

Jonathan C. Badger, PharmD, MS

PROFESSIONAL EXPERIENCE

Center for Precision Medicine Research; Marshfield, WI

Research Project Pharmacist

Dates: June 2016–November 2019

- Developing machine learning models for tasks related to phenotyping, prediction, and prevention of opioid overdose
- Exploring methodologies for detecting adverse drug events in health care data utilizing machine learning and statistical modeling
- Providing expertise in development and implementation of actionable, evidence based, pharmacogenetic alerts for the Marshfield Clinic electronic health record system.

Wal-Mart Supercenter; Appleton, WI (home store)

Staff Pharmacist

Dates: June 2008–2016 (Technician and Intern from June 2008–June 2010)

- Work at Wal-Mart pharmacies statewide, with experience at more than 25 locations with volumes ranging from 150 to over 600 scripts per day
- Registered with University of Wisconsin School of Pharmacy as a preceptor, actively assist in training pharmacy interns and students on fourth-year clerkship rotations
- Perform pediatric and geriatric dose checks as part of standard practice
- Perform level one and two medication therapy management (MTM) billable services
- Active immunizer since 2014

JAT Veterinary Pharmacy

Relief Pharmacist

Dates: January 2011–September 2017

- Perform regular drug utilization review as it relates to large and small animal use
- Oversee mail-order shipment of drug products to 46 states

EDUCATION

Fall 2016–2018 University of Wisconsin–Madison
Department of Biostatistics and Medical Informatics
Masters in Biomedical Data Science

2006–2010 University of Wisconsin–Madison
School of Pharmacy
Doctorate in Pharmacy

2001–2006 University of Wisconsin–Stevens Point
College of Letters and Science
Bachelor of Science, magna cum laude with majors in Chemistry and Biology, May 2006

PROJECTS AND PROFICIENCIES RELATED TO INFORMATION TECHNOLOGY

Programming Languages: Swift, Python, R, Matlab, HTML, XML, SQL

Dates: 2018-Present

<https://github.com/jbadger3/inspectomop>

InspectOMOP

A lightweight, open source python 3 package that assists in the extraction of electronic health record(EHR) data from relational databases following the OHDSI OMOP Common Data Model(CDM) standard v>=5.

Dates: 2014-Present

<https://www.dabblingbadger.com/software/ios/calc-rx>

Calc Rx (iOS App)

An outpatient prescription calculator for making quantity and days supply calculations easier

Dates: 2013-Present

OTC Assistant (iOS App)

<https://www.dabblingbadger.com/software/ios/otc-assistant>

An over the counter drug guide for patients and practitioners

- searchable database of over 500 OTCs
- complete 'drug facts' and directions as they appear on commercial packaging

Dates: 2010–Present

RxOrange (iOS App)

<https://www.dabblingbadger.com/software/ios/rxorange>

An Orange Book compendium for iOS that's available at the Apple AppStore

- Acts as a complete Internet-free solution for generic substitution
- Utilizes patent life data on branded drugs to predict generic product introduction
- Offers a special topics section for confusing substitutes, B rated products, and oral contraceptives

PROFESSIONAL ORGANIZATIONS AND CERTIFICATIONS

2014-Present Immunization Certified via APhA

2011–2016 UW School of Pharmacy preceptor

2010–Present APhA (American Pharmacists Association)

2010–Present PSW (Pharmacy Society of Wisconsin)

2006–Present Kappa Psi Pharmaceutical Fraternity

Positions Held:

2010–Present

- Graduate member actively engaging with students to educate and promote professional and social relationships within the profession of pharmacy
- On the Board of Directors for the 2014–2015 academic year

PUBLICATIONS

Badger J, LaRose E, Mayer J, Bashiri F, Page D, Peissig P. Machine learning for phenotyping opioid overdose events. Journal of biomedical informatics. 2019 Jun 1;94:103185.

Kleiman RS, LaRose ER, **Badger JC**, et al. Using Machine Learning Algorithms to Predict Risk for Development of Calciphylaxis in Patients with Chronic Kidney Disease. AMIA Summits on Translational Science Proceedings. 2018;2017:139-146.

Badger J, et. al. SCCS for Detection of Differences in Brand and Generic Adverse Drug Events. Poster presented at: AMIA Joint Summits; March 20 - 30, 2017; San Francisco, CA.

P Tafti A, **Badger J**, LaRose E, Shirzadi E, Mahnke A, Mayer J, Ye Z, Page D, Peissig P
Adverse Drug Event Discovery Using Biomedical Literature: A Big Data Neural Network Adventure
JMIR Med Inform 2017;5(4):e51. URL: <https://medinform.jmir.org/2017/4/e51>. DOI: 10.2196/medinform.9170

Badger J, Kubusek J, Hayney MS. Safety of adjuvants and excipients in vaccines. *JAPhA*. Nov/Dec 2009; 49:6: 826–827.

Badger J, et. al. Interferon Gamma and IL-10 Gene Polymorphisms and Immune Responses to Influenza Vaccine in Patients with Heart Failure. Poster presented at American College of Clinical Pharmacy Spring Practice and Research Forum; 2008, April 5–9, 2008; Phoenix, AZ.

Cassidy F, Zhao C, **Badger J**, et al. Genome-wide scan of bipolar disorder and investigation of population stratification effects on linkage: Support for susceptibility loci at 4q21, 7q36, 9p21, 12q24, 14q24, and 16p13. *Am J Med Genet B Neuropsychiatr Genet*. 2007;144B:791–801.

Roche S, Cassidy F, Zhao C, et al. Candidate gene analysis of 21q22: Support for S100B as a susceptibility gene for bipolar affective disorder with psychosis. *Am J Med Genet B Neuropsychiatr Genet*. 2007;144B:1094–1096.