

## Summary of Research and Writing Activities In Cardiovascular Disease

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## Manuscripts and Other Publications

- A case study describing the effects of triple therapy with tadalafil, ambrisentan, and an inhaled prostacyclin on hemodynamics, REVEAL risk score, functional class, and cardiac structure in pulmonary arterial hypertension for *Pulmonary Circulation*
- A phase 1, placebo-controlled, randomized trial evaluating the pharmacokinetics of escalating doses of a novel dry powder formulation of treprostinil in healthy subjects for *Drug Design, Development and Therapy*
- Treatment patterns and survival outcomes in pulmonary arterial hypertension by functional class: a meta-analysis of randomized controlled trials and observational disease registries for *Journal of Heart and Lung Transplantation*
- Application of machine learning methods to identify predictors of all-cause total healthcare costs and utilization in severe peripheral artery disease for *Value in Health*
- Application of machine learning methods to identify predictors of a cardiovascular composite endpoint in severe peripheral artery disease for *Health Services Research*
- Patients Treatment patterns and direct medical costs of hospitalizations and readmissions associated with phosphodiesterase type 5 inhibitor monotherapy for pulmonary arterial hypertension for *Chest*
- Proprotein convertase subtilisin/kexin type 9 inhibition as a new therapeutic intervention for hyperlipidemia for *Pharmacotherapy*
- Neurological events 2 years following transcatheter aortic valve implantation in real-world patients for *Stroke*
- A retrospective analysis of disparities in the initiation and maintenance of lipid-lowering therapies between men and women at high risk for developing coronary heart disease for *Journal of Women's Health*
- Comparative analysis of the efficacy and safety of antiplatelet medications for the management of acute coronary syndrome for *Pharmacy & Therapeutics*
- Assessment of patterns and predictors of clinical outcomes following implementation of an performance improvement intervention for heart failure in outpatient cardiology practices for *Circulation*

- Utilization of implantable cardioverter-defibrillator therapy for heart failure following participation in a practice-based performance improvement intervention for *American Heart Journal*
- Adherence to optimal medication dosing for treatment of heart failure following clinician participation in a practice-based performance intervention for *Journal of the American College of Cardiology*
- Interventions to improve the clinical management of critically ill patients receiving vasopressors for blood pressure support for *Journal of Cardiovascular Nursing*
- Variations in treatment of heart failure with guideline-recommended doses of medical therapies following participation in a practice-based performance intervention for *Circulation, Heart Failure*
- Predictors of variations associated with patient race/ethnicity in the effectiveness of a performance improvement intervention on clinician adherence to guideline-recommended treatment for heart failure for *American Journal of Cardiology*
- Predictors of variations associated with patient gender in the effectiveness of a performance improvement intervention on clinicians' adherence to guideline-recommended treatment for heart failure for *Journal of the American College of Cardiology*
- Practice and patient characteristics as predictors of variations in the effectiveness of a performance improvement intervention on adherence to guideline-recommended ambulatory management of heart failure for *American Heart Journal*
- Evaluation of the effectiveness of interventions to improve evidence-based care for heart failure in outpatient cardiology practices for *Circulation*
- Patient and physician barriers to therapy with implantable cardioverter defibrillators for treatment of ventricular fibrillation or sustained ventricular tachycardia for *Critical Pathways in Cardiology*
- Recovery of vascular homeostasis following implantation of different types of stents in porcine coronary arteries for *Circulation: Interventions*
- Gaps in adherence to guideline-recommended adjunctive therapies for heart failure for *American Journal of Cardiology*
- Review of the efficacy and safety of drug-eluting stents for *American Heart Journal*

- The influence of advanced practice nurses and dedicated heart failure clinics on delivery of recommended therapies to outpatients with heart failure for *American Journal of Cardiology*
- Comparison of medical treatment of outpatients with heart failure receiving device therapy for *Circulation: Heart Failure*
- Evaluation of the relationship between electronic medical records and quality of care for heart failure for *American Heart Journal*
- Predictors of cardiac resynchronization therapy utilization for heart failure for *American Heart Journal*
- Relationship between renal function and adherence to guideline-recommended care for outpatients with heart failure for *American Journal of Cardiology*
- Assessment of long-term safety results from a randomized controlled trial of drug-eluting stents for treatment of *de novo* native coronary artery lesions for *Journal of the American Medical Association*
- Predictors of implantable cardioverter defibrillator therapy for heart failure for *Heart Rhythm*
- Assessment of patient age and gender differences in treatment for heart failure for *American Heart Journal*
- Implications of HDL-C for cardiovascular health and lifestyle and pharmacologic interventions to increase HDL-C levels for *Critical Pathways in Cardiology*
- Therapeutic interventions for diabetic dyslipidemia and their relationship to cardiovascular disease for *International Journal of Clinical Practice*
- The efficacy and safety of pharmacologic interventions for management of dyslipidemia for *American Journal of Medicine*
- Accuracy of cardiovascular disease risk estimation models for patients with psoriatic arthritis for MedPage Today
- The association of gout with increased risk of atrial fibrillation for Medpage Today
- The role of left atrial appendage occlusion devices in the management of patients with atrial fibrillation for Medpage Today
- Nonpharmacologic interventions for the prevention of stroke in patients with atrial fibrillation for MedPage Today

- Invasive versus initial conservative management of unstable angina/non-ST-elevation myocardial infarction in octogenarians for MedPage Today
- Noninvasive imaging tests to evaluate acute chest pain syndromes to improve diagnoses, rule out noncoronary causes of pain, and facilitate risk stratification for MedPage Today
- Diagnosis and management of cardiovascular comorbidities in patients with psoriatic arthritis for MedPage Today
- The effect of off-hour presentation on in-hospital and 30-day mortality rates and door-to-balloon time for patients with ST elevation myocardial infarction for MedPage Today
- Risk stratification and a comparison of the short- and long-term outcomes of inpatient versus outpatient therapy for pulmonary embolism for MedPage Today
- Review of the role of blood biomarkers with implications for the etiology, diagnosis, and prognosis in patients following ischemic stroke for MedPage Today
- Role of robotic-assisted therapy in the rehabilitation of patients following ischemic stroke for Medpage Today
- The impact of NSAIDs and COX 2 inhibitors on risk of atrial fibrillation for MedPage Today
- The relationship between atrial fibrillation, menopausal status, and hormone therapy for MedPage Today

### **Epidemiology and Biostatistics**

- Systematic review of published and fugitive literature on current and anticipated challenges in the management of pulmonary arterial hypertension to support the development of a publication plan
- Literature review to characterize global prevalence and incidence rates for chronic thromboembolic pulmonary hypertension
- Data collection, analysis, and strategic direction on the economic burden and patient-reported outcomes associated with primary and secondary patency loss of arteriovenous fistula access in patients with chronic kidney disease and peripheral artery disease

- Review of patient and disease profiles associated with increased risk of cardiovascular events to support a feasibility analysis for FDA submission to approve over-the-counter status for short-term use of nonsteroidal anti-inflammatory drugs and cyclooxygenase-2 selective inhibitors for the management of mild pain attributed to arthritis and musculoskeletal conditions
- Comprehensive review of current practices regarding the evaluation, diagnosis, risk stratification, treatment, and prognosis mitral valve regurgitation for the American College of Cardiology
- Evaluation of the safety profile of selective factor Xa inhibitors for a risk management plan for venous thromboembolism and stroke
- Research proposal and statistical analysis plan for an evidence-based intervention to assess current practices regarding the management of patients with aortic stenosis
- Evaluation of cardiovascular devices for heart failure including product and publication reviews, research design, statistical analysis, and interpretation
- Evaluation of percutaneous coronary interventions with drug-eluting stents for coronary artery disease including reviews of published literature and conference proceedings on basic pharmacology, randomized controlled trials, patient registries, and observational studies
- Evaluation of dyslipidemia interventions including product and publication reviews, research design, statistical analysis, and interpretation of post-marketing surveillance data
- Comprehensive review of published and fugitive literature and interviews with subject matter experts on pharmacologic interventions to manage hypertension and development of various materials for a comprehensive publication plan
- Global statistical analysis plan for evaluation of device interventions for cardiovascular disease
- Epidemiologic analysis of *de novo* coronary lesion length, stent length, and evaluation of efficacy and safety of drug-eluting and bare metal stents

**Abstracts, Posters, and Presentations**

- Abstract on a meta-analysis of randomized controlled trials and observational disease registries to characterize treatment patterns and survival outcomes in pulmonary arterial hypertension by functional class for the 2019 annual meeting of the International Society for Heart and Lung Transplantation
- Abstract on the cardiometabolic effects of a first-in-class fatty acid bile acid conjugate for nonalcoholic fatty liver disease or nonalcoholic steatohepatitis for the 2015 European Fatty Liver Disease Conference
- Abstract on patterns and predictors of change in the treatment of heart failure with implantable cardioverter defibrillators following participation in a practice-based clinical performance intervention for the 2010 Scientific Sessions of the American Heart Association
- Abstract on patient and practice characteristics associated with improved ejection fraction in patients with heart failure and reduced LVEF following implementation of a clinical performance intervention for the 2010 Scientific Sessions of the American Heart Association
- Two abstracts on changes in documentation of heart failure therapy and improvement in ejection fraction for heart failure following implementation of a clinical performance improvement initiative for the 14<sup>th</sup> Annual Scientific Meeting of the Heart Failure Society of America
- Abstract on the effect of a performance improvement initiative on quality of care for outpatients with heart failure for the Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke 2010 Scientific Session
- Abstract on variations attributable to medical staffing patterns in the effect of a performance improvement intervention on adherence to guideline-recommended ambulatory treatment of heart failure for the 2009 annual conference of the Heart Rhythm Society
- Abstract on the influence of patient race on the effect of a performance improvement intervention on adherence to guideline-recommended ambulatory management of heart failure for the 2009 annual conference of the Heart Rhythm Society

- Two abstracts on variations in use of appropriate dosages of medical therapy for heart failure and evaluation of a practice-based intervention to increase the proportion of outpatients receiving guideline-recommended care for heart failure for the 59<sup>th</sup> Annual Scientific Session of the American College of Cardiology
- Two abstracts on gender variations in treatment with drug-eluting stents and two-year safety results in patients with STEMI for the American College of Cardiology's Innovation in Intervention: IV Summit 2009
- Two abstracts on outpatient management of prolonged QRS duration and atrial fibrillation in heart failure for the Heart Rhythm 2009 30<sup>th</sup> Annual Scientific Session
- One abstract on outpatient management of heart failure with anticoagulants for the Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke Conference 2009
- Three abstracts on patterns of care for heart failure for the 2008 annual meeting of the Heart Failure Society of American
- Two abstracts on the relationship of BNP and GFR to symptoms, functioning, and clinical outcomes in patients with heart failure for the 2008 annual scientific meeting of the American College of Cardiology
- Two abstracts on predictors of patterns of care for heart failure for the 2008 annual meeting of the American Heart Association
- Poster on a retrospective analysis of disparities in the initiation and maintenance of lipid-lowering therapies between men and women at high risk for coronary heart disease for the 63<sup>rd</sup> Annual Scientific Session of the American College of Cardiology
- Poster on clinician adherence to optimal treatment of heart failure for patients of diverse race/ethnic affiliation following implementation of a performance improvement intervention for the 14<sup>th</sup> Annual Scientific Meeting of the Heart Failure Society of America
- Poster on clinician adherence to optimal medication dosing for heart failure following implementation of a performance improvement intervention for the 59<sup>th</sup> Annual Scientific Session of the American College of Cardiology



- Poster on clinician adherence to guideline-recommended care for women with heart failure following implementation of a performance improvement intervention for the 59<sup>th</sup> Annual Scientific Session of the American College of Cardiology
- Poster on patient and practice characteristics associated with adherence to evidence-based guidelines for treatment of heart failure for the Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke Conference 2009
- Poster on the influence of renal function on the treatment of heart failure for the 2009 meeting of the American College of Cardiology
- Slide presentation on variations in the effect of a practice-based performance intervention on outpatient cardiology practices with and without an academic affiliation for the 59<sup>th</sup> Annual Scientific Session of the American College of Cardiology
- Slide presentation on cardiometabolic complications of obesity and related risk factors

#### **CME Programs, Training Curricula, and Related Materials**

- Disease backgrounder on the epidemiology, pathogenesis, risk factors, treatment and prognosis of ischemic stroke
- Continuing education on optimal strategies for the management of atrial fibrillation with a focus on stroke prevention
- Training module on the current antihypertensives pharmaceutical market and the role of monotherapy and combination therapy for the management of hypertension
- Continuing medical education on the association between nonalcoholic steatohepatitis and risk factors for cardiovascular disease, including obesity, dyslipidemia, hypertension, and insulin resistance
- Nurse practitioner education and performance improvement intervention to improve the quality of care for atrial fibrillation
- Continuing medical education on the epidemiology, pathophysiology, diagnosis, prevention, and treatment of pulmonary arterial hypertension
- Continuing medical education on different options for statins in the management of cardiovascular disease

- Continuing medical education on the role of  $\beta$ -blockers for the management of hypertension
- Continuing medical education on the direct medical costs associated with acute and long-term management of stroke
- Two-day training workshop for clinical sales representatives on the role of a novel dual-inhibitor of angiotensin II receptor and neprilysin for heart failure with reduced ejection fraction
- Sales training program on tissue plasminogen activators for myocardial infarction, pulmonary embolism, and stroke
- Case-based training workshop and pre-read materials for clinical sales specialists on the diagnosis, risk stratification, electrocardiography and other imaging tests, coronary anatomy, angiographic evaluation, and pharmacologic therapies for acute coronary syndrome
- Training program for clinical sales specialists on the effect of cholesteryl ester transfer protein inhibitors on vascular function, progression of atherosclerosis, and future cardiovascular events
- White paper on implementation of continuous ST-segment monitoring for acute coronary syndromes, including an assessment of clinician attitudes and the impact of monitoring on clinical outcomes
- White paper on the impact of continuous QT interval monitoring on the clinical outcomes of patients at increased risk of sudden cardiac death due to torsades de points
- White paper on management of risk factors for cardiovascular disease in metabolic syndrome
- White paper on the criteria and methods for defining metabolic syndrome
- White paper on the role of primary care in the prevention, diagnosis, treatment, and management of metabolic syndrome
- Two scripts for video discussions on the current epidemiology, health implications, and management of elevated triglycerides
- Newsletters for physicians on evidence-based therapies for management of atrial fibrillation
- Conference summary on the proceedings of the 2006 annual conference of the International Society on Hypertension in Blacks

**CME Proposals**

- Current and emerging pharmacologic treatments for heart failure
- Current and emerging pharmacologic treatments for acute coronary syndrome
- Prevention, diagnosis, treatment, and long-term management of diverse cardiovascular conditions
- Management of risk factors for cardiovascular disease in metabolic syndrome
- Role of primary care physicians in screening, diagnosis, prevention, and treatment of metabolic syndrome
- Peripheral imaging, angioplasty, and stenting for peripheral vascular disease
- Pharmacologic and lifestyle interventions to manage cardiometabolic syndrome
- Current management strategies for the prevention of venous thrombosis
- Strategies for management of risk factors for cardiovascular disease
- Current and emerging strategies for the management of cardiovascular disease