Christopher G. Rowan, Ph.D.

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Education

University of Pennsylvania, Philadelphia, PA
Doctor of Philosophy (Ph.D.) in Epidemiology with a minor in Biostatistics 2010
2011 Saul Winegrad Award for Outstanding Dissertation
GPA: 3.94

Harvard School of Public Health, Boston, MA
Summer session (non-degree student) 2005

University of Michigan, Ann Arbor, MI
Bachelor of Science (BS), Bio-psychology 1993

Current position

Title: Director of Analytics

Employer: American Medical Group Association & Anceta

2013-present

Protocol development and study design responsibilities

- Extensive experience with descriptive and analytic study designs and methods used in pharmacoepidemiology and outcomes research
- Proficient in conducting Comparative Effectiveness Research (CER) and Comparative Safety Research
- Experienced with primary data collection and secondary data utilization from large claims and EMR databases
- Skilled at coordinating and collaborating with Scientific Advisory Boards (SAB)

Comparative effectiveness research goals

- To improve patient outcomes while maximizing resource utilization by providing decision-makers with information on which therapies and interventions are most effective, safe, and resource responsible for specific types of patients
- To close the efficacy vs. effectiveness evidence gap by producing information, using real-world data, that decision-makers may use to make informed treatment decisions

CER methods using electronic health record and administrative claims data

- Our CER investigations are designed to meet the real-world needs or our member groups and their specific patient populations
- Research questions are solicited from AMGA and Anceta members. These questions will be vetted and prioritized by a qualified research committee.
- We consider the unique elements of each study question and select appropriate study designs, methods, and analytics
- Our research endeavors are conducted using advanced methodologies intended to maximize validity, relevance, feasibility, and timeliness
- The finding of our CER investigations are broadly disseminated via traditional publications and through direct interactions with member groups (e.g., webinars and collaborative meetings). Additionally, we seek opportunities to translate our empiric findings to clinical practice (e.g., development of treatment algorithms)

Prior experience

Title: Associate Director of Epidemiology

Employer: Quintiles

Department: Scientific Affairs

2011-2013

Core competencies at current position:

- Extensive secondary database experience
    - Administrative claims database
        - Truven Health's MarketScan database
    - Electronic Medical Record (EMR) database experience
        - The Health Improvement Network (THIN) and General Proactive Research Database (GPRD)
        - Kaiser Permanente Northern California, Kaiser Permanente Southern California, and Kaiser Permanente Hawaii
        - Humedica database
        - A variety of US Integrated Data Networks (IDNs)
        - General Electric Electronic Medical Record database
    - Federally funded databases
        - FDA's Adverse Event Reporting (AERs) Database
        - Surveillance Epidemiology and End Results (SEER)
        - United States Renal Data System (USRDS)
        - National Ambulatory Medical Care Survey (NAMCS)
        - National Health and Nutrition Examination Survey (NHANES)
- Study operations and study execution expertise
    - Expertise with developing data analysis methods, analyzing data using basic and advance quantitative methods, developing figures, and presenting data
    - Design overall project plans
    - Experienced developing database specifications and Case Report Forms (CRFs)
    - Skilled at directing data generation teams including internal and external programmers
    - Regularly direct internal and external teams to successfully deliver high quality data on time and within budget
    - Collaborate with internal team and external data providers to identify QC issues and data inconsistencies
- Direct Client Interactions
    - Consistently engage in successful communications with the client regarding methodologic and statistical questions
    - Approach client interactions with collaborative and consultative methods, with the goal of developing longstanding, trusted client partnerships
    - Developed new methods for delivering results
    - Engage clients in data review discussions and provide insightful rationale for additional sensitivity analyses and study opportunities
- Business Development/Proposal Support
    - Successfully support business development and scientific affairs leadership to evaluate and respond to RFPs
    - Proactively proposed a variety of projects using both retrospective and prospective data collection
    - Conducted numerous capabilities presentations
    - Directed several bid defenses as chief scientist and methodologist
    - Awarded several large studies

- Scientific and Thought Leadership
    - Co-authored 4 accepted abstracts and 2 manuscripts (in submission) in 2012/2013
    - Invited to deliver a podium presentation at the 29th International Conference on Pharmacoepidemiology in Montreal August 2013
    - Developed internal training presentation - "Epidemiology Overview Part 1"
    - Delivered a Comparative Effectiveness Presentation at the 2012 CBI conference in Chicago and as a live webinar for the National Pharmaceutical Council (NPC)

Amgen, Inc.

Center for Observational Research (CfOR)

Observational Research Manager

2010-2011

- Design, develop, and direct large database pharmacoepidemiology research with minimal supervision and contribute to and independently draft scientific abstracts and manuscripts for publication
- Provide consultation and direct study design, analysis plans and interpretation of study results with managers, collaborating scientists, and internal leadership
- Analyze data from using appropriate statistical techniques, using STATA and other statistical packages
- Prepare internal reports and scientifically rigorous abstracts and manuscripts independently and collaboratively
- Seek consultation from senior scientists for specific scientific and administrative issues
- Provide consultation and direction to programmer analysts with regard to data management and analysis strategies
- Assist with project management, including oversight of staff
- Liaise with internal stakeholders and external thought leaders to ensure validity and applicability of research findings
- Contribute to and develop novel research proposals

Kaiser Permanente Division of Research

Pre-Doctoral Research Fellow

2009-2010

- Developed a research protocol for a cancer surveillance study of methylphenidate in adults
- Collaborated with mentors on the development of study design, research methodology, and analytic techniques
- Executed all aspects of the project with mentor collaboration
- Managed data programming
- Developed a written manuscript documenting research findings to be submitted for publication

Food and Drug Administration

Division of Drug Risk Evaluation

Pre-Doctoral Research Fellow

2006-2008

- Independently developed a research protocol for a statin drug interaction safety study
- Collaborated with mentor on study design, case evaluation criteria, research methodology, and analytic techniques
- Queried and evaluated case reports of rhabdomyolysis from the Adverse Event Reporting System (AERS) database
- Analyzed data using STATA -statistical software
- Developed a written manuscript documenting, research findings and submitted for publication

Merck & Company

Medical Science Liaison/Health Science Associate – Oncology

2002 - 2004

- Medical Science liaison (MSL) for Merck's Oncology Division
- Identified and built relationships with oncology Key Opinion leaders (KOLs)
- Provided the scientific conduit between Merck's post-marketing clinical research initiatives and KOLs
- In collaboration with oncology KOLs in my academic area, developed and submitted protocols for post-marketing efficacy and safety of Merck's NK1 receptor antagonist (aprepitant)
- Identified and developed national and regional oncology thought leaders to provide collateral support of Merck's scientific issues, products and development plans
- MSL consultation and guidance to Merck oncology field sales representatives to impact major decisions in managed care, hospital formulary committees and oncology networks
- Awarded "MSL rookie of the year" 2003

Amgen, Inc.

Academic Oncology Representative – Southeastern Michigan

2000 - 2002

- "Presidents Club" Winner – 2000 & 2001
- Primary responsibilities - Neupogen and Aranesp sales to Hematology and Oncology healthcare professionals at the Detroit Medical Center, William Beaumont Hospital and private oncology offices in metro Detroit
- Sales Promotion- September 2001 promoted from Level 1 to Level 2 Professional Sales Representative for outstanding sales performance and demonstrated behavioral competencies
- Placed two registration clinical trials and one Phase 3 clinical trial at the Karmanos Cancer Institute
- Successfully launched Aranesp and Neulasta in the Hematology & Oncology physician office, hospital and retail segments

Novartis Pharmaceuticals

Product Consultant – Ventura County & Santa Barbara, CA

1997-1999

- Responsible for the sales growth of Novartis pharmaceutical products, Lamisil, Lescol, & Miacalcin Nasal Spray
- Increased market share of Miacalcin Nasal Spray from 27% to 40% during first year on territory
- Increased market share of Lamisil Tablets by 12.65% compared to national growth of 1.5%

Amgen Inc.

Research Associate – Pre-Clinical Development

1994 - 1997

- Conducted pre-clinical hematology studies for the IND filing of Megakaryocyte Growth and Development Factor (MGDF)
- Proficient at experimental design, data collection, analysis and presentation
- Skilled in various forms of *in vivo* toxicology and pre-clinical drug evaluation
- *In vitro* Techniques: Aseptic CD 34+ cell isolation, bone marrow explant, cell/tissue culture, flow cytometry and microscopy

Teaching positions - University of Pennsylvania

Teaching Assistant:

Introduction to Epidemiology 2007

Introduction to Epidemiology 2008

Instructor:

EPID523-001 2008. BIOSTATISTICS II: Inference and Linear Regression - Stata Lab
EPID524-001 2008. BIOSTATISTICS III: Biostatistics for Epidemiologic Methods - Stata lab
EPID 525-001 2009 Biostatistics Iv: Biostatistics For Epidemiologic Methods - Stata lab

Awards

2011 Saul Winegrad Award for Outstanding Dissertation;
University of Pennsylvania - Biomedical Graduate School

Organizations

International Society for Pharmacoepidemiology
American College of Clinical Pharmacology
Society for Epidemiologic Research

Editorial positions

2008-present Ad-hoc reviewer, *Pharmacoepidemiology and Drug Safety*
2009 "Best of all reviewers" acknowledgment, *Pharmacoepidemiology and Drug Safety*
2010-present *Clinical Pharmacology and Therapeutics*

Invited Oral Presentations

Rowan CG, Brunelli SM, Flory J, Munson J, Bilker W, Strom BL. Statin-CYP3A4 inhibitor concomitancy shows non-differential risk for adverse events based on statin metabolism. Pharmacoepidemiology and Drug Safety. Published Online: 14 Aug 2009; volume 18 Issue S1, Pages S6 - S7. (oral presentation at the 25th International Conference on Pharmacoepidemiology & Therapeutic Risk Management. Rhode Island Convention Center, Providence, Rhode Island, USA. August 16-19, 2009).

Christopher G Rowan, Ankit J Shah, Jeffrey A Spaeder. Adherence to the JNC 7 Treatment Guideline and Impact on Patient Outcomes. Pharmacoepidemiology and Drug Safety, 2013; 22: (Suppl. 1): 1–521 (oral presentation at the 29th International Conference on Pharmacoepidemiology & Therapeutic Risk Management. Montreal, Canada August, 2013).

Dissertation publication

Rowan CG, "CLINICAL IMPORTANCE OF THE DRUG INTERACTION BETWEEN STATINS AND CYP3A4 INHIBITORS"
Publically available at: http://repository.upenn.edu/edissertations/283

Publications

James H Flory, Bonnie Ky, Kevin Haynes, Steve M Brunelli, Jeffrey Munson, **Christopher Rowan**, Brian L Strom, Sean Hennessy. Observational cohort study of the safety of digoxin use in women with heart failure. BMJ Open 2012;2:2 e000888 doi:10.1136/bmjopen-2012-000888

Rowan, C. G., Brunelli, S. M., Munson, J., Flory, J., Reese, P. P., Hennessy, S., Lewis, J., Mines, D., Barrett, J. S., Bilker, W. and Strom, B. L. (2012), Clinical importance of the drug interaction between statins and CYP3A4 inhibitors: a retrospective cohort study in The Health Improvement Network. Pharmacoepidemiology and Drug Safety, 2012; 21: 494–506.

Rowan CG, Brinker AD, Nourjah P, Chang J, Moshholder A, Avigan M. Rhabdomyolysis reports show interaction between simvastatin and CYP3A4 inhibitors. Pharmacoepidemiology and Drug Safety. April 2009; 18: 301–309.

Lynch KE, Feldman HI, Berlin JA, Flory J, **Rowan CG**, Brunelli SM. Effects of L-Carnitine on Dialysis-Related Hypotension and Muscle Cramps: A Meta-analysis. American Journal of Kidney Diseases. Nov 2008;52(5):962-971.

Agnello D, Meazza C, **Rowan CG**, Villa P, Ghezzi P, Senaldi G. Leptin causes body weight loss in the absence of in vivo activities typical of cytokines of the IL-6 family. American Journal of Physiology-Regulatory Integrative and Comparative Physiology. Sep 1998;44(3):R913-R919.

Senaldi G, Shaklee CL, Simon B, **Rowan CG**, Lacey DL, Hartung T. Keratinocyte growth factor protects murine hepatocytes from tumor necrosis factor-induced apoptosis in vivo and in vitro. Hepatology. Jun 1998;27(6):1584-1591.

Hokom MM, Lacey D, Kinstler OB, Choi E, Kaufman S, Faust J, **Rowan C**, Dwyer E, Nichol JL, Grasel T, Wilson J, Steinbrink R, Hecht R, Winters D, Boone T, Hunt P. Pegylated Megakaryocyte Growth and Development Factor Abrogates the Lethal Thrombocytopenia Associated with Carboplatin and Irradiation in Mice. Blood. Dec 1995;86(12):4486-4492.

Choi ES, Hokom MM, Chen JL, Dwyer E, Skrine J, **Rowan C**, Hunt P. The role of megakaryocyte growth and development factor (MGDF) in terminal stages of thrombopoiesis. Blood. Nov 1995;86(10):1125-1125.

Abstracts

Christopher G **Rowan**, Ankit J Shah, Jeffrey A Spaeder. Adherence to the JNC 7 Treatment Guideline and Impact on Patient Outcomes. Pharmacoepidemiology and Drug Safety, 2013; 22: (Suppl. 1): 1–521

Wu JJ, **Rowan CG**, Poon KT, Anthony MS, Xiang AH. Considerations in the study of TNF-alpha inhibitor and methotrexate therapy on metabolic factors in psoriasis/psoriatic arthritis and rheumatoid arthritis patients. Poster 052. 3rd World Psoriasis and Psoriatic Arthritis Conference, Stockholm, Sweden, June 27-July 1, 2012. Dermatology and Therapy, July 2012, 2(Supplement 1):10, S24.

Wu JJ, **Rowan CG**, Poon KT, Anthony MS, Xiang AH. Effect of TNF-alpha inhibitor and methotrexate therapy on total cholesterol, HDL, and LDL in psoriasis/psoriatic arthritis and rheumatoid arthritis patients. Poster exhibit 6505. 71th Annual Meeting of the American Academy of Dermatology, Miami, FL, March 1-5, 2013. Journal of the American Academy of Dermatology, April 2013 Supplement.

Coburn, Chris, **Rowan, Chris**, Globe, Denise, Burke, Caroline, Okerson, Ted; Changes in hypertension status and medication utilization in the helping evaluate reduction in obesity (HERO) study [abstract]. Journal of Clinical Hypertension 2012;14 Suppl 1 :20

Rowan CG, Brunelli SM, Flory J, Munson J, Bilker W, Strom BL. Statin-CYP3A4 inhibitor concomitancy shows non-differential risk for adverse events based on statin metabolism. Pharmacoepidemiology and Drug Safety. Published Online: 14 Aug 2009; volume 18 Issue S1, Pages S6 - S7. (oral presentation)

Rowan CG, Brinker AD, Nourjah P, Chang J, Moshholder A, Avigan M. Rhabdomyolysis reports show interaction between simvastatin and CYP3A4 inhibitors. Pharmacoepidemiology and Drug Safety. Aug 2008;17:526.

Senaldi G, Shaklee CL, **Rowan C**. Pretreatment with keratinocyte growth factor (KGF) delays lipopolysaccharide (LPS)-induced mortality in galactosamine (GALN)-sensitized mice by protecting against liver apoptosis. Journal of Allergy and Clinical Immunology. Jan 1997;99(1):71-71.

Senaldi G, **Rowan CG**, Shaklee CL, Whitcombe L. Inhibition of the Hypersensitivity Reaction (CH) in Mice Treated with G-CSF. Amgen, Inc., Thousand Oaks, CA USA. 1997.

Senaldi G, Shaklee CL, **Rowan CG**. Inhibition of Bacillus Calamette and Guerin (BCG) Infection and Related Granuloma Formation in Mice Treated with G-CSF. Amgen, Inc., Thousand Oaks, CA USA. 1997.

Rowan C, Shaklee CL, Senaldi G. G-CSF treatment limited to the time of infection is sufficient to protect mice against severe malaria (SM). *Faseb Journal.* Apr 1996;10(6):1283-1283.