ID: 60511519
Chronic Disease, Infectious Diseases - COVID-19 - Host Site Description
State of Alaska

Assignment Location: Anchorage, US-AK
State of Alaska
Department of Health / Division of Public Health

Primary Mentor: Rosa Avila, MSPH PhD
Deputy Chief, Health Analytics and Vital Records
Alaska Department of Health/ Division of Public Health

Secondary Mentor: Abigail Newby-Kew, MPH PhD
Section Chief, Health Analytics and Vital Records
Alaska Department of Health/ Division of Public Health

Work Environment
Hybrid

Assignment Description

The fellow will work with HAVRS staff primarily under the direction of their mentors, but will also interact frequently with staff from other units such as the Section of Women's, Children's, and Family Health (WCFH), the Section of Epidemiology, and the Medical Examiner's Office. The projects listed in this application provide a variety of training and learning opportunities. They will be tasked with adapting a national cancer guidance for investigations to a largely rural state and problem-solving on how best to address small number issues. The fellow will have the opportunity to work with communities on cancer concerns and with workgroups to assess those concerns and investigate them if necessary. The fellow will also have learn how to integrate new fields in the birth registry process to capture transfers from planned home births and improve the current birth surveillance systems to evaluate important birth outcomes. They will work with partners to address refusals to provide critical cause of death information on death certificates and work on strategies to train, provide outreach, and clarify confusing statutes and regulations. We also hope to improve clinical data by integrating fact of death data from our vital records database current data modernization efforts.

A fellow's day-to-day activities may include designing studies and analytic projects, writing protocols and governance documents, evaluating databases, writing reports and peer-reviewed manuscripts, attending meetings or teleconferences with partners throughout the state, and contributing to research team meetings. The fellow will participate as a research lead and research team member for multiple projects, which will require the fellow to prioritize tasks, schedule meetings, and multi-task projects to meet deadlines. The fellow will utilize computers regularly for analysis, communication, and document development.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

There are three databases that HAVRS supports: 1) the Alaska Vital Records database includes birth and death records, 2) the Health Facility Data Reporting program which includes in and out-patient healthcare service utilization and discharge data, and 3) the Alaska Cancer Registry, which collects cancer case data. Our staff primarily uses R and/or SAS statistical software, SEER*Stat for cancer research, and we have trained many of our staff to use visualization platforms such as ArcGIS Online, Tableau, and PowerBi. HAVRS internally houses the databases described above, but each is used for specific types of surveillance in the state. This includes Alaska Vital Records data are used for Mortality and Birth Outcomes Surveillance, Alaska Cancer Registry supports Cancer Surveillance, and Alaska Health Facilities Data Reporting is used to evaluate systems like the Syndromic Surveillance System.

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Surveillance systems housed in other Division of Public Health Sections, such as PRAMS, CUBS, YRBS, BRFSS, and NVDRS can be utilized based on the expanded project goals of the fellow.

HAVRS has four experienced Data Analysts, one Public Health Scientist, one Informaticist, and the Section Chief that all have an extensive background in data management and analysis, and can serve as important resources to this fellow. The Division also has several experts that are a valuable resource to this fellow in the field of epidemiology and statistics that meet monthly through an R Users Group meeting and through our Epidemiology Methods Group meetings.

Projects

Surveillance Activity Title: Cancer Cluster Guidance and Outbreak Investigations

Surveillance Activity Description:
The CDC has recently updated their recommendations for community inquiries pertaining to unusual patterns of cancer or "cancer clusters." Given that our state has a vast rural landscape with a history of environmental contaminations in rural areas, many of these recommended guidelines must be reviewed and tailored to address our unique technical and statistical challenges with small population sizes, and to ensure that information and procedures are easy to understand, culturally sensitive, and meaningful to Alaskan communities. This procedures manual will be essential to any cancer concerns that may arise during the Fellowship, and will be executed under the guidance of a collective workgroup that includes the Section of Epidemiology (SOE), Alaska Cancer Registry (ACR), and Federal and Tribal partners.

Surveillance Activity Objectives:
Under the supervision and direction of the Primary Mentor and the Alaska Cancer Registry (ACR) Public Health Analyst, the fellow will participate in the following objectives/deliverables:

1) Produce a "Guidelines for Examining Unusual Patterns of Cancer and Environmental Concern in Alaska" manuscript. This includes providing recommendations of small number epidemiology methods for rural cancer investigations.
2) Participate in Cancer Concerns Workgroup tasked with reviewing CDC recommendations and cancer concerns among Alaskan communities. This workgroup is a collaborative effort between HAVRS, the Section of Epidemiology's Environmental Public Health program, Agency for Toxic Substances and Disease Registry, and the Alaska Native Tribal Health Consortium.
3) For community inquires that are deemed as requiring further assessment and investigation by the Cancer Concerns Workgroup, the fellow will work with the ACR Public Health Analyst to analyze local data and summarize findings in a formal report. This includes the use of epidemiologic methods for evaluating excess cancer cases using statistical software, SEER*Stat, and possibly GIS analysis.

Surveillance Activity Impact:
Investigating unusual patterns of cancer provides an opportunity to address public health, environmental, or social/behavioral problems associated with increased cancer in a community. This includes the opportunity to engage residents and vulnerable populations on the frequency, etiology, and prevention of cancer. Establishing guidelines that are tailored to our unique geographical landscape and demographic composition are essential to ensure that investigations are culturally sensitive, equitable, and of high quality.

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Surveillance System Evaluation Title: Evaluation of Newly Implemented Delivery Transfer Surveillance

Surveillance System Evaluation Description:
In 2022, Health Analytics and Vital Records partnered with the Alaska Perinatal Quality Collaborative (AK-PQC) and the Section of Women's, Children's, and Family Health (WCFH) to add two additional fields to the Alaska birth certificate parent worksheet: 1) the planned place of birth when labor began, and 2) the planned birth attendant when labor began. The goal of these additional fields is to bring Alaska in alignment with national recommendations to better capture transfers from planned home births, to compare birth outcomes by planned location and attendant, and to monitor trends in transfers over time. After more than two years of data collection we are interested in understanding whether these questions can be utilized to achieve their planned objectives.

Surveillance System Objectives:
Under the supervision and direction of the Secondary Mentor and the Research Unit Supervisor, the fellow will participate in the following objectives/deliverables:

1) Assess overall and geographic patterns of transfers by planned and actual facility types and by planned and actual primary attendant types. Evaluate the sensitivity of these questions against transfer data collected on the Alaska birth certificate facility worksheet.
2) Compile information on how other state vital records agencies collect information on hospital transfers. Use this data and the results of the question evaluations to create recommendations for future data collection and present these recommendations to AK-PQC. Compare key birth outcomes captured on the birth record, such as severe maternal morbidity (SMM), by planned location and attendant and transfer status.
3) Link birth data with data from the Alaska Health Facilities Data Reporting System to explore additional birth outcomes that are not captured on the birth record, such as hospital readmission by planned location and attendant and transfer status.
4) Publish findings in an State of Alaska Epidemiology Bulletin and/or peer-reviewed publication.

Surveillance System Impact:
As the state with the highest percentage of community births, understanding the relationship between planned delivery location and maternal and child health outcomes is particularly vital for Alaska. The addition of these questions can ideally provide information that can be used to improve services and systems for birthing people in the state. This project will determine whether these questions can be used to achieve the intended impacts and, if not, will help guide the state toward the development of an improved question set for public health surveillance.

Major Project Title: Improving Mortality Reporting in Alaska

Major Project Description:
Since the COVID19 pandemic, Alaska has experienced a spike in clinicians who are refusing to sign death certificates. It is a combination of fear from legal repercussions, misunderstanding of the current statutes, or unfamiliarity with the responsibility due to the fact that Alaska has a large proportion of specialty providers who act as primary care providers. This has led to a corresponding increase in the proportion of death certificates that are signed with an unknown cause of death. These data have a broad impact on the understanding of mortality in Alaska for both HAVRS and for the wide array of health programs that utilize our data. HAVRS has convened a work group with the Medical Examiner's Office and State Chief Medical Officer to better understand and address this emerging issue. However, there is growing interest for healthcare providers to have fact of death information integrated in their electronic medical records system. This fellow will also work with our staff, the Commissioner's Office, Department of Law, and eHealth Connect to create a roadmap for integrating fact of death data to hospital registries and other medical records systems through Alaska's Health Information Exchange. We hope that these efforts to improve their data access directly will also provide motivation to certify deaths in a timely manner.

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Major Project Objectives:
Under the supervision and direction of the Primary and Secondary Mentors, the fellow will participate in the following objectives/deliverables:

1) Participation in the Clinician Refusal Workgroup, which aims to identify and discuss issues with clinician refusals to certify death certificates. This is a collaborative effort with the HAVRS Records and Licensing Supervisor, the Medical Examiner's Office, and the State's Chief Medical Officer.
2) Review State of Alaska statutes and associated regulations that relate to death certification to identify areas in need of clarification or change. Lead efforts to revise and modernize statutes and regulations with the goal of clarifying medical certifier role and responsibilities in participating as the medical certifier of a death that occurs in Alaska.
3) Development of outreach products, such as a Moodle training where clinicians can attain continuing education credits to renew the medical license.
4) Coordinate and collaborate with the State Medical Board with promoting new trainings and other outreach products or creating new strategies to improve medical certifier compliance.
5) Work with the HAVRS staff and partners to create a roadmap for integrating fact of death data to hospital registries through Alaska's Health Information Exchange. This includes producing governance documents of how the data is utilized and shared with participating facilities and clinics.

Major Project Impact:
Mortality data are used at the state, local, and national level to inform a wide array of public health initiatives. Delays in data reporting or an increase in unclassified causes of death can lead to inaccurate point estimates and impact mortality trend analyses. In addition to this broad public health impact, this project impacts both the lives of individual Alaskans. Delays in death certification have direct negative consequences for Alaskans at a uniquely difficult timepoint in their lives: it can delay the ability for relatives and dependents to receive benefits and adds undue emotional burden as they attempt to navigate unfamiliar bureaucratic structures.

Additional Project #1 Title: Enhanced Maternal Morbidity Surveillance
Project #1 Type: Surveillance Activity

Project #1 Description:
Severe maternal morbidity (SMM) is a composite outcome measure that indicates serious, potentially life-threatening maternal health problems that is currently under-studied among Alaskans. In 2023, Health Analytics and Vital Records added patient name fields to our Health Facilities Discharge Reporting (HFDR) System. This creates a new opportunity for linkages with other Department of Public Health data systems, including Alaska Vital Records Data. We are interested in linking Alaska birth and death records with the HFDR and leveraging this new administrative data linkage to better understand the frequency of both overall SMM and component conditions in Alaska by demographic groups and geographic regions.

Project #1 Objectives and Expected Deliverables:
Under the supervision and direction of the Secondary Mentor and the Research Unit Supervisor, the fellow will participate in the following objectives/deliverables:

- Link HFDR with Alaska Vital Records data, including birth and death records using a combination deterministic and probabilistic linkage techniques.
- Conduct a literature review of SMM, including an outline of the differential administrative definitions currently in use (CDC Index with and without transfusion; Bateman Index; etc.) and identify an appropriate definition for use with Alaska HFDR data.

- Use the linked data system to estimate the frequency of both SMM and component conditions in Alaska – both overall and by selected demographic and geographic groups such as age, race/ethnicity, and Alaska geographic regions.
- Publish findings in a State of Alaska Epidemiology Bulletin and/or peer-reviewed publication. Share findings with the Alaska Maternal and Child Death Review Committee.

Project #1 Impact:
Alaska has a robust Maternal Death Review committee that reviews all pregnancy associated deaths. This project would supplement this rich resource with information about severe maternal morbidity. Findings will be shared with both health care providers and public health practitioners. State-specific data will be used to inform public health interventions at the state and local levels.

Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

During the COVID19 pandemic, our focus was to meet the immediate needs of the community to limit sever morbidity and mortality, to alleviate a strained healthcare system, and to educate and inform communities. Now that we are out of a public health emergency, our DPH staff and partners have time to reflect upon the pandemic response and data collected from 2020 to 2022. In collaboration with the Section of Epidemiology, our next steps are to analyze the COVID19 cases, mortality, and vaccination data and generate a comprehensive report that outlines the impact of the COVID19 pandemic among Alaskans. We also have generated a linked dataset with cancer and COVID19 cases data, and would like to evaluate how it had impacted an immunocompromised population in Alaska. This Fellow will help clean and recode data, and apply statistical methods using SAS or R statistical software to describe the data and make statistical comparisons to US estimates and by demographic characteristics. These projects will likely take 10 to 15 hours a week.

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

This Fellowship's surveillance activity is centered around cancer cluster investigations. The fellow will be tasked to participate and assist in the coordination and implementation of each deliverable. The development of update guidelines for cancer cluster investigations will take about 10 to 15 hours per week for up to 3 months. We get approximately two to three new cancer concerns per year, which take about 8 to 10 hours to conduct preliminary analytic work, and approximately 15 hours per week for 3 to 6 months for a cancer concern that requires further investigation.

Please Describe the Fellow's Anticipated Role in the COVID-19 Response – Include Activities and Time Allocation

During the COVID-19 pandemic, a vital part of the emergency response was setting up easy to use, interactive, visualization platforms to disseminate COVID-19 cases, hospitalization, death, and vaccination data to the public. Dashboards using COVID-19 data were housed in a COVID-19 Data Hub, and other related products, like R Markdown documents, were also created and embedded into webpages. It's vital to ensure that a platform for data visualization products continue as a resource to the public so that they can be easily expanded upon for future outbreak response efforts. The role of this fellow is to learn how to manage these resources using ArcGIS Online software and R or SAS statistical software, and maintain or modify them as we expand the Data Hub to other health topic and outbreak issues. Maintenance of the Data Hub takes a couple hours a month to do; however, modification or creation of dashboards or R Markdowns can range from a few hours to 20 hours per week depending on how complex the project is.

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Please Describe Opportunities for Fellows to Work in Health Equity as well as Incorporating Diversity, Equity, and Inclusion into their Work

HAVRS maintains a focus on health equity in all of our work. Throughout the year, there will be many opportunities to take continuing education trainings in health equity and inclusion. All of our data publications are reviewed with an equity lens, and we are working to increase collaborations with community partners who can provide input and perspectives on our work different from our own.