

Topic/Title: Re-evaluating the Washington State Immunization Information System: Testing for Efficacy and Incorporating a Geodatabase

Organization: WithinReach on behalf of the Washington State Office of Immunization and Child Profile

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Personnel from organization to be involved:

- Todd Faubion, Research Coordinator, WithinReach
- Ginny Heller, Immunization Program Manager, WithinReach
- Janna Bardi, Office of Immunization and Child Profile Director
- Linn Watson, Office of Immunization and Child Profile Representative to the Centers for Disease Control

Data available: all data (non-identifiable) in the Washington State Immunization Information System, a decades-old, robust system for collecting immunization data on all residents of Washington State (currently with data on 8 million past and current residents of the state).

Project Description: We propose one or some combination of the following two activities, recognizing that there are time and resource limitations placed on the students that need to be clarified at the beginning of the project (within which we can happily work):

- (1) The Washington State Immunization Information System (WSIIS) contains a remarkable amount of data and is among the most robust immunization information systems in the country, but it lacks key metadata and a geodatabase through which local health jurisdictions might be able to effectively use data extracted from the WSIIS. Data is not well-defined, nor is the completeness of the data clarified in a substantive way for users (see (2) below). The Department of Health and our local Centers for Disease Control (CDC) representative are committed to creating this geodatabase, but relevant knowledge and expertise is needed to support this effort.
- (2) In addition to the geodatabase, we would like to determine how complete and representative data is when compared to other data sources capturing the demographics of Washington State. As such, our goal is to compare WSIIS data to a) U.S. Census information about Washington State, and/or b) Office of Fiscal Management data (the latter claims to have more complete and accurate data than the Census) to determine the completeness of data in the WSIIS, which will then impact how we talk about and classify outputs emerging from the WSIIS.

Our needs are not exclusive to database issues, however. Throughout this process, it would be ideal if maps of immunization-related phenomena could be produced that are couched within the concepts of described above (completeness, using the language of the geodatabase). We are particularly in need of maps that represent diseases that are of current importance: pertussis and influenza. These maps could be used in identifying pockets of need, areas of risk, and in the allocation of resources at the state and local levels.

This project aligns well with the project overview and assignment schedule for Geography 469. Regarding system requirements, we are in need of geodatabase assistance to supplement the existing database. Data needs to be acquired for this project, either from the U.S. Census or the Washington State Office of Fiscal Management. Each of the final steps (data analysis and findings, benefit-cost analysis, etc.) all sync well with the needs of the Department of Health, which, in addition to data assistance, could also use guidance on implementation pragmatics and the costs involved.

Expected benefits to organization: The Office of Immunization and Child Profile is keen to better support local health jurisdictions in using the trove of data in the WSIS (and the Centers for Disease Control (CDC) is requesting such activities), but it cannot clearly articulate at this time how representative that data is, nor can it provide the relevant metadata so that local health has a strong grasp of the data it is using. This project will remediate those challenges and will also potentially provide a model for other states or the CDC to consider when making similar requests of other states.

WithinReach houses the Immunization Action Coalition of Washington, an entity funded by the Department of Health. WithinReach is tasked with advancing immunization activities and policies in the state, and this proposal fits well within that domain.

Expected benefits to students:

- Access to the WSIS, a database through which they can apply lessons learned in their GIScience track at the University of Washington. Department of Health database needs align well with the Geography 496 course goals.
- Interaction with high-level state officials and the opportunity to present results to key bodies (Vax Northwest Oversight Committee, the Immunization Action Coalition of Washington, Washington State Immunization Leads Team, Local Health Directors); not only will there be application of course principles, but students will understand the opportunities and constraints of working with a public health system.
- Close supervision and support from relevant local and state actors, including the GIS expert in the Office of Immunization and Child Profile