Lily (Zhi Lin) Zhou

BSc, RN

CONTACT

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EDUCATION

MPH in Epidemiology 2022 – 2024
University of Toronto, ON, Canada
  GPA: 4/4

Honours BSc in Nursing 2017–2021
University of Ottawa, ON, Canada
  GPA: 4/4

SKILLS

- R
- Python
- (Pandas)
- Google
- Excel
- ArcGIS
- Tableau
- Overleaf

EXECUTIVE SUMMARY

Completed bachelor's degree in nursing at the University of Ottawa and attained nursing license in 2021. Currently studying epidemiology with a focus on infectious disease at the University of Toronto, Dalla Lana School of Public Health. Currently on track to complete Master of Public Health degree in May 2024.

Extensive experience as bedside nurse working in surgical wards of medium to high acuity level. Currently working as an epidemiologist at the Public Health Agency of Canada, responsible for national surveillance of viral respiratory functions and antimicrobial use. Projects also include conducting modeling to assess impacts of hospital interventions on reducing nosocomial infection rates.

WORK EXPERIENCE

Epidemiologist   **May 2023 - Present**

Canadian Nosocomial infection Surveillance Program, Public Health Agency of Canada, ON, Canada

Projects:

- *Viral respiratory infection surveillance*
  - Developed reports in Quarto to provide consistent and up-to-date national surveillance on viral respiratory illnesses (ex. COVID-19, RSV) resulting in timely outbreak warnings to stakeholders
  - Built automated reports in R to monitor site-specific trends of viral respiratory illness relative to national rates

- *Central line bloodstream infection bundles survey*
  - Built models in R to analyze multilevel clinical data to assess effect of ICU interventions on central line bloodstream infections (CLABSI)
  - Collaborated with hospitals stakeholders by implementing new indicators to improve impact evaluation model
  - Authored concise communication report on national trends of CLABSI among canadian acute care hospitals

- *Antimicrobial stewardship survey*
  - Evaluated the impact of antimicrobial stewardship programs in hospitals across Canada revealing limitations to data collection methods.
  - Produced report highlighting recommendations to improve survey questions and participation resulting in the improvement of future surveys

Public Health Nurse   **January 2022 – April 2022**

The Region of Waterloo, ON

- Provided education on COVID-19 vaccines and their side effects which established therapeutic relationships with general public
- Administered COVID-19 vaccines to the public, utilized relaxation techniques when patients were hesitant, and monitored for vasovagal responses resulting in safe vaccine administrations

Cardiac Surgery Nurse   September – December 2021

St. Mary's General Hospital

- Utilized Cerner electronic medial records to document patient status and communicate with interdisciplinary team
- Cared for patients pre and post cardiac surgery; provided complex wound care, telemetry interpretation, proper mobilization, chest tube care and removal, PCA monitoring, and education on incentive spirometry and discharge instructions.

Vascular Surgery Registered Nurse   July – August 2021

The Ottawa Hospital, ON

- Employed EPIC electronic medical records to record patient status and update interdisciplinary team on readiness for discharge
- Cared for patients post vascular/gastrointestinal/urology surgery; performed vacuum dressing changes, ostomy care, bladder irrigation, PICC care, blood administration, and advanced pain management.

Public Health Nurse   June – August 2021

Ottawa Public Health, ON

- Utilized proper infection control procedures to safely dilute and prepare covid-19 vaccines for the public
- Performed proper intramuscular injection protocols to safely inject covid-19 vaccines to both adult and children

Clinical Care Assistant   April – June 2021

The Ottawa Hospital, ON

- Assisted registered nurses on the vascular surgery ward by performing surgical dressing changes, venipuncture, glucoscans, and vital signs.
- Communicated changes in patient status to reporting nurses resulting in comprehensive patient handoffs

Personal Support Worker   May – August 2019

Bayshore Home Care Solutions, Ottawa, ON

- Provided personal care and assistance with activities of daily living for clients with a variety of disabling conditions while practicing compassion to each client's situation
- Implemented creative problem-solving strategies with limited supplies to address challenges encountered to meet client care goals

RESEARCH EXPERIENCE

Student GIS Analyst   February 2022

Esri Canada, ON

- Created geospatial visualizations of correlations between community belonging and indicators of interest within Toronto using ArcGIS Pro.
- Presented findings and recommendations for improving low community belonging within Toronto utilizing ArcGIS Story Mapping to stakeholders

Visting Researcher   October 2023 – December 2023

PREVENT, University of Toronto, ON, Canada

- Utilized a variety of machine learning models (logistic regression, random forest, XGBoost, naïve bayes, KNN, SVM, neural networks) in python to detect prediabetes among patient medical records
- Utilized Overleaf to draft manuscript highlighting importance of model performance metric selection and applicability to real world applications to IEEE conference

Public Health Nurse Advisor   September – December 2020

Emergency Response Phone Line, Ottawa Public Health (OPH), ON

- Designed survey to identify COVID-19 information barriers which revealed user interface issues with their website and wiki.
- Performed qualitative and quantitative analysis on survey data which identified platform solutions to information accessibility.
- Disseminated research findings to 200 OPH professionals in the department which resulted in positive changes on the OPH website.

Research Assistant   **October 2018 – March 2019**

Children's Hospital of Eastern Ontario Research Institute, ON
- Built literature scoping search strategy, assessed database relevance, and reviewed articles using Covidence which revealed pediatric research priorities determined by children and families
- Portrayed gaps research in a written report and poster presentation resulting in co-authored manuscript published in Journal of Child Health Care
- Developed a poster and conveyed findings to a wide range of specialities in university wide symposium.

Research Assistant   **May 2017 – August 2018**

Department of Cellular and Molecular Medicine, University of Ottawa, ON
- Conducted data analysis in Excel to study effects of protein packaging in exosomes through transfection of GFP in mice
- Collected data through DNA transfection, QPCR, westerns blots, and mouse dissections

PUBLICATIONS AND PRESENTATIONS

Zhi Lin Zhou, et al. (2024). The national implementation and use of central line-associated bloodstream infection insertion and maintenance bundles in Canadian intensive care unit settings (Concise Communication, pending)

Zhi Lin Zhou, et al. (2024). Identifying Prediabetes in Canadian Populations Using Machine Learning. IEEE Conference (paper, submitted)

Modanloo S, et al. (2023). Identifying research priorities with children, youth, and families: A scoping review. Journal of Child Health Care. (paper)

Zhi Lin Zhou, et al. (2019). Identifying research priorities with children, youth, and families: A scoping review. Undergraduate Research Opportunity Symposium. Ottawa, Canada, March 17, 2019. (poster)

EXTRACURRICULAR ACTIVITIES

Infectious Disease Working Group   **September 2022 – September 2023**

Community Engagement Co-Chair
- Facilitated partnerships with community organizations to better understand community members' perceptions and needs.
- Maintained and updated the ReConnect Tool, a web-based platform that shares COVID-19 related resources and services in Toronto
- Oversaw collaboration with the subcommittees to organize workshops and scientific presentations for the public

Public Health Student Association   **September 2022 – September 2023**

Social Exec
- planned social, academic, and networking events for the Dalla Lana study body and assist with event promotion.
- Fostered a sense of belonging among public health graduate students by attending events and engaging with new students.

AWARDS AND ACHIEVEMENTS

Dean's Honour List, Faculty of Science, University of Ottawa, ON   2017-2021
Merit scholarship, University of Ottawa, ON   2017-2020
Undergraduate Research Opportunity Program scholarship (UROP), University of Ottawa, ON   2018
International Baccalaureate Diploma, Colonel By Secondary School, Ottawa, ON   2016
Silver Duke of Edinburgh Award, Ottawa ON   2016

CERTIFICATION

CNO Registered Nurse General Class #21412311   2022

Health Promotion Foundations   2022
- Public Health Ontario, ON

Basic Cardiac Arrythmias Certificate   2021

Supporting Mothers and Babies: Understanding Breastfeeding and the Baby-Friendly Initiative   2021
- Best Start, Ottawa, ON

BLS, Heart and Stroke, Ottawa, ON   2021

Bloody Easy Blood Administration, ORBCON, Ottawa, ON   2020

TCPS2 Core Certificate, Panel on Research Ethics, Ottawa, ON   2019

Non-violent Crisis Intervention Certificate, Crisis Prevention Institute, Ottawa, ON 2018

GPA in Dementia Care, AGE, Ottawa, ON   2018

DELF B1 Certificate, Gestion centrale DELF – DALF au Canada, Ottawa, ON   2017