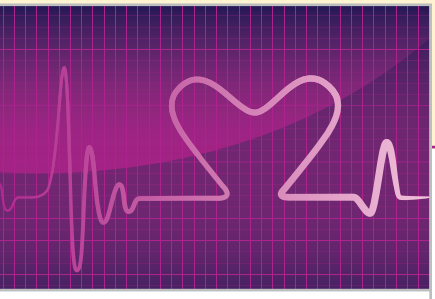
RTI(h)(s) RTI HEALTH SOLUTIONS®



Cardiovascular Experience

Over 40 staff with experience in cardiovascular projects including

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A Wealth of Experience

At RTI Health Solutions, we have collaborated with our clients on more than 230 projects researching cardiovascular (CV) disease, CV treatment, and complications and comorbidities of CV disease. Our experience includes:

- Angina
- Atrial fibrillation
- Cardiac dysrhythmia
- Chronic heart failure
- Dyslipidemia
- Heart transplantation
- Hypertension
- Hypotension
- Ischemia
- Myocardial infarction
- Peripheral arterial occlusion
- Peripheral edema
- Pulmonary arterial hypertension
- Stroke
- Sudden cardiac death
- Venous thromboembolism

Types of Projects

We have implemented studies to help our clients develop strategies in the CV market and to develop and gain market access for products to treat CV diseases and complications arising from treatment of CV illnesses. Recent projects have included:

- PRO instrument evaluations related to congestive heart failure
- Literature reviews
- Preparation of HTA submissions, including NICE and AMCP dossiers
- Measurement of patient preferences for treatment options for CV disease
- Database analyses using North American and European cross-sectional and longitudinal databases
- Disease prevalence study of acute myocardial infarction and related conditions
- Analyses of treatment patterns and patient outcomes
- Meta-analyses
- Cohort and case-control studies
- Drug utilization studies
- Observational studies
- Epidemiology sections of risk management plans
- Epidemiology reports for orphan drug applications and pediatric investigational plans
- Economic analyses of clinical trial designs and validation studies of clinical endpoints
- Budget impact models for new products to treat CV disease
- Cost-effectiveness models for treatments to prevent recurrent stroke
- Economic burden of illness studies
- Benefit-risk preference studies
- Decision-analytic models for the diagnostic workup of acute stroke
- Cost-utility analysis studies
- Development of value propositions for drugs to treat CV disease
- Development of reimbursement and value communication strategies for diagnostic products for stroke modalities

(continued)

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Cardiovascular Experience

See How We've Helped Others

Real-World Data Analysis: Point-of-Care Platelet Reactivity Determination with VerifyNow-P2Y12®

We performed a real-world data analysis to describe VerifyNow-P2Y12 (VN-P2Y12, Accumetrics, San Diego, CA) results from patients treated with either clopidogrel or prasugrel who were seeking care in a hospital setting. Descriptive analyses were conducted with *t* tests, and a logistic regression model was estimated to assess the association between patient characteristics and the likelihood of platelet nonresponse. A total of 2882 tests (2476 with clopidogrel and 406 with prasugrel) were analyzed. Analysis showed results that were consistent with clinical trial results. Compared with clopidogrel, prasugrel is associated with significantly lower PRU and greater percentage of inhibition, regardless of age, race, gender, diabetes, obesity, or proton pump inhibitor use. The study was published in *Hospital Practice*, 2014 Oct;42(4):7-15.

Real-World Assessment of Angiotensin-Converting Enzyme Inhibitor Failure

We conducted a retrospective database study of patients with hypertension who were treated with angiotensin-converting enzyme inhibitors. Data for this analysis were taken from the LifeLink database (formerly the PharMetrics Integrated Outcomes database), which includes medical and pharmacy claims from a national sample of 95 managed care health plans covering more than 61 million lives. Key study measures included patient characteristics, treatment adjustments (i.e., discontinuations, switches to another antihypertensive class, or augmentation with another antihypertensive class), all-cause health care utilization and costs following a treatment adjustment, and hypertension-related health care costs following a treatment adjustment. Both descriptive and multivariate analyses were implemented as appropriate. The deliverables for this study included an analysis plan, results tables, and a study report. A poster detailing this work was presented at the 2010 Educational Conference of the Academy of Managed Care Pharmacy.

Cost-Effectiveness and Cost-Utility Analysis

We conducted a cost-utility analysis to estimate the cost-effectiveness of adding penumbral-based MRI to usual computed tomography (CT)-based methods to identify patients for intravenous tissue plasminogen activator (IV tPA) treatment. The analysis showed favorable clinical outcomes when penumbral-based MRIs were added to identify patients for IV tPA treatment, even though overall costs increased. This economic analysis lends further support to the consideration of a paradigm shift in acute stroke evaluation. Study results were published in *Stroke*, 2009;40(5):1710-20.

Selected Recent Publications By Our Staff

Brennan VK, **Mauskopf JA**, **Colosia AD**, **Copley-Merriman K**, Hass B, Palencia R. Utility estimates for patients with type 2 diabetes mellitus after experiencing a myocardial infarction or stroke: a systematic review. Expert Rev Pharmacoecon Outcomes Res. 2015 Feb;15(1):111-23.

Heaton B, Applebaum KM, **Rothman KJ**, Brooks DR, Heeren T, Dietrich T, Garcia RI. The influence of prevalent cohort bias in the association between periodontal disease progression and incident coronary heart disease. Ann Epidemiol. 2014 Oct;24(10):741-6.

Samelson EJ, Miller PD, Christiansen C, Daizedeh NS, Grazette L, **Anthony MS**, Egbuna O, Wang A, Siddhanti SR, Cheung AM, Franchimont N, Kiel DP. RANKL inhibition with denosumab does not influence 3-year progression of aortic calcification or incidence of adverse cardiovascular events in postmenopausal women with osteoporosis and high cardiovascular risk. J Bone Miner Res. 2014 Feb;29(2):450-7.

Yuan Z, Levitan B, Burton P, **Poulos C**, **Hauber AB**, Berlin JA. Relative importance of benefits and risks associated with antithrombotic therapies for acute coronary syndrome: patient and physician perspectives. Curr Med Res Opin. 2014 Jan;30(9):1733-41.

von Scheele B, **Fernandez M**, **Hogue SL**, Kwong WJ. Review of economics and cost-effectiveness analyses of anticoagulant therapy for stroke prevention in atrial fibrillation in the US. Ann Pharmacother. 2013 May;47(5):671-85.

Hayek S, Canepa Escaro FC, Sattar A, Gamalski S, Wells KE, Divine G, Ahmedani BK, Lanfear DE, **Pladevall M**, Williams LK. Effect of ezetimibe on major atherosclerotic disease events and all-cause mortality. Am J Cardiol. 2013 Feb 1;111(4):532-9.

Cima K, Twiss J, Speich R, McKenna SP, Grünig E, Kähler CM, Ehlken N, Treder U, **Crawford SR**, Huber LC, Ulrich S. The German adaptation of the Cambridge Pulmonary Hypertension Outcomes Review (CAMPHOR). Health Qual Life Outcomes. 2012 Sep 13;10:110.

Earnshaw SR, **McDade C**, Chapman AM, Jackson D, Schwamm L. Economic impact of using additional diagnostic tests to better select patients with stroke for intravenous thrombolysis in the United Kingdom. Clin Ther. 2012 Jul 1;34(7):1544-58.

Brown TM, Siu K, Walker D, Pladevall-Vila M, Sander S, **Mordin M**. Development of a conceptual model of adherence to oral anticoagulants to reduce risk of stroke in patients with atrial fibrillation. J Manag Care Pharm. 2012 Jun 1;18(5):351-62.

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