m DEPARTMENT
OF HEALTH

Environmental Health Tracking and Biomonitoring Advisory Panel Meeting June 11, 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

Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording. Printed on recycled paper.

Contents

Agenda Overview

Date: 6/11/2024

Welcome & Agenda

1:00 p.m.

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

Phthalates and Other Potential Environmental Disparities in Child Health

1:15 p.m.

Chair and University of Minnesota School of Public Health Professor Ruby Nguyen will give an overview of her research. Panel members are invited to ask questions.

Healthy Kids Minnesota: Updates

1:30 p.m.

MDH Biomonitoring staff Fathi Ahmed and Jessica Nelson will present updates on Healthy Kids Minnesota recruitment, results sharing, and grant application. Panel members are invited to ask questions.

Identifying Differences in Environmental Phenol Exposure in Healthy Kids Minnesota 2021 Participants

1:50 p.m.

MDH Biomonitoring Epidemiologist Sheila Amenumey will present preliminary data analysis results for environmental phenols in Healthy Kids Minnesota 2021 participants.

2:10 p.m. Questions and Discussion

Questions for Panel

- Are there additional analyses the panel recommends?
- What are the key findings important to share in the community report?

Countering the Environmental Injustice of Beauty through Community Based Research: Taking Stock Study

2:30 p.m.

Robin Dodson, Associate Director of Research Operations and Research Scientist with Silent Spring Institute, will give an overview of the Taking Stock Study and its findings. Panel members are invited to ask questions.

Public Comments, Audience Questions, New Business

3:20 p.m.

Motion to Adjourn

3:30 p.m.

# Phthalates and Other Potential Environmental Disparities in Child Health

Dr. Ruby Nguyen, new EHTB Advisory Panel chair and University of Minnesota School of Public Health Morse-Alumni Distinguished University Teaching Professor and Professor in the Division of Epidemiology & Community Health, will give an overview of her research.

Ruby was recently featured in an article in the Sahan Journal: Asian Americans have been left out of health studies, but a UM prof plans to change that (https://sahanjournal.com/health/ruby-nguyen-minnesota-hmong-environmental-health-research-echo/). More on her background is available on the University of Minnesota faculty page (https://directory.sph.umn.edu/bio/sph-a-z/ruby-nguyen).

Healthy Kids Minnesota: Updates

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 rotates 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.
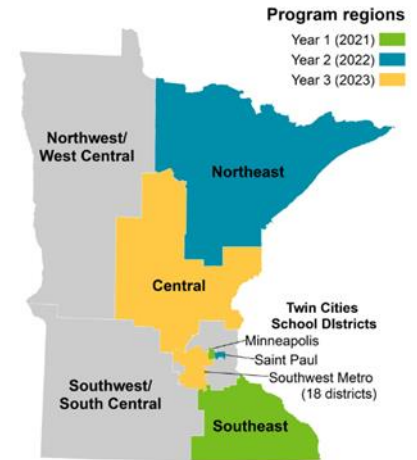
Current Recruitment

Recruitment for our third program cycle, Healthy Kids Minnesota 2023, is wrapping up in the West/Southwest Metro and Central Minnesota. Four sites have concluded recruitment, and two are actively recruiting children through June.

- Todd County Public Health, Wadena County Public Health, Bloomington Public Schools, and Princeton Public Schools/Mille Lacs County Public Health have all concluded recruitment.

- Edina Public Schools and Big Lake Public Schools/Sherburne County Health and Human Services are recruiting through June.

- Currently, 347 children have been recruited with urine samples collected.

- Sixty-nine families have requested free private well test kits. To improve well test kit return rates, we collaborated with the Southeastern Minnesota Water Analysis Laboratory (the laboratory doing the water testing) to identify families who received but have not returned well test kits, and then contacted those families with a reminder.

Past Program Cycles

The first program cycle, Healthy Kids Minnesota 2021:

- Worked with partners in Minneapolis and Southeast Minnesota.

- Recruited 453 children with urine samples collected.

- Mailed two of three results packets to families with the final mailing in preparation.

- Translated all materials into four languages (Hmong, Karen, Somali, Spanish).

- Analyses of data are underway (see next section).

The second program cycle, Healthy Kids Minnesota 2022:

- Worked with partners in Northeast Minnesota and St. Paul.

- Recruited 539 children with urine samples collected.

- Mailed the first results packet to families, with the second scheduled to go out in summer 2024.

Responding to Elevated Cases

Testing has identified 70 children with urine results for one of three metals (arsenic, manganese, and mercury) above exposure-based follow-up levels. This includes 39 arsenic cases, 29 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, along with actions being taken to address concerns around the high number of elevated inorganic arsenic cases in children from St. Paul Public Schools possibly linked to frequent consumption of certain types of rice.

Grant Re-application to CDC for Funding

The fifth and final year of the CDC cooperative agreement that supports Healthy Kids Minnesota concludes on August 31, 2024. In April we re-applied for a new 3-year round of CDC funding under the cooperative agreement, "State Biomonitoring Programs: Assessing Disproportionate Exposure to Environmental Chemicals among Communities (CDC-RFA-EH-24-0043)." Funding announcements will be made in July or August.

MDH submitted the following abstract to continue Healthy Kids Minnesota:

Minnesota has grown a strong state biomonitoring program through participation in the CDC's LRN-C laboratory network since 2003, state legislation passed in 2007, and recent support from the CDC's State-Based Public Health Laboratory Biomonitoring Programs cooperative agreement. The Minnesota Department of Health (MDH) launched the new Healthy Kids Minnesota (HKMN) Program in 2021, a statewide biomonitoring program focused on children's environmental exposures and health equity. The program is a culmination of years of laboratory and epidemiology methods development and a strategic planning process that identified young children and those experiencing an unequal burden of exposure as critical focus populations for biomonitoring. Results are used to assess population exposures, identify disparities, and inform actions needed to ensure a healthy start for all Minnesota children.

Relying on partnerships with school districts, local public health agencies, and tribal nations to recruit children through Early Childhood Screening (ECS) appointments, HKMN has been hugely successful so far, recruiting over 1,200 children, achieving participation rates of 55-75%, and measuring urine samples for six categories of chemicals and over 70 analytes. We have established partnerships with over twenty local agencies; mailed over 1,500 results packets to families with exposure reduction factsheets; and followed up with families of 65 children whose arsenic, manganese, or mercury results were above our follow-up threshold to offer interventions and support in reducing their child's exposure. HKMN moves to different

regions of the state in a five-year cycle, working in one Twin Cities Metro region and one non-Metro region each year. Three of the five program years are nearly complete.

With this funding application, we propose to complete the two remaining years of the five-year statewide HKMN cycle (Strategy B). We will use population-based recruitment methods that focus recruitment on groups that may experience health inequities related to chemical exposure, including preschool-aged children, rural populations in the Northwest/West Central and Southwest/South Central regions of the state, and school districts with higher proportions of children from racial/ethnic minority and lower income groups. We will use high quality biomonitoring methods to measure urine samples for the six chemical categories included previously in HKMN with the addition of new pesticide analytes of concern in the rural regions (glyphosate and neonicotinoids). We will communicate results to all families in an informative and accessible manner and offer special follow-up and support for exposure reduction to families of children whose results exceed thresholds for certain analytes. This strategy will allow the program to reach all regions of the state and make this unique opportunity available to families along with interventions to reduce childhood exposures.

In addition, we propose to work with the Bois Forte Band of Chippewa, a tribal nation in northern Minnesota and former HKMN partner, to take a different community-based approach to recruitment of children (Strategy A). In HKMN 2022, we learned that the standard HKMN recruitment model was not an effective approach for this community and likely for other tribal nations as well. We will be guided by our Bois Forte partner in taking the lessons learned and re-designing the recruitment strategy with a greater emphasis on community engagement before recruitment begins. This strategy will make the program more accessible to families in this community and provide a path to work with tribal nations moving forward.

This award will allow MDH to leverage our extensive biomonitoring experience and partnerships to successfully complete the statewide cycle of HKMN and find a more successful recruitment approach in the Bois Forte Band of Chippewa tribal nation. We will be able to focus on community and stakeholder engagement to share results and take action to reduce exposure disparities in our state. And, with statewide results, we will be able to widely and effectively communicate the program's impact to secure ongoing, sustainable funding for state biomonitoring.

Healthy Kids Minnesota Laboratory Update

Laboratory analysis for Healthy Kids Minnesota 2021

- Samples from 453 children have been collected and received by the Public Health Lab (PHL).
- Analyses completed for all samples include: Creatinine and specific gravity, pesticides, environmental phenols, phthalates and plasticizer metabolites, hydroxy PAHs and flame retardants (see Figure 1).

Figure 1

HKMN21 % completed
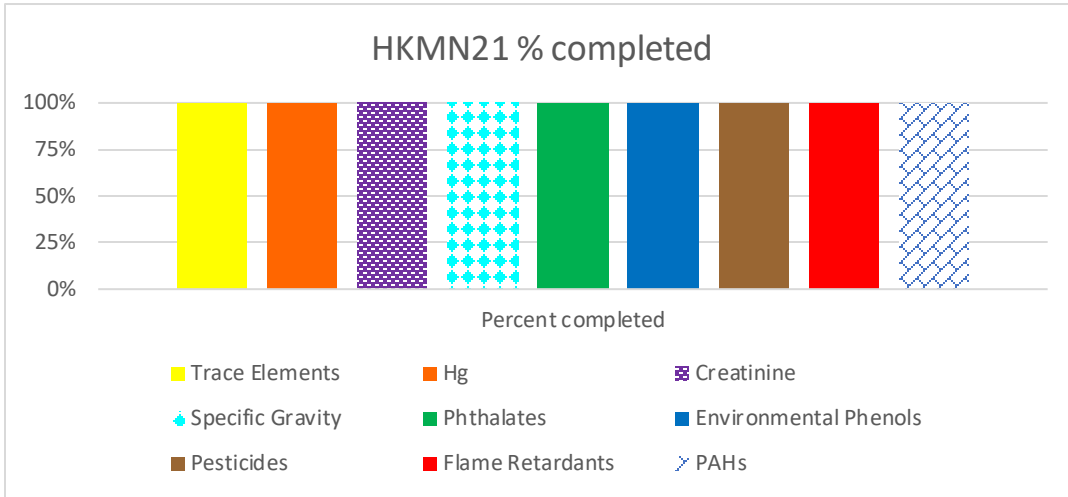
Laboratory analysis for Healthy Kids Minnesota 2022

- 539 samples have been collected and received by the PHL. See Figure 2 for analysis status.

- Trace elements and mercury analysis have been completed for all samples.

- Creatinine and specific gravity analyses have been completed for all samples.

- The analysis of environmental phenols is complete.

- Phthalates and plasticizer metabolites analysis and flame retardants metabolites analysis have been completed for about 70% and 98% of samples, respectively.

- Hydroxy PAH and pesticides analyses have begun with 80 and 75 samples analyzed, respectively.

Figure 2

HKMN22 % completed
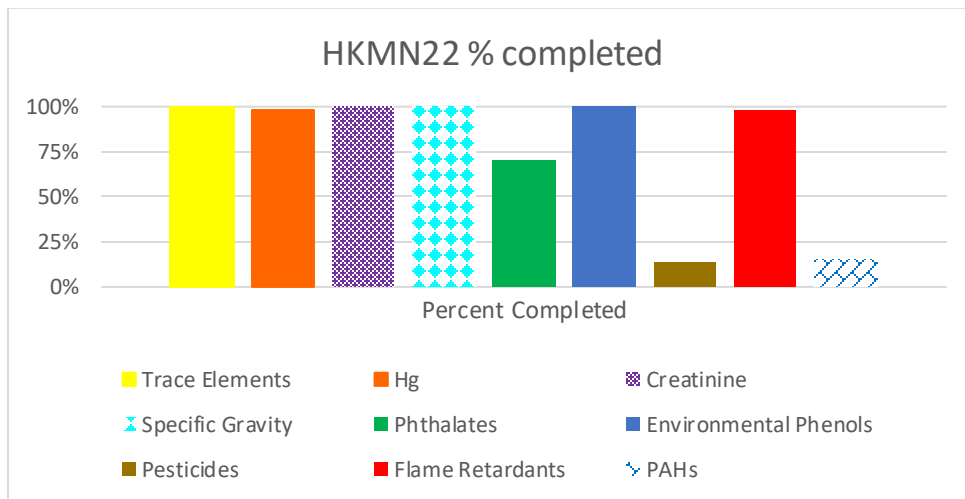
Laboratory analysis for Healthy Kids Minnesota 2023

- 311 samples have been collected and received by the PHL.

- Trace elements and mercury analysis have been completed for all samples.

- Creatinine and specific gravity analyses have been completed for 308 samples.

- The analysis for environmental phenols has begun with 150 samples complete at this time.

- The remaining analyses will begin as HKMN22 sample analyses are completed.

Recent Articles/Presentations

- Jessica Nelson and Fathi Ahmed (MDH), Joye Baumgartner and Sarah Moline (Bloomington Public Schools). *Healthy Kids Minnesota: Early Childhood Screening-MDH Partnerships to Improve Children's Environmental Health* [presentation]. Minnesota Association for Family and Early Education (MNAFEE) Annual Conference, April 12, 2024, St. Cloud, MN

- Jessica Nelson. *Skin lightening, urine mercury testing, and health impacts in Minnesota* [presentation]. Association of Public Health Laboratories Conference, May 7, 2024, Milwaukee, WI.

Identifying Differences in Environmental Phenols Exposure in Healthy Kids Minnesota 2021 Participants

Background

This presentation will focus on the differences in environmental phenols exposure in Healthy Kids Minnesota 2021 participants. Please refer to the June 2023 Advisory Panel book for a demographic summary of the 453 children who participated in this program year from Southeast Minnesota (non-metro area) and Minneapolis Public Schools (Metro Area). The book also has additional information regarding the distribution of urinary analytes for metals, pesticides, and environmental phenols, including comparison values from children of similar ages in the National Health and Nutrition Examination Survey (NHANES). The book is available here (PDF): June 2023 Advisory Panel Meeting book (https://www.health.state.mn.us/communities/environment/biomonitoring/docs/2023junebook.pdf).

We are exposed to multiple chemicals every day when we use personal care products such as soaps, lotions, deodorants, hair products, sunscreen, lip gloss, lipsticks, and many more products. This data analysis presentation will focus on environmental phenols, a group of chemicals being measured in children in Healthy Kids Minnesota that are found in personal care products. In addition to personal care products, environmental phenols may also be found in plastics, other household products, some foods and food packaging, in the lining of cans used for canned foods, and as breakdown products of moth repellants and the pesticide 2,4-D. For more information on the environmental phenols measured and common ways children may be exposed, see the information sheet (PDF): Healthy Kids Environmental Phenols Information (https://www.health.state.mn.us/communities/environment/biomonitoring/docs/enpheninfohkmn.pdf).

Measures and Methods

Data analyses will be presented at the meeting using the following variables and methods.

Survey variables

Survey variables used include demographic and predictor variables gathered during the recruitment interviews.

Demographic variables (see June 2023 Advisory Panel book linked above for variable distribution overall and by recruitment site)

- Race/Ethnicity and subgroups & Language
- Age & Sex
- Income & Education
- Recruitment Month/Season

Exposure survey variables (see Table 1 for variable distribution overall and by recruitment site)

- Exposures through personal care products (e.g., lip gloss, sunscreen, hand lotion., etc.)
- Exposures through diet (e.g., restaurant/take-out food, canned food)

- Exposures inside the home (e.g., home pesticide use)

- Exposures outside the home (e.g., yard pesticide use)

Table 1: Distribution of personal care product use and other predictors for children who participated in Healthy Kids Minnesota 2021

	All Sites		Fillmore County		Rochester Public Schools		Minneapolis Public Schools	
Bar Soap**	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	352	78%	41	84%	89	85%	222	74%
1 to 2 times	72	16%	6	12%	12	11%	54	18%
More than 3 times	27	*	*	4%	*	*	21	7%
Refused/DK/missing	*	*	*	100%	*	*	*	*
Liquid Soap	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	16	*	*	*	*	*	13	4%
1 to 2 times	57	13%	*	*	11	10%	45	15%
More than 3 times	377	83%	48	98%	91	87%	238	80%
Refused/DK/missing	*	*	*	*	*	0%	*	*
Shower Gel	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	171	38%	24	49%	29	28%	118	39%
1 to 2 times	277	61%	25	51%	75	71%	177	59%
More than 3 times	*	*	*	0%	*	*	*	*
Refused/DK/missing	*	*	*	0%	*	*	*	*
Hair Products	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	180	40%	16	33%	38	36%	126	42%
1 to 2 times	268	59%	33	67%	65	62%	170	57%
More than 3 times	*	*	0	0%	2	2%	*	*
Refused/DK/missing	*	*	0	0%	0	0%	*	*

Hand Lotion	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	215	47%	34	69%	42	40%	139	46%
1 to 2 times	217	48%	14	29%	55	52%	148	49%
More than 3 times	20	4%	*	*	8	8%	11	4%
Refused/DK/missing	*	*	*	*	0	0%	*	*
Lip Gloss	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	319	70%	34	69%	58	55%	227	76%
1 to 2 times	114	25%	13	27%	40	38%	61	20%
More than 3 times	19	4%	*	*	7	7%	10	3%
Refused/DK/missing	*	*	*	*	0	0%	*	*
Sunscreen	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	437	96%	49	100%	102	97%	286	96%
1 to 2 times	13	3%	0	0%	2	2%	11	4%
More than 3 times	1	0%	0	0%	0	0%	*	*
Refused/DK/missing	2	0%	0	0%	1	1%	*	*
Ate Restaurant/ Take-Out Food	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	203	45%	13	27%	53	50%	222	74%
1 to 2times	218	48%	32	65%	44	42%	73	24%
More than 3 times	29	6%	4	8%	7	7%	*	*
Refused/DK/missing	*	*	0	*	*	1%	*	*
Ate Canned Food	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
None	331	73%	28	57%	81	77%	222	74%
1 to 2 times	116	26%	20	41%	23	22%	73	24%
More than 3 times	*	*	*	*	*	*	*	*
Refused/DK/missing	*	*	*	*	*	*	*	*

Pesticides use in home for bugs, last 3 months	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
Never	399	88%	44	90%	94	90%	261	87%
One time	35	8%	3	6%	7	7%	25	8%
2 to 3 times	8	2%	*	*	*	*	5	2%
more than 3 times	*	*	*	*	*	*	*	*
Refused/DK/Missing	7	2%	0	0%	*	*	6	2%
Yard/Lawn pesticide use, last 3 months	Overall N (453)	%	N (49)	%	N (105)	%	N (299)	%
Never used	368	81%	31	63%	93	89%	244	82%
Used one time	59	13%	15	31%	12	11%	32	11%
Used 2 to 3 times	11	2%	*	*	*	*	8	3%
Used more than 3 times	*	*	*	*	*	*	*	*
Refused/DK/missing	13	3%	*	*	*	*	13	4%

*Numbers suppressed because N<5.

**For all personal care products, questions worded as*: Since the beginning of yesterday, how many times would you estimate your child used the following products?*

Statistical Methods

SAS statistical software was used for the following analyses.

Initial computations

- Frequency of detection, log of results, geometric means (GM) and percentiles

- Comparison of GM and percentiles with NHANES

- Correlations between analytes

- Box plots to determine skewness of data after results are transformed

Univariate analyses

- Frequency distributions of survey variables (exposure predictors) and demographic variables

- Comparison of exposures (e.g., personal care product use) by recruitment sites, income, and racial/ethnic groups using Chi-square/Fisher Exact Test

Bivariate analyses: Determined the relationship between analyte concentrations (log transformed) and exposure predictors (e.g., sunscreen use, lip gloss etc.) and other demographic variables (e.g., age, race/ethnicity, income, etc.)

Multivariate analyses: Used SAS selection procedures to determine best predictors for multivariate models and for adjusting/controlling for possible confounding and determining effect modification

Questions for Advisory Panel

- Are there additional analyses the panel recommends?

- What are the key findings important to share in the community report?

Countering the Environmental Injustice of Beauty through Community Based Research: Taking Stock Study

Speaker Biosketch

Dr. Robin Dodson is Associate Director of Research Operations and a research scientist at the Silent Spring Institute. Her research focuses on three main areas: development of novel exposure measurements for epidemiological and community-based studies, analysis of environmental exposure data with a particular emphasis on semi-volatile organic compounds such as phthalates and flame retardant chemicals, and intervention studies aimed at reducing chemical exposures. Dr. Dodson oversees the Institute's consumer product exposure research. She was the lead author on a landmark peer-reviewed study on endocrine disrupting and asthma-associated chemicals in more than 200 consumer products. As part of the Centers for Disease Control's Green Housing study, she is currently investigating exposure in children with asthma to chemicals in consumer products and building materials.

Dr. Dodson is an adjunct assistant professor of environmental health at Boston University School of Public Health and also holds an appointment as a visiting scientist at Harvard T.H. Chan School of Public Health. She completed her doctorate in environmental health at Harvard. For her graduate work, she designed and conducted an exposure study in the Boston area focusing on residential and personal exposures to volatile organic compounds. In addition to her doctorate, Dr. Dodson holds a bachelor's in environmental studies from Bates College and a master's in environmental science and risk management from Harvard.

Brief Description

Women of color are more highly exposed to consumer product chemicals, some of which are associated with hormone-mediated conditions including uterine fibroids and breast cancer. Comprehensive product use data among women of color are limited. To fill this gap, we launched the Taking Stock Study, a community-research collaborative to document product use among women of color living in California. We examined racial/ethnic differences in product use from a survey of California women. We then worked closely with a community of Black women and Latinas living in South Los Angeles to collect highly detailed information on product use and urinary concentrations of phenols and phthalates. Product use varies by race/ethnicity, with the largest differences in use between Black and White women. Every participant in the South Los Angeles substudy used at least one product with fragrance, nearly 80% used product(s) with parabens, and 60% used product(s) with formaldehyde releasers. Urinary concentrations for some chemicals varied by product selection behaviors. These data represent one of the most comprehensive assessments of product use across multiple races/ethnicities, including vulnerable groups often overlooked in research studies, and are important for developing evidence-based intervention studies to reduce exposures.

For more information, see the study web site: https://takingstockstudy.org/.

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 and 2025:

- October 8, 2024

- February 11, 2025

- June 10, 2025

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 June 2024)

Bruce Alexander, Ph.D.
Univ. of MN, School of Public Health
Professor and Head, Div. of Environmental
Health Sciences
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 and Environmental
Epidemiology
Minnesota Department of Health
625 Robert St. N.
St. Paul, MN 55164
651-201-5882
Jay.Desai@state.mn.us
MDH 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.
Senior Environmental Research Analyst
Minneapolis Department of Health
250S 4th St.
Minneapolis, MN 55415
Jenni.lansing@minneapolismn.gov
At-large representative

Rajinder Mann, Ph.D.
Minnesota Dept. of Agriculture
Pesticide & Fertilizer Management Division
625 Robert St N
St Paul, MN 55155-2538
651-201-6697
Rajinder.mann@state.mn.us
Minnesota Department of Agriculture
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.
Univ. of MN, School of Public Health
Div of Epidemiology & Community 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

Minnesota Pollution Control Agency appointee

Statewide business organization representative

Minnesota House of Representatives appointee

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.

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 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.