



Evaluation of Exposure

- HHRA Update
- Evaluation of Exposure Study Update
- Next steps

Community Advisory Committee Meeting, Monday, July 6th, 2009

Status of the HHRA and the Peer Review Process

- At the request of the TAC, TERA (Toxicological Excellence in Risk Assessment) undertook a peer review of the HHRA
- TERA put together a panel of eight (8) experts from across Canada and the US
 - Risk assessors, Toxicologists, Medical toxicologists
 - Consultants, regulators, medical practitioners, academics
- Panel reviewed the draft HHRA and provided preliminary comments in advance of the peer review meeting

IERP Panel Meeting

- On June 23 and 24, TERA held a meeting of the IERP
- The purpose of the meeting was for the Panel to meet and discuss comments and issues with the goal being a consolidated report regarding the acceptability of the HHRA
- Attended by all panel members, support staff from TERA, TAC observers and Intrinsik
- Intrinsik's role was to answer questions and provide clarification

Preliminary IERP Comments

- Panel members provided many preliminary comments and participated in an active discussion
- Overall the comments were constructive and supportive of the work, with no substantive issues that will affect the study timelines. However their official comments have not yet been received. Some adjustments to the risk models will occur.

Plans for the further Evaluation of Environmental Exposure

- TAC met following the IERP meeting
- TAC members agreed that it would be prudent to proceed with an Evaluation of Environmental Exposure Study even though the risk models may be adjusted
- If an exposure study is to proceed, it would be best to be done at a time in which the results could be incorporated into the overall HRRRA report
- This study will occur in the Fall of 2009 and will require the collection of urine and capillary blood from children (up to the age of 16) from across Flin Flon and Creighton areas

Recap of what evaluation of exposure looks like?

- Study team will contact parents of children from random sample, explain the study, and then they will voluntarily choose to participate or not
- Parent/guardian participates in interview
- Urine and blood samples (finger prick)
- Study team will attempt to answer all the selected study questions with both interview data and results from the urine and blood samples
- Each child's parents/guardians and their physician will receive his/her own results along with a description of results for the community overall
- All individual results will remain confidential. No results will be linked to specific individuals in any reports.
- Information will be integrated into the overall HHRA findings and reported back to the community

Recent CAC input into planning the evaluation of exposure

- After June 1 meeting the CAC received a set of questions to help guide the evaluation of exposure
- The responses to these questions have been compiled and reviewed
- This has been helpful in learning more about the community and the expectations of the study
- The following slides discuss how we have and will consider this input in the study design.....

Q1) Are the following questions appropriate?

Q1a) *What is the current level of internal exposure to arsenic, lead, and inorganic mercury in the child population residing in or about the contaminated areas of Flin Flon?*

- For the most part CAC members stated that this question is appropriate
- A few members asked why these CoCs were selected and not others
- The HHRA found uncertainty around the modeled risk for these CoCs to justify biomonitoring
- There was sufficient confidence in the modeled risk of other CoCs to not include them
- In addition, one member asked if arsenic would be analyzed for organic and inorganic. The answer to that question is, yes

Q1) Are the following questions appropriate?

1b) Do Flin Flon Area child residents have higher arsenic, lead, and/or inorganic mercury levels than residents living in other parts of Canada?

- Overall the responses from the CAC suggested that this question is appropriate
- A few responses suggested that the comparison to other parts of Canada should try to capture communities with similar characteristics. This will be part of the plan.
- We also plan to compare to parts of Canada with different characteristics to see if there is a difference in internal exposure

Q1) Are the following questions appropriate?

1c) Based upon the current scientific literature, what are the health risks from the levels of arsenic and inorganic mercury and lead in children in the Flin Flon Area?

- CAC responses showed support for this question
- The issue of other chemicals was mentioned (i.e. cadmium)
- These chemicals have been selected as a result of the HHRA The HHRA did not find sufficient risk associated with cadmium to include it in this biomonitoring study

Q1) Are the following questions appropriate?

1d) What personal factors are associated with the level of measured internal exposure to arsenic and inorganic mercury and lead in children in the Flin Flon Area (e.g., place of residence, place of work, level of chemical in soil, age, gender, diet, personal habits, etc.)?

- The CAC responses showed support for this question
- A few respondents noted that questions about work would likely be about the parents' work. This is correct.
- Basically we are trying to cover all bases in asking about all people in the household who work as what we are exposed to at work can sometimes make it into the home.
- From what we understand this is not highly probable with mining because of shower procedures but it might be with some other occupations.
- Someone also noted that we should ask about habits of pets (e.g. a dog that spends time outside and inside. We will ask about pets in the household interview.

Q1) Are the following questions appropriate?

Q1e) Are there other questions the community would want answered?

- Two additional questions were suggested:
- 1) *“What community characteristics lead to exposure (e.g. parks, playgrounds etc.)?”*
 - We will know what part of town participants live in and we will ask where they play so this should address that question
- 2) *“What can we do to avoid exposure?”*
 - The evaluation of exposure cannot pinpoint the source of exposure for individuals however we can report trends across the community
 - Also, in the case that elevated individual levels are found, these individuals will be referred to their physician who will conduct medical follow up, which, among other things, typically includes identifying how to reduce exposure.

Q2) Does the focus on children make sense based on the discussion we had on June 1?

- The responses indicated that a focus on children makes sense.
- Some members also suggested that the study look at adults.
- children are generally more sensitive to contaminants
- children are potentially exposed at higher levels because they eat, drink and breath relatively more than adults.
- Children's normal activities, such as putting hands in their mouths or playing on the ground, create additional opportunities for exposures.
- So, if exposure is occurring among residents, it will be more apparent among children.
- In addition to an ethics review, this study will also go through a scientific peer review by 2 leading Canadian scientists from University of Alberta and McMaster University. The ethics or peer review might provide additional information that leads to including other age groups.

Q3) Please identify the key community organizations that should be included in communication plans?

- The CAC suggested the following groups. *Would some of the following groups be of higher priority?*
 - Day Cares, schools/school board, Unions, churches, friendship centre, kids sport teams, HBMS (e.g. Main Gate handouts), Doctors offices, clinic, hospital, RHAs, Cabin Organizations (covering people living permanently or seasonally at places such Schist Lake, Baker's Narrows, Jan Lake, Denare Beach (Beaver Lake and Wier Road).
- Service groups were also mentioned. *Does this include Rotary, Lions, and others?*

Q4) What are the main things that are required to assist in ensuring a large number of families participating in the study (e.g. newsletters, small honorarium, etc.)?

- Clear communication was reported to be key
- We will be sure to provide community members clear information about:
 - why they should participate
 - what will be required of them
 - what information they will gain, and
 - why it is valuable for the community
- This will be circulated to households and broadly communicated to the organizations previously identified.
- Very few people mentioned an honorarium. *What are thoughts on this?*

Q5) Will there be certain populations/groups that will be more challenging to recruit? If so, what would you recommend as an approach to recruiting these groups?

- Older children are predicted to be harder to recruit
- We agree with the majority of CAC members who indicated that good communications is important to ensure success

Q6) What are the best mechanisms for communicating the study to the overall community (e.g. open house information, radio, etc.)?

- Letters to households, information packages to identified organizations and news media.
- Media includes:
 - local cable network bulletin board (Shaw cable)
 - CFAR (local radio)
 - Brett Hopper at Shaw
 - Mark Szyszlo at CBC North Country
 - The Reminder

Q7) Does the timing of the study seem appropriate? Are there events that might limit involvement during this timeframe?

- The timing seems appropriate to the CAC
- Some concerns expressed about people who are still at camp or just returning to school
 - We plan to be in the field for all of September and into early October if necessary. This should allow time for us to reach people who are returning from summer residences, via various communication mechanisms.
- One member raised the concern that if people are away all summer that they were not exposed to Flin Flon conditions.
 - We will take this into consideration by asking detailed questions about where people have spent time recently.

Q8) Please list the main types of recreation that children and their families typically participate in and the locations where this usually occurs?

- This is a very active community
- A very large range of activities were provided including (soccer, swimming at various locations, unorganized play all around town, fishing and ATV activity near town etc.)
- Considering this wide range of activities we will ask families detailed questions about the type and location of outdoor activities that their children undertake

Q9) Is there any other guidance that the CAC can think of at this time that would help with the success of this study?

- Again, clear and open communication was reported to be essential
- The importance of the CACs role in communication is evident
- The CAC will be given a copy of the communication package, including clear messages about the purpose of the study
- *Does the CAC wish to add anything here?*

Next steps for the evaluation of exposure

- Still on track for September 2009 with input from...
 - Senior Public Health Officials
 - Ethics review (under way)
 - Peer review (to begin in a few weeks)
 - Community support (continual, with input from CAC)
 - TAC guidance
- Then we will report back to the community and individual participants