Victor J. Lei, PharmD, MSHP

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Summary

Clinician Innovator with 9+ years of healthcare experience bridging clinical, technical, and business teams to evaluate healthcare programs, develop payor strategies, and conduct novel research.

Relevant Skills

Management and Leadership
- Led payor strategy engagements with Dr. Amol Navathe to address healthcare affordability and value-based care (>700,000 beneficiaries)
- Improved product development timelines by implementing communication and deliverable frameworks for offshore dev teams (10+ FTEs)
- Co-owned the development of a novel drug pricing tool designed to save consumers, pharmacies, and plan sponsors on Rx claims (8-50%)
- Managed stakeholder relationships across internal partners, academic institutions, and corporate sponsors for large-scale collaborations
- Delivered scientific insights to internal departments, external clients, and at US and international conferences

Healthcare and Clinical
- Specialty in perioperative medicine, with additional training in health economics, value-based care, program evaluation, and drug policy
- Evaluated tele-behavioral health program utilization to better inform executive-level behavioral health payor strategies
- Designed a pragmatic 5-year glidepath for a comprehensive hospice and palliative care benefit strategy (~$5M-25M annual savings)
- Utilized advanced analytics to identify over $50M of cost saving opportunities through digital health partnerships, procedure channel management, alternative payment model design, and high-cost member management for healthcare payors
- Designed, developed, and validated over 10 novel clinical modules for natural language processing software for Dr. Li Zhou (e.g. depression, social support issues, etc.) and Dr. Alexander Turchin (e.g. insulin therapy refusal, bariatric surgery discussions, etc.)
- Advised formulary management and budget impact models for over 10 pharmacy departments by forecasting new drug approvals (FY2018)

Technical and Research
- Redesigned a $4.7M research grant to create a new multi-purpose dataset that combines administrative, clinical, and EHR data for AI/ML tools
- Produced numerous proprietary risk prediction algorithms, conference presentations, manuscript publications, and reusable research datasets
- Authored clinical and technical requirements for machine learning risk prediction algorithms using EHR data to predict clinical complications
- Drafted and managed multiple IRB protocols for data research and prospective clinical trials
- Analyzed healthcare terminology specifications for integration into clinical knowledge management software (e.g. ICD, CPT, RxNORM)
- *Technical language experiences:* Python, SQL, STATA, R, SAS

Innovation
- 1st place at MIT's Hacking Medicine GrandHack 2022 (Empowering caregivers by reimagining data sharing for complex med management)
- Invited speaker at *2020 Life Sciences Accounting Congress* on "AI in Healthcare and Medicine" to over 500 pharmaceutical professionals
- Winner of *2016 Machine Learning Innovation Series with Microsoft Azure Competition* (Opioid overdose and addiction detection)
- 2016 Hult Prize Regional Finalist (304 out of 25,000 teams invited globally) (Simplifying GTM strategies and delivery logistics for artisans)

Professional Experience

Massachusetts General Hospital, Boston, MA
Clinical Pharmacist, Perioperative Services — Apr 2021 – Present

Asset Blue Pharmacy Services (Waltz Health), Chicago, IL
Director, Data Strategy and Product — Nov 2021 – Dec 2021

University of Pennsylvania, Philadelphia, PA
Senior Research Scientist, Medical Ethics and Health Policy (Lab: Dr. Amol Navathe, MD, PhD) — Aug 2019 – Nov 2021
Research Scientist, Medical Ethics and Health Policy (Lab: Dr. Amol Navathe, MD, PhD) — June 2017 – July 2019
- *Affiliations: Center for Health Incentives and Behavioral Economics (CHIBE) & Payment Insights Team*
Associate Fellow, Leonard Davis Institute of Health Economics — Aug 2018 – July 2020

Brigham and Women's Hospital, Boston, MA
Researcher, Clinical Informatics (Lab: Dr. Alexander Turchin, MD, PhD) — July 2015 – Feb 2020
Researcher, Clinical Informatics (MTERMS Lab: Dr. Li Zhou, MD, PhD) — Dec 2014 – July 2018

Mass General Brigham (Partners Healthcare), Boston, MA
Analyst, Knowledge Management and Information Systems — Sept 2014 – Aug 2015

Massachusetts General Hospital, Boston, MA
Intern, Pharmacy — May 2013 – May 2017

Education

University of Pennsylvania, Philadelphia, PA
Master of Science in Health Policy Research (MSHP) - Perelman School of Medicine
- *Additional courses in Economics, Healthcare Leadership, and Entrepreneurship (MBA Wharton School)*

Northeastern University, Boston, MA
Doctor of Pharmacy (PharmD) - School of Pharmacy, Bouvé College of Health Sciences
- *Additional courses in Computer Science, Health Informatics, and Project Management*

Selected Research Projects

University of Pennsylvania, Philadelphia, PA

A Randomized Trial of Behavioral Economic Approaches to Reduce Unnecessary Opioid Prescribing (REDUCE)   Nov 2017 – Nov 2021
> PIs: Amol S. Navathe, MD, PhD, Mitesh S. Patel, MD, MBA
> Sponsor: The Donaghue Foundation ($593,108)
> Role: Researcher, EHR Subject Matter Expert

Smarter Big Data for a Healthy Pennsylvania: Changing the Paradigm of Healthcare   June 2017 – Nov 2021
> PIs: Kevin G. Volpp, MD, PhD, Daniel E. Polsky, PhD
> Sponsor: Pennsylvania Department of Health – Nonformula CURE Grant ($4,772,786)
> Role: AIM 1 Supervisor (Project and Stakeholder Management), Researcher

Using Machine Learning To Advance Health Care By Improving Clinical Decision-Making And Reducing Low-Value Care And Disparities In Care   June 2017 – Nov 2021
> PIs: Amol S. Navathe, MD, PhD, Sendhil Mullainathan, PhD, Ziad Obermeyer, MD, MPhil
> Sponsor: Robert Wood Johnson Foundation ($553,067)
> Role: Supervisor (Project and Stakeholder Management), Researcher

Brigham and Women's Hospital, Boston, MA

Encoding and Processing Patient Allergy Information   Sept 2015 – Oct 2017
> PIs: Li Zhou, MD, PhD
> Sponsor: AHRQ (R01HS022728) ($1,959,741)
> Role: Researcher, Clinical Knowledge Development and Testing for NLP Software

Epidemiology, Risk Factors and Consequences of Insulin Decline by Patients   July 2015 – Dec 2017
> PIs: Alexander Turchin, MD
> Sponsor: Sanofi Aventis
> Role: Researcher, Clinical Knowledge Development and Testing for NLP Software

Extracting Information from Unstructured Clinical Data for Enhancing Risk-identification and Stratification   Dec 2014 – July 2015
> PIs: Li Zhou, MD
> Sponsor: Partners Siemens Research Council
> Role: Researcher, Project Management, Clinical Knowledge Development and Testing for NLP Software

Selected Publications

Complete Bibliography Here (*link*)

Improving Identification of Patients at Low Risk for Major Cardiac Events After Noncardiac Surgery Using Intraoperative Data
Journal of Hospital Medicine, Sept 2020 (link)
> Amol S. Navathe, **Victor J. Lei**, Lee A. Fleisher, ThaiBinh Luong, Xinwei Chen, Edward Kennedy, Kevin G. Volpp, Daniel E. Polsky, Peter Groeneveld, Mark Weiner, John H. Holmes, Mark D. Neuman

Risk Stratification for Postoperative Acute Kidney Injury in Major Noncardiac Surgery Using Preoperative and Intraoperative Data
JAMA Network Open, Dec 2019 (link)
> **Victor J. Lei**, ThaiBinh Luong, Eric Shan, Xinwei Chen, Mark D. Neuman, Nwamaka D. Eneanya, Daniel E. Polsky, Kevin G. Volpp, Lee A. Fleisher, John H. Holmes, Amol S. Navathe

Model Performance Metrics in Assessing the Value of Adding Intraoperative Data for Death Prediction: Applications to Noncardiac Surgery
MEDINFO 2019 Conference, Aug 2019 (link)
> **Victor J. Lei**, Edward K. Kennedy, ThaiBinh Luong, Xinwei Chen, Daniel E. Polsky, Kevin G. Volpp, Mark D. Neuman, John H. Holmes, Lee A. Fleisher, Amol S. Navathe

Decline of Insulin Therapy and Delays in Insulin Initiation in People With Uncontrolled Diabetes Mellitus
Diabetes Medicine, Dec 2017 (link)
> Naoshi Hosomura, Shervin Malmasi, Dmitriy Timerman, **Victor J. Lei**, Huabing Zhang, Lee-Shing Chang, Alexander Turchin

Hospital Readmission and Social Risk Factors Identified from Physician Notes
*Health Services Research, Mar 2017 (link) *Best Paper Award Nomination for AcademyHealth ARM 2016**
> Amol S. Navathe, Feiran Zhong, **Victor J. Lei**, Frank Y. Chang, Margarita Sordo, Maxim Topaz, Shamkant B. Navathe, Roberto A. Rocha, Li Zhou

Identifying Patients with Depression Using Free-text Clinical Documents
*MEDINFO 2015 Conference, Aug 2016 (link) *Best Paper Award Nomination**
> Li Zhou, Amy W. Baughman, **Victor J. Lei**, Kenneth H. Lai, Amol S. Navathe, Frank Chang, Margarita, Maxim Topaz, Feiran Zhong, Madhavan Murrali, Shamkant Navathe, Roberto A. Rocha

Miscellaneous

License: Pennsylvania Pharmacist License (#RP451982) (2017 - Present), Massachusetts Pharmacist License (#PH240509) (2021 – Present)
Software: Epic EHR Systems, MS Office Suite, G Suite, Trello, Slack, Tableau, Figma, PowerBI
Cloud Experiences: Microsoft Azure
Peer Reviewer: American Medical Informatics Association (2016-Present), Healthcare: The Journal of Delivery Science and Innovation (2017)
Hobbies: Traveling, Photography, Cooking, Woodworking, Candle making
Interests: Health Policy, Economics, Computer Science, Product Design, Marketing, Art, Coffee