2025 Contaminants of Emerging Concern Annual Meeting Summary

Slide 1: 2025 Contaminants of Emerging Concern Annual Meeting

2025 Contaminants of Emerging Concern Annual Meeting

Health Risk Assessment Unit

m1 DEPARTMENT OF HEALTH

Contaminants of Emerging Concern Website

Slide Text and Image Description

Health Risk Assessment Unit

Minnesota Department of Health

Contaminants of Emerging Concern Website
(https://www.health.state.mn.us/communities/environment/risk/guidance/dwec/index.html)

Slide 2: CEC Initiative Funding Acknowledgment

CEC Initiative Funding Acknowledgment

2

Slide Text and Image Description

Image: Clean Water Land and Legacy Amendment: Your Clean Water Fund at Work Logo

Slide 3: Minnesota Legacy Amendment Quote

"In 2008, Minnesota's voters passed the Clean Water, Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution to: protect drinking water sources; to protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; to preserve arts and cultural heritage; to support parks and trails; and to protect, enhance, and restore lakes, rivers, streams, and groundwater"

Minnesota Legacy Amendment

3

Slide Text and Image Description

Quote: "In 2008, Minnesota's voters passed the Clean Water, Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution to: protect drinking water sources; to protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; to preserve arts and cultural heritage; to support parks and trails; and to protect, enhance, and restore lakes, rivers, streams, and groundwater" *Minnesota Legacy Amendment (https://www.legacy.mn.gov/)*

Slide 4: Tips for Using PowerPoint Live from Your Computer
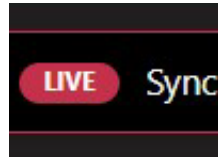
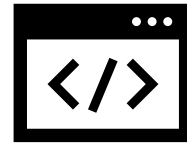### Tips for Using PowerPoint Live from Your Computer

Go back to revisit information on a slide we presented.

Advance slides and move ahead in the presentation.

Sync slide by clicking on the LIVE sync box

Click on underlined weblinks to go directly to the website.

4

Slide Text and Image Description

- [icon: an arrow pointing to the left] Go back to revisit information on a slide we presented.

- [icon: an arrow pointing to the right] Advance slides and move ahead in the presentation.

- [image: Live Sync] Sync slide by clicking on the LIVE sync box

- [icon: a computer screen with an internet link symbol] Click on underlined weblinks to go directly to the website.

Slide 5: Agenda

Agenda	
1-1:15 p.m.	Welcome and HRA Overview
1:15-1:30 p.m.	CEC Contaminant Reviews
1:30-1:45 p.m.	Changes to the Exposure Screening Process
1:45-2:00 p.m.	Toxicology Screening Updates
2:00-2:30 p.m.	Questions and Discussion

5

Slide Text and Image Description

1-1:15 p.m.   Welcome and HRA Overview

1:15-1:30 p.m. CEC Contaminant Reviews

1:30-1:45 p.m. Changes to the Exposure Screening Process

1:45-2:00 p.m. Toxicology Screening Updates

2:00-2:30 p.m. Questions and Discussion

Slide 6: Tribal-State Relations Acknowledgment Statement

Tribal-State Relations Acknowledgement Statement

The State of Minnesota is home to 11 federally recognized Indian Tribes with elected Tribal government officials. The State of Minnesota acknowledges and supports the unique political status of Tribal Nations across Minnesota and their absolute right to existence, self-governance, and self-determination. This unique relationship with federally recognized Indian Tribes is cemented by the Constitution of the United States, treaties, statutes, case law, and agreements. The State of Minnesota and Tribal governments across Minnesota significantly benefit from working together, learning from one another, and partnering where possible.

Minnesota Department of Health recognizes, values, and celebrates the vibrant and unique relationships between the 11 Tribal Nations and the State of Minnesota. Partnerships formed through government-to-government relationships with these Tribes will effectively address health disparities and lead to better health outcomes for all of Minnesota.

6

Slide Text and Image Description

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Slide 7: Health Risk Assessment Unit

Health Risk Assessment Unit

Contaminants of Emerging Concern (CEC) Initiative
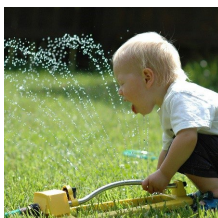
Health Risk Limits Program

Fish Consumption Guidance

7

Slide Text and Image Description

- [image: Clean Water Land and Legacy Amendment Logo. Your Clean Water Fund at Work.] Contaminants of Emerging Concern (CEC) Initiative (https://www.health.state.mn.us/communities/environment/risk/guidance/dwec/index.html)

- [image: young boy drinking from a lawn sprinkler] Health Risk Limits Program (https://www.health.state.mn.us/communities/environment/risk/guidance/hrlprogram.html)

- [image: plate of cooked fish and tomatoes] Fish Consumption Guidance (https://www.health.state.mn.us/communities/environment/fish/index.html)

Slide 8: Health Risk Assessment Team

Health Risk Assessment Team

Research Scientists

Alex Bogdan

Benjamin Blair

Sarah Fossen Johnson

Katie Fallace

Lindsay Wilson

Christopher Schaupp

Christopher Greene

Nancy Rice

Fish Consumption Guidance Scientist

Angela Preimesberger

Planner

Azra Thakur

Unit Supervisor

Kristine Klos

CEC Team
HRL Team

8

Slide Text and Image Description

Research Scientists (portrait photograph accompanies each individual's name):

- Alex Bogdan (CEC Team)

- Sarah Fossen Johnson (CEC Team)

- Lindsay Wilson (CEC Team)

- Christopher Greene (CEC Team)

- Benjamin Blair (CEC Team)

- Katie Fallace (HRL Team)

- Christopher Schaupp (HRL Team)

- Nancy Rice (HRL Team)

Fish Consumption Guidance scientist (portrait photograph accompanies name):

- Angela Preimesberger

Planner

- Azra Thakur

Unit Supervisor (portrait photograph accompanies name)

- Kristine Klos

Slide 9: 2024-2025 Health Risk Assessment Highlights

4 Full Chemical Reviews	2024-2025 Health Risk Assessment Highlights	Over 20 presentations and over 20 technical assists
4 Pesticide Rapid Assessments	Updated PFAS-related Fish Consumption Guidance	Responded to over 140 citizen calls and emails

9

Slide Text and Image Description

- [icon: number four] 4 Full Chemical Reviews

- [icon: number four] Pesticide Rapid Assessments

- [icon: big fish eating small fish] Updated PFAS-related Fish Consumption Guidance

- [icon: bar graph presentation] Over 20 presentations and over 20 technical assists

- [icon: open letter] Responded to over 140 citizen calls and emails

Slide 10: 2024-2025 Forum Presentations

2024-2025 Forum Presentations

MDH Minnesota Drinking Water Action Plan

UMN 10,000 Families Study

Stay tuned for this year's Forum Series!

10

Slide Text and Image Description

- [icon: handwashing outline]: MDH Minnesota Drinking Water Action Plan (https://www.health.state.mn.us/communities/environment/water/cwf/fdw.html)

- [icon: 10K Families study]: UMN 10,000 Families Study (https://10kfs.umn.edu/)

- [icon: outline of a person giving a presentation]: Stay tuned for this year's Forum Series!

Slide 11: 2024 Clean Water Fund Performance Report

Slide Text and Image Description

[screenshot: 2024 Clean Water Fund Performance Report]

Weblink: https://www.legacy.mn.gov/sites/default/files/resources/Clean-Water-Fund-Report-2-15-24.pdf

Slide 12: CEC Contaminant Reviews

CEC Contaminant Reviews

Lindsay Wilson | Toxicologist

12

Slide Text and Image Description

[photograph: rear view of a hiker at a lake]

Lindsay Wilson|Toxicologist

Slide 13: What is a Contaminant of Emerging Concern (CEC)?

What is a Contaminant of Emerging Concern (CEC)?

- CECs are defined in different ways by different agencies.

- MDH's CEC Initiative **prioritizes chemicals found or are likely to be found in Minnesota drinking water and have little or no information available about human health risk.**

- Share findings with the public to protect public health

13

Slide Text and Image Description

[image: blue fluid being dropped into three filled glass flasks using a pipette]

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Slide 14: HRA Develops Health-Based Guidance

HRA Develops Health-Based Guidance

Health-based guidance

Concentration of a contaminant(s) in water that is likely to pose little or no health risk to people who drink the water, including sensitive and highly exposed populations.

14

Slide Text and Image Description

[photograph: young child drinking water]

Health-based guidance

Concentration of a contaminant(s) in water that is likely to pose little or no health risk to people who drink the water, including sensitive and highly exposed populations.

Slide 15: General HRA Full Review Workflow

Slide Text and Image Description

- [icon: raised hand] Review Announced

- [icon: magnifying glass] Interim Review

  o Literature search

  o Data synthesis

- [icon: group of people having a conversation] Peer Review

- [icon: checklist] Final Review

  o Supporting data

  o Additivity

- [icon: group of people having a conversation] Peer Review

- [icon: check] Finalization and Communication

Slide 16: HRA Guidance—Full Review Outcomes

Type	Sufficient Database	Standard Methods	In Rule
Health-Based Value (HBV)	✓	✓	✗
Health Risk Limit (HRL)	✓	✓	✓
Risk Assessment Advice (RAA)	⚠	✗	✗
No Guidance	✗	✗	✗

16

Slide Text and Image Description

Type	Sufficient Database	Standard Methods	In Rule
Health-Based Value (HBV)	Yes	Yes	No
Health Risk Limit (HRL)	Yes	Yes	Yes
Risk Assessment Advice (RAA)	Limited data/requires alternative methods		No
No Guidance	No	No	No

Summary

The types of outcomes from a full review are: health based values (HBV), health risk limit (HRL), Risk Assessment Advice (RAA), or No Guidance

Summary

Slide 17: The CEC Initiative Worked on 4 Chemical Reviews Last Year

The CEC Initiative Worked on 4 Chemical Reviews Last Year

1. **Tributyl phosphate**— completed
2. **Lithium** — did not proceed to develop guidance
3. **Trifluoroacetate (TFA)**— *in progress*
4. ***o*-toluidine** — *in progress*

17

Slide Text and Image Description

[image: a marker drawing check marks]

1. **Tributyl phosphate** — completed

2. **Lithium** — did not proceed to develop guidance

3. **Trifluoroacetate (TFA)** — *in progress*
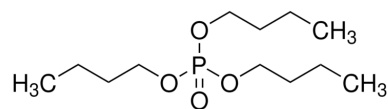
4. ***o*-toluidine** — *in progress*

Summary

The fiscal year runs from July-June at MDH.

Slide 18: Completed Review: Tributyl Phosphate

Completed Review: Tributyl Phosphate

- Industrial chemical used as a plasticizer and an anti-foaming agent

- Rarely detected in Minnesota drinking water (a few detections 20 years ago)

- Sometimes found in surface water, and in groundwater near landfills

- Guidance value is based on reduced birth weight in animal studies

Tributyl phosphate Health-Based Value		
Duration	Value	Health Endpoint
Acute	Not derived	
Short-term	4 µg/L	Developmental
Subchronic	4 µg/L (short-term guidance)	Developmental
Chronic	4 µg/L (short-term guidance)	Developmental
Cancer	Not applicable	

18

Slide Text and Image Description

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Cancer	Not applicable	

[image: chemical structure of tributyl phosphate]

Slide 19: Completed Review: Lithium

Slide Text and Image Description

[icons: agriculture, battery, and pills]

- Naturally occurring in the environment, including Minnesota drinking water, groundwater and surface water

- Used in high-capacity batteries, including in electronics and EVs

- Used by prescription as a treatment for mood disorders

- Available toxicity data did not support guidance development

- Toxic exposure very unlikely from the environment based on occurrence data; more likely from direct intentional ingestion (e.g., lithium-based pharmaceuticals)
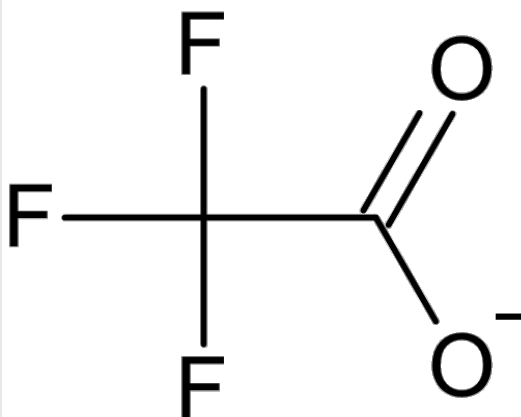
Slide 20: In Progress: Triflouroacetate (TFA) Review

In Progress: Trifluoroacetate (TFA) Review

- Often classified as an ultra-short-chain PFAS

- Breakdown product of coolants, refrigerants, some pesticides, and other fluorinated substances

- Common in the environment, but not much data on presence in Minnesota waters

- Currently reviewing tox database

20

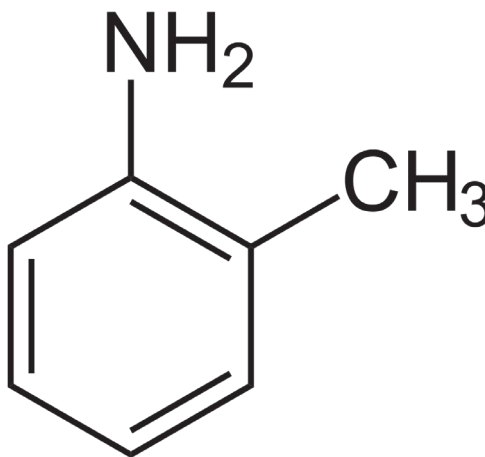## Slide Text and Image Description

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- Currently reviewing tox database

[icon: trifluoroacetate chemical structure]

Slide 21: In Progress: o-toluidine Review

Slide Text and Image Description

- Intermediate used in manufacture of various products

  - Dyes and pigments, including some hair dyes

  - Pesticides, including Metolachlor and Acetochlor

  - Synthetic rubber and pharmaceuticals

- Has been found in surface water and drinking water in other states

- Looked for in Minnesota drinking water but not yet found

- Evidence of toxic effects on bladder, liver, and other organs

[icon: o-toluidine chemical structure]

Slide 22: In 2025 CEC Initiative Adopted Into Rule 2 Health Risk Limits

In 2025 CEC Initiative Adopted Into Rule 2 Health Risk Limits

- 2023 Session Law for PFOS

  - Required MDH to update HRL for PFOS

  - Reminder: HBVs and HRLs are derived using the same methods and data quality, but HRLs have gone through rulemaking

  - Rulemaking allows guidance values to go through two rounds of public comments and review by an administrative law judge

  - Creating HRLs through rulemaking allows partners to use our guidance values in ways they otherwise could not

CEC contaminants adopted into rule	HRL Program contaminants adopted into rule
PFOS	Anthracene (repealed only: New RAA)
PFOA	Chlorothalonil
	1,2-Dibromoethane (ethylene dibromide, EBD)
	Dichlorodifluoromethane (repealed only: new RAA)

22

Slide Text and Image Description

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CEC contaminants adopted into rule		HRL Program contaminants adopted into rule
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PFOA		Chlorothalonil
		1,2-Dibromoethane (ethylene dibromide, EBD)
		Dichlorodifluoromethane (repealed only: new RAA)

Slide 23: Changes to the Exposure Screening Process

Changes to the Exposure Screening Process

Chris Greene | Research Scientist

23

Slide Text and Image Description

[photograph: a series of leaves transitioning from green to golden brown]

Chris Greene | Research Scientist

Slide 24: Currently, Exposure and Toxicity Screening Occur at the Same Time

Currently, Exposure and Toxicity Screening Occur at the Same Time
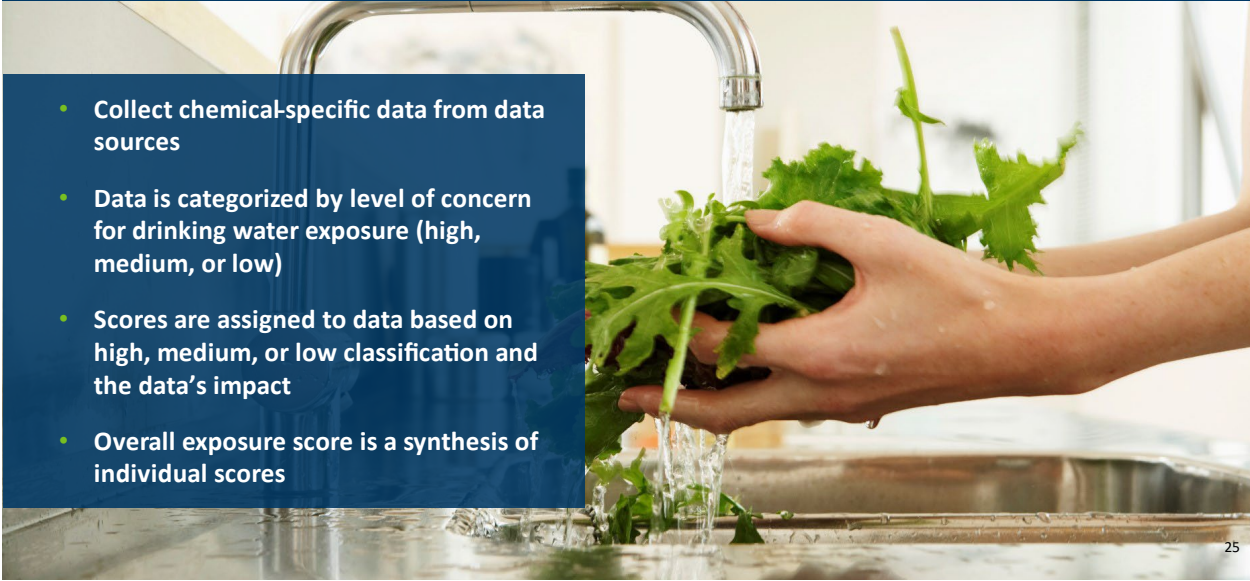

24

Slide Text and Image Description

Flowchart:

1. Receive nominations and identify candidates

2. Exposure screening and scoring and Toxicity Screening and Scoring

3. Final Combined Scoring

4. Develop annual workplan

5. Full review

Slide 25: Current Approach: Exposure Screening and Scoring

Slide Text and Image Description

[photograph: rinsing salad greens under a running faucet]

▪ Collect chemical-specific data from data sources

Data is categorized by level of concern for drinking water exposure (high, medium, or low)

▪ Scores are assigned to data based on high, medium, or low classification and the data's impact

▪ Overall exposure score is a synthesis of individual scores

Slide 26: CEC Screening Workflow—Updated
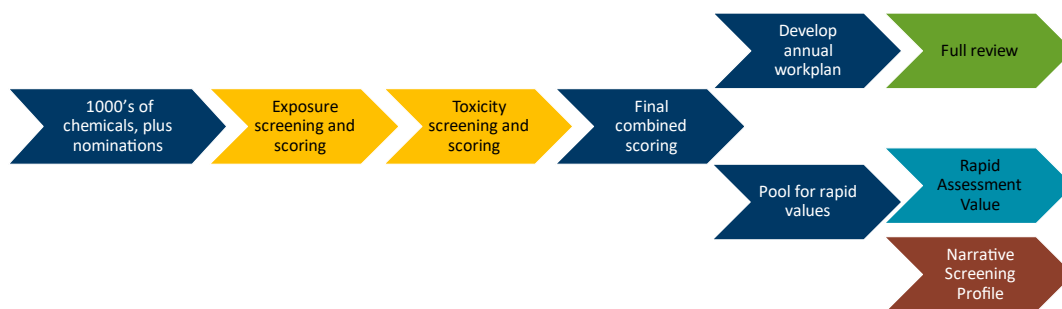
Slide Text and Image Description

Flowchart:

1. 1000s of chemicals, plus nominations

2. Exposure Screening and Scoring

3. Toxicity screening and scoring

4. Final combined scoring

    a. Develop annual workplan

    b. pool for rapid values

        i. Full review

        ii. Rapid Assessment Value

        iii. Narrative Screening Profile

Slide 27: Employing NAMS to Enhance Exposure Screening

Employing NAMs to Enhance Exposure Screening

- Automated workflow for scoring chemicals for exposure potential
- Uses MDH data sources and criteria
- Incorporates New Approach Methodologies (NAMs) for exposure from EPA's Exposure Forecasting (ExpoCast) project
- Reduced processing time by 100-fold– but some discrepancies exist
- Revealed opportunities for changing our process

Data goes in

R

Exposure scores and reports come out
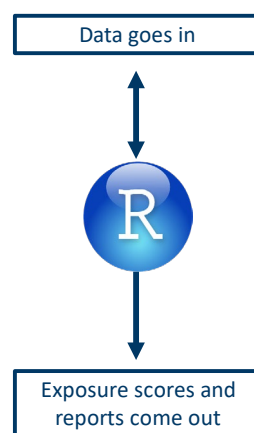
27

Slide Text and Image Description

[graphic: Data goes in to R and exposure scores and reports come out]

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- Uses MDH data sources and criteria

- Incorporates New Approach Methodologies (NAMs) for exposure from EPA's Exposure Forecasting (ExpoCast) project

- Reduced processing time by 100-fold– but some discrepancies exist

- Revealed opportunities for changing our process

Slide 28: What are New Approach Methodologies (NAMs)?

What Are New Approach Methodologies (NAMs)?

<u>Innovative methods to evaluate chemical toxicity and human health risk.</u>

Types of NAMs:

1. Toxicology NAMs
   - In vitro assays (e.g. ToxCast)
   - In silico models (e.g. QSAR, AI/Machine Learning)
   - Mechanistic Approaches (e.g. Adverse Outcome Pathway)
2. Exposure NAMs
   - In silico models (e.g. PBPK, exposure forecasting)

   Why do NAMs matter? Faster, more ethical, and cost-effective approaches to provide human relevant data to understand toxicity and exposure.

28

Slide Text and Image Description

<u>Innovative methods to evaluate chemical toxicity and human health risk.</u>

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Why do NAMs matter? Faster, more ethical, and cost-effective approaches to provide human relevant data to understand toxicity and exposure.

Slide 29: NAMs Can Enhance Our Exposure Screening Process

NAMs Can Enhance Our Exposure Screening Process

Proof-of-Concept Automated Exposure Workflow employs several NAMs:

- OPERA/QSAR: uses chemical structure to predict chemical properties

- SHEDS-HT: predicts exposure from chemicals in consumer products

- SEEM3: Consensus approach using multiple models to predict exposure

- Research databases

  - MMDB– compilation of public chemical monitoring data

  - CPDat – compilation of public data on chemical use in products

It also automates much of the analysis of occurrence and physical/chemical data

29

Slide Text and Image Description

Proof-of-Concept Automated Exposure Workflow employs several NAMs:

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It also automates much of the analysis of occurrence and physical/chemical data

Slide 30: Focus on Drinking Water

Slide Text and Image Description

[image: a running faucet filling a glass of water]

- Since its inception, the CEC program has emphasized drinking water detections over other indicators

- Not all NAMs differentiate between water exposure and non-water (or total) exposure

Slide 31: Hierarchy of Exposure-Related Data and Modeling

Hierarchy of Exposure-Related Data and Modeling

- Drinking water detections in Minnesota and no current guidance (MNDWIS, EQuIS)

- Other Minnesota water detections (WQPortal, MDH-USGS database, EQuIS, MDA reports)

- Likely but unconfirmed presence in Minnesota waters (production, sales, use data, degradates)

- Physical/Chemical properties suggest mobility and/or persistence (CompTox dashboard)

- Prediction of water concentration from structure (MMDB)

- Human exposure estimates (all sources) (SEEM3, SHEDS -HT)

31

Slide Text and Image Description

[image: arrow]

- Drinking water detections in Minnesota and no current guidance (MNDWIS, EQuIS)

- Other Minnesota water detections (WQPortal, MDH-USGS database, EQuIS, MDA reports)

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- Human exposure estimates (all sources) (SEEM3, SHEDS-HT)

Slide 32: Current Goals for Automated Workflow

Current Goals for Automated Workflow

- Modify the scoring process to make drinking water exposure the first consideration

- Employ NAMs to identify and score chemicals with potential water exposures

- Expand list of target chemicals

  - Final list may be 30-40,000 chemicals collected from existing lists

- Ensure in-house capability to run the screening/scoring process on a regular schedule

32

Slide Text and Image Description

[image: A full glass of water]

- Modify the scoring process to make drinking water exposure the first consideration

- Employ NAMs to identify and score chemicals with potential water exposures

- Expand list of target chemicals

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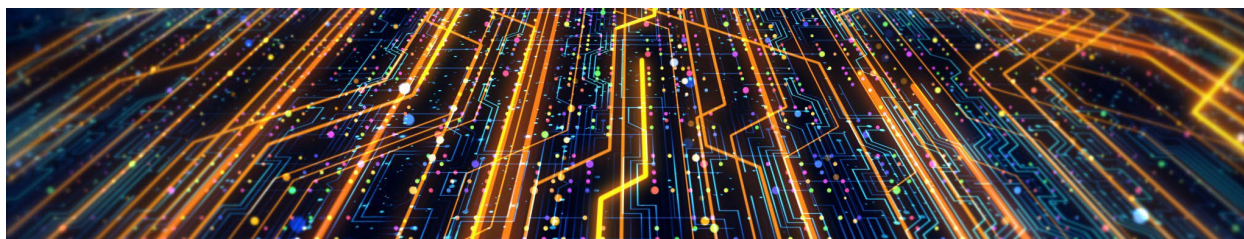- Ensure in-house capability to run the screening/scoring process on a regular schedule

Slide 33: Toxicology Screening Updates

mn DEPARTMENT OF HEALTH

Toxicology Screening Updates

Benjamin Blair | Research Scientist

33

Slide Text and Image Description

[photograph: circuit board graphic]

Benjamin Blair | Research Scientist

Slide 34: Why do We Screen CECs and How Can We Improve?

Why Do We Screen CECs and How Can We Improve?

- Developing Water Guidance is the "bread and butter" of HRA

- The CEC Initiative accepts nominations of chemicals from partners and the public for full review & water guidance development

- Screening and scoring is an important process to prioritize these chemicals

34

Slide Text and Image Description

- Developing Water Guidance is the "bread and butter" of HRA

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Slide 35: Why Do We Screen CECs and How Can We Improve?

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- Developing Water Guidance is the "bread and butter" of HRA

- The CEC Initiative accepts nominations of chemicals from partners and the public for full review & water guidance development

- Screening and scoring is an important process to prioritize these chemicals

Areas of improvement

The current process is time-intensive

How can we accelerate methods while maintaining the best science?

Lower priority chemicals get "parking-lotted"

How can we use the available data to provide risk context to partners and the public in absence of full review?
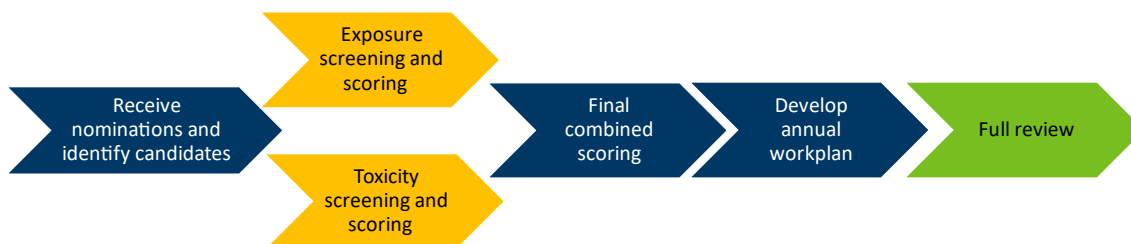
35

Slide Text and Image Description

Areas of improvement:

- The current process is time-intensive

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- Lower priority chemicals get "parking-lotted"

  - How can we use the available data to provide risk context to partners and the public in absence of full review?

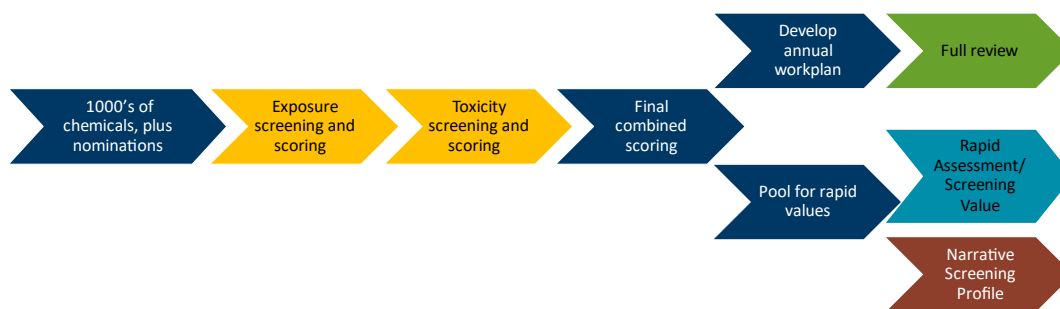## Slide 36: Current CEC Screening Workflow

Slide Text and Image Description

Flowchart:

1. Receive nominations and identify candidates

2. Exposure screening and scoring and Toxicity Screening and Scoring

3. Final Combined Scoring

4. Develop annual workplan

5. Full review

Slide 37: CEC Screening Workflow—Updated

Slide Text and Image Description

Flowchart:

1. 1000s of chemicals, plus nominations

2. Exposure Screening and Scoring

3. Toxicity screening and scoring

4. Final combined scoring

    a. Develop annual workplan

    b. pool for rapid values

        i. Full review

        ii. rapid assessment value

        iii. narrative screening profile

Summary

In the updated workflow, the exposure step has been moved to be a little earlier in the process.

Exposure assessments should be carried out with the end goal in mind– provide enough information to categorize for full review, RA value, or narrative.

Slide 38: CEC Screening Workflow—Updated
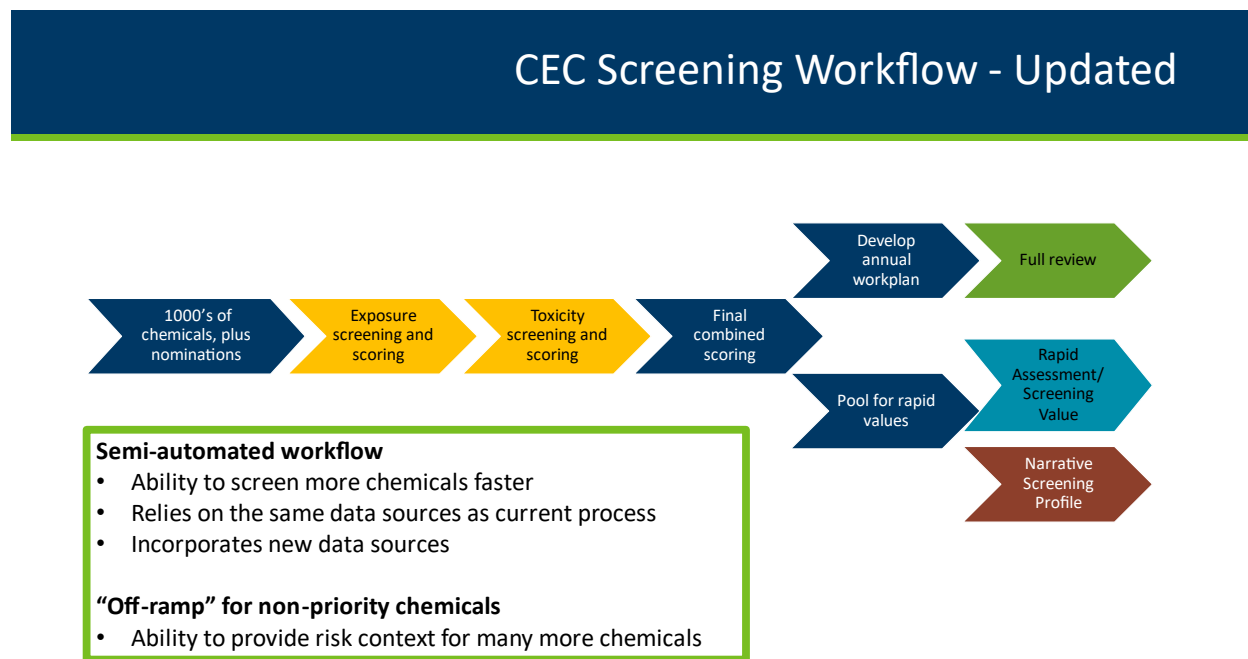
Slide Text and Image Description

Flowchart from Slide 37 and text box:

Semi-automated workflow

- ability to screen more chemicals faster

- relies on the same data sources as current process

- incorporates new data sources

"Off-ramp for non-priority chemicals"

- ability to provide risk context for many more chemicals

Slide 39: Tox Screening Updates: Data Sources

Tox Screening Updates: Data Sources

- The current CEC screening methods for toxicity rely almost entirely on animal data

- These continue to be the "gold standard" for toxicity screening, but our data collection methods are changing

EPA's ToxVal Database

- Collection of human-relevant toxicity values

- Ability to collate toxicity data on hundreds of chemicals at once in a standardized format

- HRA has worked with EPA staff to ensure data coverage for our screening purposes

39

Slide Text and Image Description

Image: Mouse

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- Ability to collate toxicity data on hundreds of chemicals at once in a standardized format

- HRA has worked with EPA staff to ensure data coverage for our screening purposes

Slide 40: Tox Screening Updates: Data Sources

Tox Screening Updates: Data Sources

- New approach methodologies (NAMs) incorporate *in vitro* (non-animal) data

- **This is an addition**, not a replacement for animal data

EPA's Toxicity Forecaster (ToxCast)

- Collection of *in vitro* screening data

    - >10,000 substances

    - >1,500 assays

    - Ability to detect biological activity that may not have been tested for in animals

40

Slide Text and Image Description

[image: Purple fluid being added to a 96 well-plate with a pipette]

- New approach methodologies (NAMs) incorporate *in vitro* (non-animal) data

- **This is an addition**, not a replacement for animal data

EPA's Toxicity Forecaster (ToxCast)

- Collection of *in vitro* screening data

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Slide 41: Tox Screening Updates: Changes to Scoring

Tox Screening Updates: Changes to Scoring

- Current methods for toxicity scoring include three metrics:
  - Potency score (0-10) *based on toxicity value*
  - Severity score (0-9) *based on endpoint description*
  - Other issues (1-3)

- Proposed updates:
  - Fewer Severity score categories
    - This aids in automation and reduces the likelihood of discrepancies between reviewers
  - Addition of *in vitro* data
    - e.g. developmental neurotoxicity may not have been tested for in animals. If there is *in vitro* evidence of these effects, it would be accounted for in the toxicity score.

41

Slide Text and Image Description

- Current methods for toxicity scoring include three metrics:

  - Potency score (0-10) based on toxicity value

  - Severity score (0-9) based on endpoint description

  - Other issues (1-3)

Proposed updates:

- Fewer Severity score categories

  - This aids in automation and reduces the likelihood of discrepancies between reviewers

- Addition of in vitro data

  - e.g. developmental neurotoxicity may not have been tested for in animals. If there is in vitro evidence of these effects, it would be accounted for in the toxicity score.

Slide 42: Bringing it All Together
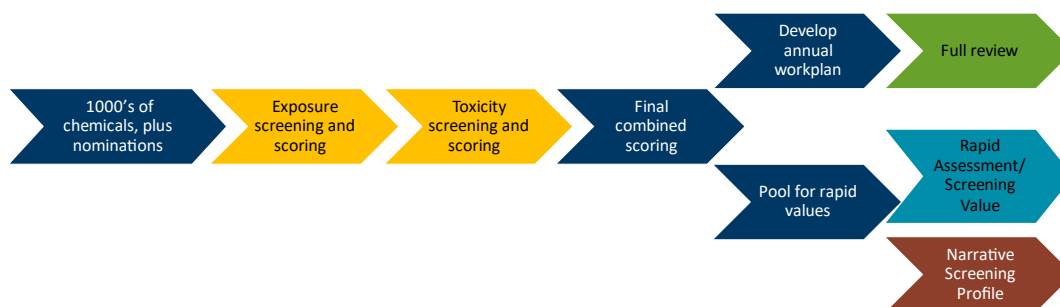
Slide Text and Image Description

Flowchart from Slide 37:

Flowchart:

5. 1000s of chemicals, plus nominations

6. Exposure Screening and Scoring

7. Toxicity screening and scoring

8. Final combined scoring

    c. Develop annual workplan

    d. pool for rapid values

        i. Full review

        ii. rapid assessment value

        iii. narrative screening profile

Slide 43: Tox and Exposure Screening: Bringing it All Together

Tox and Exposure Screening: Bringing it All Together

- Utilizing the EPA, OECD, and other Application Program Interfaces (APIs) and customized R code, an automated report is generated.

- Brings together multiple streams to calculate scores such as the bioactivity exposure ratio (BER) and MDH-specific calculations to prioritize chemicals for a deeper dive with the updated manual scoring process.

Exposure screening and scoring → Toxicity screening and scoring

43

Slide Text and Image Description

Image: Exposure screening and scoring and Toxicity screening and scoring

- Utilizing the EPA, OECD, and other Application Program Interfaces (APIs) and customized R code, an automated report is generated.

- Brings together multiple streams to calculate scores such as the bioactivity exposure ratio (BER) and MDH-specific calculations to prioritize chemicals for a deeper dive with the updated manual scoring process.

Slide 44: Key Takeaways and Next Steps


Key Takeaways and Next Steps

- HRA is amending our CEC Screening process to increase efficiency and focus on the most critical concerns.
- HRA continues to work on chemical reviews while testing and performing QA/QC on our new semi-automated approaches.
- Using the updated screening and prioritization methods, we will develop a new workplan.

Slide Text and Image Description

▪ HRA is amending our CEC Screening process to increase efficiency and focus on the most critical concerns.

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▪ Using the updated screening and prioritization methods, we will develop a new workplan.
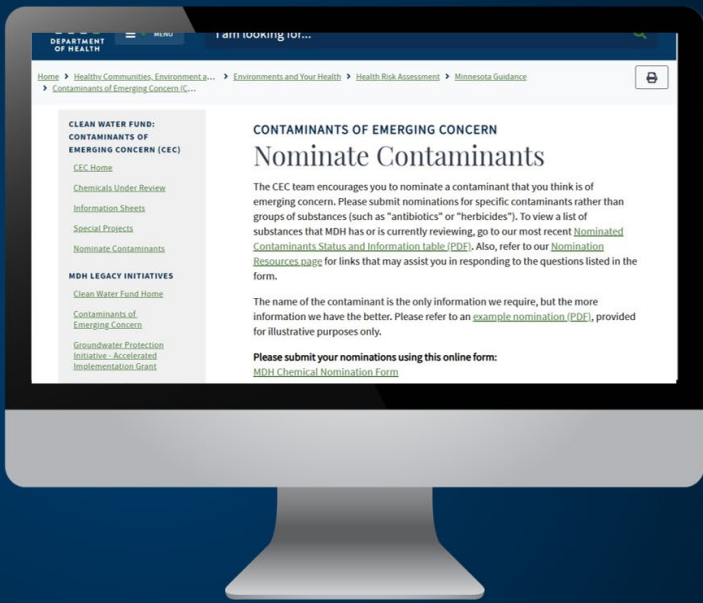
Slide 45: Questions and Discussion
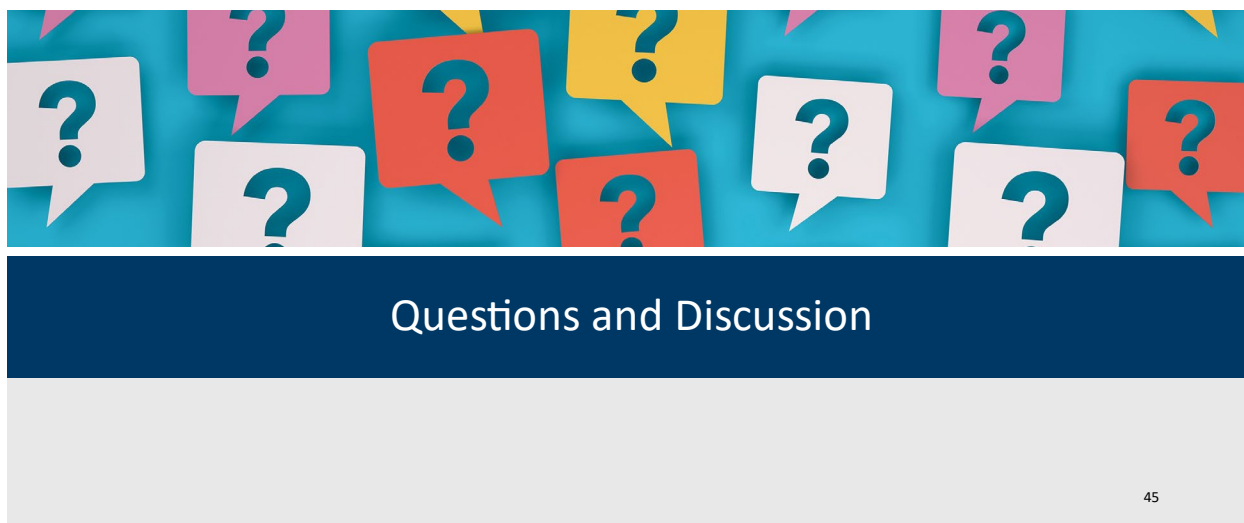
Slide Text and Image Description

Image: different colored question marks

Slide 46: Nominate Contaminants for Review

Slide Text and Image Description

Image: Screenshot of Contaminants of Emerging Concern Nominate Contaminants Website

Weblink:
https://www.health.state.mn.us/communities/environment/risk/guidance/dwec/nominate.html

Slide 47: Thank You!

mn DEPARTMENT OF HEALTH

Thank You!

Health.risk@state.mn.us

651-201-4899

[GovDelivery: Groundwater Rules, Guidance, and Chemical Review](#)

47

Slide Text and Image Description

Health.risk@state.mn.us

651-201-4899

Weblink to sign up for GovDelivery notifications:
https://public.govdelivery.com/accounts/MNMDH/subscriber/new?topic_id=MNMDH_39

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09/24/25

To obtain this information in a different format, email: health.risk@state.mn.us