

ID: 60352047

Maternal and Child Health - Host Site Description

New York State Department of Health

Assignment Location: Albany, US-NY
New York State Department of Health
Division of Family Health

Primary Mentor: Blair Berger, PhD, MSPH
CDC Maternal and Child Health Epidemiology Assignee to New York State
New York State Department of Health, Division of Family Health

Secondary Mentor: Marilyn Kacica, MD, MPH
Medical Director
New York State Department of Health, Division of Family Health

Work Environment

Hybrid

Assignment Description

The Fellow will be integrated into the Division of Family Health (the Division) at the New York State Department of Health (NYSDOH). The mission of the Division is to protect and promote the health of people of reproductive age, pregnant and birthing people, parents, infants, children, youth, and families in New York State (NYS) through key policy and program initiatives informed by evidence-based decision making. The Division provides leadership across the NYSDOH on topics related to maternal and child health (MCH), directly oversees several MCH programs and initiatives, and collaborates with other key MCH programs outside of the Division. The Division is comprised of 6 bureaus: the Bureau of Administration, the Bureau of Early Intervention, the Bureau of Child Health, the Bureau of Perinatal, Reproductive, and Sexual Health (BPRASH), the Bureau of Data Analytics, Research, and Evaluation (BDARE), and the Bureau of Health Equity and Community Engagement. The bureaus work together closely across the Division. The Division houses the Title V Maternal and Child Health Services Block Grant program (funded by the Health Resources and Services Administration), the NYS Maternal Mortality Review Initiative (MMRI), and the NYS Perinatal Quality Collaborative (NYSPQC). The Fellow's scope of work will primarily focus on supporting these priorities within the Division, working collaboratively with state epidemiology and program staff in both BDARE and BPRASH.

The Division has a strong commitment to recruiting, retaining, and supporting the continuous professional development of a diverse and competent MCH epidemiology workforce. Active mentorship and cross-program collaborations are central to the Division's continuum of strategic approaches to strengthen and diversify the MCH workforce. The Division hosts fellows from both national and New York-based programs, including the CDC Foundation, the New York State Public Health Corp Fellowship Program, The Fellowship in Applied Public Health, and the Empire State Fellows Program. The Division also partners with the SUNY University at Albany School of Public Health MCH Catalyst Program to host several masters- and doctoral-level graduate student interns annually to conduct applied field experience projects. The Division creates a collaborative environment of shared learning and professional development with ample opportunity for the Fellow to network and collaborate with other early-career MCH staff, fellows, and interns. The Fellow will also join the Division's fellows and interns in receiving direct guidance on how to pursue employment within the Division and NYSDOH through both civil service and grant-funded opportunities.

The Fellow will be located in Albany, New York at the Empire State Plaza, Corning Tower, which houses the NYSDOH. The Fellow's office space would be located with Division's BDARE epidemiology staff. Generally, the Fellow will both take the lead and work collaboratively with state program and data staff on a range of Division initiatives to support MCH policies and programs.

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The Fellow's expected day-to-day-activities would include:

- Design epidemiologic studies or surveillance analyses. Conduct the full arc of the study from data management, analysis, to dissemination
- Analyze both secondary data from large state public health data systems (e.g., vital records, hospital discharge records) and primary rapid-cycle quality improvement data collected for ongoing NYSPQC projects
- Be an active participant in weekly meetings and workgroups (e.g., NYSPQC project workgroups)
- Share data via written data products or through oral presentations in a range of settings for both internal and external audiences
- Lead weekly progress meetings with primary mentor and bi-weekly progress meetings with secondary mentor
- Attend monthly NYSPQC project coaching calls held for participating birthing hospitals. Contribute data elements and design presentation slides for the coaching calls.
- Participate in the NYS Epidemiology and Biostatistics Community of Practice where analytic staff meet to discuss topics, share knowledge and methods, and lessons learned.
- Attend monthly meetings of the CDC Division of Reproductive Health's MCH Epidemiology Program with Dr. Berger
- Participate in state workgroups, advisory committee meetings, or additional Division meetings, including Title V leadership and needs assessment meetings and Division-wide seminars or events

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

The primary and secondary mentors will provide extensive support and guidance to the Fellow on appropriate methodology for statistical and data analysis. Additionally, The Fellow will have access to additional analytic and technical support, guidance, and training resources from MCH epidemiology staff in the Bureau of Data Analytics, Research, Epidemiology, and Evaluation (BDARE), a recently formed bureau created to support research and data needs across the NYSDOH Division of Family Health. The Fellow will have a computer console with software packages necessary for accessing and extracting data from state surveillance systems (e.g., SQL), as well statistical software to manage and analyze data (e.g., SAS). Other software may be available to the Fellow as necessary (e.g., Tableau, QGIS, or R). The primary mentor and BDARE epidemiology staff have expertise in these software packages and will support the Fellow to build capacity using these tools. The primary mentor will work with the Fellow to identify additional training opportunities as needed.

The Fellow will have access to many state data systems as they gain skills managing and analyzing large, complex population-based data, including: vital statistics (birth and death certificates), hospital discharge records, the Pregnancy Risk Assessment Monitoring System, the New York State Perinatal Data System, the Maternal Mortality Review Information Application (MMRIA), the Behavioral Risk Factor Surveillance Survey (BRFSS), and the National Survey of Child Health. The Fellow will also have access to primary data collected by the NYSPQC for its quality improvement projects (e.g., survey data and rapid-cycle clinical quality improvement metrics).

Projects

Surveillance Activity Title: New York State Infant Mortality Surveillance- Assessing Perinatal Periods of Risk to Address Racial Disparities in Infant Mortality

Surveillance Activity Description:

The New York State (NYS) infant mortality rate increased in 2021 for the first time in years despite recent declining trends in prior years. Stark racial inequity remains a persistent issue, with the mortality rate among non-Hispanic Black infants nearly 3 times higher than that of non-Hispanic white or Hispanic infants.

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The NYSDOH recently released a surveillance report summarizing infant mortality levels, trends, and risk factors. In this project, the Fellow will utilize linked vital records data (births, deaths, and fetal death certificates) to build on this surveillance work by conducting a comprehensive perinatal periods of risk assessment (PPOR) to examine excess mortality and differential causes of death among Black infants and fetuses to identify opportunities to prevent deaths and eliminate associated racial inequities at the state- and county-levels. This project has three parts:

1. Conduct a data quality assessment of the linked vital records data file to determine PPOR-eligible cases and classifiable cases for PPOR reference and comparison groups at the statewide level. Specifically, the Fellow will examine the extent of missing data for the following data elements: birthweight, gestational age, maternal age, maternal race and ethnicity, and maternal education level.
2. Conduct statewide Phase 1 and Phase 2 PPOR analyses. This project element has the potential to involve a data linkage activity to other statewide surveillance systems (e.g. PRAMS) to enhance the comprehensiveness of information available to identify risk factors and reasons for excess mortality.
3. Work with state staff to contribute to county-level PPOR analyses among high-mortality, PPOR-eligible NYS counties

Surveillance Activity Objectives:

Objectives:

- Gain experience and familiarity using population-based secondary data sets from public health surveillance systems in New York State (i.e., death certificates, birth records, hospital discharge records, New York State Perinatal Data System)
- Analyze data using appropriate methods for public health surveillance
- Gain training and hands-on experience utilizing the comprehensive Perinatal Periods of Risk Approach (PPOR)
- Apply a health equity lens to data analysis and interpretation
- Understand implications of missing data in surveillance systems and identify potential sources of bias on estimates due to data quality issues
- Statistically estimate excess mortality due to risk factors and estimated potential deaths averted due to available interventions (i.e., calculate population-attributable risk)
- Enhance skills in data communication and visualization
- Develop evidence-based recommendations for public health programs and policies

Deliverables

- A detailed report of methods and findings from the vital records data quality assessment to present internally to NYSDOH team to guide analytical decisions
- A detailed report of PPOR findings with appropriate visualizations to present data to scientific audiences
- Two-page fact sheet with appropriate visualizations to present data to non-scientific audiences
- At least one presentation to a relevant state workgroup, committee, or partners

Surveillance Activity Impact:

This project will expand the infant mortality surveillance efforts in NYS by providing an in-depth exploration of causes of fetal-infant mortality and highlighting the most critical periods of mortality risk at both the state and county-levels. This will inform targeted prevention efforts to reduce infant mortality and eliminate racial inequities both statewide and in communities across NYS. Further, the Fellow's analysis and reports will help build infant mortality surveillance capacity at NYSDOH by establishing a foundation for the NYSDOH team to routinely incorporate the PPOR approach in ongoing infant mortality surveillance efforts.

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Surveillance System Evaluation Title: New York State Perinatal Quality Collaborative Hospital-Level Perinatal Quality Indicator Reports

Surveillance System Evaluation Description:

The New York State Perinatal Quality Collaborative (NYSPQC) is a nationally recognized initiative that engages a statewide network of birthing hospitals in quality improvement projects to provide high-quality, equitable, and evidence-based care to New York State's (NYS) birthing people and infants. Because the NYSPQC is based in the NYSDOH Division of Family Health, the Fellow will have the unique opportunity to work directly with the NYSPQC in this evaluation project.

To better support NYS's 120 birthing hospitals to monitor perinatal outcomes and conduct quality improvement initiatives, the NYSPQC is interested in implementing periodic hospital-specific reports summarizing a core set of perinatal quality indicators (which may include, but are not limited to, low-risk cesarean deliveries, elective early-term deliveries, unexpected newborn complications, severe maternal morbidity, and obstetric hemorrhage), as well as hospital data quality metrics. In this project, the Fellow will contribute to the development of these perinatal quality reports by evaluating hospital-level data quality of linked birth certificate and inpatient hospital discharge records using the CDC's Updated Guidelines for Evaluating Public Health Surveillance Systems, with particular focus on data quality and timeliness attributes. Findings will be used to design hospital-specific data quality "scorecards" that will be included in the perinatal quality reports. Specifically, the Fellow's evaluation activities will include:

- Evaluate hospital-level missing or unknown data in linked birth certificates and inpatient hospital discharge records for: maternal characteristics, risk factors, and delivery characteristics or diagnoses risk factors
- Evaluate level of agreement between low-risk cesarean rates, a key quality improvement metric, captured in the birth certificate and inpatient hospital discharge records.
- Estimate rates of low-risk cesareans utilizing the NTSV measure in the birth certificate, the Joint Commission measure (using ICD codes in discharge records), and the Society for Maternal and Fetal Medicine low-risk cesarean birth measure.
- Interpret how hospital-level low-risk cesarean rates differ based on the data source and measure.
- Provide a recommendation to the NYSPQC for optimal routine monitoring of low-risk cesarean births.
- The Fellow would also work with the NYSPQC to contribute to the design and implementation of the full perinatal quality reports.

Surveillance System Objectives:

Objectives:

- Gain experience and familiarity evaluating public health surveillance systems in NYS for the purposes of hospital-based quality improvement (e.g., birth records, hospital discharge records)
- Understand the implications of missing data in surveillance systems, gain experience evaluating patterns of missing data, and identify potential sources of bias on analyses due to data quality issues
- Gain experience using ICD codes in administrative claims data to generate diagnosis and procedure variables
- Understand basic principles of quality improvement using the Institute for Healthcare Improvement (IHI) Breakthrough Series Collaborative model. Gain familiarity with the function of statewide perinatal quality collaboratives to provide infrastructure and support to improve care quality and population-level perinatal health outcomes
- Analyze data using appropriate methods for public health surveillance system evaluation. Create statistical analysis program code using statistical software
- Apply a health equity lens to data analysis and interpretation
- Enhance skills in data communication and visualization

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- Develop evidence-based recommendations for healthcare facility partners and public health programs and policies

Deliverables

- A detailed report of aggregate data system evaluation methods, findings and data quality of linked birth certificates and inpatient hospital discharge data to present to the NYSPQC and partners
- A draft hospital-level “data quality scorecard” visualization summarizing hospital data quality metrics. The scorecard will be included in the final perinatal quality reports issued on a periodic basis to NYS birthing hospitals.
- At least one presentation to a relevant state workgroup, committee, or partners

Surveillance System Impact:

This project will contribute to a new hospital-level perinatal quality data report through the development of a scorecard of data quality metrics. NYS birthing hospitals can use this scorecard to inform their efforts to improve the quality of data recorded in birth certificates and hospital discharge records. These reports will serve as critical technical assistance from the NYSPQC to birthing hospitals to support their timely monitoring of perinatal outcomes and data quality.

Major Project Title: Community Context and Area-Level Determinants of Severe Maternal Morbidity

Major Project Description:

Severe maternal morbidity (SMM) is a priority area for the NYSDOH’s New York State (NYS) Prevention Agenda, the Title V Program, and its newly awarded State Maternal Health Innovation Grant. NYS has high SMM burden, SMM rates have been increasing over time, and there are stark and persistent inequities in SMM. The state’s Maternal Mortality Review Board has identified social determinants and community context factors as key drivers of maternal morbidity and mortality that warrant further focus and analysis. In this project, the Fellow will expand the portfolio of SMM work conducted as part of the State Maternal Health Innovation Grant to conduct a novel data linkage between inpatient hospital discharge records and at least one additional data source and conduct an in-depth analysis to better understand area-level and community determinants of SMM in NYS. The Fellow will have the opportunity to select a topic(s) of focus; possibilities may include exploring the relationship between SMM and: housing instability, the Social Vulnerability Index, or residential segregation. Possible data sources for linkage may include PRAMS, Eviction Lab data, US Census, the American Community Survey, or Community Health Rankings. The Fellow will have the opportunity to develop a range of dissemination products from this project, including a conference abstract and a manuscript for a peer-reviewed journal.

Major Project Objectives:

Objectives:

- Conduct a literature review on the topic area
- Gain experience conducting a novel data linkage
- Develop a detailed analytic plan/strategy
- Analyze administrative claims data, employing appropriate statistical methods. Create statistical analysis program code using statistical software (such as SAS, Stata, or R).
- Gain experience using ICD codes to generate diagnosis and procedure variables
- Apply a health equity lens to data analysis and interpretation
- Enhance skills in data communication and scientific writing
- Develop evidence-based recommendations for healthcare facility partners and public health programs and policies

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Deliverables

- A detailed analytic plan
- A slide deck summarizing findings for the NYSDOH Division of Family Health, with at least one accompanying presentation to a state workgroup, committee, or partner
- At least one conference abstract and/or prepare one manuscript for publication in a peer-reviewed journal

Major Project Impact:

This project will grow the NYSDOH SMM portfolio through an in-depth analysis linking social, structural, and area-level determinants with SMM in the state. This is a priority area highlighted in NYSDOH's State Maternal Health Innovation grant to improve understanding of these determinants and inform strategies to reduce SMM and eliminate inequities in NYS.

Additional Project #1 Title: Severe Maternal Morbidity and COVID-19

Project #1 Type: Surveillance Activity

Project #1 Description:

As a possible additional project, the Fellow will have the opportunity to work with NYSDOH staff to analyze hospital discharge records during the COVID-19 pandemic (April 2020-2023) and examine the elevated risk of severe maternal morbidity (SMM) among pregnant people with SARS-CoV-2 infection. Analyses will calculate SMM rates among obstetric patients with SARS-CoV-2 infection, explore risk factors, examine racial and ethnic disparities, and assess elevated risk of SMM by facility level of maternity care. This work will contribute to the SMM portfolio supported by the NYSDOH State Maternal Health Innovation Grant. The Fellow will have the opportunity to contribute to a range of dissemination products for this work, including reports, factsheets, infographics, and possible conference abstract or manuscript preparation.

Project #1 Objectives and Expected Deliverables:

Objectives

- Conduct a literature review on the topic area
- Develop a detailed analytic plan/strategy
- Analyze administrative claims data, employing appropriate statistical methods. Create statistical analysis program code using statistical software.
- Gain experience using ICD codes to generate diagnosis and procedure variables
- Apply a health equity lens to data analysis and interpretation
- Enhance skills in data communication and scientific writing
- Develop evidence-based recommendations for public health programs and policies

Deliverables

- At least one presentation to a relevant state workgroup, committee, or partner
- Contribute to at least one conference abstract
- Contribute to at least one manuscript for publication in a peer-reviewed journal

Project #1 Impact:

This project will improve understanding of the impact COVID-19 on maternal health outcomes in NYS, a priority area and emerging issue highlighted by both the NYSDOH Title V Program and the State Maternal Health Innovation Grant. This project will inform evidence-based decision-making to improve outcomes among obstetric populations with COVID-19 at higher risk of experiencing morbidity.

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Additional Project #2 Title: Qualitative Analysis for the New York State Title V Needs Assessment

Project #2 Type: Major Project

Project #2 Description:

The NYSDOH Title V Block Grant Program, in partnership with the SUNY University at Albany School of Public Health Maternal and Child Health Catalyst Program, will conduct its comprehensive five-year MCH needs assessment during 2024-2025 in fulfillment of its federal grant requirements. The fellow will have opportunities to participate in multiple aspects of the needs assessment, including working with the primary mentor and other NYSDOH staff to design and conduct qualitative data analysis of data from listening sessions and key informant interviews to identify cross-cutting themes of needs, strengths, capacity, and partnerships. The Fellow will also have the opportunity to attend Title V leadership meetings related to the needs assessment and have the opportunity to engage with university partners. Findings from this project will be disseminated in the MCH Needs Assessment report.

Project #2 Objectives and Expected Deliverables:

Objectives

- Supported by in-depth methodologic training from the primary mentor, gain hands-on experience designing and conducting qualitative (thematic) analysis. Understand how to utilize qualitative methods to strengthen applied epidemiology processes and identify priority areas for action to improve state maternal and child health programs and policies
- Identify cross-cutting themes of needs, strengths, capacity, and partnerships. Use qualitative data to develop evidence-based recommendations for public health programs and policies
- Gain experience with and understanding of the Title V Block Grant Program MCH Needs Assessment process, including knowledge of key Title V performance and outcome measures
- Contribute to planning processes for New York State MCH Needs Assessment through the NYSDOH academic-practice partnership
- Enhance skills in data communication and dissemination

Deliverables

- Contribute to report summarizing qualitative analysis methods and findings
- At least one presentation to a relevant state workgroup, committee, or partner

Project #2 Impact:

Findings from this project will be included in the New York State MCH Needs Assessment report and will be disseminated to key partners to identify priority areas for action.

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

The NYSDOH Division of Family Health's Office of the Medical Director has a close working relationship with the NYSDOH Office of Health Emergency Preparedness (HEP). For example, Dr. Marilyn Kacica (the secondary mentor) serves as the maternal and child health subject-matter expert for the Office of HEP. This collaboration is preparing to update the 2017 NYSDOH Pediatric and Obstetric Emergency Preparedness Toolkit, which Dr. Kacica will lead. This Toolkit was initially developed in 2014 and was updated in 2017 under Dr. Kacica's leadership. The Fellow will have the opportunity to have a role in reviewing and updating sections of this revised Toolkit. Time allocation for this activity will be flexible based on the Fellow's interests and will be solidified with the primary and secondary mentors early in the fellowship.

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

The primary and secondary mentors will connect the Fellow with colleagues in the NYSDOH Division of Epidemiology, such as the CDC Career Field Epidemiology Officer (CEFO) assigned to New York State, and work with them to identify opportunities for the fellow to engage in one outbreak investigation as needs arise. Possibilities may include the Fellow joining team calls during an outbreak investigation, conducting basic descriptive statistics, or assisting with writing reports as needed. We would look to identify outbreaks associated with maternal and child health, for example, in Neonatal Intensive Care Units. This project would be limited in scope and time allocated (~1 month). The goals of this opportunity would be for the Fellow to gain an understanding of how state health departments conduct outbreak investigations, generate outbreak reports, and communicate findings.

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

Following the end of the declared public health emergency in spring 2023, the NYSDOH Division of Family Health is not currently engaged directly in COVID-19 response activities. However, as described above, the Fellow will have an opportunity to be involved with both surveillance and in-depth analysis activities examining the impact of the COVID-19 pandemic on severe maternal morbidity (SMM) in New York State, including an analysis assessing elevated risk of SMM among pregnant people with SARS-CoV-2 infection.

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

The Fellow will align with the NYSDOH Division of Family Health in positioning health equity as a core principle in their work, and a health equity lens will be applied throughout the Fellow's project arcs, including equity-driven decision making in data cleaning and analysis, interpretation, dissemination, and recommendations. The Fellow will also complete a comprehensive health equity, diversity, and inclusion curriculum, comprised of 4 courses focused on different aspects of health equity, that the Division of Family Health requires all current and incoming staff to complete.

In addition, the Fellow will have opportunities to engage with the NYSPQC and, depending on the Fellows' interests, contribute to two ongoing statewide quality improvement initiatives focused on improving equity in perinatal care and outcomes in New York State (NYS). The first is the NYSPQC Birth Equity Improvement Project, which launched in January 2021 and aims to assist NYS facilities to identify how individual and systemic racism impacts birth outcomes at the facility level and identify actions to improve both the experience of care and perinatal outcomes for Black birthing people in the communities they serve. The second is the NYSPQC Neonatal Intensive Care Unit (NICU) Equity Project, launched in fall 2023, which assists NYS NICUs in improving outcomes for infants and the experiences of care for their families, with a focus on reducing disparities in infant morbidity and mortality.

The Fellow will also be connected to bureau leadership for the newly formed Bureau of Health Equity and Community Engagement in the Division of Family Health. The Bureau was created to address disparities highlighted in the COVID-19 pandemic and build a foundation for future epidemic responses. The Bureau focuses on expanding and developing mitigation and prevention resources and services for pandemic response, improving data collection and reporting, and building infrastructure for cross-sector partnerships to align public health, healthcare, and social care interventions. The Fellow will work with the mentors and bureau leadership to identify opportunities for involvement based on the Fellow's interests, which may include attending bureau meetings to stay abreast of bureau activities. Additional trainings related to incorporating health equity approaches in public health practice are available at the Division and agency levels as appropriate.