VIRGINIA DEPARTMENT OF HEALTH
INTERNSHIP ACADEMY

UNIVERSITY of VIRGINIA

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Minors in Data Science and Spanish

Office of Epidemiology
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My LinkedIn

Investigated Issue

The Respiratory Disease Program (RDP) oversees the surveillance and investigation of respiratory diseases in the Commonwealth, which include:
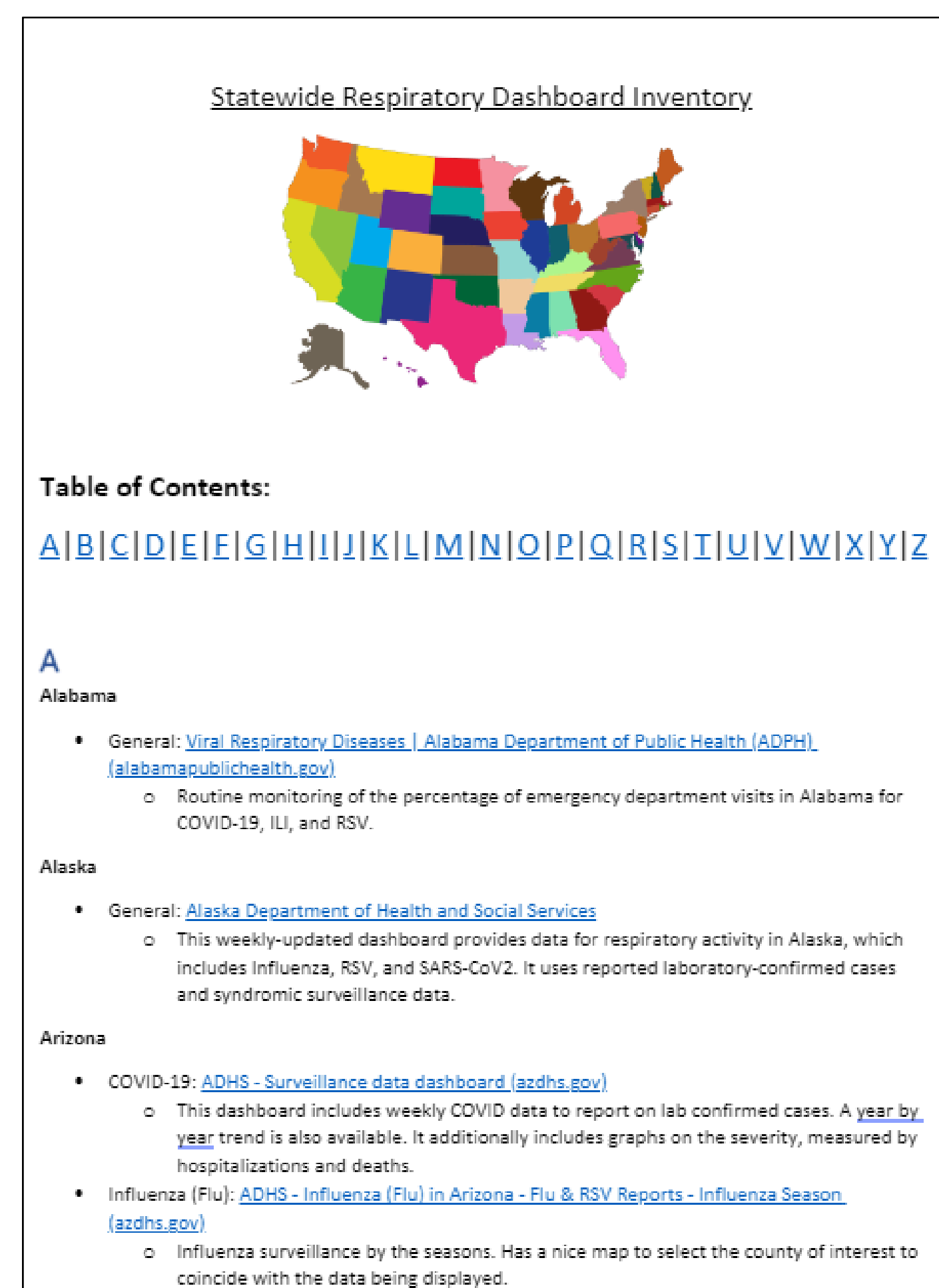
- **COVID-19**
- **Influenza (Flu)**
- **Respiratory Syncytial Virus (RSV)**

There are various measures that public health uses to monitor respiratory disease activity: outbreak visits, health care visits, and emergency department visits.
I had the opportunity to participate in meetings, engage with research, and analyze epidemiological data to evaluate these indicators to inform future initiatives and data products developed by the Respiratory Disease Program.

Involvement

Outreach

- HPAI
  - **Made phone calls to slaughterhouses and dairy farmers to offer one-time PPE delivery**
  - **Attended the Virginia Dairy Expo to pass out PPE and educational flyers on H5N1**
  - Participation on Incident Management Team (IMT) calls
- STEC Lake Anna Memorial Day Response
  - Learned the Epi Operations involved to address an outbreak

Meetings

- Weekly RDP gathering where I gave updates on my current undertakings and presented completed projects
- Weekly HPAI meetings to share updates on the virus and efforts taken to inform the public and prepare should a case appear in Virginia
- **Respiratory Dashboard Planning to continue progress on a new respiratory dashboard for the VDH website**
- Agency Forum
- Intern Cohort where we heard from numerous speakers and shared our weekly expeditions
- DSI Staff
- Genomic Coordination to discuss initiatives for respiratory specimen acquisition and contributions to sentinel surveillance
- **Quarterly All Epi Conference**

Trainings/Experience

- **Gained experience using R, Tableau, Excel, and REDCap**
- Toured DCLS (state public health laboratory)
- Toured the state pharmacy
- **Took part in conducting a local restaurant inspection**
- Data Training Collective
- Participated in a Care Resource Coordination 101 course to learn about ongoing COVID-19 efforts, in terms of Long COVID
- Learned how weekly influenza reports are created and released
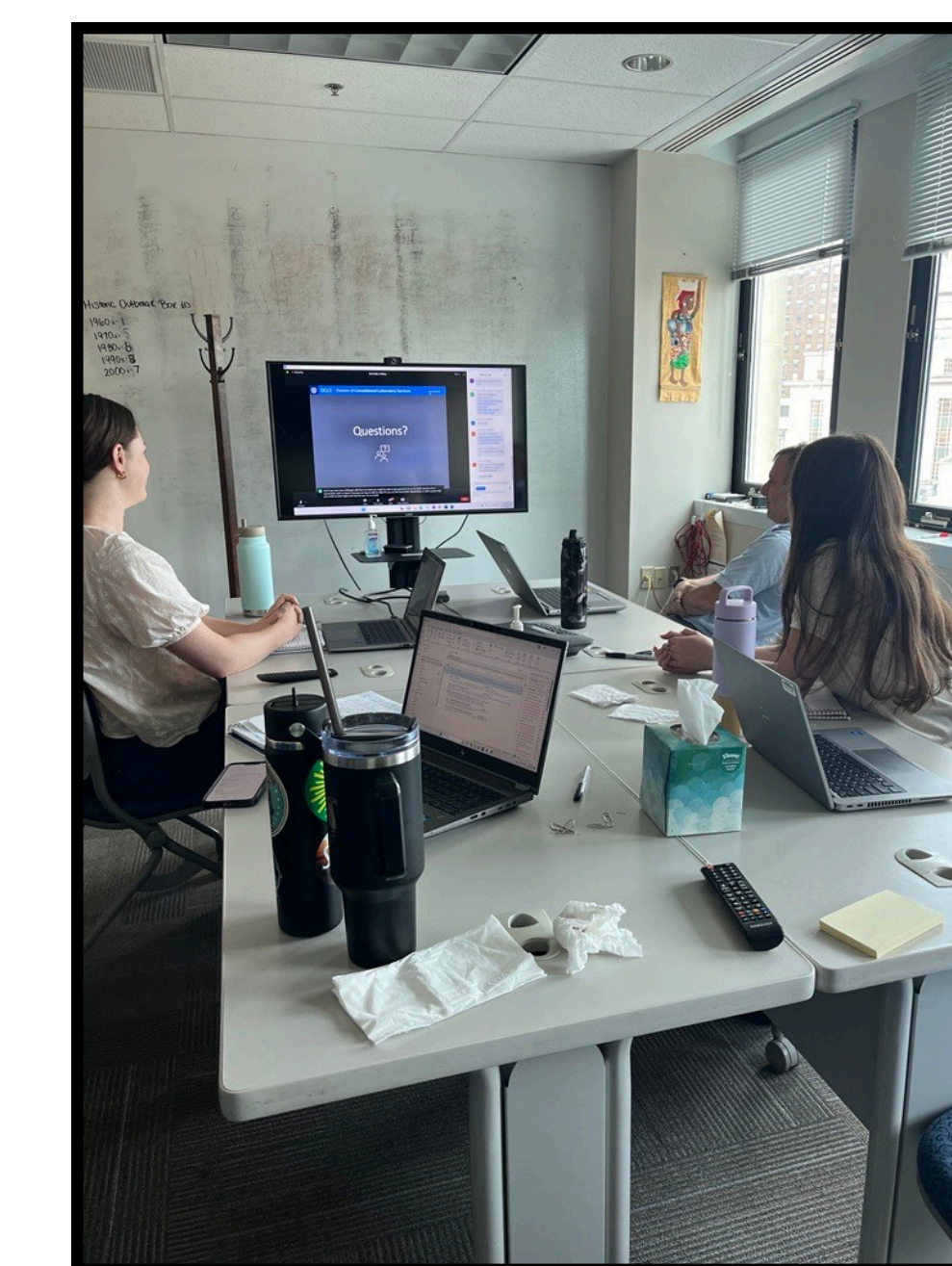
Reflection

Teamwork
- Throughout my time, I was able to collaborate with the RDP team and other VDH employees, as well as representatives from the CDC and other localities in Virginia

Data and Operation Insight
- Peer-to-peer statistical package training with other DSI staff
- Learned about various operations within respiratory surveillance

Effective Education
- Improved my scientific communication to public health staff and the community that remained factually driven, while also being understandable to the general public

Projects

- Built and presented a report on various respiratory disease indicators and their insights, biases, and limitations using medical records and aggregated data
- Created a heat map for Virginia based on thresholds calculated from influenza-like illness (ILI) data
- Created a Statewide Respiratory Dashboard Inventory
- Created a fact sheet on how respiratory disease surveillance is conducted
- Support with respiratory disease team products via social media posts

Statewide Respiratory Dashboard Inventory

Research Questions

1. What do medical records look like for ILI, CLI, or diagnosed diseases?
2. Why do some records only belong to one diagnosis and why are others in multiple categories?
3. What do we miss if we only graph emergency department (ED) visits rather than both ED and urgent care (UC)?
4. What causes trends to fluctuate-why are some diseases higher than others at particular times?

Acknowledgments