

CNS and Neurology Experience

More than 25 staff with experience in CNS projects including

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A Wealth of Experience

At RTI Health Solutions, we have collaborated with our clients on more than 280 projects researching central nervous system (CNS) and neurological diseases, CNS and neurologic treatment and treatment trials, and complications of CNS and neurological diseases. Our experience includes:

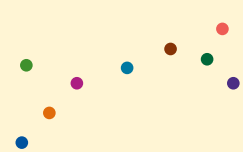
- Alzheimer's
- Diabetic peripheral neuropathy
- Epilepsy
- Fibromyalgia
- Head trauma
- Insomnia
- Meningitis
- Migraine
- Multiple sclerosis
- Overactive bladder
- Pain
 - Acute
 - Chronic
- Parkinson's
- Restless legs syndrome
- Stroke

Types of Projects

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

- Health economic models, including
 - Cost-effectiveness
 - Budget impact models
 - Markov models
- Benefit-risk preference studies
- Treatment preference studies
- Database analyses using cross-sectional and longitudinal databases
- Preparation of HTA submissions
- Systematic literature reviews
- Economic burden of illness studies
- Economic feasibility studies
- Qualitative payer research
- Meta-analysis studies
- Development of reimbursement and value communication strategies
- Epidemiology of disease
- Retrospective observational studies
- Patient-reported outcomes (PRO) instrument development, evaluation, and validation
- Psychometric evaluations of patient instruments
- Health-related quality-of-life studies
- Consulting on drug development
- Abstract and manuscript development

(continued)



See How We've Helped Others

Literature Review: Cost Drivers in Dementia

We conducted a systematic review of 27 COI studies in dementia from 14 different health care systems from 2003 to 2012. In the included studies, total annual costs for dementia of up to USD 70,911 per patient were estimated, with the main cost drivers of dementia being nursing home expenditures and home-based long-term care. The results of this review highlight the significant economic burden of dementia for patients, families, and health care systems. Study results were published in *International Journal of Geriatric Psychiatry*, 2015 Feb;30(2):111-29.

Chronic Migraine: Postauthorization Observational Study in the European Union

We conducted a prospective, observational study aimed at describing usage patterns and the safety profile of onabotulinumtoxinA. We evaluated 1141 patients treated by 86 physicians (81% neurologists) at 59 practices across UK, Germany, Sweden, and Spain. Data from the study indicated that onabotulinumtoxinA is used in the appropriate patient population, and utilization generally appears to be consistent with aspects of the published PREEMPT injection paradigm. Results of the study were published in *The Journal of Headache and Pain*, 2014 Sep 18;15(Suppl 1):G24.

Fibromyalgia Cost-Effectiveness Study

We developed a health economic Markov model to estimate the cost-effectiveness of duloxetine, a drug for the treatment of fibromyalgia. The goal of the study was to evaluate the FDA-approved dose of 60 mg per day, when assessed from the perspective of the US health care payer. The study concluded that when used as a second-line therapy, duloxetine provides additional benefits at a level of cost that would be considered favorable. Study results were presented at the ISPOR 13th Annual European Congress, November 6-9, 2010.

Stated Preference Study for Multiple Sclerosis (MS) Treatment Outcomes

We conducted a stated preference study to estimate the willingness of MS patients to accept the risk of treatment in exchange for improvements in their MS symptoms. As part of the study, MS patients completed a survey questionnaire that included a series of choice-format conjoint tradeoff tasks. The study showed that MS patients have a high tolerance for risk of life-threatening events in exchange for delaying disability progression. Study results were published in *Journal of Neurology* 2009;256(4):554-62.

Selected Publications By Our Staff

Mordin M, Masaquel C, Abbott C, Copley-Merriman C. Factors affecting the health-related quality of life of patients with cervical dystonia and impact of treatment with abobotulinumtoxinA (Dysport): results from a randomised, double-blind, placebo-controlled study. *BMJ Open*. 2014 Oct 16;4(10):e005150.

Hauber AB, Mohamed AF, Johnson FR, Cook M, Arrighi HM, Zhang J, Grundman M. Understanding the relative importance of preserving functional abilities in Alzheimer's disease in the United States and Germany. *Qual Life Res*. 2014 Aug;23(6):1813-21.

Qiu WW, Lai A, Mon T, Mwamburi M, Taylor M, **Rosenzweig J**, Kowall N, Stern R, Zhu H, Steffens DC. Angiotensin converting enzyme inhibitors and Alzheimer disease in the presence of the apolipoprotein E4 allele. *Am J Geriatr Psychiatr*. 2014 Feb;22(2):177-85.

Gonzalez JM, Johnson FR, Runken MC, Poulos CM. Evaluating migraineurs' preferences for migraine treatment outcomes using a choice experiment. *Headache*. 2013 Nov;53(10):1635-50.

Fernandez MM, von Scheele B, Hogue S, Kwong WJ. Review of challenges in optimizing oral anticoagulation therapy for stroke prevention in atrial fibrillation. *Am J Cardiovasc Drugs*. 2013 Apr 1;13(2):87-102.

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.

Farkouh RA, **Wilson MR, Tarrants ML, Castelli-Haley J, Armand C.** Cost-effectiveness of rasagiline compared with first-line early parkinson disease therapies. *Am J Manag Care*. 2012 May 1;4(3):99-107.

Roskell NS, **Zimovetz EA, Rycroft CE, Eckert BJ, Tyas DA.** Annualized relapse rate of first-line treatments for multiple sclerosis: a meta-analysis, including indirect comparisons versus fingolimod. *Curr Med Res Opin*. 2012 May 1;28(5):767-80.

Coon CD, **Fehnel SE, Davis KH, Runken MC, Beach ME, Cady RK.** The development of a survey to measure completeness of response to migraine therapy. *Headache*. 2012 Apr 1;52(4):550-72.

Arnold LM, Williams DA, Hudson JI, **Martin SA, Clauw DJ, Crofford LJ, Wang F, Emir B, Lai C, Zablocki R, Mease PJ.** Development of responder definitions for fibromyalgia clinical trials. *Arthritis Rheum*. 2012 Mar 1;64(3):885-94.