Environmental Health Tracking and Biomonitoring Advisory Panel Meeting February 13, 2024

1:00 P.M. – 3:30 P.M.

Via Microsoft Teams

Minnesota Department of Health
Environmental Health Tracking and Biomonitoring
PO Box 64975
St. Paul, MN 55164-0975
1-800-205-4987
health.biomonitoring@state.mn.us
www.health.state.mn.us

Contents

Agenda Overview

Date: 2/13/2024

Welcome & Agenda

1:00 p.m.

Chair Lisa Yost will welcome attendees to the meeting. Panel members are invited to introduce themselves and changes in panel membership will be shared. Lisa will give an agenda overview.

New Jersey Biomonitoring's Prenatal Screening and Interventions for Mercury and Lead Program

1:10 p.m.

Eric Bind, Program Manager for the NJ Department of Health Biomonitoring and Exposure Assessment Program will give an overview of their prenatal screening program for mercury and lead. Panel members are invited to ask questions.

Mercury in Skin Lightening Products: Recent Developments in National/ International Trade and Policy

2:10 p.m.

John Gilkeson of the Minnesota Pollution Control Agency will give an update on recent meetings and other state, national, and international developments. Amira Adawe, Executive Director and Founder of The Beautywell Project, will provide comments as well. Panel members are invited to ask questions.

Healthy Kids Minnesota: Updates and Looking Ahead

2:50 p.m.

MDH Biomonitoring staff Fathi Ahmed and Jessica Nelson will present updates on recruitment and results sharing for Healthy Kids Minnesota and will look ahead to the upcoming CDC competitive grant application. Panel members are invited to ask questions.

3:05 p.m. Questions and Discussion

Questions for Panel

- What are the successes and key learnings from Healthy Kids Minnesota that we should highlight and build upon for our upcoming funding application?
- Do you have any other recommendations or advice as we write the funding application?

Public Comments, Audience Questions, New Business

3:20 p.m.

Motion to Adjourn

3:30 p.m.

New Jersey Biomonitoring's Prenatal Screening and Interventions for Mercury and Lead Program

Speaker Biosketch

Eric Bind is a cofounder of and the Program Manager for the NJ Department of Health's Biomonitoring and Exposure Assessment Program (NJ Biomonitoring). He is also the founder and lead of the Prenatal Screening Program. Prior to leading NJ Biomonitoring, Mr. Bind ran the NJDOH Metals Laboratory testing for elements in clinical, environmental, and food samples. He previously worked at the Maryland Department of Health, the Johns Hopkins School of Medicine, and Harvard University conducting chemical and molecular research, while receiving his master's in public policy from American University. He currently serves on the Delaware River Basin Commission's Toxics Advisory Committee as the Chair and Public Health Representative, on the Association of Public Health Laboratories' Environmental Health Committee, and as a member of multiple environmental health, food, toxic elements, and biomonitoring-focused subcommittees and work groups. Mr. Bind works towards increased biomonitoring awareness, collaboration, and funding at the state and national levels.

Brief Description

NJ Biomonitoring's Prenatal Screening Program tests high-risk mothers and babies for exposure to mercury and lead, offering support and interventions to those with elevated blood levels. The program has identified thousands of exposures that would have otherwise gone undiagnosed and implemented interventions that have reduced exposure, improved health outcomes, and identified several public health gaps NJ Biomonitoring is working to address.

A recent profile of the program is available on the CDC web site at Keeping Babies Safe from Lead and Mercury | Environmental Health Features (https://www.cdc.gov/nceh/features/keeping-babies-safe-from-lead-and-mercury/index.html).

Mercury in Skin Lightening Products: Recent Developments in National/ International Trade and Policy

Background on Topic and Speakers

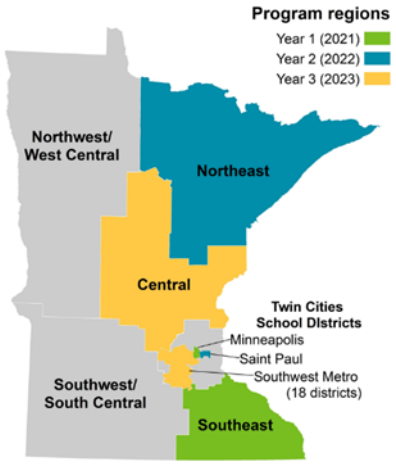
In November 2023, the fifth Conference of the Parties (COP-5) of the Minamata Convention on Mercury was held in Geneva, Switzerland. One of the topics discussed and acted upon was strategies for ending the international sale and distribution of mercury-containing skin lightening products. Leading up to and since the conference concluded, meetings with the U.S. State Department and other agencies have been held on the topic. This includes a new Eliminating Mercury Skin Lightening Products project stakeholder group that is part of the United Nations Environment Programme's (U.N.E.P.) project.

John Gilkeson from the Minnesota Pollution Control Agency, long-time staff member working on mercury in skin lightening and other consumer products, will share a summary of the importance of the Minamata Convention developments and other recent meetings, and reflect on the role of current work in Minnesota.

Amira Adawe, Founder and Executive Director of The Beautywell Project, attended the Minamata Convention and is a chair of the U.N.E.P. stakeholder group. She will share comments on the recent meetings and developments, and work in Minnesota. For more on Amira's work, see the CNN White Lies profile (https://www.cnn.com/videos/world/2021/11/11/ending-skin-lightening-beautywell-orig-ts-mss.cnn).

Healthy Kids Minnesota: Updates and Looking Ahead

Healthy Kids Minnesota Program Update



Healthy Kids Minnesota is a U.S. Centers for Disease Control and Prevention (CDC) funded program partnering with Early Childhood Screening (ECS) programs at local public health agencies, school districts, and tribal nations to recruit preschool-age children for environmental chemical exposure screening. The program will rotate in five regions in the state (see map), focusing on one non-Metro and one Metro region per year. Our goal is to reach 250 – 300 children per community in each program cycle.

Current Recruitment

Recruitment for our third program cycle, Healthy Kids Minnesota 2023, is underway in the West/Southwest Metro and Central Minnesota. Three sites are actively recruiting children, and three more sites will get underway in February/March 2024.

- Wadena County Public Health, Todd County Public Health, and Bloomington Public Schools have been trained and recruitment is ongoing. Combined for these sites, recruitment numbers stand at 157 children recruited with urine samples collected. Twenty-eight families have requested a free private well test kit.
- Financial contracts are near-complete with Princeton Public Schools (including in-kind support from Mille Lacs County Public Health), Big Lake Public Schools, and Sherburne County Health and Human Services (who will be assisting with recruitment in Big Lake). These sites will be trained in February and recruitment will begin in February (Princeton) and March (Big Lake).
- A financial contract is close to being submitted with Edina Public Schools. Training will happen in February, and we hope recruitment will begin that month as well.

Past Program Cycles

The first program cycle, Healthy Kids Minnesota 2021, worked with partners in Minneapolis and Southeast Minnesota to recruit 453 children with urine samples collected. Two of three results packets have been mailed to families, with the final mailing to be sent in Spring 2024. All materials are translated into four languages (Hmong, Karen, Somali, Spanish). Data analyses are underway, and summary results will be presented to the Advisory Panel at the June 2024 meeting. Preliminary results were presented at the June 2023 Advisory Panel meeting and the National Biomonitoring Meeting in January 2024 (see below).

For the second program cycle, partners in Northeast Minnesota and St. were successful in recruiting 541 children total with urine samples collected. The first results mailing to families went out in January 2024.

Responding to Elevated Cases

Testing has identified 57 children with urine results for one of three metals (arsenic, manganese, and mercury) above exposure-based follow-up levels. This includes 30 arsenic cases, 25 manganese cases, and two mercury cases. MDH staff have been calling families to share the results, answer their questions, ask about possible sources of exposure, and offer a free urine re-test and other advice/interventions to reduce exposure. More information about this response will be presented at the meeting.

Looking Ahead

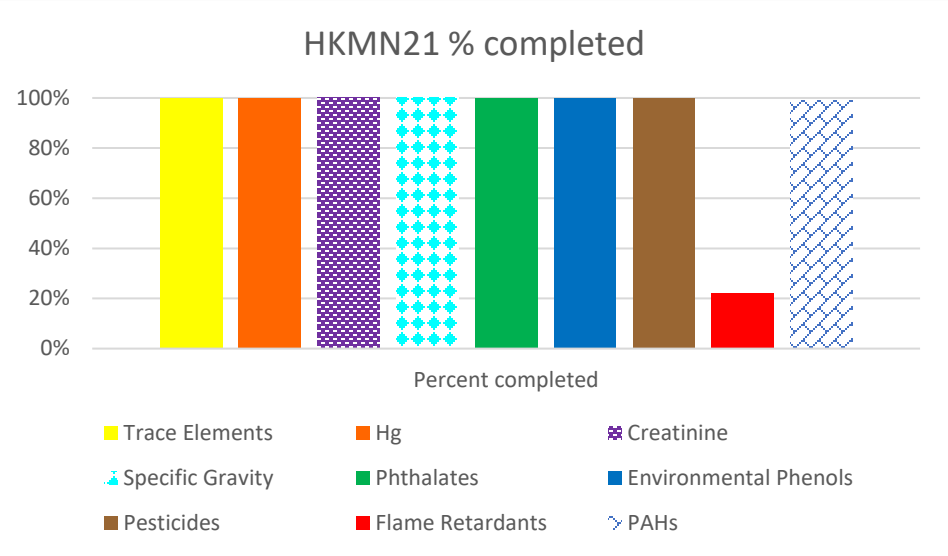
We are in the 5th year of our 5-year CDC cooperative agreement. A new Notice of Funding Opportunity (NOFO) will be announced in mid-February, with a spring due date. We plan to re-apply for the funding opportunity to continue Healthy Kids Minnesota and complete the 5-year cycle of statewide recruitment. We will pause Healthy Kids Minnesota recruitment for one year, hopefully beginning again in summer/fall 2025 if we receive CDC funding. At the same time, staff are working toward full, sustainable state funding for the program.

Healthy Kids Minnesota Laboratory Update

Laboratory analysis for Healthy Kids Minnesota 2021

- 453 samples have been collected and received by the PHL for Healthy Kids Minnesota 2021.
- Analyses completed for all samples include: Creatinine and specific gravity, pesticides, environmental phenols, phthalates and plasticizer metabolites, and hydroxy PAHs (see Figure 1).
- The analysis for flame retardant metabolites is ongoing and expected to be completed in March.

Figure 1. Percent of 453 samples analyzed for each method in Healthy Kids MN



Laboratory analysis for Healthy Kids Minnesota 2022

- 539 samples have been collected and received by the PHL for Healthy Kids Minnesota 2022.
- Trace elements and mercury analysis have been completed for all samples.
- Creatinine and specific gravity analyses have been completed for all samples.
- Phthalates and plasticizer metabolites analysis and environmental phenols analysis have been completed for about 50% of samples.
- Hydroxy PAH analysis will begin in February.
- Pesticide metabolites analysis will begin in March.
- Flame retardant metabolites analysis will begin in March.

Laboratory analysis for Healthy Kids Minnesota 2022

138 samples have been received for Healthy Kids Minnesota 2023. The analyses for trace elements, mercury, creatinine, and specific gravity are completed within a month of receipt.

Recent Articles/Presentations

- Jessica Nelson, Fathi Ahmed. *Skin lightening, mercury, and health impacts in Minnesota* [presentation]. Minnesota Environmental Health Association Winter Conference, January 30, 2024, Brooklyn Center, MN.
- Jessica Nelson, Fathi Ahmed, Sheila Amenumey, Jason Peterson, Stefan Saravia, Lisa Strong. *Elevated Arsenic Cases and Public Health Response in Healthy Kids Minnesota* [presentation]. 2024 National Biomonitoring Meeting, January 10-14, 2024, Honolulu, HI.

- Sheila Amenumey, Fathi Ahmed, Jessica Nelson, Carin Huset, Jason Peterson, Stefan Saravia. *Identifying Exposure Differences in Healthy Kids MN 2021 Participants* [presentation]. 2024 National Biomonitoring Meeting, January 10-14, 2024, Honolulu, HI.
- Jessica Nelson, Fathi Ahmed. *Healthy Kids Minnesota Program* [presentation]. Monthly Minnesota Department of Education webinar for Early Childhood Screening programs, November 21, 2023, online.
- Jessica Nelson. *Healthy Kids Minnesota Program* [presentation]. Tribal and Urban Indian Health Directors Meeting, November 16, 2023, Shakopee, MN.

Questions for Advisory Panel

- What are the successes and key learnings from Healthy Kids Minnesota that we should highlight and build upon for our upcoming funding application?
- Do you have any other recommendations or advice as we write the funding application?

MN Tracking Updates

Portal evolving to scalable technology

The MN Data portal is undergoing some changes. Individual topics will be updated using an open source programming language that provides an elegant and powerful web framework for building web applications. Our goals for this endeavor include:

- easier and more cost effective maintenance,
- distributed access to update the data, and
- improved data visualizations and user-friendly functionality.

To address the latter, we currently are conducting usability testing in collaboration to ensure that the data visualizations and functionality are, in fact, easy to use. Stay tuned for a reveal of the improved layout and functionality this summer.

Section Overview: Other Information

This section contains documents that may be of interest to panel members.

- Upcoming Advisory Panel meeting dates
- Environmental Health Tracking and Biomonitoring Advisory Panel Statute
- Advisory Panel roster
- Biographical sketches of Advisory Panel members
- Biographical sketches of staff

Upcoming Advisory Panel Meeting Dates

Advisory Panel meetings in 2024:

- June 11, 2024
- October 8, 2024

Unless otherwise announced, these meetings will take place from 1 - 4 pm.

via Microsoft Teams

144.998 ENVIRONMENTAL HEALTH TRACKING AND BIOMONITORING ADVISORY PANEL STATUTE

Subdivision 1. **Creation.** The commissioner shall establish the Environmental Health Tracking and Biomonitoring Advisory Panel. The commissioner shall appoint, from the panel's membership, a chair. The panel shall meet as often as it deems necessary but, at a minimum, on a quarterly basis. Members of the panel shall serve without compensation but shall be reimbursed for travel and other necessary expenses incurred through performance of their duties. Members appointed by the commissioner are appointed for a three-year term and may be reappointed. Legislative appointees serve at the pleasure of the appointing authority.

Subd. 2. **Members.** (a) The commissioner shall appoint eight members, none of whom may be lobbyists registered under chapter 10A, who have backgrounds or training in designing, implementing, and interpreting health tracking and biomonitoring studies or in related fields of science, including epidemiology, biostatistics, environmental health, laboratory sciences, occupational health, industrial hygiene, toxicology, and public health, including:

(1) At least two scientists representative of each of the following:

(i) Nongovernmental organizations with a focus on environmental health, environmental justice, children's health, or on specific chronic diseases; and

(ii) Statewide business organizations; and

(2) At least one scientist who is a representative of the University of Minnesota.

(b) Two citizen panel members meeting the specific qualifications in paragraph (a) shall be appointed, one by the speaker of the house and one by the senate majority leader.

(c) In addition, one representative each shall be appointed by the commissioners of the Pollution Control Agency and the Department of Agriculture, and by the commissioner of health to represent the department's Health Promotion and Chronic Disease Division.

Subd. 3. **Duties.** The advisory panel shall make recommendations to the commissioner and the legislature on:

(1) Priorities for health tracking;

(2) Priorities for biomonitoring that are based on sound science and practice, and that will advance the state of public health in Minnesota;

(3) Specific chronic diseases to study under the environmental health tracking system;

(4) Specific environmental hazard exposures to study under the environmental health tracking system, with the agreement of at least nine of the advisory panel members;

(5) Specific communities and geographic areas on which to focus environmental health tracking and biomonitoring efforts;

(6) Specific chemicals to study under the biomonitoring program, with the agreement of at least nine of the advisory panel members; in making these recommendations, the panel may consider the following criteria:

(i) The degree of potential exposure to the public or specific subgroups, including, but not limited to, occupational;

(ii) The likelihood of a chemical being a carcinogen or toxicant based on peer-reviewed health data, the chemical structure, or the toxicology of chemically related compounds;

(iii) The limits of laboratory detection for the chemical, including the ability to detect the chemical at low enough levels that could be expected in the general population;

(iv) Exposure or potential exposure to the public or specific subgroups;

(v) The known or suspected health effects resulting from the same level of exposure based on peer-reviewed scientific studies;

(vi) The need to assess the efficacy of public health actions to reduce exposure to a chemical;

(vii) The availability of a biomonitoring analytical method with adequate accuracy, precision, sensitivity, specificity, and speed;

(viii) The availability of adequate biospecimen samples; or

(ix) Other criteria that the panel may agree to; and

(7) Other aspects of the design, implementation, and evaluation of the environmental health tracking and biomonitoring system, including, but not limited to:

(i) Identifying possible community partners and sources of additional public or private funding;

(ii) Developing outreach and educational methods and materials; and

(iii) Disseminating environmental health tracking and biomonitoring findings to the public.

Subd. 4. **Liability.** No member of the panel shall be held civilly or criminally liable for an act or omission by that person if the act or omission was in good faith and within the scope of the member's responsibilities under section 144.995 to 144.998.

Environmental Health Tracking & Biomonitoring Advisory Panel Roster as of February 2024

Panel Member	Panel Member
Jay Desai, PhD, MPH Chronic Disease and Environmental Epidemiology Minnesota Department of Health 85 E. 7th Place St. Paul, MN 55164 651-201-5882 Jay.Desai@state.mn.us MDH appointee	Jill Heins Nesvold, MS American Lung Association of Minnesota 490 Concordia Ave St Paul, MN 55103 651-223-9578 Jill.heins@lung.org Nongovernmental organization representative
Sarah Kleinschmidt, PhD 3M Company 3M Center, 220-6W-1 St. Paul, MN 55144 651-736-5485 sekleinschmidt@mmm.com Statewide business organization representative	Ruby Nguyen, PhD Univ. of MN, School of Public Health Div of Epidemiology & Community Health 7525A 1300 S 2nd St, Suite 300 WBOB Minneapolis, MN 55454 612-626-7559 nguyen@umn.edu University of Minnesota representative
Jenni Lansing, MS, REHS City of Minneapolis Health Department – Environmental Programs 505 4th Ave S. Room 520 Minneapolis, MN 55415 612-709-9977 Jenni.Lansing@minneapolismn.gov At-large representative	Sona Psarska, MS Minnesota Pollution Control Agency Water Assessment Section 520 Layfette Road St Paul, MN 55155-4194 651-757-2781 Sona.Psarska@state.mn.us MPCA appointee

Panel Member	Panel Member
Rajinder Mann, PhD Minnesota Dept. of Agriculture Pesticide & Fertilizer Management Division 625 Robert St N St Paul, MN 55155-2538 651-201-6208 Rajinder.mann@state.mn.us MDA appointee	Eileen Weber, DNP, JD, PHN, BSN, RN Univ of MN, School of Nursing (active retiree status) 10623 Nyberg Ave S Hastings, MN 55033 651-276-1730 eileenokeefeweber@gmail.com Nongovernmental organization representative
Zeke J. McKinney, MD, MHI, MPH, FACOEM HealthPartners Occupational and Environmental Medicine/Institute Univ. of MN, School of Public Health HealthPartners St. Paul Clinic 205 S. Wabasha St. St. Paul, MN 55107 zeke@umn.edu At-large representative	Lisa Yost, MPH, DABT Ramboll Environ Local office 479 Iglehart Ave St Paul, MN 55101 651-470-9284 lyost@ramboll.com National business organization representative

Vacant Seats

- Minnesota Senate appointee
- Minnesota House of Representatives appointee
- Statewide business organization representative

Biographical Sketches of Advisory Panel Members

Jay Desai is the Manager of the Chronic Disease and Environmental Epidemiology Section within the Division of Health Promotion and Chronic Disease at MDH. The Section includes the Environmental Epidemiology, the Minnesota Cancer Reporting System, and the Sickle Cell Data Collection program. It also includes the Long-Term Surveillance of Chronic Disease and Disabilities Annex, a program designed for response and recovery in emergency situations such as the COVID-19 epidemic. Jay received his Epidemiology doctorate from the University of Minnesota, is a chronic disease epidemiologist, and has worked in academic research and public health practice at the University of Minnesota, HealthPartners Institute, and the Minnesota Department of Health since 1993. He has a strong interest in diabetes, diabetes prevention, obesity, cardiovascular disease, chronic kidney disease, gout, cancer prevention, sickle cell disease, their underlying behavioral risk factors, and social determinants of health. He is also interested in implementation science and health equity. At MDH Jay spent 16 years as the epidemiologist for the Minnesota Diabetes Program. At HPI he worked on primary care clinical decision support; using EMR's for diabetes, cardiovascular disease, and obesity surveillance; diabetes prevention in low income individuals, and HPV vaccination in underserved communities. Jay is also a standing member of the NIH Healthcare and Health Disparities study section.

Sarah Kleinschmidt is an epidemiologist with more than 20 years of experience in population-based epidemiologic research and infectious disease clinical trials. She joined the 3M Company in 2016 and serves as an epidemiologist within the Corporate Occupational Medicine Department where she evaluates the health experience of employee groups. Prior to joining 3M, Dr. Kleinschmidt was an occupational epidemiologist for DuPont in Wilmington, DE and taught epidemiology at the University of Delaware as an Adjunct Instructor. She has also held research positions at the University of Iowa, Illinois Department of Public Health, and Southern Illinois University School of Medicine. She earned a B.S. and M.S. in biology from the University of Illinois at Springfield, and a M.S. and Ph.D. in epidemiology from the University of Iowa with specialized training in both infectious disease and occupational epidemiology.

Jenni Lansing is the Sr. Environmental Research Analyst for the Minneapolis Health Department – Environmental Programs. She has been with the City for 10 years and during that time her work has included community air monitoring, pollution reduction projects with businesses, and drinking water protection at transient noncommunity water systems. Ms. Lansing has a B.S. in Fisheries and Wildlife Conservation Biology from the University of Minnesota - Twin Cities and a M.S. in Environmental Sciences from the University of Colorado.

Rajinder Mann is a pesticide program manager for the Pesticide and Fertilizer Management Division of the Minnesota Department of Agriculture. He has been with the department for more than 10 years. His work includes overseeing pesticide and fertilizer-related technical programs that include registering pesticides and fertilizers, conducting special registration reviews of pesticides, developing and promoting agricultural chemicals best management practices (BMPs), and analyzing water quality monitoring data for pesticides. Raj has a PhD in

entomology with specialized training in pesticides. Raj has also worked on insect vectors during his tenure at the University of Florida.

Zeke McKinney is a board-certified Occupational and Environmental Medicine (OEM) physician who works at the HealthPartners Clinic in St. Louis Park, MN. He is additionally board-certified in Public Health & General Preventive Medicine, Clinical Informatics, and Lifestyle Medicine. He completed all of his medical training here in Minnesota. His professional interests are in preventing work-related illness/injury, improving data-driven decision-making in clinical contexts, environmental toxicology, health equity, environmental justice, public safety medicine, managing complex impairment/disability, and increasing the health literacy of patients and communities. He practices clinical occupational and environmental medicine in the Twin Cities, and he is one of few clinicians in Minnesota who evaluates work and community-related environmental toxicologic exposures. He is the Minnesota physician contact for the Pediatric Environmental Health Specialty Units (PEHSU), a national resource for environmental medical information in partnership with ATSDR and CDC.

Jill Heins Nesvold serves as the National Director of Lung Health for the American Lung Association. Her responsibilities include program oversight and evaluation related to asthma, chronic obstructive lung disease (COPD), influenza, and quality improvement. She holds a master's degree in health management and a short-course master's degree in business administration. She has published extensively in a variety of public health areas.

Ruby Nguyen is an assistant professor at the University of Minnesota School of Public Health Division of Epidemiology & Community Health. She received her PhD in Epidemiology from Johns Hopkins University. Ruby's research focuses on maternal, child and family health; the etiology of reduced fertility; pregnancy-related morbidity, and infertility and later disease. Currently, Ruby is conducting a longitudinal study examining the role of endocrine disrupting chemicals in child development. From 2016-2017, Ruby was Co-Principal Investigator of a statewide prevalence study investigating violence against Asian women and children.

Sona Psarska is a research scientist at the Minnesota Pollution Control Agency predominantly working on human health risk assessment projects. Among her responsibilities are maintaining various risk-based values and providing human health risk assessment support to remediation and other agency programs. She has a Master of Science in Land and Atmospheric Science from the University of Minnesota. Prior to joining the MPCA, she worked in environmental consulting where, among other projects, she worked on complex pollutant fate and transport evaluations and risk assessments for industrial clients.

Eileen Weber is a nurse attorney and Clinical Associate Professor Ad Honorem at the University of Minnesota School of Nursing (active retiree status). She founded the Upper Midwest Healthcare Legal Partnership Learning Collaborative. She earned her Doctor of Nursing Practice degree in Health Innovation and Leadership in 2014 from the University of Minnesota. She earned her RN diploma from Thomas Jefferson University Hospital in Philadelphia, PA, her BSN summa cum laude from the University of Minnesota, and her JD in the founding class of the University of St. Thomas School of Law in Minneapolis. Her clinical experience and past certifications have largely been in urban critical care and emergency nursing. She has served as

vice-president of the Minnesota Nurses Association, earning awards for political action and outstanding service. She represented nursing on the Minnesota Health Care Commission, was a regular editorial writer for the St. Paul Pioneer Press and an occasional op-ed contributor for the Star Tribune. She founded Friends of Grey Cloud and worked with environmental leaders at the local, regional, state and national levels to protect Lower Grey Cloud Island from harmful development and to conserve the Grey Cloud Sand Dune Prairie. She has extensive experience in legislative lobbying, community activism, and political campaign management. Her scholarly work is focused on the intersection of law, public policy, and interprofessional healthcare practice and education.

Lisa Yost is a Principal Consultant at RAMBOLL ENVIRON, an international consulting firm. She is in their Health Sciences Group, and is based in St. Paul, Minnesota. She completed her training at the University of Michigan's School of Public Health and is a board-certified toxicologist with expertise in evaluating human health risks associated with substances in soil, water, and the food chain. She has conducted or supervised risk assessments under CERCLA, RCRA, or state-led regulatory contexts involving a wide range of chemicals and exposure situations. Her areas of specialization include exposure and risk assessment, risk communication, and the toxicology of such chemicals as PCDDs and PCDFs, PCBs, pentachlorphenol (PCP), trichloroethylene (TCE), mercury, and arsenic. Lisa is a recognized expert in risk assessment and has collaborated in original research on exposure issues, including background dietary intake of inorganic arsenic. She is currently assisting in a number of projects including a complex multi-pathway risk assessment for PDDD/Fs that will integrate extensive biomonitoring data collected by the University of Michigan. She is also an Adjunct Instructor at the University of Minnesota's School of Public Health.

Biographical Sketches of Staff

Fathi Ahmed is currently the Program Manager with MN Biomonitoring. She received a bachelor's degree in Public Health with concentrations in Community Health and Public Policy from St. Catherine University. Fathi worked in the Biomonitoring program in 2016-2017 as a Student Worker on the MN FEET study as she was getting her B.S. in Public Health. Since then, she has done work in different public health, community engagement, and research positions. These include work with The Beautywell Project, SoLaHmo, the University of Minnesota, and the International Institute of Minnesota. Fathi has recently re-joined the Biomonitoring team as the new Program Manager in January 2023.

Sheila Amenumey is currently the Biomonitoring Epidemiologist at MDH. Sheila collaborates with the Biomonitoring Program Director and key stakeholders leading the various biomonitoring projects including Healthy Kids Minnesota, the statewide project focused on children's environmental health. She completed her MPH in Maternal and Child Health and PhD in Water Resources Science (Water Quality Hydrology Emphasis) at the University of Minnesota. Prior to her work with the biomonitoring program, Sheila worked with the Maternal and Child Health Section at MDH. Her role as the Maternal and Child Health Epidemiologist involved leading and collaborating with external partners in conducting program evaluation across multiple federal adolescent health grants, and assisting them in monitoring program outcomes and achievement of their health and education goals for the youth they serve. Before coming to MDH, Sheila conducted water quality research at the University of Minnesota to determine the impact of agriculture on water quality.

Jessie Carr supervises the Environmental Epidemiology Unit at MDH and is the Principal Investigator for the Environmental Public Health Tracking program. Jessie received her MPH from the Mailman School of Public Health at Columbia University and DrPH from the University of Pittsburgh, where her training and research focused on exposure assessment, GIS and spatial statistics, community-engaged research methods, and environmental health disparities. Prior epidemiology studies have examined social susceptibility to air pollution exposure in chronic disease etiology and adverse birth outcomes.

Carin Huset has been a research scientist in the Environmental Laboratory section of the MDH Public Health Laboratory since 2007. Carin received her PhD in Chemistry from Oregon State University in 2006 where she studied the fate and transport of perfluorochemicals in aqueous waste systems. In the MDH PHL, Carin provides and coordinates laboratory expertise and information to program partners within MDH and other government entities where studies require measuring biomonitoring specimens or environmental contaminants of emerging concern. In conjunction with these studies, Carin provides biomonitoring and environmental analytical method development in support of multiple analyses.

Tess Konen graduated from the University of Michigan's School of Public Health with a master's degree in Occupational Environmental Epidemiology. She completed her thesis on the effects of heat on hospitalizations in Michigan. She worked with MN Tracking for 2 years as a CSTE Epidemiology Fellow where she was project coordinator for a follow-up study of the Northeast Minneapolis Community Vermiculite Investigation cohort. She currently is an epidemiologist

working on birth defects, pesticides, and climate change, and is developing new Disaster Epidemiology tools for MDH-HPCD.

Jessica Nelson is Program Director and an epidemiologist with MN Biomonitoring. She works on design, coordination and analysis of biomonitoring projects, and has been the Principal Investigator for the Healthy Rural and Urban Kids, MN FEET and PFAS studies. Jessica received her PhD and MPH in Environmental Health from Boston University School of Public Health where her research involved the epidemiologic analysis of biomonitoring data on perfluorochemicals. Jessica was the coordinator of the Boston Consensus Conference on Biomonitoring, a project that gathered input and recommendations on the practice and uses of biomonitoring from a group of Boston-area lay people.

Kathy Raleigh is an epidemiologist for MN Tracking. She completed her PhD in Environmental Health at the University of Minnesota's School of Public Health and her MPH in Environmental and Occupational Health at the University of Arizona. She has worked on a variety of environmental health projects including: pesticide exposure in children, occupational asthma, mercury exposure in women and children, and occupational exposure to PFOA. Prior to coming to MN Tracking, Kathy was working on maternal and child health projects both internationally with USAID and, more recently, at MDH. She will also be working on the coordination and collection of hospital discharge data, including heart disease and asthma surveillance projects for MN Tracking with a focus on health disparities.

Deanna Scher is an epidemiologist in the Environmental Epidemiology Unit. Since joining MDH in 2007, she has led a variety of studies to assess exposures to, and health impacts from environmental contaminants, particularly among at-risk and vulnerable populations. She currently serves as Chair of the MDH Institutional Review Board and the U.S. Environmental Protection Agency's Children's Health Protection Advisory Committee. Deanna received her Ph.D. in Environmental Health Sciences from the University of Minnesota, School of Public Health, where her research focused on methods to integrate biomonitoring and biological plausibility into pesticide risk assessment and epidemiology studies.

Blair Sevcik is an epidemiologist with MN Tracking at the Minnesota Department of Health, where she works on the collection and statistical analysis of public health surveillance data for MN Tracking. Prior to joining MN Tracking in January 2009, she was a student worker with the MDH Asthma Program. She received her Master of Public Health degree in epidemiology from the University of Minnesota School of Public Health in December 2010.

Lynn Treadwell, Minnesota Public Health Data Portal Coordinator, is an experienced digital communications leader with a solid understanding of websites and application development, social media and digital marketing communications in the health and government sectors. Lynn brings over 10 years of experience in developing optimized online user experiences and digital communications to the position. She will provide stewardship to Minnesota's public health data portal focusing on audience understanding and interactive development best practices. Lynn has an AAS in graphic design, attended the School of Journalism at University of Minnesota and has a mini-Master's in Marketing from St. Thomas University.