Environmental Health Tracking and Biomonitoring Advisory Panel Meeting October 14, 2025

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: 10/14/2025

Welcome & Agenda

1:00 p.m.

Past Chair Lisa Yost will welcome attendees to the meeting (filling in for Chair Ruby Nguyen, who is traveling). Panel members are invited to introduce themselves. Lisa will give an agenda overview.

Toxic Free Kids Program Overview

1:10 p.m.

MDH Environmental Health Program Coordinator Nini Mentan will give an overview of the Toxic Free Kids Program.

1:30 pm Questions and Discussion

Questions for Panel

- What are your recommendations for partnering and sharing information with communities about harmful chemical exposures?
- What are the important ways that you see the Toxic Free Kids and the Biomonitoring/ Tracking programs overlapping?

Healthy Kids Minnesota Updates

1:40 p.m.

MDH Biomonitoring staff Fathi Ahmed and Jessica Nelson will share updates on the Healthy Kids Minnesota 2025 program year. Panel members are invited to ask questions.

Feedback on Results Return from Healthy Kids Minnesota Families

2:10 p.m.

MDH Council of State and Territorial Epidemiologists (CSTE) Fellow Nicole Frederickson will share findings from a recent round of feedback interviews with Healthy Kids Minnesota families who received the re-designed biomonitoring results packet.

2:30 pm Questions and Discussion

Questions for Panel

- How do you recommend we incorporate findings from these interviews into our ongoing results return process?

- Would it be a useful contribution to submit these results for peer-reviewed publication? Do you have journal suggestions?

Report-Back Strategy and Outcomes for Children with High-End Chemical Concentrations in Healthy Kids Minnesota

2:50 p.m.

MDH Environmental Epidemiologist Deanna Scher will discuss and give examples of calls that MDH staff make to Healthy Kids Minnesota families of children with unusually high biomonitoring results after the families receive their child's results.

3:10 pm Questions and Discussion

Questions for Panel

- Based on staff capacity, we currently contact families of children whose biomonitoring results are above four times the 95th percentile. Would you recommend that we consider a different threshold for calling?
- Do you have any other suggestions for improvements to our process for calling families of children with high-end results?

Public Comments, Audience Questions, New Business

3:25 p.m.

Motion to Adjourn

3:30 p.m.

Toxic Free Kids Program Overview

Speaker Biosketch

Nini Mentan is the Toxic Free Kids Program Coordinator at MDH. In this role, she assists with updating the Chemical of High Concern and priority chemicals lists. She also coordinates outreach and education activities focused on toxic chemicals exposures in consumer products. She earned her PhD in Global Environmental Health Sciences from the Celia Scott Weatherhead School of Public Health at Tulane University. Her dissertation research focused on a risk analysis of toxic and essential elemental exposures in cereals, and an epidemiological study of maternal urinary elemental concentrations and risks of preterm birth and low birthweight. She also has an MPH in Environmental and Occupational Health from the Dornsife School of Public Health at Drexel University, where her thesis focused on a program evaluation of Water, Sanitation and Hygiene practices of refugees living in Mugombwa Refugee Camp in Rwanda.

Background

Through the Toxic Free Kids (TFK) program, the Minnesota Department of Health (MDH) is working to identify and communicate the potential for hazardous chemical exposures from consumer products that could be harmful to human health, particularly to children and other vulnerable or susceptible populations.

The TFK program began in 2009 after Minnesota passed legislation known as the Toxic Free Kids Act. The legislation directed MDH to create and maintain two chemical lists, the Chemicals of High Concern (CHC) list and the Priority Chemicals (PC) list. The Program also works with the communities and populations impacted by and concerned with hazardous chemicals in consumer products through partnerships and outreach.

For more information, see the Toxic Free Kids Program web page (https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/index.html) and the 2025 Toxic Free Kids Program Legislative Report (https://www.health.state.mn.us/communities/environment/childenvhealth/docs/report2025.pdf).

Questions for Advisory Panel

- What are your recommendations for partnering and sharing information with communities about harmful chemical exposures?
- What are the important ways that you see the Toxic Free Kids and the Biomonitoring/ Tracking programs overlapping?

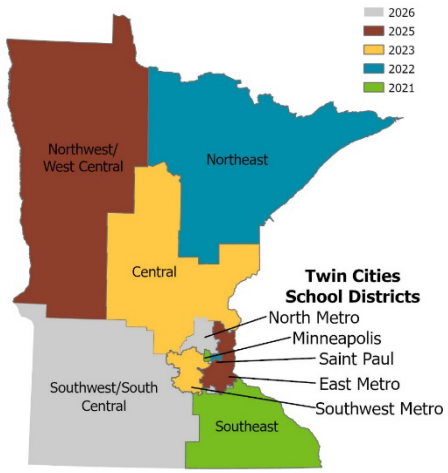
Healthy Kids Minnesota Updates

Background

Healthy Kids Minnesota partners 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. With families' consent, urine samples from participants are tested for six types of chemicals (almost 80 analytes total) by the MDH Public Health Laboratory.

The program rotates in five regions in the state, focusing on one non-Metro and one Metro region per year (see map). Recruitment for the first three program cycles is complete and work continues to report all results to families and analyze data for Healthy Kids Minnesota 2021-2023.

Healthy Kids Minnesota Program regions



Healthy Kids Minnesota 2025 is working in Northwest/West Central Minnesota and the East/Southeast Metro. Recruitment at all six partner sites is underway and will continue through December 2025. Healthy Kids Minnesota 2026 will work in Southwest/South Central Minnesota and the North Metro.

In addition to completing the two remaining years of the state-wide cycle, MDH is partnering again with Bois Forte Band of Chippewa to take a different community-based approach to recruitment of children. Planning meetings are being held and financial contracts are being developed. Recruitment will start in spring 2026.

The program is funded by the U.S. Centers for Disease Control and Prevention (CDC) and the state of Minnesota.

Biomonitoring Program: Recent Presentations

- Jessica Nelson, Nini Mentan. *Mercury in Skin Lightening Products: Exposure, Health Concerns, and Clinical Management.* Presentation at Riverland Community Health, July 7, 2025.
- Deanna Scher, Jessica Nelson, Sheila Amenumey. *Identifying potential exposure sources among children with unusually high chemical concentrations in the Healthy Kids Minnesota biomonitoring program* [poster presentation]. International Society of Exposure Science/International Society for Environmental Epidemiology Annual Meeting, August 17-20, 2025.
- Jessica Nelson, Fathi Ahmed, Clara Lucero, Nicole Frederickson, Sheila Amenumey. *Improving Biomonitoring Results Return: Feedback from Minnesota Families* [symposium presentation]. International Society of Exposure Science/International Society for Environmental Epidemiology Annual Meeting, August 17-20, 2025.
- Sheila Amenumey, Jessica Nelson, Jessie Carr, Carin Huset, Jason Peterson, Stefan Saravia. *Disparities in Environmental Chemical Exposure Among Young Children in Minnesota* [poster

presentation]. International Society of Exposure Science/International Society for Environmental Epidemiology Annual Meeting, August 17-20, 2025.

- Jessica Nelson, Duzong Yang. *Family Environmental Hazards: Mercury in Skin Lightening Products and Childhood Lead Exposure (introductory version)*. Presentation at Axis Family Clinic, Sept. 16, 2025.
- Mike Xiong, John Gilkeson, Nini Mentan, Jessica Nelson. *Love Your Skin: MPCA and MDH Partnership to Eliminate Mercury in Skin Lightening Products.* Presentation to the Minnesota Pollution Control Agency environmental justice advisory group, Sept. 18, 2025.

Feedback on Results Return from Healthy Kids Minnesota Families

Abstract from ISEE/ISES conference (August 2025, Atlanta, GA)

Authors: Jessica Nelson, Nicole Frederickson, Fathi Ahmed, Clara Lucero, Sheila Amenumey, MDH

Objective. As the use of biomonitoring expands in public health practice, an essential question is how best to share individual results with participants in an accessible, informative, and culturally appropriate way. Interviews with a diverse group of Minnesota families provides data about the experience of receiving biomonitoring results.

Material and Methods. The Minnesota Department of Health's Healthy Kids Minnesota program assesses environmental exposures in preschool-age children across the state. Recruitment is conducted by partners at Early Childhood Screening Programs in school districts, local public health agencies, and tribal nations. Families who agree to participate complete an interview and help their child give a urine sample. Urine samples are analyzed for metals, pesticides, environmental phenols, phthalates, flame retardants, and air pollution chemicals. Full results are provided to families in multiple mailings along with information on reducing childhood exposures.

Based on previous feedback from families, the results packet was re-designed in 2024, relying on a more visual representation of results and contextual information. After implementing the new design and mailing results to families from the second program cycle (n=541), structured telephone interviews with approximately 40 families will be conducted to gather feedback. Families who speak languages other than English will be prioritized for contact, including families who speak Hmong, Karen, and Spanish.

Results. Results of qualitative and semi-quantitative analyses will show whether the new results return approach is understandable and accessible to families, and how their experience of receiving results compares with the previous approach. Analyses will assess whether there were differences in families' understanding of their child's results based on preferred language, site of recruitment, caregiver's educational attainment, and child's biomonitoring results.

Conclusion. These findings will be used to improve accessibility of future results return materials and contribute to the growing body of research on best practices for biomonitoring results communication.

Questions for Advisory Panel

- How do you recommend we incorporate findings from these interviews into our ongoing results return process?
- Would it be a useful contribution to submit these results for peer-reviewed publication? Do you have journal suggestions?

Report-Back Strategy and Outcomes for Children with High-End Chemical Concentrations in Healthy Kids Minnesota

Abstract from ISEE/ISES conference (August 2025, Atlanta, GA)

Authors: Deanna Scher, Jessica Nelson, Sheila Amenumey, MDH

Objective. Healthy Kids Minnesota is an ongoing statewide program to measure chemicals of concern in preschool-aged children. If a child's urine sample has an unusually high level of a chemical, MDH staff contact the family to answer any questions they have and try to determine sources of exposure. Here, we provide examples in which the family interview provided clues on potential sources of exposure and subsequent actions taken.

Material and Methods. Recruitment for Healthy Kids Minnesota is conducted by local partners during state-required early childhood screenings. Families who agree to participate complete a questionnaire and help their child collect a urine sample. Nearly 1,000 children were enrolled during the 2021 and 2022 program cycles. Urine samples were analyzed for metals, pesticides, environmental phenols, phthalates, flame retardants, and air pollution chemicals. After all families were mailed their child's results along with information on ways to reduce exposures, program staff followed protocols to identify children with markedly elevated chemical levels and contacted these families by telephone.

Results. Follow-up with families identified likely sources and pathways of exposure including cultural practices, pesticide use, behavioral factors, and medications. Findings were used to make exposure reduction recommendations to families; inform discussions with subsequent families; revise the program questionnaire; plan statistical analyses; and guide public health actions.

Conclusion. One-on-one conversations with families of children with the highest chemical exposures helped identify likely sources and led to both individual and public health actions to reduce exposures. This type of effort can be a valuable complement to standard statistical analyses in biomonitoring studies to identify associations between biomarker levels and results from exposure surveys.

Questions for Advisory Panel

- Based on staff capacity, we currently contact families of children whose biomonitoring results are above four times the 95th percentile. Would you recommend that we consider a different threshold for calling?
- Do you have any other suggestions for improvements to our process for calling families of children with high-end results?

Minnesota Tracking Program Updates

The Environmental Public Health Tracking program is working in year 4 of a 5-year cooperative agreement with CDC. While CDC staff capacity is reduced, grantees are continuing collaboration and delivering workplan priorities.

Syndromic Surveillance

Syndromic surveillance leverages near real-time hospital visit data to detect and characterize unusual activity for further public health investigation. Syndromic data can be used to detect illness, injuries, and health care needs after disasters and environmental events such as hurricanes, floods, extreme heat, snowstorms, and poor air quality due to wildfires.

Minnesota Tracking leads syndromic data development for environmental health topics, with focus on health impacts of climate change. This new data stream builds on past analyses of heat-related illness trends and disparities across Minnesota communities (Heat-related illness | MN Public Health Data Access | MDH, https://data.web.health.state.mn.us/web/mndata/heat) and advances health goals of the Minnesota Climate Action Framework. Currently, we are working on a data brief summarizing heat-related illness and respiratory outcomes related to wildfire smoke alerts for summer 2025.

Data Portal Modernization

The Minnesota Public Health Data Access Portal (https://data.web.health.state.mn.us/web/mndata/home) tracks data on over 25 environmental and public health topics and is a core part of the public health system's data infrastructure. The portal offers an efficient platform for sharing data in one place, avoiding costs of creating and maintaining many data access systems. Timely, high quality environmental health data is critical to improve the health of all Minnesotans.

Minnesota Tracking continues to evolve and improve the data portal to better serve local public health departments, communities, health care providers, and a broad range of data users. In partnership with MN IT Services, we are modernizing the data portal technology, visualizations, cost-effectiveness, and usability to ensure we are ready to meet future challenges. Working toward CDC's Data Modernization Initiative, Minnesota Tracking is helping to build a public data platform that accelerates data-to-action.

PFAS Biomonitoring for Firefighters

Report coming soon: Best Practices for PFAS Biomonitoring for Firefighters

In 2023, the Minnesota Legislature directed the Department of Health to prepare an expert report with best practices and recommendations for PFAS biomonitoring for Minnesota firefighters. This report provides:

- Evidence-based methods and approaches to guide firefighter biomonitoring in Minnesota.
- Input from firefighter associations and lessons from other state health departments that have undertaken similar work in California and Michigan.

Minnesota Firefighter PFAS Biomonitoring Project (2025-2028)

MDH is planning a **voluntary biomonitoring project** with Minnesota firefighters to put the report's recommendations into practice. Planning is underway with input from experts in occupational medicine, environmental health, and firefighter associations. Our experienced biomonitoring team in Environmental Health and the Public Health Laboratory will lead the work.

The project will run from 2025-2028 with primary goal of establishing baseline information on PFAS exposure for firefighters statewide. Tracking program staff will present a progress update to the EHTB Advisory Panel in February 2026.

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 2026:

- February 10, 2026
- June 9, 2026
- October 13, 2026

Unless otherwise announced, these meetings will take place from 1 – 3:30 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 October 2025)

Bruce Alexander, Ph.D.
Div. of Environmental Health Sciences
Univ. of MN, School of Public Health
MMC 807 Mayo Building
420 Delaware Street S.E.
Minneapolis, MN 55455
balex@umn.edu
Minnesota Senate appointee

Jay Desai, Ph.D., M.P.H.
Chronic Disease & Environmental Epidemiology
Minnesota Department of Health
625 Robert St. N.
St. Paul, MN 55164
651-201-5882
Jay.Desai@state.mn.us
MDH appointee

Helen Goeden, Ph.D.
Minnesota Department of Health (retired)
helennextchap@gmail.com
Minnesota House appointee

Derek King, M.S.
Environmental Analysis & Outcomes
Minnesota Pollution Control Agency
520 Lafayette Rd.
St. Paul, MN 55155
(651) 757-2050
Derek.King@state.mn.us
MPCA appointee

Sarah Kleinschmidt, Ph.D.
3M Company
3M Center, 220-6W-1
St. Paul, MN 55144
651-736-5485
sekleinschmidt@mmm.com
Statewide business organization representative

Jennifer Lansing, M.S.
Minneapolis Department of Health
250S 4th St.
Minneapolis, MN 55415
Jenni.lansing@minneapolismn.gov
At-large representative

Rajinder Mann, Ph.D.
Pesticide & Fertilizer Management Division
Minnesota Department of Agriculture
625 Robert St N
St Paul, MN 55155-2538
651-201-6697
Rajinder.mann@state.mn.us
MDA appointee

Zeke J. McKinney, M.D., M.H.I., M.P.H., F.A.C.O.E.M.
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

Jill Heins Nesvold, M.S.
American Lung Association of Minnesota
490 Concordia Ave
St Paul, MN 55103
651-223-9578
Jill.heins@lung.org
Nongovernmental organization representative

Ruby Nguyen, Ph.D.
Div of Epidemiology & Community Health
Univ. of MN, School of Public Health
1300 S 2nd St, Suite 300 WBOB
Minneapolis, MN 55454
612-626-7559
nguyen@umn.edu
University of Minnesota representative

Eileen Weber, D.N.P., J.D., P.H.N., B.S.N., R.N.
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

Lisa Yost, M.P.H., D.A.B.T.
Ramboll Environ
Local office
479 Iglehart Ave
St Paul, MN 55101
651-470-9284
lyost@ramboll.com
National business organization representative

VACANT SEATS

Statewide business organization representative

Biographical Sketches of Advisory Panel Members

Bruce Alexander is a Mayo Professor in Public Health and Head of the Division of Environmental Health Sciences in the School of Public Health at the University of Minnesota. He earned a BS and MS in Environmental Health from Colorado State University and a PhD in Epidemiology from the University of Washington. His career has included working as an epidemiologist in a refugee relief operation and as an occupational and environmental epidemiologist working on a wide range of collaborative interdisciplinary research on the health effects of occupational and environmental exposures in relation to respiratory diseases, injury, cancer, and infectious diseases. His active interests include the development of multidisciplinary approaches to address complex public health problems and building public health practice capacity, One Health, the health of agricultural populations, and global health.

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.

Helen Goeden is a retired toxicologist who worked for the State of Minnesota for over 30 years. During her tenure at the MN Department of Health and MN Pollution Control Agency her work focused on leading the development, improvement and integration of risk assessment methods and policies protective of sensitive or more highly exposed populations; the toxicological assessment of a wide range of environmental contaminants, including emerging contaminants such as PFAS; and developmental of state-wide health-based criteria for contaminants in drinking water, soil and air. Prior to working for the State of Minnesota she worked for the University of California at Berkeley where she co-authored human health assessment and criteria documents for the State of California Environmental Protection Agency (Cal-EPA). Dr. Goeden received her PhD from the University of Cincinnati.

Derek King is the Cumulative Impacts Coordinator for the Minnesota Pollution Control Agency. He earned his BS in Biopsychology from Augsburg University and his MS in Environmental Health, with a concentration in Regulatory Toxicology and Risk Assessment, from the University of Minnesota's School of Public Health. His career has included holding dual registrations as a nursing assistant in Minnesota and Florida, a student worker in infectious diseases with the Minnesota Department of Health, a front-line COVID-19 vaccination and testing lead with Hennepin County Public Health, and an air toxics scientist with the Minnesota Pollution Control

Agency. Currently, he serves as the Minnesota Pollution Control Agency's first Cumulative Impacts Coordinator. His research has covered remediation of hydrogen sulfide contamination, zinc binding with fibrinogen and its αC region, racial and sex differences in unintentional opioid overdose deaths, PFAS contamination within Minnesota, cumulative impacts, and the incorporation of lived experiences within regulatory processes.

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.

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 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. 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 re-joined the Biomonitoring team as the new Program Manager in January 2023.

Sheila Amenumey is the Biomonitoring Epidemiologist at MDH. Sheila collaborates with biomonitoring staff 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 biomonitoring, Sheila worked with the Maternal and Child Health Section at MDH. Her role as 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 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.

Nathan Carroll is a Council of State and Territorial Epidemiologists (CSTE) Applied Epidemiology Fellow, working with the Healthy Kids MN program and the Environmental Epidemiology Unit. Nathan received his MPH in Epidemiology from the University of Minnesota in 2023 and has previously worked with the City of Bloomington, Public Health AmeriCorps, and the MIIC team at MDH. His projects focus on analyzing biomonitoring data, informing strategies to reduce childhood exposure to potentially harmful chemicals, and developing a study to interview and analyze data on adults who have elevated blood lead levels.

Nicole Frederickson is a Council of State and Territorial Epidemiologists (CSTE) Applied Epidemiology Fellow, where she works with the MN Tracking Program and MN Biomonitoring. Nicole received her MPH in Epidemiology from the University of Nebraska Medical Center. Her projects focus on understanding and addressing environmental health disparities while working in areas such as children's environmental health, heat and cold related illness, and traffic pollution. Nicole is passionate about using data and research to improve public health outcomes, especially for vulnerable populations affected by environmental risks.

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.

Clara Lucero is an Association of Public Health Laboratories (APHL) fellow with MN Biomonitoring. She recently graduated from the University of St. Thomas with a bachelor's in Biochemistry. She is working primarily on the Healthy Kids Minnesota program. Clara will be attending medical school in the fall.

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. 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, 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.