Follow-up of the March 2020 *Audit of the Milwaukee Health Department Childhood Lead Poisoning Prevention Program*

Report from the Public Health Foundation

February 2022

Public Health Foundation

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Introduction

Milwaukee has a very high burden of lead poisoning in comparison to many other cities and states.[1] Over the last decade, the City of Milwaukee has averaged over 2,000 elevated blood lead tests in children each year,[2] and of these, about 100 each year meet the state definition[3] of an "elevated blood lead level." Several cases of lead poisoning each year are children with substantially higher blood lead levels, which have additional urgent needs, including chelation or hospitalization, and additional coordination for case managers. Lead based paint and household dust remain the primary sources of lead poisoning for children in Wisconsin.[4]

Lead poisoning is associated with reduced brain development, poor academic achievement, and a range of behavioral issues such as learning disabilities and increased delinquency.[5] Lower academic scores, [6] juvenile delinquency, [7] and gun violence[8] due to lead poisoning have been documented in Wisconsin. Additionally, lead poisoning disproportionately impacts children of color.[9] In a recent study by the University of Wisconsin-Milwaukee looking at lead poisoning in 215 Milwaukee census tracks, 97% of the census tracks with a high number of elevated blood levels were categorized as majority non-white.[10]

To protect the public's health, the Milwaukee Health Department (MHD) operates a full-service Childhood Lead Poisoning Prevention Program (CLPPP) whose responsibilities include tracking lead poisoning within the city, providing interventions to lead poisoned children, including case management and risk assessment services, conducting and monitoring lead abatement, lead poisoning prevention, and providing guidance, coordination, and policy recommendations.

Scope and Methodology

The Public Health Foundation (PHF) was requested by the City of Milwaukee Office of the Comptroller to conduct a review of individual childhood lead poisoning records from the MHD CLPPP, and assess

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[1] CDC National Blood Lead Surveillance Data. National Surveillance Data table, 2012-2018. https://www.cdc.gov/nceh/lead/data/national.htm. Accessed February 2, 2022. Alabama, Arizona, Connecticut, Colorado, Delaware, District of Columbia, Georgia, Indiana, Kentucky, Louisiana, Minnesota, Mississippi, New Hampshire, New Mexico, North Carolina, Oklahoma, Rhode Island, Tennessee, Vermont, Washington, and West Virginia reported less than 1,500 cases of children with 5 ug/dL or more confirmed blood lead level in 2018.
[2] City of Milwaukee Childhood Lead Poisoning Data and Reports. https://city.milwaukee.gov/health/Lead-Poisoning-Prevention-Data#.XnArecPsYdV. Access February 2, 2022.
[3] Wisconsin Statute 254 defines elevated blood lead level as 20+ ug/dL as confirmed by one venous blood test or 15-19.9 ug/dL, as confirmed by two venous blood tests that are performed at least 90 days apart.
[4] Christensen K, Coons M.J., Walsh R.O., Meiman J.G., Neary E. Childhood Lead Poisoning in Wisconsin. *WMJ.* 2019 Apr;118(1):16-20.
[5] Centers for Disease Control and Prevention. Health Effects of Lead Exposure. https://www.cdc.gov/nceh/lead/prevention/health-effects.htm. Accessed March 15, 2020.
[6] Amato, M.S., Magzamen, S., Imm, P., Havlena, J.A., Anderson, H.A., Kanarek, M.S., Moore, C.F., 2013. Early lead exposure (< 3 years old) prospectively predicts fourth grade school suspension in Milwaukee, Wisconsin. *Environ. Res.* 126, 60–65.
[7] Amato, M.S., Moore, C.F., Magzamen, S., Imm, P., Havlena, J.A., Anderson, H.A., Kanarek, M.S., 2012. Lead exposure and educational proficiency: moderate lead exposure and educational proficiency on end-of-grade examinations. *Ann. Epidemiol.* 22 (10), 738–743.
[8] Emer L.R., Kalkbrenner A.E., O'Brien M, Yan A, Cisler R.A., Weinhardt L. Association of childhood blood lead levels with firearm violence perpetration and victimization in Milwaukee. *Environ Res*. 2020 Jan;180.
[9] Do, D., Lively, M., Jalan, A. 2021. Lead Poisoning and Racism in the Time of COVID-19. *WMJ*. March 2021.
[10] Lynch, E.E., Meier, H.C. 2020. The intersectional effect of poverty, home ownership, and racial/ethnic composition on mean childhood blood lead levels in Milwaukee County neighborhoods. *PLoS ONE.* 15(6).

progress toward addressing findings and observations noted in the March 2020 *Audit of the Milwaukee Health Department Childhood Lead Poisoning Prevention Program* (2020 Audit, City File #190511).

For this follow-up audit, PHF conducted a case review of a sample of MHD CLPPP cases opened between January 1, 2018 and August 1, 2021. During this time period, there were 262 cases opened. PHF selected randomized samples for each year, totaling 75 cases for review (a 28.6% sample). These 75 cases included 75 nursing records and 105 accompanying property records. Child records can be paired with multiple properties, and properties can have multiple children associated with them. In total, PHF reviewed 180 records.

What does a case file include?

A complete case file includes nursing, medical, and developmental records for the child, as well as records on any properties and residences that the child lives in or has lived in. In total, records contained in a case file typically run 200-300 pages.

A complete list of opened cases during this time period was provided by MHD. PHF reviewed both open and closed cases in each year so that auditors could ensure each step of the case management was followed according to relevant policies and regulations. In Figure 1, below, PHF has provided a simplified figure to illustrate the multiple steps and tasks of case management completed by MHD. A Case Review Methodology Supplemental has been provided in Appendix A.

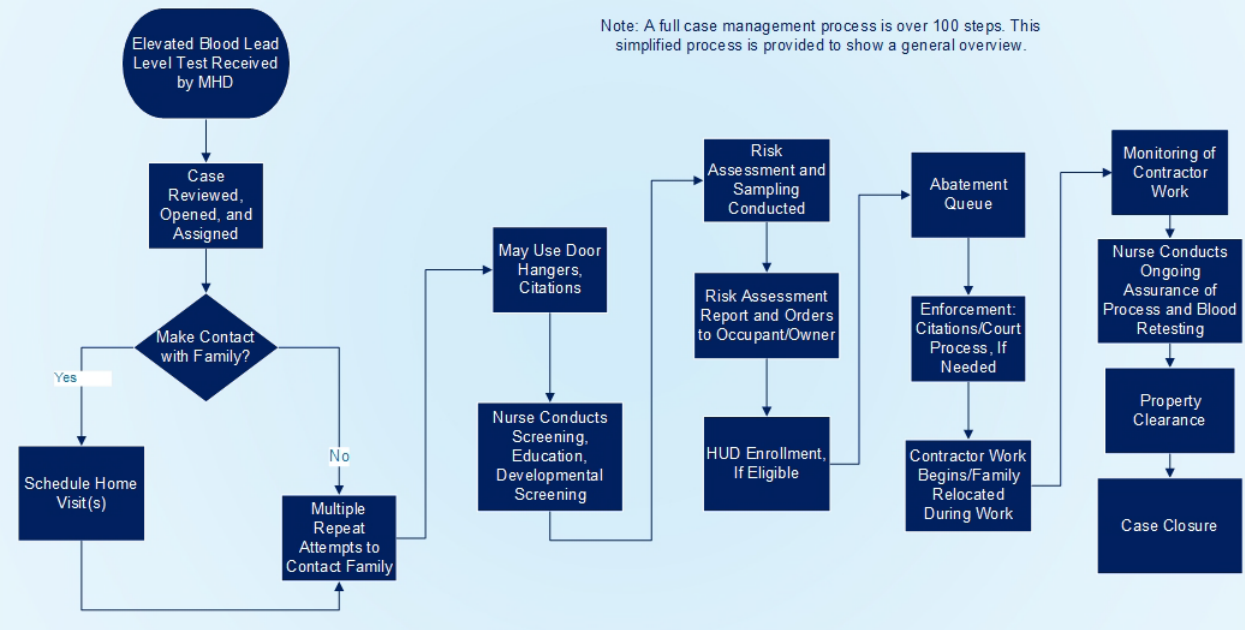


Figure 1 Simplified Flow Chart of Childhood Lead Poisoning Case Management

Status of 2020 Findings[11] and Observations[12] Based on Case Review

2020 Finding 1: Documentation is not sufficient to assure program compliance.

Program documentation and recordkeeping in PHF's case review was vastly improved. As indicated in the 2020 Audit, documentation in the areas related to a) chelation and hospitalization; b) order

[11] A "finding" is a program deficiency based on a statute, policy, code, or funder requirement.
[12] An "observation" is a noted issue or concern that is not based on a regulatory or program requirement.

completion; c) HUD enrollment and progress; d) citations; and e) monitoring and progress of abatement was largely missing. During the follow-up case review, PHF found documentation was 100% complete for chelation, hospitalization, HUD enrollment, and citations, and order completion and monitoring, and progress of abatement were mostly complete, with only dates missing.

2020 Finding 2: Corrective Actions from the 2018 WI DHS Report remain incomplete.

MHD CLPPP has demonstrated corrections to the outstanding items that PHF identified in the 2020 Audit, including a) recordkeeping and documentation systems and filing; b) written policies and procedures adopted and implemented; c) case management of all historic cases; and d) assurance of case follow-up for new cases. Compliance and collaboration with the Wisconsin Department of Health Services (WI DHS) is crucial, as in most of its duties, the MHD CLPPP acts as an agent of WI DHS.

2020 Finding 3: Not all cases adhered to MHD Policy 300-637 on case management assignment.

Significant improvement was documented in compliance with this policy. Case management and follow-up occurred on all sampled cases, and timeframes decreased from the 2020 Audit. MHD Policy 300-637 states that cases "should be reviewed and assigned to a public health nurse within 1 business day of receipt." In PHF's sample there were 59 cases that were reviewed and opened after the effective date of this policy (January 1, 2019). The average time from the elevated blood lead level to referral was 3.5 days (median: 4; range 0-10; 0 missing). In the 2020 Audit, the average was 18 days, with a median of 3 days, and a range of 0-142 days.

The ultimate purpose of this policy is to ensure active case management and follow-up on all cases, which occurred in PHF's sample. Depending on the steps that occur when a case comes into MHD, including data entry and alert of new cases, as well as competing priorities (i.e., hospitalized children), one business day may not always be a feasible timeframe for review and assignment.

2020 Finding 4: Not all cases adhered to MHD Policy 300-660 on environmental investigation.

Significant improvement was documented in compliance with this policy. MHD Policy 300-660 specifies timeframes for environmental investigation based on blood lead level results. These timeframes are: within one week for children with blood lead levels 20-44 ug/dL, within 48 hours for children with blood lead levels 45-70 ug/dL, and within 24 hours for children blood lead levels 70 ug/dL or above. In the 2020 Audit, none of the cases PHF reviewed adhered to this policy.

In PHF's follow-up case review, dates from case open to environmental risk assessment were as follows:

- For 20-44 ug/dL blood lead levels: median 8 days; average 16.6 days; range 0-199 days; 1 missing risk assessment date (one week follow-up per MHD Policy 300-660)
- For 45-70 ug/dL blood lead levels: median 0 days; average 0.5 days; range 0-1 days; 0 missing (48-hour follow-up per MHD Policy 300-660)
- For 70+ ug/dL blood lead levels: median 1.5 days; average 1.5 days; range 1-2 days; 0 missing (24-hour follow-up per MHD Policy 300-660)

Policy 300-660 also stipulates that environmental investigation case assignment should occur "within 24 hours for 20-39.9 ug/dL whenever possible," and for children with blood lead level results 40 ug/dL or higher, "should be assigned within four hours." Dates from initial elevated blood lead level to case review and assignment in the follow-up case review were as follows:

- Median 1 day; average 3.65 days; range 0-58 days; 1 missing case open date (within 24 hours for 20-39.9 ug/dL whenever possible).

2020 Observation 1: Documentation and surveillance systems are inefficient and ineffective.

Records of each case file are currently stored in multiple locations (i.e., paper files and various electronic databases). While PHF did not assess surveillance and documentation systems for this follow-up case review, it was clear f that necessary case information and documentation are not stored in the same place, and piecing together a full case file requires looking in multiple places.

2020 Observation 2: Children being treated for elevated blood lead levels do not always have access to lead-safe housing.

MHD still has limited options and control in supporting and assisting children with elevated blood lead levels in accessing lead-free housing. The process from the time a child is identified with an elevated blood lead level to the abatement and clearance of lead hazards includes numerous steps and can be lengthy. In PHF's follow-up case review, the average length of time from case open to work order completion was 376 days (median 318 days; range 43-1060 days; 11 work order dates missing).

2020 Observation 3: There is a lack of clarity for budget oversight and accountability.

This observation was out of scope for this follow-up audit.

2020 Observation 4: Medicaid is not being fully billed for Medicaid-eligible services.

Documentation provided by the Wisconsin Medicaid office indicated a total number of approved reimbursements for nursing visits, environmental investigations, and clearances. It is clear MHD is billing Medicaid. PHF was unable to obtain further information to verify the billing process or if billing is occurring for all eligible visits and properties.

2020 Observation 5: There is some uncertainty in the completeness of risk assessments.

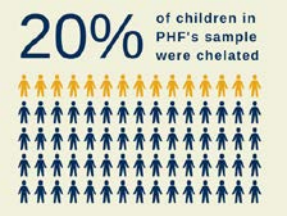
Improvements in documentation of completeness of risk assessments were noted in the follow-up case review. All files contained risk assessments and lab results and/or XRF readings. However, in 28 of the 81 properties in PHF's sample where lead hazards were found, there was no indication of soil samples being taken. In some of these cases, soil samples were likely not indicated due to the property being an apartment complex. In all cases, documentation of soil samples being taken or soil samples not being necessary should be included in the case files.

Summary Analysis of Case Review

From January 1, 2018 through August 1, 2021, there were 262 cases opened. PHF selected randomized samples for each year, totaling 75 cases for review. These 75 cases included 75 nursing records and 105 accompanying property records. Child records can be paired with multiple properties, and properties can have multiple children associated with them. In total, PHF reviewed 180 records.

The sample included children who were 1-10 years of age at program enrollment, with an average age at case open of 2.96 (median: 2.52), from 15

different Milwaukee ZIP codes.[13] Reported race and ethnicity data for the sample is as follows: 10.5% Asian, 24% Latino/Hispanic, 65.8% Black/African American. Some children may identify as multi-racial.



Eleven of the 75 cases had elevated blood lead levels over 40 ug/dL (micrograms per deciliter), with an average initial elevated blood lead level of 30.7 (median 26.7, range 15.5-184). Fifteen of these children received chelation[14] upon enrollment or during program follow-up.

An analysis of recorded dates shows the median time it took for a child in PHF's sample to move through the MHD case management process:

- Four days from the initial elevated blood lead level to nursing case open date (average 3.5 days; range 0-10 days; 0 missing)
- One day from initial elevated blood lead level to environmental case open (average 3.65 days; range 0-58 days; 1 missing case open date)
- Zero days from nursing case open to contact date (average 1.45 days; range 0-11 days; 0 missing)
- One day from case open to environmental contact date (average 2.78; range 0-58; 3 missing)
- Seven days from case open to risk assessment (average 14 days; range 0-199 days; 1 missing risk assessment date)
- Seven days from case open to case management visit (average 13.95; range 0-372; 0 missing)
- Nineteen days from risk assessment date to report (average 26.5 days; range 0-128 days; 1 missing risk assessment date)
- Three hundred and eighteen days from case open to work order completion date (average: 376; range 43-1060; 11 missing work order dates)
- Three hundred and seventy-one days from environmental referral/case open to investigation closure (average: 437; range 63-1096; 1 missing case open date)
- Four hundred and seventy days from case open to case closure (average 500 days; range 287-687; 0 missing)

Additional analysis from PHF's sample:

- Thirty cases required multiple contact attempts after elevated blood lead level
- Warrants were issued for 0 properties
- Lead hazards were found in 81 properties (through August 1, 2021)
- Risk assessment reports were completed for 81 properties of the 81 applicable properties
- XRF or lab results documented for 81 of the 81 applicable properties
- Soil samples documented for 53 of the 81 applicable properties
- MHD orders were provided for 81 of the 81 applicable properties
- Two documented evictions
- Five homes sold with active lead orders
- One home foreclosed
- One home repossessed by the city
- Citations issued for property owner non-response for 10 of the 81 properties with lead orders

[13] Zip codes: 52304 (10); 53205 (6); 53206 (10); 53207 (1); 52208 (11); 53209 (3); 53210 (11); 53212 (4); 53215 (9); 53216 (3); 53218 (1); 53221 (1); 53232 (2); 53224 (2); 53223 (1)

[14] Chelation therapy is a treatment where a medication is given by mouth. The medication may bind with lead and remove it from the body. Chelation is often an indication of a very high blood lead level.

- Multiple citations were issued for property owner non-response for 6 of the 81 properties with lead orders
- Abatements were completed for 51 of the 81 properties with lead orders (through August 1, 2021)
- Of the 51 abatements, 46 had monitoring visits and 5 were missing monitoring documentation

Brief Note on the 2020 Recommendations

Although the 2020 recommendations were not part of PHF's scope for this follow-up audit, PHF noted progress in many of these areas, as well as a continued need for focus and progress in these areas. The need for self-monitoring, oversight, and quality control in case response, as indicated in the 2020 Audit Recommendations 1 and 4, remains crucial. In addition, the case review highlighted challenges and gaps in care that were due to complex socio-economic factors (i.e., living in multiple addresses, eviction, need for wraparound services and additional resources). To better address these challenges, the CLPPP may benefit from unique or creative staffing models, such as embedded social workers, as discussed in 2020 Audit Recommendation 7. Social workers can help risk assessors and nursing staff support families in navigating additional needed resources (e.g., WIC, healthcare, educational supplies), and build trust. Finally, in the context of the continued pandemic, it is important to build relationships and partnerships across the city to improve lead screening rates, provide lead education, and conduct lead poisoning prevention activities (2020 Audit Recommendations 10, 11, 12, 13, 15, 16, 17).

Conclusions

PHF's follow-up case review highlighted that MHD's case follow-up, documentation, and timely response have all improved since the 2020 Audit. Case management and follow-up had occurred or was occurring on each of the sampled cases. Follow-up timeframes have decreased and MHD continues to take additional steps to improve processes and outcomes. Potential areas for improvement include improved documentation, aligned data systems, and better addressing barriers in complex cases.

About the Public Health Foundation

The Public Health Foundation (PHF), a private, non-profit, 501(c)(3) organization based in Washington, D.C., works to improve public health and population health practice to support healthier communities. Over the past decade, PHF has provided quality and process improvement, performance management, and workforce development technical assistance and training to more than 500 state, city, county, tribal, and territorial health departments. The follow-up audit team included: Vanessa Lamers, Assistant Director, Performance Management and Quality Improvement; Margaret Anne Vosel, Field Review and Audit Lead; Amanda McCarty, Performance Measurement and Management Lead; Nolan Gill, Health Communications Associate, Performance Management and Quality Improvement; and Ron Bialek, PHF President. Brief biographies for each team member are available in Appendix B.

Appendix A: Case Review Methodology Supplemental

Overview of Review

PHF assessed and reviewed case files using documented best practices for nursing and clinical case management. [1] [2] PHF developed a case review process and audit tool during the 2020 Audit by referencing the WI DHS audit tool and MHD CLPPP programmatic requirements.

For this follow-up audit, PHF conducted a case review of a sample of MHD CLPPP cases opened between January 1, 2018 and August 1, 2021. During this time period, there were 262 cases opened. PHF selected randomized samples for each year, totaling 75 cases for review (a 28.6% sample). These 75 cases included 75 nursing records and 105 accompanying property records. Child records can be paired with multiple properties, and properties can have multiple children associated with them. In total, PHF reviewed 180 records.

A complete list of opened cases during this time period was provided by MHD. Lists were separated for each year, randomized into open and closed cases, and samples for each year were pulled by MHD. PHF reviewed both open and closed cases in each year so auditors could ensure each step of the case management was followed according to relevant policies and regulations.

PHF reviewers evaluated 30 components for each nursing case management file (listed below) and 36 components for each environmental investigation file (listed below). PHF also:

- Collected qualitative notes for each case
- Looked for patterns and clarity in documentation, record completeness and staff properly signing off or documenting notes
- Observed adherence to proper documentation, including dates being included in notes, as well as copies of letters and/or statements of work
- Reviewed progress notes

PHF developed an Excel-based audit tool to collect consistent information on the specific components. This included the collection of dates in order to calculate response times, and to assess compliance with WI DHS requirements. The collection of dates also was used to facilitate an analysis to identify gaps, bottlenecks, or barriers between process steps and assure that timeframes for follow-up adhered to MHD CLPPP policies.

Components reviewed in each case management record:

1. Case number
2. Child's date of birth
3. Child's zip code
4. Child's race
5. Child's ethnicity

[1] ANA's Principles for Nursing Documentation. Guidance for Registered Nurses. 2010. http://www.nursingworld.org/~4af4f2/globalassets/docs/ana/ethics/principles-of-nursing-documentation.pdf

[2] Woten, M., Karakashian, A. 2017. Evidence Based Care Sheet. Audits, Nursing: An Overview. https://www.ebscohost.com/assets-sample-content/NRC_Plus__Nursing_Audits_an_Overview___EBCS.pdf

6. Indication of whether the sample test was capillary or venous
7. Date of sample test
8. Date of follow-up confirmatory test
9. Date confirmed test result was received by CLPPP
10. Initial elevated blood lead level
11. Date the case was opened (internally)
12. Was the family contacted?
13. Date the family was contacted
14. Did contacting the family require more than one contact attempt?
15. If the family required more than one contact attempt, or if three contacts were necessary, were these all documented?
16. If the family was not contacted, was the case returned to the supervisor for review?
17. If the family was not contacted or they refused to work with CLPPP staff, was a warrant obtained?
18. Was chelation done?
19. Was any coordination with the lead risk assessor assigned to this case noted in the case management record?
20. Did a case manager complete a home visit?
21. Date of case management home visit
22. Was a developmental screening completed?
23. Were follow up visits made?
24. Was a follow up contact made to schedule repeat blood test?
25. Was the follow up blood test tracked?
26. Case closed date
27. Did the case meet case closure criteria?
28. Is a closure report included in the record?
29. General comments important to note regarding the case
30. Additional comments

Components reviewed in each environmental health record:

1. Case number
2. Child's date of birth
3. Child's zip code
4. Elevated blood lead level
5. Date of EBLL
6. Date the case was opened (internally)
7. Is the case still open?
8. Initial date of the first family contact attempt
9. Was the family contacted?
10. Date the family was contacted
11. Did contacting the family require more than one contact attempt?
12. Environmental risk assessment date
13. Were hazards found?
14. Is the environmental risk assessment report in the record?
15. Risk assessment report date
16. Were lab results and/or XRF readings present?
17. Was a soil sample documented?
18. Date the environmental risk assessment report was sent to property owner and tenant, if applicable
19. Were work orders completed?
20. Date work orders were completed

21. Date work orders were sent to home owner and tenant
22. Did the property owner respond to the work orders within the allotted period?
23. Was a citation written due to no response from the property owner?
24. Was more than one citation issued?
25. Was HUD enrollment completed?
26. Date abatement work began on property
27. Are monitoring visits noted in the record?
28. Was a clearance conducted?
29. Date of clearance
30. Are clearance/dust wipe results in the record?
31. Is a clearance report included in the record?
32. Was the environmental investigation closed?
33. Is a closure report in the record?
34. Date the case was closed
35. General comments important to note regarding the case
36. Other circumstances (home sold, foreclosure, etc.)

Appendix B: The Public Health Foundation Team

The Public Health Foundation (PHF), a private, non-profit, 501(c)(3) organization based in Washington, DC, works to improve public health and population health practice to support healthier communities. Since 1970, PHF has developed effective resources, tools, information, and training for health agencies, organizations, and individuals to help improve performance and community health outcomes. Over the past decade, PHF has provided quality and process improvement, performance management, and workforce development technical assistance and training to more than 500 state, city, county, tribal, and territorial health departments.

The team assembled for this project has years of experience and expertise in assessing and improving program and organizational performance. Team members have assessed, developed, implemented, and improved health department programs; and developed quality and process improvement and performance management system methods and tools. Team members are the following:

Ron Bialek, MPP – President, PHF – Mr. Bialek has more than 35 years of experience in public health practice and academia, leading efforts to improve the quality, performance and outcomes of public health agencies and systems. He has extensive experience in providing capacity building assistance to build public health infrastructure and improve performance of the workforce and public health agencies at the national, state and local levels. Mr. Bialek has led the national efforts that resulted in establishment of the consensus set of Core Competencies for Public Health Professionals and the Council on Linkages Between Academia and Public Health Practice. He has led the Public Health Foundation's efforts to develop the nation's premier public health learning management network, TRAIN, and the population health driver diagram framework to help communities align actions of public health, healthcare, and other organizations when addressing specific community health challenges.

Mr. Bialek has developed policies and programs with and for local and state health departments to build workforce competencies, performance management systems, and quality improvement initiatives. He is a national leader in capacity building assistance, including developing public health practice guidelines, community health and public health system performance assessment techniques, and building partnerships between health departments, hospitals and health systems, and academic institutions. He has extensive experience in designing and delivering training to public health professionals in state, municipal, county, tribal, and territorial health departments working to improve quality, performance, and outcomes of individuals, programs, and organizations in the areas of performance management, public health practice, and community health assessment.

Vanessa Lamers, MESc, MPH – Assistant Director, Performance Management and Quality Improvement, PHF – Ms. Lamers has more than 10 years of expertise in understanding needs and functions of public health professionals, and providing targeted assistance that addresses timely, identified challenges. She leads programming to build capacity of state, municipal, county, tribal, and territorial health department staff, and develops resources, tools, and training to improve program and organizational performance and quality. Ms. Lamers has concentrated expertise in environmental health, including environmental epidemiology, environmental health assessment, vector control, drinking water, and lead and healthy homes, and her contributions have led to documented improvements in the quality and efficiency of environmental health programs and processes. Before joining PHF, Ms. Lamers spent several years teaching and conducting research on environmental health topics.

Margaret Anne Vosel, BSN, RN – Audit and Field Review Lead - Ms. Vosel oversaw the Alabama Childhood Lead Program as Director of Women's and Children's Health Division for the Alabama Department of Public Health (ADPH). With ADPH for more than 15 years, she performed countless program reviews and federal compliance audits to ensure high-performing health department operations. For lead poisoning programs, Ms. Vosel was responsible for reviewing all processes for identifying and responding to elevated lead levels, streamlining processes, and identifying targeted opportunities for follow-up. She performed executive management of Alabama's lead program, including program budget,

personnel, data, and performance reviews. She monitored lead testing results, how ADPH utilized case managers for follow-up with families, remediation of homes with lead exposure, and ADPH's partnership with Medicaid. Ms. Vosel has worked extensively as a nurse supervisor and trainer in Maternal and Child Health programs within the Alabama Department of Rehabilitation Services and ADPH. She also was the Director for Alabama's Title X Family Planning Program with 82 clinical sites statewide. Ms. Vosel has vast experience with federal grant management including budgets, contracts, data collection, developing quality improvement measures and monitoring private and public billing practices. She participated in numerous federal grant audits, responding to and developing corrective action plans where needed. Ms. Vosel has experience developing clinical program policies and procedures to reflect grant requirements, state statutes and clinical best practice.

Amanda McCarty, MS, MBA – Performance Measurement and Management Lead - Ms. McCarty helps agencies improve their performance management systems and delivers performance management training, coaching, and consultations. Ms. McCarty has 16 years of experience in public health performance management, including evaluation, project management, quality improvement, and change leadership in government, corporate, not-for-profit, clinical, and academic settings. She is a subject matter expert in process improvement, program evaluation, and change leadership within public health and healthcare delivery organizations. Through PHF, Ms. McCarty provides training to health departments and their staffs who are working to improve performance, quality, and outcomes of program work. She was formerly the Director of the Center for Performance Management for the West Virginia Bureau of Public Health, and is currently Assistant Professor in Health Service Administration at West Virginia University Institute of Technology, researching and teaching courses in public health, health service, and sociology. Ms. McCarty is known for her ability to connect with department staff, develop a good understanding of department goals and objectives, and design performance management systems to improve operations, overcome challenges, and drive key performance indicators.

Nolan Gill - Health Communications Associate, Performance Management and Quality Improvement, PHF – Mr. Gill supports the development and dissemination of communications for the public health and population health workforce. He develops promotions, infographics, toolkits, and resources to promote public health guidance and best practices. Mr. Gill formerly worked in the Medicaid and Long-Term Care Division for the State of Nebraska as a Communications Specialist. In this capacity, he created healthcare communications focused on statewide providers, Medicaid programs, and important stakeholder updates. Mr. Gill also enjoyed time as a News Producer and Journalist for KFOR Radio in Lincoln, NE, writing and broadcasting local and statewide news stories.