- and condition-specific data and best available evidence.

1.6 Design/modify, recommend, and implement a monitoring plan for a patient with or at risk for cardiovascular disease, to assess response to pharmacotherapeutic regimens, progress toward therapeutic goals and potential adverse outcomes.

1.7 Provide individualized education and counseling to patients and caregiver(s) regarding the cardiovascular pharmacotherapeutic plan, and assess comprehension.

1.8 Facilitate access to care and treatment for the patient with or at risk for cardiovascular disease.

1.9 Document direct patient care activities.

Knowledge of:

k1.1 CV anatomy/physiology

k1.2 Epidemiology, pathophysiology, risk factors, diagnosis, and treatment of the following chronic and/or acute disease states:

k.1.2.1 Aortic dissection

k.1.2.2 Arrhythmias

k.1.2.3 Cardiac Tamponade

k.1.2.4 Dyslipidemia

k.1.2.5 Heart failure

k.1.2.6 Hypertension

k.1.2.7 Hypotension

k.1.2.8 Infective endocarditis

k.1.2.9 Ischemic heart disease

k.1.2.10 Myocarditis

k.1.2.11 Pericarditis

k.1.2.12 Peripheral arterial disease

k.1.2.13 Pulmonary hypertension

k.1.2.14 Shock

k.1.2.15 Thrombotic disorders

k.1.2.16 Valvular heart disease

k1.3 Pharmacology, pharmacokinetics, pharmacodynamics, and pharmacogenomics of CV pharmacotherapies

k1.4 Lifestyle modifications (e.g., smoking cessation, exercise, diet)

k1.5 CV procedures (e.g., cardioversion, ablation, PCI, CABG, cardiac transplantation)

k1.6 Device therapy (e.g., pacemaker, IABP, ICDs, LVADs)

k1.7 Laboratory testing specific to cardiology (e.g., troponin, BNP, platelet testing, genomic testing, INR)

k1.8 Diagnostic testing specific to cardiology (e.g., echo, stress testing, cardiac catheterization, ECG)

k1.9 Drug induced or exacerbation of CV diseases

k1.10 Risk stratification scores

k1.11 Hemodynamic monitoring

k1.12 CV-specific physical assessments (e.g., weight changes, presence of edema, breath sounds)

k1.13 Monitoring parameters for therapeutic efficacy and adverse effects of CV pharmacotherapies

k1.14 Documentation procedures

k1.15 Patient counseling and education techniques

k1.16 Collaboration strategies and techniques

k1.17 Communication strategies and techniques

k1.18 Drug interactions with CV pharmacotherapies

k1.19 Complementary and alternative medicines and their effects on CV health

k1.20 Patient-specific considerations (e.g., age, gender, ethnicity, comorbidities, socioeconomic status)

k1.21 Pharmacoeconomic considerations

k1.22 Patient assistance programs

k1.23 Specialty pharmacy considerations

k1.24 Facilitation of transitions of care

Domain 2: Information Management and Education (approx. 23%)

Tasks related to generation, interpretation, and dissemination of knowledge relative to cardiology and the education of practicing pharmacists and pharmacy trainees, other healthcare professionals, and other stakeholders.

- 2.1 Evaluate and critique cardiovascular biomedical literature with regard to study design and methodology, statistical analysis, significance of reported data and conclusions, and applicability of study results to patients with or at risk for cardiovascular disease.
- 2.2 Contribute to the cardiovascular body of knowledge (e.g., original research, review articles, case reports, abstracts).
- 2.3 Develop, modify, and evaluate cardiovascular disease and medication education and training materials for specific learner groups.
- 2.4 Provide tailored cardiovascular disease and medication education and training to practicing pharmacists and pharmacy trainees (students, residents, and fellows).
- 2.5 Provide education and cardiovascular medication expertise to health professionals and other pertinent stakeholders.

Knowledge of:

- k2.1 Primary, secondary, and tertiary sources of cardiovascular-related information
- k2.2 Research design and methodology of cardiovascular-related trials
- k2.3 Biostatistical methods used in cardiovascular-related trials
- k2.4 Internal and external validity of cardiovascular-related trials
- k2.5 Cardiovascular study endpoints (e.g., composite, surrogate)
- k2.6 Opportunities for disseminating CV knowledge (e.g., publications, presentations)
- k2.7 Audience-specific medical writing
- k2.8 Roles of multidisciplinary CV team members
- k2.9 Principles and methods of educating, training and mentoring practicing pharmacists and pharmacy trainees
- k2.10 Principles and methods of educating and communicating with healthcare professionals and other stakeholders

Domain 3: Practice Development and Administration (approx. 14%)

Tasks related to establishing, implementing, and monitoring systems and policies to optimize the care of patients with or at risk for cardiovascular disease, while advancing the practice of cardiology pharmacy.

3.1 Assist the health system in achieving compliance with accreditation, legal, regulatory, and safety requirements related to the care of cardiovascular patients (e.g., The Joint Commission requirements, ASHP standards, Center for Medicare and Medicaid Services, National Committee for Quality Assurance, State Boards of Pharmacy, US Food and Drug Administration).

3.2 Perform or participate in quality improvement activities aimed at enhancing the safety and effectiveness of medication-use processes for patients with or at risk for cardiovascular disease.

3.3 Develop, review, modify and implement policies, procedures, clinical pathways and protocols used in the care of patients with or at risk for cardiovascular disease.

3.4 Participate in the development and maintenance of the health system's formulary for medications used in the care of patients with or at risk of cardiovascular disease.

3.5 Participate in the establishment and modification of systems (i.e., technology and processes) to ensure the optimal use of cardiovascular medications.

3.6 Justify and document clinical and financial value of cardiology pharmacy services as a means to continue current and advance future practice.

Knowledge of:

k3.1 Accreditation, legal, regulatory and safety requirements related to the care of cardiovascular patients (e.g., The Joint Commission requirements, ASHP standards, Center for Medicare and Medicaid Services, National Committee for Quality Assurance, State Boards of Pharmacy, US Food and Drug Administration)

k3.2 Methods for identifying areas for process improvement (e.g., incident reports, chart review)

k3.3 Quality improvement techniques/methods (e.g., MUE, root cause analysis)

k3.4 Metrics for evaluating the value of cardiology pharmacy services (e.g., clinical, economic and patient experience)

k3.5 Pharmacoeconomics of cardiovascular therapies

k3.6 Clinical practice guidelines for the treatment of patients with or at risk for cardiovascular disease (e.g., AHA/ACCF, HFSA, ACCP, NHLBI)

k3.7 Principles of formulary development and management, including strategies for managing drug shortages

k3.8 Capabilities and limitations of electronic health information systems

k3.9 Methods for developing, implementing, and evaluating clinical pathways, protocols, and policies

Domain 4: Public Health and Patient Advocacy (approx. 4%)

Tasks related to providing preventive health services, public health information, and advocacy for the prevention and treatment of cardiovascular disease.

4.1 Provide information and guidance to the public regarding cardiovascular issues (e.g., risk factors, prevention, treatment, screening).

4.2 Advocate for the role and contribution of cardiology pharmacists to the public, healthcare providers, health systems, and policy makers.

Knowledge of:

k4.1 CV health promotion, disease prevention, and risk reduction strategies

k4.2 Public health information resources regarding CV health, prevention, and treatment

k4.3 CV screening techniques and application of results

k4.4 Healthcare delivery systems (e.g., Medicare, Medicaid, private insurance) as they impact access to care and treatment for CV patients

k4.5 Pharmacy advocacy organizations (e.g., ASHP, ACCP, APhA)

k4.6 Professional organizations and their roles and resources related to patient advocacy (e.g., ACC, AHA, HFSA)

k4.7 Health literacy considerations in CV public health initiatives