

Infectious Diseases, Injury

Washington County, Health and Human Services/Public Health

Hillsboro, Oregon

Assignment Description

The fellow will be placed inside the Research, Analytics, Informatics, and Data (RAID) Program in the Public Health Division, Health and Human Services Department. The RAID program is a centralized epidemiology program where epidemiologists advise and serve the entire Public Health Division and Health and Human Services Department in public health science and research matters. The RAID team initiates, conducts, and interprets the implications of applied research relevant to public health practice. We also assist programs with incorporating research into program processes and interventions. RAID duties includes everything from advising on policy, evidence based practice and human subjects research evaluations, creating data visualizations and designing and implementing surveys.

Although each epidemiologist in the RAID program has specific subject matter expertise (communicable disease, veterinary epidemiology, maternal child health, forensic epidemiology, etc.) we all work across the core programs in public health and are fluent outside our standard area of practice. This fluidity allows for a considerable breadth of experience for the fellow. Our goal is for the fellow to fully integrate into the RAID team and across all areas of public health s/he has interest in.

A unique aspect of placement at Washington County will be the ability to engage in as much field work as desired. The fellow will have a wide ranging opportunity to do everything from going with our Environmental Health team on a restaurant inspection, shadowing our Medical Examiners to a violent death scene, participating in an outbreak investigation with our Communicable Disease epidemiologist, attending a home visit with our Maternal Child Health team; the opportunity for boots-on-the-ground field work is plentiful.

Day-to-Day Activities

The fellow will work daily with a team of Tier 2 and 3 epidemiologists spanning all areas of applied public health practice. Daily efforts will be taken to expose the fellow to the many surveillance systems and population datasets available in Oregon, as well as the specialized data available for Washington County. The fellow will work closely with all public health programs to help them maximize their use of data, help inform their policies or program evaluation and guide their interventions based on best practices.

The fellow will be incorporated into the Washington County Public Health Management Team and will participate in operationalizing the strategic plan and consulting with public health program supervisors on epidemiologic subject matter. There will be extensive opportunity for data analysis,

surveillance summaries on the fellow's areas of interest, publishing and creating data visualizations such as infographics, for public consumption.

Washington County will also support the fellow in attending local epidemiological conferences/meetings and specialized trainings as opportunities arise.

Potential Projects

Surveillance Activity Standardizing Queries for Reportable Conditions in Oregon's Syndromic Surveillance System

"Oregon's syndromic surveillance system is called ESSENCE (Electronic Surveillance System for the Early Notification of Community-Based Epidemics). "ESSENCE provides real-time data for public health and hospitals to monitor what is happening in emergency departments across the state before during and after a public health emergency (OHA ESSENCE website)". Washington County has over 98% its hospitals and urgent care centers reporting into ESSENCE making the system an outstanding county-level data source. The fellow will work with both the Oregon Health Authority ESSENCE team and members of the RAID program to develop and validate ESSENCE queries for reportable conditions such as scombroid, hemolytic uremic syndrome (HUS), and many others. In an emergency preparedness vein, situational queries will be developed for events such as heat and cold related injury, respiratory distress, gastrointestinal illness and mental distress. Running these queries each day and working with our Communicable Disease nursing team for potential reportable illnesses will help decrease the spread of illness in our community. In addition to communicable disease queries, the fellow will develop and validate queries for suicide attempts. Once standardized and validated by testing these queries cross-jurisdictionally, these queries can be shared across Oregon for all ESSENCE users which will elevate surveillance capacity and ability across the entire state. The fellow will monitor overall emergency department visits counts and on high visit days will determine what caused the increase to help guide prevention efforts. ESSENCE has the ability to incorporate other data sources such as Poison control data, death records, weather, air quality and EMS data. The fellow will explore the possibility of obtaining these data for Washington County (and our regional partners) with the OHA ESSENCE team. "

Surveillance Evaluation Suicide Risk Factor Surveillance System (SRFSS) Evaluation

Washington County has a novel suicide surveillance system called the Suicide Risk Factor Surveillance System (SRFSS – pronounced "Surface") that the fellow will have the opportunity to evaluate. Within 24 hours of a suicide, the Washington County Deputy Medical Examiners (DME) complete a data collection instrument named the Consolidated Risk Assessment Profile which contains over 50 risk factors and relevant circumstances surrounding the death. These factors match the National Violent Death Reporting System (NVDRS) variables and the DMEs use the exact NVDRS coding definition for death. These factors match the National Violent Death Reporting System (NVDRS) variables and the DMEs use the exact NVDRS coding definition for each of the factors. SRFSS data are available from 2014 to present. The fellow will evaluate SRFSS by comparing the Washington County data to the gold standard OR-NVDRS for the same deaths on the same variables to determine sensitivity and specificity of reporting with the intention of revealing the death. These factors match the National Violent Death Reporting System (NVDRS) variables and the DMEs use the exact NVDRS coding definition for each of the factors. SRFSS data are available from 2014 to present. The fellow will

evaluate SRFSS by comparing the Washington County data to the gold standard OR-NVDRS for the same deaths on the same variables to determine sensitivity and specificity of reporting with the intention of revealing the difference between having the person who completed the death investigation do the abstraction versus an uninvolved third party.

Major Project Environmental Health Consultation during Outbreaks at Assisted Living Facilities and Association with Outbreak Prevention

The mission of Washington County Environmental Health (EH) is to protect and promote the health of the public by providing inspection and disease prevention services in the areas of food safety (including restaurants and other public food service facilities), onsite wastewater management, drinking water, public pools and spas, tourist facilities, mosquito control (West Nile Virus prevention) and smoke-free workplace enforcement. The State of Oregon Department of Human Services is responsible for licensing of Assisted Living Facilities (ALF). Washington County Public Health has no regulatory authority over these facilities. However, in the event of an outbreak or suspected outbreak, the ALF is required by law to report the outbreak to the local public health authority for investigation. Each year, Washington County experiences between 10-20 outbreaks in ALF and other Long-Term Care Facilities (LTCF). As a service to our community, our Registered Environmental Health Specialists offer a voluntary on-site consultation about preventing the spread of the outbreak, especially in the event of a death or weeks of prolonged illness. The fellow will conduct a retrospective study of outbreaks in ALF in Washington County to characterize the facilities that choose to receive the EH consultation and those who do not and determine if there is an association between EH consultation and prevention of future outbreaks. Additionally, the fellow will request the formal inspection reports from the licensing authority and compare the findings to the EH findings from the outbreak visit to determine the need for policy recommendations for facilities. The findings of this study could help inform legislation on the recommendation of the inspection being carried out by the local public health authority.

**Additional Public Health Division Informatics Assessment
Project**

The fellow will conduct both a “building an informatics-savvy health department self-assessment” and an “interoperability for public health agencies self-assessment” using the tools from the Public Health Informatics Institute for the Washington County Public Health Division. Based on the results of this assessment, the fellow would present the findings to the Public Health Management Team, create an informatics vision and strategy and an informatics governing process for the division.

Preparedness Role

A Community Assessment for Public Health Emergency Response (CASPER) is a survey method to provide rapid, accurate, reliable and cost-effective household-level estimates of public health need. CASPER is modeled after methodology designed by the World Health Organization to estimate immunization coverage and was adapted by the Centers for Disease Control and Prevention (CDC) for use in disaster settings. A CASPER survey was conducted in Washington County on June 4, 2016 using this methodology. This exercise was the first ever county-wide CASPER in Oregon and one of the first few in the country for a population of our size. One of the key exercises the fellow will do is to reproduce the sampling frame for Washington County using new assessment and taxation property records in anticipation of the next CASPER event.

In addition to developing the new CASPER sampling frame, the fellow will have the opportunity to participate in county and regional emergency operation exercises and participate in the Community Services Branch of our incident response team after appropriate training.

Additional Activities

As the RAID program serves all of Public Health and Health and Human Services, there is no shortage of topic areas for the fellow to explore. If the fellow is interested in field experience, there are opportunities to shadow environmental health during a restaurant or pool inspection, accompany a maternal child health home visit, conduct mosquito surveillance work, and the potential to attend a death scene with our deputy medical examiners. The fellow will only be limited by their available time.

Mentors

Primary	Kimberly Repp PhD, MPH Research, Analytics, Informatics and Data (RAID) Program Supervisor
Secondary	Ahmed Mohamed BVSc, MSc Epidemiologist