

ID: 45585028

Maternal and Child Health - Host Site Description

South Carolina Department of Health and Environmental Control

Assignment Location: Columbia, US-SC
South Carolina Department of Health and Environmental Control
Division of Population Health Surveillance

Primary Mentor: Nicholas Resciniti, PhD in Epidemiology, MPH in Infectious Diseases, BS in Health Sciences
Senior Epidemiologist
South Carolina Department of Health and Environmental Control

Secondary Mentor: Joshua Sellner, PhD in Epidemiology, MSPH in Epidemiology, BS in Exercise and Sports Science
Deputy Director of the Bureau of Maternal and Child Health
South Carolina Department of Health and Environmental Control

Work Environment

Hybrid

Assignment Description

The fellow will be housed within the Population Health Surveillance (PHS) Division within the Bureau of Maternal and Child Health. The PHS division monitors the overall health of the South Carolina (SC) population and has access to a wide variety of data sources. The programs within PHS include: MCH Epidemiology, MCH Evaluation, Behavioral Risk Factor Surveillance System (BRFSS), Pregnancy Risk Assessment Monitoring System (PRAMS), Lead Surveillance, Birth Defects, Muscular Dystrophies (MD STARnet), and the Maternal Mortality and Morbidity Review Committee (MMMRC). Additionally, the PHS division works across internal and external partners to provide epidemiology/evaluation support and provide population health data to aid in decision-making. The fellow will have the opportunity to develop internal reports, public-facing data products (e.g., dashboards, infographics), and research/public health practice publications. Data products will range in format from peer-reviewed articles, social media posts, interactive data dashboards, infographics, and posters. A wide variety of activities will be made available to the fellow depending on their interests and skills. Day-to-day activities could include survey development, data preparation and analysis, participation in internal and external stakeholder meetings, presentation of reports, research/public health practice, and training/skill development. We help mentees identify career development opportunities, such as training, workshops, and conferences. Mentors will work with the fellow to ensure that assigned activities are of interest to not only the agency but also to the fellow.

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

The fellow will be heavily supported throughout their tenure with PHS. We have a wide range of staff with various backgrounds and skill sets that the fellow will have the opportunity to learn from. Access and training will be provided for data housed within PHS including BRFSS, PRAMS, Lead, MD STARnet, Birth Defects Registry, and the Maternal Mortality Review Committee database. Additionally, necessary steps (e.g. MOUs and DUAs) will be taken to secure other data requested/needed by the fellow. Training on advanced epidemiologic methods, longitudinal analyses, data visualization, dashboard development, and specific software will be provided. For statistical software, we use SAS, Python, R, GIS, Tableau, and Power BI which all will be provided to the fellow. Additional software can also be obtained depending on the selected fellow's preference.

Projects

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Surveillance Activity Title: Development of a Syndromic Surveillances for Maternal and Child Health Threats

Surveillance Activity Description:

The fellow will have the opportunity to develop a new syndromic surveillance system using the BioScience platform provided by the National Syndromic Surveillance System, which utilizes real-time data on individuals' interaction with healthcare services. SC has been consistently ranked among the worst states for morbidity and mortality statistics for both maternal and child health, with a specific disparity among high-risk populations. While there are many resources and programs dedicated to understanding and reducing morbidity and mortality among these populations - such as vital statistics, Birth Defects Registry, PRAMS, MMMRC, and FIMR - there is a significant lag in the timeliness of data, sometimes up to three or four years. Due to this delay, there isn't a way to monitor and respond in real-time to the harmful health effects of exposure to disease, injuries, and hazardous conditions as they develop, which creates a lag in response proportional to the lag in access to data. Through BioScience, the fellow will have nearly immediate access to healthcare utilization of mothers and children in South Carolina to develop a surveillance system to better understand the emerging needs of these populations.

This surveillance activity will enable the selected fellow to participate in the development of a new public health surveillance system from the planning stages through implementation, analyses, and monitoring.

Surveillance Activity Objectives:

The primary objective of this activity is the successful establishment of a sustainable MCH syndromic surveillance system in SC. To achieve this objective, the following deliverables will be required:

- Conduct a literature review on MCH syndromic surveillance
- Summary of other MCH surveillance systems in the US and SC
- List of potential diseases, conditions, and health concerns to monitor
- Establish a sampling plan/framework including different methods flagging potential concerns
- Implement different methodologies and validate on potential diseases, conditions, and health concerns to monitor
- Finalize and establish methodology and develop a report on data and findings

Surveillance Activity Impact:

Through completion of this project, SC DHEC will be able to identify potential diseases, conditions, and health concerns in near real-time to better provide interventions to the MCH population.

Surveillance System Evaluation Title: SC MMMRC Process Evaluation

Surveillance System Evaluation Description:

In 2016, legislation was passed supporting MMMRC in SC and great strides have been made, but no evaluation of the processes used to obtain the data has comprehensively been conducted. Currently, maternal deaths are identified through multiple sources, and investigated by nurse abstractors, and cases are reviewed by committee members to determine pregnancy-relatedness, prevention, and circumstances surrounding each death. While actionable insights have come from this program and improvements have been made across the state, there are opportunities for improvement. The fellow will have the opportunity to learn about MMMRC, provide an evaluation on the data collection methods, pilot test a modified data collection format, and ultimately advise on the enhancement of the program.

Surveillance System Objectives:

The primary objective of this activity is the successful establishment of a sustainable FIMR program in SC. To achieve this objective, the following deliverables will be required:

- Conduct a literature review on FIMR

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- Epidemiologic summary of fetal and infant deaths in SC
- Establish a sampling plan/framework
- Engage internal and external stakeholders
- Identify opportunities for alignment with MMMRC
- Develop a data analysis/management/dissemination plan
- Collect, analyze, and report on data and findings

The overall goal of this project is to provide data-informed insights for the enhancement of SC MMMRC. To achieve this objective, the following deliverables will be necessary:

- Literature review on MMMRC processes
- Epidemiologic summary of maternal deaths in SC
- Engage internal and external stakeholders on their experiences/use of MMMRC
- Develop an evaluation plan that includes a logic model
- Develop an evaluation report of SC MMMRC data collection process
- Presentation of results to internal stakeholders

Surveillance System Impact:

The SC MMMRC surveillance system will be enhanced in its ability to describe maternal deaths across SC. With a comprehensive evaluation, the program will be better able to improve processes and the quality of data. With the addition of an evaluation report to validate findings from the system, public trust and use of the information will be enhanced ultimately leading to a decrease in maternal mortality through data insights.

Major Project Title: 2025 Title V Comprehensive Needs Assessment Planning and Initial Data Analyses

Major Project Description:

A comprehensive MCH Needs Assessment is necessary to guide State Action Plans to address MCH issues. In SC the current needs assessment goes through 2025, therefore it is time to start planning and compiling data to inform the next needs assessment process. The fellow will work across MCH programs and data systems to compile information surrounding MCH issues.

Major Project Objectives:

The goal of the project is to develop an MCH needs assessment plan through the following deliverables:

- Review of Needs Assessment processes and past reports
- Identify opportunities for improvement
- Develop a plan to carry out the needs assessment process
- Present findings to senior leadership.

Major Project Impact:

The Needs Assessment process will be enhanced through additional partner engagement and incorporation of data. The tools and planning documents developed can assist community partners in their needs assessment efforts.

Additional Project #1 Title: Epidemiologic Summary on Bullying in SC

Project #1 Type: Major Project

Project #1 Description:

Bullying can have significant and lifelong impacts on the health and well-being of adolescents. These impacts have not been comprehensively assessed in SC.

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Programs working to reduce bullying have been forced to make decisions based on limited evidence. Additional research to quantify the impact of bullying is necessary to inform programmatic direction. The fellow will work across multiple datasets and partners to collect, analyze, and disseminate data describing the impact of bullying in SC.

Project #1 Objectives and Expected Deliverables:

The goal of the project is to increase internal and external stakeholders understanding of bullying in SC. To reach this goal, the following deliverables will be necessary:

- A literature review on the impact of bullying
- Conduct an assessment on the availability of data surrounding bullying in SC
- Explore options to fill identified data gaps
- Compile available data
- Submit a white paper describing the findings for publication

Project #1 Impact:

The impact of this project will be increased knowledge and understanding by partners on the impact of bullying in SC. Additionally, the evidence base will be expanded through the publication of findings.

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

Within our Birth defects program, we house the Set-Net system which monitors pregnancy outcomes among mothers of select diseases such as COVID-19 and Zika. This system will be made available to the fellow to analyze and assess the potential of any existing or new conditions having an impact on the maternal and child health populations. Time commitment would be about 5% of time.

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

The fellow will have the opportunity to utilize Lead Surveillance data to identify clusters of elevated blood lead levels in order to work with environmental and nurse counterparts on assessing route causes of the identified clusters. Additionally, as listed in the Surveillance Activity section, the fellow will lead the development of a syndromic surveillance system, which will include aspects of cluster and outbreak investigations. Time commitment is expected to be 20%.

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

The fellow will participate in the monitoring of mothers and their offspring infected with COVID-19. Time commitment would be about 5% of the time.

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

Our agency recently included DEI into their strategic plan and now all surveillance systems are examined through an equity lens. We are also actively working on the State Health Assessment with a dedicated health equity chapter. When this opportunity begins, the fellow will have the ability to prospectively monitor health equity indicators, develop a State Health Improvement plan to address identified disparities, and work with communities to assess their own experiences.