

Dr. Na Li

I. BIOGRAPHICAL DATA

Address: 5E37 TRW, 3280 Hospital Dr NW, Calgary AB T2N4Z6
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Present Rank: Assistant Professor
Departments: Community Health Sciences
Faculty: Cumming School of Medicine
Institution: The University of Calgary

II. ACADEMIC RECORD

Final Degree Doctor of Philosophy
Date 2016
Institution University of Western Ontario
Specialization Statistics and Actuarial Sciences

Training Post-Doctoral Fellow
Date 2019-2020
Institution McMaster University
Specialization Computing and Software Engineering

III. AWARDS AND DISTINCTIONS

2014-2015 Graduate Scholarship for PhD study, University of Western Ontario

IV. ACADEMIC APPOINTMENTS

2021 Adjunct Assistant Professor
Computing and Software, Faculty of Engineering, McMaster University, Ontario
2021 Adjunct Lecturer
Medicine, Faculty of Health Sciences, McMaster University, Ontario
2020 Research Associate
Medicine, McMaster University, Ontario
2016-2019 (Bio)Statistician
Medicine, McMaster University, Ontario

V. EDUCATIONAL ACTIVITIES

Courses

Winter 2021 Instructor, Community Health Sciences, University of Calgary
Course Code & Title: Data 621 Advanced Statistical Modeling
Course Level: Graduate
Fall 2021 Instructor, Community Health Sciences, University of Calgary
Course Code & Title: MDCH 610 Essentials of Biostatistics
Course Level: Graduate

Graduate Students

Ph.D. degree:

2021/1-present Maryam Motamedi, McMaster University (**Co-supervisor**)
Thesis/Project Title: Short-term demand forecasting for platelet components and ordering strategies

Masters Degree:

2021/1-2021/8 Maryam Akbari Moghaddam (Completed), McMaster University (**Co-supervisor**)
Thesis/Project Title: COVID-19 convalescent plasma allocation tool for CONCOR-1 trial using mathematical simulation models

VI. ACTIVITIES AND CONTRIBUTIONS**University, or affiliated committees**

- 2021/6-2021/10 Hiring committee member, The University of Calgary Hiring committee member for a new assistant professor position at Faculty of Science:
<https://science.careers.ucalgary.ca/jobs/6633939-assistant-professor-applied-datascience-faculty-of-science>
- 2021/9-2022/7 Reviewer Committee, Health Research Training A - Post-PhD (HTA), Institutes of Health Research
- 2020/5-2021/4 CONCOR-1 International Trial Steering Committee - Unblinded Biostatistician, McMaster University
- 2020/12-2021/12 Informing the Distribution of COVID-19 Convalescent Plasma Through Implementation of CONCOR-1 in British Columbia - Steering Committee, University of British Columbia
- 2021/1-present Sepsis Canada Network – Identifying Sepsis Committee, Sepsis Canada

Committee Services at University of Calgary

- 2021/7-present Health Data Science and Biostatistics Program Committee, University of Calgary
- 2021/7-present Biostatistics Education Oversight Committee, University of Calgary
- 2021/7-present O'Brien Institute for Public Health, University of Calgary

Community and volunteer activities

- 2021/7 Judge, STEM Fellowship

VII. PROFESSIONAL ACTIVITIES**Membership in Professional Societies**

- Statistical Society of Canada
- Canadian Operational Research Society
- The O'Brien Institute for Public Health

Ad-Hoc Journal Review

- 2020-2021 Health Care Management Science (2)
- 2017-2021 Transfusion (6)

VIII. RESEARCH SUPPORT**Competitive (successful)**

- 2021-2022 Exploring the Potential of Convalescent Plasma Therapy as an Intervention in the Pandemic Response (**Co- Investigator**)
Funding Agency: MITACS; Amount: \$31,500
- 2020-2021 IN-TRUST: Using a transfusion database to explore the immune-modulatory impacts of blood transfusion and the clinical impacts of blood processing changes (**Co- Investigator**)
Funding Agency: Canadian Blood Services Intramural Research Grant Program; Amount: \$278,139
- 2020-2021 Informing the distribution of COVID-19 Convalescent Plasma through implementation of CONCOR-1 in British Columbia (**Co- Investigator**)
Funding Agency: Canadian Blood Services Blood Efficiency Accelerator Program; Amount: \$30,000
- 2021-2024 PAUSE-Virtual, Instruction of standardized plan for managing patients taking a blood thinner, before and after a planned surgery, provided by telephone or video conference, is simple and safe (**Co- Applicant**)
Funding Agency: CIHR; Amount: \$925,000
- 2021-2025 Improving the Identification of Sepsis (**Co- Applicant**)
Funding Agency: Sepsis Canada Network by CIHR; Amount: \$407,580

Directed

- 2021-2023 Start-up Funding (**Principal Investigator**)
Funding Agency: O'Brien Institute for Public Health, University of Calgary; Amount: \$50,000

2021-2023 Start-up Funding (**Principal Investigator**)
Funding Agency: Community Health Sciences, University of Calgary;
Amount: \$10,000

Under Review

2021-2022 Electronic Data Capture and Data Mining for Immunoglobulin Utilization Using Machine Learning Techniques (**Principal Investigator**)
Funding Agency: Canadian Blood Services Blood Efficiency Accelerator Program;
Amount: \$30,000

2021-2023 Intelligent Vein-to-Vein: A Pilot Project Examining the Feasibility of an Integrated Technology with Data-Driven Decision-Support to Optimize Blood Inventory Management and Reduce Inappropriate Transfusions (**Principal Investigator**)
Funding Agency: Canadian Blood Services Intramural Research Grant Program 2021;
Amount: \$391,793

Completed

2019-2020 Blood product demand forecast modeling using clinical predictors (**Principal Investigator**)
Funding Source: MITACS; Amount: \$30,000

2019-2020 Blood product demand forecast modeling using clinical predictors (**Co- Investigator**)
Funding Source: Canadian Blood Services Blood Efficiency Accelerator;
Amount: \$29,992

IX. SELECTED PRESENTATIONS

1. Integrated Data-Driven Methods for Blood Demand Forecasting and Inventory Management Using EMR Data. CHS/O'Brien Institute Seminar Series. 2021. Calgary, Alberta.
2. Integrated Data-Driven Methods for Blood Demand Forecasting and Inventory Management Using EMR Data. Operations Management Seminars, DeGroot School of Business. 2021. McMaster University. Hamilton, Ontario.
3. A Decision Integration Strategy for Short-Term Demand Forecasting and Ordering for Red Blood Cell Components. Canadian Queueing Theorists and Practitioners Conference (CanQueue). 2020. Banff, Alberta.
4. Making Data Accessible: A User Interface. Canadian Transfusion Research Network Meeting (CTRN). 2019. Hamilton, Ontario.
5. Investigations on Historical Platelet Inventory Management. McMaster Centre for Transfusion Research (MCTR) Research-In-Progress Meeting. 2016. Hamilton, Ontario.

X. SELECTED PUBLICATIONS

Articles Under Peer Review

1. Motamedi M (Trainee), Li N, Down DG, Heddle NM. (2021). Demand forecasting for platelet usage: From univariate time series to multivariate models. International Transactions in Operational Research. Revision Requested
2. Li N, Arnold DM, Barty R, Blake J, Down DG, Chiang F, Courtney T, Waito M, Trifunove R, Heddle NM. (2021). From demand forecasting to inventory Ordering decisions for red blood cells through integrating machine learning, statistical modeling and inventory optimization. Transfusion. Revision Requested
3. Kaur MN, Arnold DM, Heddle NM, Cook RJ, Hsia C, Blostein M, Jamula E, Sholzberg M, Lin Y, Kassis J, Larratt L, Tinmouth A, Carruthers J, Li N, Liu Y, Xie F. (2021). Cost-effectiveness of eltrombopag versus intravenous immunoglobulin for the perioperative management of immune thrombocytopenia. Blood Advances. Revision Requested

Peer-Reviewed Articles in Journals

1. Bégin P, Callum J, Heddle N, Cook, Zeller MP, Tinmouth A, Fergusson DA, Cushing MM, Glesby MJ, Chassé M, Devine DV, Robitaille N, Bazin R, Shehata N, Finzi A, McGeer A, Scales DC, Schwartz L, Turgeon AF, Zarychanski R, Daneman N, Carl R, Amorim L, Gabe C, Ellis M,

- Sachais B, Loftsgard K, Jamula E, Carruthers J, Duncan J, Lucier K, **Li N**, Liu Y, Armali C, Kron A, Modi D, Auclair MC, Cerro S, Avram M, Arnold DM. (2021). Convalescent plasma for hospitalized patients with COVID-19 and the effect of plasma antibodies: a randomized controlled trial. Nature Medicine. <https://doi.org/10.1038/s41591-021-01488-2>
2. Twomey R, Matthews TW, Nakoneshny SC, Schrag C, Chandarana SP, Matthews J, McKenzie D, Hart RD, **Li N**, Dort JC, Sauro KM. (2021). From pathways to practice: impact of implementing mobilization recommendations in head and neck cancer surgery. Cancers. 13(12): 2890.
 3. Parvizian MK, Barty R, Heddle NM, **Li N**, McDougall T, Mukerji A, Fusch C, Solh Z. (2021). Necrotizing Enterocolitis and Mortality after Transfusion of ABO Non-Identical Blood. Transfusion. Accepted
 4. **Li N**, Chiang F, Down DG, Heddle NM. (2021). A decision integration strategy for short-term demand forecasting and ordering for red blood cell components. Operations Research for Health Care. 29: 100290.
 5. **Li N**, Heddle NM, Nazy I, Kelton JG, Arnold DM. (2021). The platelet variability index: A novel measure of platelet count fluctuations in patients with immune thrombocytopenia. Blood Advances. Accepted
 6. Twomey R, Matthews TW, Nakoneshny S, Schrag C, Chandarana SP, Matthews J, McKenzie D, Hart RD, **Li N**, Sauro KM, Dort JC. (2021). Impact of early mobilization on recovery after major head and neck surgery with free flap reconstruction. Cancers. 13(12): 2852.
 7. Sirotych E, Gabe C, Ivetic N, **Li N**, Nazy I, Smith J, Kelton JG, Arnold DM. (2021). The performance of platelet autoantibody testing for the diagnosis of immune thrombocytopenia using a new gold standard. The British Journal of Haematology. Accepted
 8. Sirotych E, Barty R, **Li N**, Arnold DM. Cluster randomized trials in Transfusion Medicine. Transfusion. 2020. 60(11): 2470-2473.
 9. Shaw JR, **Li N**, Vanassche T, Coppens M, Spyropoulos AC, Syed S, Radwi M, Duncan J, Schulman S, Douketis JD. Predictors of preprocedural direct oral anticoagulant levels in patients having an elective surgery or procedure. Blood Advances. 2020. 4(15): 3520-3527.
 10. MacDougall K, Douketis JD, **Li N**, Clark NP, Tafur A, D'Astous J, Duncan J, Schulman S, Spyropoulos AC. Effect of DOAC, patient and surgery characteristics on clinical outcomes in the Perioperative Anticoagulation Use for Surgery Evaluation (PAUSE) study. Thrombosis and Haemostasis Open. 2020. 4(3): e255-e262.15
 11. Douketis JD, Syed S, **Li N**, Narouze S, Radwi M, Duncan J, Schulman S, Spyropoulos AC. A physician survey of perioperative neuraxial anesthesia management in patients on a direct oral anticoagulant. Research and Practice in Thrombosis and Haemostasis. 2020. 5(1): 159-167.
 12. Mithoowani S, Cervi A, Shah N, Ejaz R, Sirotych E, Barty R, **Li N**, Nazy I, Arnold DM. Management of major bleeds in patients with immune thrombocytopenia. Journal of Thrombosis and Haemostasis. 2020. 18(7):1783-1790.
 13. Arnold DM, Heddle NM, Cook RJ, Hsia C, Blostein M, Jamula E, Sholzberg M, Lin Y, Kassis J, Larratt L, Tinmouth A, Amini S, Schipperus M, Lim W, Vishnu P, Warner M, Carruthers J, **Li N**, Lane S, Kelton JG. Perioperative oral eltrombopag versus intravenous immunoglobulin in patients with immune thrombocytopenia: a non-inferiority, multicentre, randomised trial. The Lancet Haematology. 2020. 7(9): E640-E648.
 14. Tafur AJ, Clark N, Spyropoulos A, **Li N**, Kaplovitch E, MacDougall K, Schulman S, Caprini JA, Douketis J. Predictors of bleeding in the Perioperative Anticoagulant Use for Surgery Evaluation Study (PAUSE). Journal of the American Heart Association. 2020. 9: 19.
 15. Warkentin TE, Sheppard JI, Smith JW, **Li N**, Moore JC, Arnold DM, Nazy I. Combination of two complementary automated rapid assays for diagnosis of heparin-induced thrombocytopenia(HIT). Journal of Thrombosis and Haemostasis. 2020. 18(6): 1435-1446.
 16. Zeller MP, Rochweg B, Jamula E, **Li N**, Hillis C, Acker JP, Runciman RJR, Lane SJ, Ahmed N, Arnold DM, Heddle NM. Sex-mismatched red blood cell transfusions and mortality: A systematic review and meta-analysis. Vox Sanguinis. 2019. 114(5): 505-516.
 17. Douketis JD, Spyropoulos AC, Duncan J, Carrier M, Le Gal G, Tafur AJ, Vanassche T, Verhamme P, Shivakumar S, Gross PL, Lee AYY, Yeo E, Solymoss S, Kassis J, Le Templier G, Kowalski S, Blostein M, Shah V, MacKay E, Wu C, Clark NP, Bates SM, Spencer FA, Arnaoutoglou E, Coppens M, Arnold DM, Caprini JA, **Li N**, Moffat KA, Syed S, Schulman S.

- Perioperative management of patients with atrial fibrillation receiving a direct oral anticoagulant. JAMA Internal Medicine. 2019. 179(11): 1469-1478.
18. Arnold DM, Heddle NM, Cook RJ, Hsia C, Blostein M, Jamula E, Sholzberg M, Lin Y, Kassis J, Larratt L, Tinmouth A, Amini S, Schipperus M, Lim W, Vishnu P, Warner M, Carruthers J, **Li N**, Lane S, Kelton JG. Perioperative eltrombopag or intravenous immune globulin for patients with immune thrombocytopenia: A multicenter randomized trial. Blood. 2019. 134(Supplement): 896.16
 19. **Li N**, Stanford DA, Sharif AB, Caron RJ, Pardhan A. Optimising key performance indicator adherence with application to emergency department congestion. European Journal of Operational Research. 2019. 272(1): 313-323.
 20. Hui M, Sheppard JI, **Li N**, Warkentin TE. Neutrophil and monocyte counts in heparin-induced thrombocytopenia. Thromb Haemost. 2019. 119(6): 941-951.
 21. Arnold DM, Jamula E, Heddle NM, Cook RJ, Hsia C, Sholzberg M, Lin Y, Kassis J, Blostein M, Larratt L, Amini S, Schipperus M, Carruthers J, Lane SJ, **Li N**, Kelton JG. Peri-operative eltrombopag or immune globulin for patients with immune thrombocytopenia (the Bridging ITP trial): Methods and rationale. Thromb Haemost. 2019. 119(3): 500-507.
 22. Tafur AJ, **Li N**, Clark N, Schulman S, Spyropoulos A, Caprini JA, Douketis J. Predictors of bleeding in the perioperative anticoagulant use for surgery evaluation (PAUSE) study. Blood. 2019. 134(Supplement_1):710-710.
 23. Mithoowani S, Cervi A, Shah N, Ejaz R, Barty R, **Li N**, Nazy I, Arnold DM. Urgent management of bleeding in immune thrombocytopenia: Towards a standardized protocol in the Emergency Department. Blood. 2018. 132(Supplement): 3517.
 24. MacIsaac J, Siddiqui R, Jamula E, **Li N**, Baker S, Webert KE, Evanovitch D, Heddle NM, Arnold DM. Systematic review of rituximab for autoimmune diseases: a potential alternative to intravenous immune globulin. Transfusion. 2018. 58(11): 2729-2735.
 25. Nazy I, Kelton JG, Moore JC, Clare R, Horsewood P, Smith JW, Ivetic N, D'Souza V, **Li N**, Arnold DM. Autoantibodies to thrombopoietin and the thrombopoietin receptor in patients with immune thrombocytopenia. British Journal of Haematology. 2018. 181(2): 234-241.
 26. Douketis JD, Spyropoulos AC, Anderson JM, Arnold DM, Bates SM, Blostein M, Carrier M, Caprini JA, Clark NP, Coppens M, Dentali F, Duncan J, Gross PL, Kassis J, Kowalski S, Lee AY, Le Gal G, Le Templier G, **Li N**, MacKay E, Shah V, Shivakumar S, Solymoss S, Spencer FA, Syed S, Tafur AJ, Vanassche T, Thiele T, Wu C, Yeo E, Schulman S. The perioperative anticoagulant use for surgery evaluation (pause) study for patients on a direct oral anticoagulant who need an elective surgery or procedure: Design and rationale. Thromb Haemost. 2017. 117(12): 2415-2424.
 27. Arnold DM, Nazy I, Clare R, Jaffer A, Aubie B, **Li N**, Kelton JG. Misdiagnosis of primary immune thrombocytopenia and frequency of bleeding: lessons from the McMaster ITP registry. Blood Advances. 2017. 1(25): 2414-2420.
 28. MacIsaac J, Siddiqui R, Jamula E, **Li N**, Baker S, Webert KE, Heddle NM, Arnold DM. Anti-CD20 monoclonal antibody therapy for immune modulation across a range of autoimmune diseases. Blood. 2017. 130(Supplement): 4936.
 29. Arnold DM, Lauzier F, Albert M, Williamson D, **Li N**, Zarychanski R, Doig C, McIntyre L, Freitag A, Crowther M, Saunders L, Clarke F, Bellomo R, Qushmaq I, Lopes RD, Heels-Ansdell D, Webert K, Cook D; PROTECT Investigators, the Canadian Critical Care Trials Group and the Australian and New Zealand Intensive Care Society Clinical Trials Group. The association between platelet transfusions and bleeding in critically ill patients with thrombocytopenia. Research and Practice in Thrombosis and Haemostasis. 2017. 1(1):103-111.
 30. **Li N**, Stanford DA, Taylor P, Ziedins I. Nonlinear accumulating priority queues with equivalent linearproxies. Operations Research. 2017. 65(6): 1712-1721.
 31. **Li N**, Stanford DA. Multi-server accumulating priority queues with heterogeneous servers. European Journal of Operational Research. 2016. 252(2): 866-878.

Articles in Books

1. Shih AW, Heddle NM, **Li N**, Montemayor C. A Primer on Biostatistics. Practical Transfusion Medicine. John Wiley & Sons Ltd, United States. 2021.