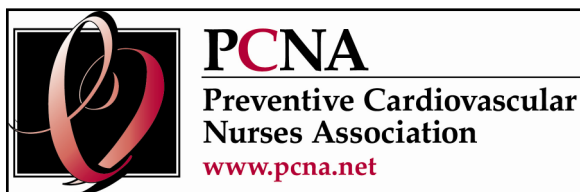


# Cardiovascular Nursing: Leadership in the Fight Against America's Number One Killer

*Written and prepared by the Preventative Cardiovascular Nurses Association*



According to the American Heart Association's 2008 Heart and Stroke Facts, an estimated 80,700,000 American adults (one in three) have one or more types of cardiovascular disease (CVD). The types of CVD include hypertension, heart failure, coronary artery disease, arrhythmias, stroke, and congenital heart defects. Cardiovascular nurses are engaged in the comprehensive care of patients with all types of CVD in a variety of settings. These settings vary from the high-technology environment of the Cardiac Care Unit (CCU) or the Cardiovascular Lab to the care of patients in Cardiac Rehabilitation or prevention programs where patient education and lifestyle changes are the major focus.

Cardiovascular nurses, regardless of their work setting, need to have knowledge of cardiac anatomy and physiology, including the electrical, mechanical, and metabolic activities that underlie cardiac pump performance. Alterations in any of these functions may lead to cardinal signs and symptoms of heart disease such as chest pain, shortness of breath, syncope, and edema, as well as life-threatening events, including acute coronary syndrome (ACS), myocardial infarction (MI), heart failure (HF), or cardiac arrest. The ability to discern and respond appropriately to these signs and symptoms is the basis of being a successful cardiovascular nurse.

The CCU is an environment that requires a high level of comfort with electronic monitoring and support equipment including electrocardiograms,

arterial lines, pacemakers, ventricular assist devices, balloon pumps, and ventilators. Nurses in the CCU typically receive admissions from the Emergency Department and care for patients with ACS, HF, heart block and other cardiac arrhythmias. In some hospitals, CCU nurses also care for patients who are immediately post-operative from coronary bypass, heart valve repair or replacement, or heart transplant. The nurse to patient ratio in the CCU is typically one to two depending on the patient's acuity level.

Cardiovascular laboratories are another fast-paced, high technology area where cardiovascular nurses work alongside cardiologists and cardiovascular technicians to support and monitor patients undergoing diagnostic procedures to detect and treat coronary artery disease with percutaneous coronary intervention (PCI), including angiography, angioplasty, and stent placement. Patients also undergo arrhythmia detection and ablation as well as pacemaker and defibrillator placement. Device clinic nurses provide education, support and ongoing monitoring for inpatients and outpatients with pacemakers and automatic implantable cardiac defibrillators (AICD).

The cardiac telemetry unit, often called the "step down unit," is an area where patients are stable but still need careful cardiac monitoring including continuous electrocardiogram/rhythm monitoring and frequent vital sign checks and symptom assessments. Patients here may be recovering from ACS/MI, PCI, and AICD placement, cardiac

surgery or HF exacerbation. Preparing patients for discharge from the hospital includes coordination of care with multidisciplinary team members – physicians, dietitians, pharmacists, provider clinics, and cardiac rehabilitation – to ensure the patient and family members have all of the tools necessary to safely manage at home.

Cardiac rehabilitation nurses may care for patients in the hospital setting or outpatient/ambulatory setting. Cardiac rehabilitation programs generally consist of three to four levels or phases: 1) inpatient or Phase I; 2) early recovery/immediate outpatient or Phase II; and 3) late recovery and maintenance or Phase III-IV. The cardiac rehabilitation nurse provides monitored ambulation and exercise, risk factor assessment and modification, patient and family education, and emotional support. Other cardiac rehabilitation team members include exercise physiologists, dietitians, and behavior specialists.

All cardiovascular nurses have the desire to reduce the morbidity and mortality of CVD. This is done by: increasing the awareness of cardiovascular risk factors and how to manage them; early identification of the signs and symptoms of heart disease and calls to action; evidence-based management of acute CVD; and application of long-term secondary prevention strategies to stabilize and prevent recurrent cardiovascular events and/or death. Throughout the career of a cardiovascular nurse, he or she may find themselves changing practice settings while staying focused on the goal of helping to reduce the death and disability associated with CVD.

### **EDUCATIONAL OPPORTUNITIES**

With the ongoing advances in prevention, diagnosis, and treatment of CVD, health care needs cardiovascular nurses to be among those taking the lead in research, education, prevention, and treatment.

**Registered Nurse (RN):** There are numerous paths to obtaining an RN license with almost endless opportunities for a variety of jobs. The

RN license, often with an Advanced Cardiac Life Support certification, is required for work on Telemetry and CCUs, Cardiac Rehabilitation, or when working as a nurse in a cardiology office.

Advanced practice cardiovascular nurses assume a variety of positions:

**Clinical Nurse Specialists (CNS)** primarily work in hospitals and medical centers, often combining expert clinical practice with education, research, consultation, and clinical leadership. They also assume the role of case managers, educators in hospitals or schools, and as managers or administrators in clinical or health plan settings. Mary Ann Champagne, RN, MSN, CNS says the following about her role as a CNS: “I obtained my advance practice degree in the late 1970s, which provided me with a comprehensive educational background and inspired me to pursue opportunities in innovative nursing positions. My current position as a CNS in the Stanford Preventive Cardiology Clinic allows me to practice independently and collaboratively with other healthcare professionals in an outpatient clinic setting.”

**Adult and Family Nurse Practitioners (ANP/FNP)** who specialize in cardiovascular disease diagnose and manage cardiovascular problems for adults and children. They work in a variety of community-based practice settings, including community health clinics, corporate health, specialty clinics, and private medical practices, as well as in research. Kathy Berra, RN, MS, NP-C says “Working in a busy cardiology practice as an ANP is challenging and rewarding. This type of practice requires skill and knowledge in technology (pacemakers and AICDs), pharmacology (complex co-morbidities), testing (echocardiograms and imaging exercise tests), interventions (stents and ablation) and educational skills in behavioral change for CVD risk reduction. Your day is never the same and your responsibilities grow as your experience grows.”

### **Acute Care Nurse Practitioners (ACNP)**

with a cardiovascular emphasis work primarily in the hospital assisting cardiovascular surgeons with the management of patients through the surgery process. With multidisciplinary collaboration, ACNPs have been shown to promote early discharge and decrease hospital readmissions for HF and ACS/MI (McCauley, K.M et al; Potera). One specialty is in cardiac transplantation, a practice setting which varies from the outpatient clinic to critical care.

Nurses can also complete a **Doctorate in Nursing Practice (DNP/DrNP), Doctor of Nursing Science (DNSc/DNS/DSN) or Doctorate in Philosophy (PhD), Nursing** program.

- The DNP is an advanced-level practice degree that focuses on the clinical aspects of nursing rather than academic research. The curriculum for the DNP degree generally includes advanced practice, leadership, and application of clinical research related to nursing.
- Graduates of a DNSc program are prepared as nurse scientists with the investigative skills of a researcher and the clinical and leadership skills necessary to influence the health care system. Health outcomes measurement, health care economics, statistical analysis, and informatics are common focus areas. A clinical defense and dissertation are common requirements.
- The PhD program prepares scientists to conduct research in nursing and to contribute to the body of knowledge in nursing. PhDs tend to focus their careers on generating the knowledge base of the nursing discipline through positions as academic or clinical researchers. Erika Froelicher, RN, PhD is a professor in Physiological Nursing at University of California, San Francisco. “I can truly say that a PhD has opened up so many opportunities locally, nationally, and internationally in patient care consulting, education, administration, and most of all, in

research to advance the art and science of nursing. Opportunities have taken me to five continents, and since I have "wanderlust," what more could one ask for?”

Another option for continuing education is the Cardiac/Vascular Certification Exam, which is currently offered through the American Nurses Credentialing Center. This exam allows nurses with experience in cardiovascular disease states and management to both enhance and further their knowledge base and to support their training. Preparation can be done with the use of a study guide that is offered when signing up for the exam. More specific information can be found at: <http://www.nursecredentialing.org>.

### **PROFESSIONAL ORGANIZATIONS:**

Once the formal education process has been completed, there are numerous opportunities to become involved with a variety of healthcare associations which are committed to educating and supporting cardiovascular nurses so that they may successfully rise to the challenge provided by the healthcare demands of CVD.

Preventive Cardiovascular Nurses Association (PCNA) does this by offering education, leadership and speaking opportunities, and clinical and patient tools; conducting research and publishing articles in relevant journals; and working with partnering organizations on advocacy and educational initiatives.

PCNA’s online programs offer an affordable way for participants to earn continuing education (CE) on topics ranging from nutrition and insulin resistance to women’s health and cholesterol. In addition to offering complimentary online CE programs, PCNA hosts an Annual Symposium and regional continuing education programs across the US.

PCNA’s clinical and patient tools cover a broad range of topics including: angina; cholesterol; triglycerides/HDL; nutrition; lifestyle modification including smoking cessation,

exercise, weight loss; and a number of current national guidelines.

Please visit [www.pcna.net](http://www.pcna.net) for more information about membership, educational, and volunteer opportunities. For any questions, email [info@pcna.net](mailto:info@pcna.net).

The mission of the American Heart Association's (AHA) Council on Cardiovascular Nursing (CVN) is to foster research and education about CVD and stroke for consumers and healthcare professionals by capitalizing on the unique ability of nurses to translate science into clinical application and compassionate patient care. Members of the CVN enjoy an array of benefits that enhance their knowledge and provide them with the resources on the latest information in the field of cardiovascular nursing including: discounts on online continuing education programs, journals, and registration on several AHA-developed scientific conferences. Visit [www.americanheart.org/cvncouncil](http://www.americanheart.org/cvncouncil) for more information.

The American College of Cardiology's (ACC) Cardiac Care Associate (CCA) membership group offers discounted membership dues and registration for the Annual Scientific Sessions. CCA members also receive substantial discounts on educational products and programs and free access to *Cardiosource.com*. This online portal offers breaking medical news, *The Journal of the American College of Cardiology*, self-assessment products and many other educational tools and resources. More information about ACC's CCA membership group can be found at: <http://www.acc.org/membership/cca/home/home.htm>.

The American Association of Heart Failure Nurses is dedicated to advancing nursing education, clinical practice, and research to improve heart failure patient outcomes. Membership benefits include: subscriptions to the association's newsletter and *Heart & Lung: The Journal of Acute and Critical Care*, access to educational materials, slide presentations for

heart failure management, and awards, grants and scholarships; discounted registration fees to the annual meeting and other CE programs; and access to career development resources. Visit [www.aahfn.org](http://www.aahfn.org) for more information.

The Society for Vascular Nursing (SVN) is dedicated to promoting excellence in the compassionate and comprehensive management of persons with vascular disease. Their focus is on providing quality education, fostering clinical expertise, and supporting nursing research. Members receive discounts for the annual convention and other SVN products and services, networking opportunities, a subscription of the *Journal of Vascular Nursing*, research grant opportunities, and the opportunity to share and gain experience by serving on Committees and Task Forces. Find more information at [www.svnnet.org](http://www.svnnet.org).

Every year, Transcatheter Therapeutics (TNT) holds a Cardiovascular Nurse and Technologist Symposium. These symposia provide a forum for discussion of the latest advances in interventional, pharmacologic, and clinical/administrative strategies for the management of the cardiovascular patient. Content is presented utilizing didactic lectures, case presentations, panel discussions, hands-on workshops, and breakout sessions. Visit [www.tctconference.com](http://www.tctconference.com) for information about the upcoming Symposium and PCNA's membership discounts on registration.

### **SUMMARY:**

As outlined above, there are numerous opportunities for nurses interested in CVD, both for education through a formal degree and/or forums offered by a variety of organizations, as well as in the workforce. Whether working on the frontline of advanced technology and immediate intervention or on the prevention side of CVD, cardiovascular nurses can make a difference in millions of lives by continuing to educate themselves and their patients.

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