

# Justinian Wurtzel

Iowa Department of Health and Human Services  
Division of Public Health | Bureau of HIV, STI, and Hepatitis  
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## SUMMARY

A compassionate scientist with six years of public health experience at local, tribal, and state service levels with a decade of professional scientific work in chemistry, research, and epidemiology. An analytically and evidentially driven epidemiologist providing coordination and consultation over state-level initiatives to improve health, passionate about incorporating health equity in modern public health praxis.

## APPOINTMENTS AND EMPLOYMENT

**Viral Hepatitis Surveillance Coordinator** | Epidemiologist Aug 2021 – Present  
Iowa Department of Health and Human Services  
Bureau of HIV, STI, and Hepatitis  
Des Moines, IA, United States

### Data Analysis and Reporting:

- Analyzes population data and prepares annual surveillance epidemiological reports with yearly trends, incidence, prevalence, and risk factor measures of viral hepatitis.
- Reviews external data sources and primary research to support contextualizing and interpreting state trends identified in Bureau data.

### Epidemiology and Outbreak Response:

- Leads cluster detection teamwork in a bi-weekly analysis of potential state clusters. Reviewing high count chronic counties and all acutes identified.
- Collaborates with STI, HIV, and Hepatitis Epidemiologists to develop new cluster detection reporting tools and authored state cluster detection and response manual.
- Developed tabletop guide and exercise for stakeholder engagement and training.

### Collaboration and Support:

- Collaborates with HIV and STI teams to assess morbidity for annual surveillance reports.
- Actively works with local public health on disease follow-up investigations and federal CDC partners in ongoing grant deliverables and activities.

### Data Quality and Governance:

- Maintains data integrity by reviewing and updating data collected via investigations.
- Regularly reviews CDC quarterly data completeness reports. Implementing the CDC's new DCIPHER tool to improve data quality.

**Public Health Epidemiologist** | Epidemiologist Senior  
Sioux Lookout First Nation Health Authority  
Health Analytics Department  
Sioux Lookout, ON, Canada

July 2019 – Aug 2021

**Data Analysis and Reporting:**

- Led patient immunization data collection with a team of data clerks, using data extracted from the Public Health Agency of Canada to estimate community vaccination levels.
- Analyzed clinical diabetes data, hospitalizations, emergency department visits, and nursing station administration logs to develop the region's first adult health status report.
- Analyzed worker capacity for community nursing stations, creating a novel staffing and PPE matrix for logistics, administration, and finance to implement. Securing over 30 million dollars in federal funding to the region. The Matrix was later used by the Nishnawbe Aski Nation, one of Canada's largest First Nations political action groups, to support other First Nations communities across the country.

**Epidemiology and Outbreak Response:**

- Actively participated in multi-community tuberculosis outbreaks, connecting with nursing station staff to test patients and follow up with contacts. Preparing a daily line list with relevant patient information.
- Data and epidemiology lead for the planning section of IMS during the COVID-19 pandemic. Prepared daily analytical briefs to leadership monitoring surveillance activities for all nursing stations, airports, and contractors entering the region, grounding all flights with Public Health Physician when in-community transmission was first seen in Ontario.

**Collaboration and Support:**

- Collaborate with Chiefs and Tribal Councils to develop health indicators and annual priorities, emphasizing community engagement and empowerment.
- Presented progress on the previous year's health priorities during the Annual General Meeting of the Chief and Council.
- Worked with nursing station staff to keep track of and report on COVID-19 vaccination efforts during the initial vaccine roll-out in Ontario, Canada.

**Data Quality and Governance:**

- Mentored and evaluated the quality of Data Clerk activities in EMR.
- Worked with the Public Health Agency of Canada to extract all First Nations immunization data from the federal system to an Indigenous-made health system.

**Data Clerk**

Sept 2018 – July 2019

Wellington Dufferin Guelph Public Health  
Health Analytics Department  
Guelph, ON Canada

- Data entry of client data, updating information on new and pre-existing clients.
- Maintain the various databases per current guidelines to ensure data accuracy.

**Laboratory Manager**

Aug 2014 – Jan 2018

Northland Technical Laboratories

Toronto, ON, Canada

- Collaborated with a team of scientists to perform quantitative instrument analysis.
- Developed SOPs to improve data accuracy and strengthen the reliability of results.

**Associate Scientist**

Aug 2012 – May 2014

Northland Products Company

Waterloo, IA, United States

- Streamlined sample preparation via new work instructions, increasing output by 15%.
- Consulted on critical issue with new client, securing a two-year contract for \$500,000.

**Research Assistant**

Sept 2017 – Aug 2019

Department of Population Medicine

University of Guelph

Guelph, ON Canada

*“Investigating factors that impact sense of community and the association with mental health status at a southwestern Ontario university: A cross-sectional study.”*

**Research Assistant**

Aug 2012 – May 2014

Department of Biological Sciences

University of Northern Iowa

Cedar Falls, IA United States

*“Bioinformatic and molecular investigation of clotting factors and blood proteins in R. Catesbeiana during estivation.”*

**Research Assistant**

May 2012 – August 2012

Denver Botanic Gardens

Denver, CO, United States

- Biodiversity Project, *“Exploration of inter simple sequence repeats to assess genetic diversity among Phacelia Formosula on western Colorado slope.”*
- Horticulture Project, *“Novel propagation method for indoor growing of Stachys Lavandulifolia.”*

**Research Assistant**

Aug 2011 – May 2014

Department of Biochemistry & Chemistry

University of Northern Iowa

Cedar Falls, IA United States

*“Novel solvolysis technique for encapsulation of sodium azide compound in nitrated lignin derivative.”*

**EDUCATION**

**MPH**, Public Health Administration and Policy Jan 2024 – May 2025  
College of Health Sciences  
Des Moines University  
Des Moines, IA, United States  
4.0/4.0 GPA

**MSc**, Epidemiology 2017 – 2019  
Department of Population Medicine  
University of Guelph  
Guelph, ON, Canada

**BA**, Biochemistry 2010 – 2014  
Department of Chemistry  
University of Northern Iowa  
Cedar Falls, IA, United States

*Continuing education, no degree conferred*  
PhD, Community and Behavioral Health 2022 – 2023  
College of Public Health  
University of Iowa  
Iowa City, IA, United States  
12 Credit Hours Completed, 3.7/4.0 GPA

**AWARDS AND HONOURS**

Outstanding Student Chapter Award, 2014, American Chemical Society  
Research Grant, 2013, University of Northern Iowa, College of Arts & Science  
Best College LGBT Group Award, 2013, Iowa Pride Network  
ACS Travel Award, 2011, American Chemical Society  
Student Opportunities for Academic Research Grant, 2010, University of Northern Iowa  
Entrance Scholarship, 2010, University of Northern Iowa  
Undergraduate Research Scholarship, 2010, University of Northern Iowa

**EXTRACURRICULAR AND COMMUNITY SERVICE**

Member, Young Professionals Connection, August 2023 – Present  
Wellness Center Staff, YMCA Feb 2024 – Present  
Wellness Coach – Strength and Conditioning, YMCA March 2024 – Present  
UNI Proud LGBT\*, Director of Fundraising • University of Northern Iowa 2010 – 2014  
UNI Fencing Club, President • University of Northern Iowa 2011 – 2012  
American Chemical Society, Student Affiliates • University of Northern Iowa 2011 – 2012

## **CERTIFICATES**

CPR/AED for Professional Rescuers, American Red Cross 2024 – 2026  
First Aid, American Red Cross 2024 – 2026  
IS-200.C: Basic Incident Command System for Initial Response, FEMA, Sept 2023  
IS-100.C: Introduction to Incident Command System, FEMA, Sept 2023  
Group 1 – Biomedical – IRB – 01, CITI Program, August 2022  
Certificate in Case Interviewing, Public Health Agency of Canada, Sept 2021  
Incidence Management System 101, June 2020  
CPR certification, Heart & Stroke Canada 2020-2023  
Standard First Aid Basic Life Support Provider, Heart & Stroke Canada 2020-2023  
Certificate in Canada Good Clinical Practices, Citi Program 2019  
Certificate in Project Management: Healthcare Project Management Institute, 2018  
Certificate in Cloud Computing: Cloud Security, CompTIA, 2018  
Certificate of Completion, Anishinaabe Cultural Training, SLMHC, 2019  
Academic Research Integrity License, Ontario Consortium Graduate Skills, 2017

## **CONFERENCE ACTIVITY**

### **Panel Presentations (Moderator or Discussant)**

Local Public Health, Epidemiology and Hepatitis Update. The Center for Acute Disease Epidemiology (CADE) and Bureau of HIV, STI, and Hepatitis Webinar. January 2022. Des Moines, Iowa.

### **Departmental and State Presentations**

Equity Primer: Health Equity, Difference and Disparity. Bureau of HIV, STI, and Hepatitis. Data & Epidemiology Community of Practice. March 2024. Des Moines, Iowa

Laboratory Findings and Serology of Hepatitis B and C in Iowa. Bureau of HIV, STI, and Hepatitis. February 2022. Des Moines, Iowa

Overview of Hepatitis B and C in Iowa. Bureau of HIV, STI, and Hepatitis. October 20, 2021. Des Moines, Iowa

Sioux Lookout Catchment Zone, Adult Health Status Report Presentation. Sioux Lookout First Nations Health Authority. August 12, 2019. Sioux Lookout, Ontario Canada

**Conference Presentations** (\* presenting author)

Wurtzel J, Soweid L, Holdefer PJ, Maharjan G, Greteman B, Nash S, Charlton M, Gilbert PA\*, COVID-19 Pandemic Experiences and Alcohol Use: Findings of Higher and Lower Risk in a Midwestern State. Oral presentation at American Public Health Association annual meeting. Atlanta GA: November 12-15, 2023.

**Wurtzel J\***, Bocking N, Frempong T, Niayesh H. Independent First Nations Alliance (IFNA) Health Summit. Community Adult Health Status Reports, Hospitalizations and Emergency Department Visits. February 13, 2020. Thunder Bay, Ontario Canada.

**Wurtzel J\***, Bocking N. Independent First Nations Alliance (IFNA) Health Summit. Morbidity and Mortality Analysis. February 12, 2020. Thunder Bay, Ontario Canada.

**Wurtzel J\***, Huang Ku E. 7th Annual Indigenous Health Research Symposium. Diabetes Prevalence, Incidence and Complication Rates in Remote Communities in the Sioux Lookout Area. January 23rd and 24th, 2020. University of Manitoba. Winnipeg, Manitoba Canada.

**Wurtzel J\***, Bocking N. Health Director Summit. Sioux Lookout First Nations Health Authority. Community Adult Health Status Reports. December 10, 2019. Sioux Lookout, Ontario Canada.

**Wurtzel J\***, Bocking N, Indigenous Health and Research Conference. "Anishininiw Nanadowi'kikendamowin, Health Outcomes of Our People. The Sioux Lookout Area First Nations' Adult Health Status Report" Plenary Session, McMaster University. February 2020. Hamilton, Ontario Canada.

Frempong T, **Wurtzel J\***. Indigenous Health and Research Conference. "A public health model for 31 communities in the Sioux Lookout First Nations, McMaster University. February 2020. Hamilton, Ontario Canada.

**Edwards C\***, Wurtzel J. Indigenous Health and Research Conference. "Transfer of historical immunization database stewardship from Canada's First Nations and Inuit Health Branch to Sioux Lookout First Nations Health Authority" Poster Presentation. McMaster University. February 2020. Hamilton, Ontario Canada.

**Wurtzel J\***, Ellioff M. "Novel solvolysis technique for encapsulation of sodium azide compound in nitrated lignin derivative." Poster Presentation. American Chemical Society, March 2011. Anaheim California.

## **TEACHING EXPERIENCE**

### **University of Northern Iowa**

1. Teaching Assistant, Anatomy & Physiology II, 2012 – 2013
2. Teaching Assistant, Anatomy & Physiology I, 2011 – 2012
3. Teaching Assistant, General Chemistry II, 2011 – 2012
4. Teaching Assistant, General Chemistry I, 2010 – 2011

## **PROFESSIONAL SERVICE**

Contact Tracer – Highly Pathogenic Avian Influenza (HPAI)  
Center for Acute Disease Epidemiology, June – Present  
Incident Command Structure, Iowa Department of Health and Human Service

Surveillance Liaison, January 2024 – Present  
Pulse Check Cohort, Equity in the Center

Data & Epidemiology Liaison, August 2023 – Present  
Learning Leaders Cohort, Health Equity Program  
Iowa Department of Health and Human Services

Ad Hoc Reviewer, February 2023  
LGBT Health Journal  
Mary Ann Liebert

Iowa Liaison, February 2022 – Present  
Multi-Jurisdictional Hepatitis B Care Continuum Working Group

Member, October 2021 – Present  
Social Determinants of Health Working Group, Iowa Division of Public Health

Data and surveillance lead, February 2020 – March 2021  
SLFNHA Incidence Management System, COVID19 pandemic, Sioux Lookout Ontario Canada

Chairperson, October 2019 – March 2021  
SLFNHA Mental Health and Addiction Steering Committee, Sioux Lookout Ontario Canada

Member, November 2019 – February 2021  
SLFNHA Diabetes Steering Committee, Sioux Lookout Ontario Canada

Chairperson, December 2019 – January 2021  
SLFNHA Injuries and Complications Steering Committee, Sioux Lookout Ontario Canada

## PUBLICATIONS

### Reports

1. **Wurtzel J**, “State of Iowa Viral Hepatitis B, 2022 End-of-Year Report” Bureau of HIV, STD, and Hepatitis. Iowa Department of Public Health May 2023
2. **Wurtzel J**, “State of Iowa Viral Hepatitis B, 2021 End-of-Year Report” Bureau of HIV, STD, and Hepatitis. Iowa Department of Public Health May 2022
3. **Wurtzel J**, “State of Iowa Viral Hepatitis B Surveillance Manual” Bureau of HIV, STD, and Hepatitis. Iowa Department of Public Health February 2022
4. **Wurtzel J**, Bocking N "Anishininiw Nanadowi'kikendamowin, Health Outcomes of Our People. The Sioux Lookout Area First Nations' Adult Health Status Report." September 2019

### Manuscripts

1. **Wurtzel J**, Soweid L, Maharjan G, Greteman B, Nash S, Charlton M, Gilbert PA, “COVID-19 Pandemic Experiences and Alcohol Use: Findings of Higher and Lower Risk in a Midwestern State.” (In Preparation)
2. **Wurtzel J**, McWhirter J, Papadopoulos A “Investigating factors that impact sense of community and the association with mental health status at a southwestern Ontario university: A cross-sectional study.” (Seeking publication)

### Abstracts

1. **Gilbert PA\***, Wurtzel J, Soweid L, Holdefer PJ, Maharjan G, Greteman B, Nash S, Charlton M. “COVID-19 Pandemic Experiences and Alcohol Use: Findings of Higher and Lower Risk in a Midwestern State.” American Public Health Association annual meeting. Atlanta GA: November 12-15, 2023.
2. Edwards C, **Wurtzel J**. Indigenous Health, and Research Conference. “Transfer of historical immunization database stewardship from Canada’s First Nations and Inuit Health Branch to Sioux Lookout First Nations Health Authority” Poster Presentation. McMaster University. February 2020. Hamilton, Ontario Canada.
3. **Wurtzel J**. “Bioinformatic and molecular investigation of clotting factors and blood proteins in *R. Catesbeiana* during estivation.”
4. **Wurtzel J**. “Exploration of inter simple sequence repeats to assess genetic diversity among *Phacelia Formosula* on western Colorado slope.”
5. **Wurtzel J**. “Novel propagation method for indoor growing of *Stachys Lavandulifolia*.”
6. **Wurtzel J**. “Novel solvolysis technique for encapsulating sodium azide compound in nitrated lignin derivative.”



## **INTELLECTUAL PROPERTY, PROJECTS AND TOOLS**

### **Syndromic Surveillance Dashboard for Outbreak Detection**

July 2024 – Present

Role: Developer and Epidemiologist

- Developed an interactive Shiny app to monitor syndromic indicators and detect potential outbreaks.
- Implemented features to visualize real-time data and provide actionable insights for public health officials.
- Enhanced user experience by integrating spatial data and interactive filters for tailored data analysis.
- Relevant Tool:
  - <https://wurtzite.shinyapps.io/SyndromicSurveillance/>

### **Public Health Classification Tools for Bloodborne Pathogens**

July 2024 – Present

Role: Developer and Epidemiologist

- Developed two Shiny web applications in R for Syphilis, Hepatitis B and Hepatitis C classification based on clinical and laboratory criteria, with real-time results and recommendations.
- Implemented a user-friendly interface featuring light/dark mode for enhanced accessibility and reactive programming for dynamic user input response.
- Ensured data validation and error handling to enhance accuracy and reliability.
- Added AST/ALT ratio calculations with a built-in reference table and customized recommendations.
- Relevant Tools:
  - <https://wurtzite.shinyapps.io/HBCV2024/>, complete
  - <https://wurtzite.shinyapps.io/syphilisclassification/>, in-progress

## **TECHNICAL SOFTWARE SKILLS**

- Statistical Languages: R, STATA, Excel
- Programming Languages: Python, SQL
- Application Development: Shiny
- Web Development: GitHub, HTML, CSS
- Data Visualization: Tableau, PowerBI
- Computational Notebooks: Jupyter