

# Infectious Disease Experience

*Over 20 of our staff have experience in infectious disease projects, including*

**Anita Brogan, PhD**

*Head, Decision Analytic Modeling  
abrogan@rti.org*

**Keith Davis, MA**

*Senior Director, Health Economics  
kldavis@rti.org*

**Jo Mauskopf, PhD, MHA**

*VP, Health Economics  
jmauskopf@rti.org*

**Kenneth Rothman, DrPH**

*Distinguished Fellow, VP,  
Epidemiology Research  
krothman@rti.org*

**Sandra Talbird, MSPH**

*Director, Health Economics  
stalbirt@rti.org*

**Pat Tennis, PhD**

*Senior Director, Epidemiology  
ptennis@rti.org*

## Contact

RTI Health Solutions  
Research Triangle Park, NC, USA  
+1.800.262.3011

Ann Arbor, MI, USA  
+1.734.213.5372

Barcelona, Spain  
+34.93.241.7766

Lund, Sweden  
+46.706.58.3442

Manchester, UK  
+44(0)161.447.6000

Sheffield, UK  
+44(0)114.213.3390

Waltham, MA, USA  
+1.781.434.1700

rtihealthsolutions@rti.org  
www.rtihs.org

## A Wealth of Experience

At RTI Health Solutions, we have collaborated with our clients on over 200 projects researching infectious disease treatment and prevention. Our experience includes:

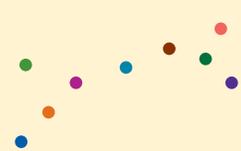
- Cholera
- H1N1
- Hepatitis
- Herpes
- HIV/AIDS
- Hospital-acquired infections
- Human papillomavirus
- Influenza
- Invasive fungal infections
- Malaria
- Meningococcal disease
- MRSA
- Respiratory tract infections
- Respiratory syncytial virus (RSV)
- Vaccines

## Types of Projects

We have implemented studies to help our clients develop strategies in the infectious disease market and to develop and gain market access for products to treat or prevent multiple diseases. Recent projects have included:

- Epidemiology of disease
- Analyses of treatment patterns and outcomes
- Analyses of disease state and incidence of disease
- Disease surveillance studies
- Observational cohort studies
- Patient-reported outcomes studies
- Measurement of patient preferences for treatment options
- Exploratory analyses of data from trial data or other sources, including observational and health care utilization data
- Meta-analysis studies
- Systematic literature reviews
- Conjoint analyses to estimate the value of treatments
- Development of decision-analytic models to predict disease prevalence and the budget impact and cost-effectiveness of treatment/prevention options
- Development of global and country-specific value dossiers
- Development of product value and access kits
- Economic burden of illness studies

*(continued)*



## See How We've Helped Others

### Database Study Evaluates Live Influenza Vaccine in Children

We implemented a 3-year post-marketing study to monitor the use of live attenuated influenza vaccine (LAIV) among young children with asthma, recurrent wheezing, and compromised immune function—children precautioned to not receive LAIV. Identified vaccinated children were monitored for frequency of hospitalization or emergency department visits within 42 days after vaccination. Annual analyses showed the frequency of vaccination with LAIV among these cohorts was low. Evaluation of the frequency of hospitalization and ED visits among LAIV-vaccinated versus TIV-vaccinated children identified no new safety signals and confirmed a risk seen in clinical trials. Study results were published in *Vaccine*, 2012; 30(42):6099-102.

### Adherence to Antiretroviral Treatment (ART) Among HIV Patients

Using a US claims database comprising a large cohort of patients diagnosed with HIV, we assessed differences in ART adherence based on the number of pills taken per day and evaluated how adherence affected hospitalization rates. Over 7,000 patients were evaluated and required to remain on treatment for at least 60 days. The study showed that HIV patients receiving ART consisting of a single pill per day (i.e., combining all ART regimen components into a single tablet) had significantly better ART adherence compared with patients receiving multiple pills per day. The study also showed that improved adherence was associated with lower odds of hospitalization. Study results were published in *PLoS One*, 2012;7(2):e31591.

### Antioxidants for Prevention of Respiratory Infection

We conducted a cohort study of 1,509 Swedish men and women ages 20 to 60 to assess the protective effects vitamins C and E may have on lowering risk of acquiring upper respiratory tract infections (URTI). Among 1,181 occurrences of URIs reported, the study showed no protective effect of vitamin E from food among either men or women. Conversely, the study showed a protective effect with vitamin C and E supplements among men who overall had a lower intake of vitamin C from food than women did. Women's increased intake of vitamin C from food was sufficient to lower the risk of acquiring URTI. Study results were published in the *Journal of the American College of Nutrition*, 2011; 30(4):248-58.

### Conjoint Analysis, Hepatitis C Virus (HCV)

We implemented a conjoint analysis study to evaluate outcome preferences for the treatment of HCV infection. The study evaluated the following six attributes of new HCV treatments: duration, likelihood of a sustained virologic response (SVR), weeks on an additional third medicine, risk of a severe rash, risk of severe anemia, and the number of times a day the third medicine was taken. The study found that SVR was the most important outcome to patients, and they were willing to accept an increased risk of side effects in exchange for better response to treatments. Study results were published in *Patient: Patient-Centered Outcomes Research*, 5(4):265-78.

## Selected Publications By Our Staff

Christiansen CF, Pedersen L, Sorensen HT, **Rothman KJ**. Methods to assess seasonal effects in epidemiological studies of infectious diseases—exemplified by application to the occurrence of meningococcal disease. *Clin Microbiol Infect*, 2012;18(10):963-9.

**Colosia AD**, Masaquel A, Hall CB, **Barrett AM**, Mahadevia PJ, Yogev R. Residential crowding and severe respiratory syncytial virus disease among infants and young children: A systematic literature review. *BMC Infect Dis*, 2012;12:95-.

**Davis KL**, Bell TJ, Miller JM, Misurski DA, **Bapat B**. Hospital costs, length of stay, and mortality associated with childhood, adolescent and young adult meningococcal disease in the United States. *Appl Health Econ Health Policy*. 2011;9(3):197-207.

**Davis KL**, Misurski DA, Miller JM, Bell TJ, **Bapat B**. Cost of acute hospitalization and post-discharge follow-up care in meningococcal disease. *Hum Vaccin*. 2011;7(1): 96-101.

Fondell E, Balter O, **Rothman KJ**. Dietary intake and supplement use of vitamins C and E and upper respiratory tract infection. *J Am Coll Nutr*. 2011;30(4):248-58.

Kauf TL, **Mohamed AF**, **Hauber AB**, Fetzer D, Ahmad A. Patients' willingness to accept the risks and benefits of new treatments for chronic hepatitis C virus infection. *Patient: Patient-Centered Outcomes Res*, 2012;5(4):265-78.

**Mauskopf J**, **Brogan A**, **Talbird SE**, Martin S. Cost-effectiveness of combination therapy with etravirine in treatment-experienced adults with HIV-1 infection. *AIDS*, 2012;26(3):355-64.

**Poulos C**, Riewpaiboon A, Stewart JF, Clemens J, Guh S, Agtini M, Sur D, Islam Z, Lucas M, Whittington D. Costs of illness due to endemic cholera. *Epidemiol Infect*, 2012;140(03):500-9.

Sax PE, **Meyers JL**, Mugavero M, **Davis KL**. Adherence to antiretroviral treatment and correlation with risk of hospitalization among commercially insured HIV patients in the United States. *PLoS one*. 2012;7(2):e31591-.

**Talbird, S.E.**, T.N. Taylor, S. Knoll, C.R. Frostad, and S.G. Marti. Outcomes and costs associated with PHiD-CV, a new protein D conjugate pneumococcal vaccine, in four countries. *Vaccine*, 2010;28(Suppl 6):G23-G29.

**Tennis P**, Toback SL, **Andrews EB**, **McQuay LJ**, Bioinf M, Ambrose CS. A US postmarketing evaluation of the frequency and safety of live attenuated influenza vaccine use in nonrecommended children younger than 5 years: 2009-2010 season. *Vaccine*. 2012;30(42):6099-102.