

# MELANIE M. SPILLANE, MPH

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Centers for Disease Control and Prevention (CDC)  
Division of Global Migration and Quarantine (DGMQ)  
Office of Innovation, Development, Evaluation,  
Analytics (IDEA)

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## Education

<b>National University of Ireland, Cork</b>	MPH	Epidemiology, Biostatistics	2017 - 2019
<b>Rivier University</b>	BS	Biology	2013 - 2017

*Member of Eta Delta Chapter of TriBeta National Biological Honor Society*

## Highlighted Skills

**Programming:** Fluent in R and have a working skill level in SQL, Javascript, HTML, CSS, and Python  
**Data visualization tools:** R Shiny, Microsoft Power BI  
**DBMS:** Microsoft SQL Server, REDCap  
**OS proficiency:** Windows, Mac  
**Version control:** Github, GitLab  
**IDEs:** R Studio, Visual Studio Code

## Work Experience

**Data Scientist | CDC DGMQ IDEA Contractor** Mar 2021-Present

- Lead of Data Visualization for IDEA team, analytics pillar
- Provide analytic support by designing and implementing machine learning, statistical modeling, and interactive data visualization tools which supplement traditional epidemiological methods
- Use data mining techniques and incorporate large datasets (from CDC, proprietary sources, government data, and open-source) into analyses coherently and manage databases
- Effectively communicate data insights to diverse audiences in order to guide the direction of public health guidelines
- Develop user friendly, front-end dashboards, tools, and web applications
- Create and maintain stakeholder relationships
- Developed and delivered a workshop "Introduction to Dynamic DataViz" which focused on data cleaning and modeling, UI design strategy, 508 compliance, and communication

**Epidemiologist | ORISE Research Fellow** Mar 2019 - Mar 2021

*CDC Division of Vector-borne Diseases, Bacterial Disease Branch, Epidemiology and Surveillance Team*

- Designed a public-facing, interactive, 508-compliant data visualization tool using syndromic surveillance data displaying the distribution of vector-borne diseases in the United States (<https://www.cdc.gov/ticks/tickedvisits/index.html>)
- Contributed to writing and publishing manuscripts, protocols, and public health guidelines
- Performed epidemiological statistical analyses and generated descriptive analyses of public health surveillance systems
- Collaborate with scientists in the survey or investigation design process, including conducting a search or review of existing literature and data in a scientific area, and designing questionnaires and other data collection instruments

**Microbiologist | ORISE Fellow**

Mar 2019 - Sept 2019

*CDC Division of Vector-borne Diseases, Bacterial Disease Branch, Microbiology and Pathogenesis Team*

- Applied infectious disease metabolomics techniques to develop a biosignature for Lyme disease
- Presented a poster describing projects methods and results at the 2019 Advanced Molecular Diagnostics conference at CDC Atlanta, GA
- Used bioinformatics software to disseminate/interpret pathology data

**Analytical Chemistry Lab Demonstrator**

Jan 2018 – May 2019

*National University of Ireland, Cork Analytical Chemistry and Food Science Department*

- Guided undergraduate analytical chemistry students through their lab procedures and calculations

**Biopharma Manufacturing/Chemical Engineering Intern**

May 2017 – Aug 2017

*Lonza Biologics*

- Assisted with the validation/qualification stages of new facility equipment and technology
- Operated equipment and instrument interfaces
- Edited and reviewed cGMP documentation, performing laboratory and utility chemical sampling
- Generated a visual process flow for customer presentation

**Epidemiology Intern**

May 2017 – Aug 2017

*Nashua Public Health Department*

- Collected and analyzed data aiming to improve the efficacy of the food safety inspection process which is routinely performed at local food-selling establishments
- Formally presented the analysis of my findings to the state health department

**Veterinary Technician Assistant**

Feb 2013 – Jan 2016

*Amherst Animal Hospital*

- Assisted with handling, examining, medication administration and interpreting patient lab samples
- Supported the Veterinarians for efficient, streamlined operations and to heighten standards and delivery of care to animals

**Customer Service Representative**

Aug 2009 - May 2017

*Market basket*

- Provided customer service in store and over the phone
- Managed revenue, balanced tills, and Kept record of financial and performance reports

**Data Visualization, Application/Web Development**

- CDC/DVBD Tick Bite Data Tracker (Power BI)
- CDC/DGMQ IDEA Travel Analytics Indicator Reports (Power BI R Shiny)
- CDC/DGMQ IDEA Local Mobility Systematic Review Dashboard (R Shiny)
- CDC/DGMQ IDEA ARROW Application (Group effort to develop a flight route optimization tool for Malaria medication releases, built in R Shiny)
- CDC/DGMQ IDEA Analytics Pillar Website "Data Team Hub" (SharePoint)
- CDC/DGMQ Data Team Lead for SWBMH TF (COVID-19 Response, Power BI)
- Personal side project: "An animation of the Fibonacci sequence in biology (Python)
- Personal side project: Personal Portfolio website (JS, HTML, CSS, Visual Studio Code)