This Agreement dated for reference the 1st day of September, 2024.

DRAFT COMMUNITY RESEARCH AGREEMENT

Food, Environment, Health and Nutrition of First Nations Children and Youth (FEHNCY)



Alimentation, environnements, nutrition et santé des enfants et jeunes des Premières Nations

BETWEEN:

Name of First Nation Address Phone : (the "First Nation")

AND:

UNIVERSITY OF OTTAWA,

Department of Biology, Faculty of Science, as represented by Laurie Chan, Principal Investigator

(Referred to as the "UOttawa")

WHEREAS the UOttawa has applied to the First Nation to do research, and agrees to the conditions placed upon the UOttawa in this agreement and to comply with the intent of the principles set forth herein;

WHEREAS the research study contemplated by this Agreement is of mutual interest and benefit to UOttawa and the First Nation, will further the integration and synthesis of research information to better understand, investigate, and document the relationship between the quality of built, social, and natural environments, and nutrition, on the health of First Nations children and youth living onreserve. Thus, the study comprises four components: 1) food environment, food security, nutrition, and health; 2) housing conditions, indoor air quality, and respiratory health in children; 3) exposure to environmental contaminants; and 4) community mobilization and integrated knowledge translation for intergenerational capacity building.

WHEREAS the research study contemplated by this Agreement will also help to address First Nations environmental health concerns regarding their food sources, social and housing conditions, and will result in knowledge that could be used for the development of plans to promote well-being and healthy lifestyles in communities;

WHEREAS the UOttawa and the First Nation agree to conduct the named community research project in accordance with the guidelines and conditions described in this document.

NOW THEREFORE, in consideration of the mutual covenants and conditions contained herein, the parties hereto understand and agree as follows:

1. SCOPE OF THE PROJECT

1.1 The overall objective of the study is to of the proposed study is to make government policy and community programming recommendations geared towards the improvement of First Nations child and youth health and to build capacity within communities and AFN regions to address nutrition and environmental health issues.

1.2 FEHNCY will:

- a. Quantify the relationships between diet quality relative to food environment assets, opportunities, and barriers at the household and community level.
- b. Study the food environment dimensions related to accessibility, availability, affordability and quality, of both market and traditional food.
- c. Understand the relationships between the dimensions of the food environments (market and traditional food) and food security, diet, nutritional status, contaminant exposures and child health.
- d. Document social determinants of health including housing conditions and examine their associations with selected child health outcomes, including emotional and psychological wellbeing.
- e. Collect information on the status of Indoor Air Quality and study the relationship between housing conditions, Indoor Air Quality and child respiratory health.
- f. Measure child and youth exposure to several environmental contaminants as related to environments, nutrition, and child health.
- g. Incorporate traditional food systems and link local traditional knowledge to health programming at the household and community levels.
- h. Foster community mobilization and intergenerational capacity building for

- addressing environments and nutrition.
- i. Use Integrated Knowledge Transfer (IKT) Exchange framework to identify and analyze policy options with communities, AFN and policy makers.

1.3 There are four general components to the study:

- 1. Food Environment, Food Security, Nutrition, and Health
- 2. Housing Conditions, Indoor Air Quality, and Respiratory Health in children
- 3. Exposure to Environmental Contaminants
- 4. Community Mobilization and ITK for Intergenerational Capacity Building

1.4 The data will be used to:

- a. Determine consumption patterns of traditional and market foods among children and youth on reserve within each AFN region;
- b. determine dietary intake of selected contaminants within each AFN region;
- c. estimate intake of macronutrients and selected micronutrients for each participating First Nation region;
- d. determine availability, and accessibility of traditional and market foods on reserve within each AFN region by assessing the overall food environment;
- e. characterize current exposure to a suite of environmental contaminants among children and youth in First Nations reserves;
- f. characterize the quality of indoor air in homes on First Nations reserves;
- g. assess overall housing conditions in home on reserves in each AFN region; and,
- h. suggest opportunities for utilizing study results to advance policy and programmatic changes to improve health and wellness.

2. METHODS AND PROCEDURES

- 2.1 Data will be gathered using the following methods or procedures:
 - a) Conduct key informant interviews with knowledge holders in communities related to the food environment and the traditional diet.
 - b) Conduct personal interviews to obtain information on child and youth health and wellbeing, lifestyle, substance use and diet using a questionnaire.
 - c) Conduct personal interviews to obtain information about housing conditions and indoor air quality.
 - d) Conduct a series of physical measures in a FEHNCY Individual Health Assessment including anthropometric measurements, blood pressure measurement, pulmonary function test (oscillometry) and biological sample collection (blood, urine and hair) in order to assess child and youth health and wellbeing and to measure their exposure to environmental contaminants, nutritional status and some health indicators. Complete blood formula (including haemoglobin), blood glucose and hair Hg testing will be done on-site in the FENHCY individual health assessment, while laboratory analyses for other contaminants, nutrients and health indicators will be done at Centre de

Toxicologie du Québec (CTQ), at the Institut universitaire de cardiologie et de pneumologie de Québec (IUCPQ) and at Health Canada laboratories in Quebec City and Ottawa. Clinical follow-up of abnormal results is described in section XX. The remaining hair bundle will be returned to the participant after the on-site hair sample analysis as only the first centimeter is used for the mercury analysis.

- e) Engage children in youth in a participatory mapping activity.
- f) Install indoor air quality monitors to measure the quality of air in homes.
- 2.2 Members of the First Nation will be recruited and trained on recruitment methods as well as survey interview and clinical measurement techniques by the project as community research managers and community researchers, to assist with the data-gathering phase in the following ways:
 - 2.2.1 The Community Research Manager (CRM) will:
 - a) Be the main community contact, lead the in-community activities and identify key knowledge keepers in the community.
 - b) Support the administration of the project budget in the community.
 - c) Lead the process to recruit and hire community researchers as well as leading the team of community researchers.
 - d) Provide regular updates to the FEHNCY Research Coordinator.
 - e) Provide feedback on how to tailor research activities to their communities.
 - f) Carry out key informant interviews, moderate the art-based participatory research.
 - g) Be required to attend training and facilitate training for the community researchers within the participating First Nation.
 - h) Participate in community advisory circle meetings.
 - i) Support community engagement activities as needed.
 - 2.2.2 Community Researchers will:
 - a) Attend several training sessions prior to data collection.
 - b) Obtain individual consent from all participants prior to completing each study component using the FEHNCY Study Consent Forms.
 - c) Administer the study questionnaires.
 - d) Conduct 24-hour recalls (detailed interviews about food intake).
 - e) Install air quality monitors in participating homes.
 - f) Help in the FEHNCY individual health assessment as required including collection of anthropometric and blood pressure measurements, and any other task for the on-site laboratory clinical measurements they are interested in learning.
 - g) Carry out key informant interviews, moderate the mapping activity with youth research as required.
 - h) Participate in community advisory circle meetings.
 - i) Support community engagement activities as needed.
 - 2.2.3 A local babysitter and cook could also be hired and involved in the FEHNCY individual health assessment team to take care of children who are taking part in the study and provide meals to families and the team during these activities.
- 2.3 Data analysis and interpretation and return of the results

Data analysis and interpretation will include the following steps:

- a) Once the field work has been completed, the biological samples will be forwarded to laboratories for additional analyses (Centre de toxicologie du Québec (INSPQ), Institut Universitaire de cardiologie et pneumologie de Québec (IUCPQ, Health Canada).
- b) The research team will then complete the data analyses, prepare the community reports, and return to the communities to present the results of the study:

<u>Individual participant results</u>: Individual results from the clinical session, the housing and air quality, and the nutrition components are confidential. Participants and their parents will receive their results directly. In the event that participants presented an abnormal result from the health assessment, a clinical follow-up would already have been undertaken (see section 3.4).

<u>Community results</u>: A report aimed at the community and its leaders and health stakeholders will be drafted for each participating community. This report will present the results as aggregate data in the form of age group and gender averages; a translation in the language of the community will be provided upon request. <u>Scientific articles</u> will be drafted by the research team and submitted to First Nation for comment and approval prior to publication. It should be noted that these articles will be published only after the study's findings have been shared with participants, their parents, and the larger community.

<u>Students</u> from partnering institutions working with FEHNCY data must follow project protocols including signing an oath of confidentiality, and ensuring community approval is obtained if the project involves the use of individual community data. Community Advisory Circle approval must be obtained by the student before submission of any conference presentations, draft theses, and manuscripts for journal articles.

2.4 Return of research data

At the end of the research project, the data will be returned to the First Nation in the manner outlined below.

Electronic database

Participating First Nations will receive a copy of their own data, along with the community results report described in section 8. Assistance will be provided to help the communities interpret the data. Study participants will be identified in the database solely by a number, to ensure that no participant can be identified or discriminated against. Furthermore, the First Nations Information Governance Centre (FNIGC) will be responsible for safeguarding the complete database of all communities that participate in the study and commits to preserving these data securely and anonymously.

Biological samples

After laboratory tests have been completed, a small fraction of the blood and urine samples collected during a study often remains. The normal procedure is to store these samples in a secure place (normally a freezer at -80°C) in a laboratory at the CHU de Québec in Quebec City. Samples are kept for 10 years after the completion of the project estimated to be 2040. This will allow control analyses or analyses for emerging contaminants if needed. The biological analyses permitted are limited to those approved in the study consent form (<u>Appendix A</u>: List of health markers and contaminant analyses to be measured in the FEHNCY study). To conduct any other biological

analysis after study results are returned to the community, the research team will first have to seek research participants/guardians' approval. Archived blood and urine samples will never be used to test for drugs or genetic testing, nor provided to any commercial or pharmaceutical companies.

Alternatively, participating communities can choose to have biosamples destroyed as soon as possible after data collection. This choice will be made by community leadership and reflected in individual participant consent forms.

3. RESPONSIBILITIES OF THE LEAD RESEARCHER

- 3.1 The Lead Researcher shall provide copies of the proposed research protocol to the participating First Nation.
- 3.2 The Lead Researcher, in undertaking research, shall:
 - a) Recognize the rights of First Nation members participating in the project, including the rights not to participate, to privacy, to anonymity, to confidentiality, and to fully informed consent; recognize the primary right of informants and suppliers of data and materials to the knowledge and use of that information and material;
 - b) respect First Nation requirements for ensuring protection of the data;
 - c) respect local First Nation protocols, customs and values, and carry out research in a manner consistent with this Agreement;
 - d) assume responsibility to ensure that the subjects in the research are fully aware of their rights and the nature of the research and their involvement in it;
 - e) contribute to the interests of the First Nation in whatever ways possible so as to maximize the return to the First Nation for their cooperation in the research work; and,
 - f) recognize their continuing obligations to the local First Nation after the completion of the fieldwork, including returning research materials, reporting results and providing support and continuing concern for the health and well-being of the local First Nation.
- 3.3 The Lead Researcher, and the Lead Researcher's employees, students, partners and agents, shall maintain confidentiality of any and all records, data, and information gathered relating to the First Nation which is in the Lead Researcher's possession and control. Any team member working in the field during the data collection period or after data collection during analysis and dissemination of results will be required to sign an Oath of Confidentiality. Such data shall only be released or disseminated pursuant to the strictest policies of confidentiality and with the written consent of the First Nation.

If consent is granted by the guardian and the participant, in the unique case of an abnormal result for the oscillometry test or a clinical result (measured on-site or when available from the laboratories), the FEHNCY Clinic nurse or a Lead Researcher will rapidly share the

information to a designated local health professional for a clinical follow-up (i.e. physician, nurse and/or nutritionist). In order to support the local clinic in the follow-up, clinical algorithms and documents for dietary counselling will be made available and Principal Investigators specialized in pediatric and adolescent medicine or environmental contaminants will be available by phone for additional counselling.

3.4 While the Lead Researchers shall maintain confidentiality of the results, the Lead Researchers are also responsible to ensure that results of public health concern be communicated to responsible authorities (in aggregated format only). Thus, the Lead Researcher will first inform the Chief and Council and the Director of the local clinic of the issue. Local organizations (environmental or natural resources, housing, etc.), as well as the Regional Environmental Health Manager, may also be informed to discuss the issue and what can be made to address it. If corrective actions are required, the Lead Researchers will assist the First Nation by facilitating proper referrals and follow-up actions.

4. RESPONSIBILITIES OF THE FIRST NATION

4.1 The participating First Nation is the owner of the communal, cultural, natural, and biogenetic resources, and retains ultimate discretionary authority and final authority and responsibility for the approved research.

It is understood that the First Nation will contribute to the research project. Specifically, the community will:

- Discuss its environmental and health issues with Lead Researchers (initial consultation);
- Help the research team prepare the field logistics of the study, recruit competent local personnel and promote the study;
- Help facilitate the study by providing space at the Health Centre (or any other convenient place) in the community for approximately three weeks and support the research team in its efforts to recruit study participants and organize community activities;
- Participate in discussions on the preliminary data analysis and help the team organize activities for the dissemination of study results in the community.
- The First Nation partners and the Director of the local health centre will commit to providing clinic follow-up for study participants (and their guardians) whose results are abnormal or raise health concerns by:
 - (i) designating local health professionals to be contacted by the FEHNCY individual health assessment nurse or Lead Researchers and to undertake a clinical follow- up of these participants in collaboration with the FEHNCY team (if needed);
 - (ii) by fostering discussions and action plans with local organizations (environmental
 or natural resources, housing, etc.) or the Regional Environmental Health Manager
 to address issues raised as a result of study results.

5. NON-COMMERCIAL PURPOSE

5.1 The Lead Researcher hereby warrants that no research performed under this Agreement, no research products, and no Traditional or Indigenous knowledge will be used for commercial purposes.

6. FIRST NATION INVOLVEMENT AND TRAINING

- 6.1 The Community Researchers will learn techniques common to most surveys as well as techniques specific to this particular project including administration of an extensive key informant interviews and household survey, clinical measurements, deployment of air quality monitors and data entry.
- 6.2 It is also within the goals of this project to develop First Nation capacity to conduct and analyze their own data. To aid in this process, a Data Training Workshop will be organized to train community members on basic statistics, proposal writing, applying for funds, and to brainstorm on grassroots, regional, and national programs and policy to improve the health and environment of First Nations children and youth.
- 6.3 The development of this project is based on sincere and transparent communication between First Nation members and the Lead Researchers. All efforts will be made to incorporate and address local concerns and recommendations at each step of the project including data collection, data analysis, and return of the results.
- At the end of the project, the Lead Researcher will participate in community meetings to present and discuss the research findings and results of the analysis at the community level with the First Nation both orally and in writing.

7. INFORMED CONSENT

- 7.1 Informed consent of individual participants is to be obtained in these agreed ways:
 - a) Individual consent forms will be read by the Community Researcher to the participant and a comic strip infographic and/or video consent will also be available prior to conducting interviews and the clinical session. The consent form will include the contact information of the Principal Investigator, Dr Laurie Chan at the University of Ottawa and the Project Manager, and a copy will be left with the participant should they require additional information.
 - b) Participants have the right to withdraw from the project at any time for any reason. If a participant decides to drop out of the study, that participant's personal data will be destroyed.

8. CONFIDENTIALITY

8.2

- 8.1 The names of participants and the First Nation are to be protected in these agreed ways:
 - a) As mentioned on the consent form, the interviews are confidential. The identity of the participants will be kept by the Lead Researcher until the individual results are reported back to the individual participants. After that, the identifier will be destroyed and there will be no name of a participant to be attached to any records or data. No questions or samples will be collected without the informed consent of the participant.
 - b) Only aggregated results at the regional level will be published. The approval of the

First Nation is required prior to the dissemination of any results that can identify their communities, whether it be by publication or contact with the media.

- 8.3 The Lead Researcher and the Lead Researcher's employees, students, and agents will maintain in confidence, except as permitted in this document, all personal and proprietary information or Indigenous Traditional Knowledge disclosed or obtained from participants ("Confidential Information").
- 8.4 The Lead Researcher, and the Lead Researcher's employees, students, partners and agents, shall maintain confidentiality of any and all records, data, and information gathered relating to the First Nation which is in the Lead Researcher's possession and control except as permitted in this document and as signed in the Confidentiality Agreement Form.
- 8.5 The obligations of confidentiality under this section shall survive and continue in perpetuity after the termination of this Agreement.

9. EXPECTED OUTCOMES, BENEFITS AND RISKS

- 9.1 This research study will benefit the First Nation collectively in the following ways:
 - a) Educational: The Community Researcher(s), who will work as interviewer, will be trained in conducting and interpreting surveys, in conducting key informant interviews, in data input and community-based participatory research approaches, food environment observations, and facilitating focus group-style discussions. The study will also help provide research training for graduate students, including Indigenous students.
 - b) Informational: The participants will receive information on their nutritional, environmental and respiratory health status. The proposed study will develop a database of First Nations Children's and Youth's exposure to environmental chemical hazards and nutritional and health status through blood, urine, and hair collection, clinical measurements and indoor air quality analyses. This information is essential for the development of dietary recommendations and preventive or mitigation approaches for First Nations at a local, regional and national level, but also for recommendations to ban chemical production and use at an international level. The information on background exposures to persistent organic pollutants (POPs), metals, volatile organic compounds (VOCs) is also essential for First Nations as an enabling baseline data for any future environment, diet or indoor air quality monitoring at the level of the community. The FEHNCY team will disseminate results to the community and provide recommendations for utilizing the information generated for promoting children and youth health and wellness.
 - c) Financial: The University of Ottawa will enter into a separate agreement with the First Nation to provide financial compensation for research project assistance, including interviews, collection of samples, and related administration. Several employment positions will be created in each First Nation community for this study.
 - d) The FEHNCY project will pave the way for new collaborations with Lead Researchers and the FEHNCY project may be used as leverage to access additional funds from other national and provincial organizations to address additional health or environmental issues as part of the initial FEHNCY project, which could be covered in an amendment to the present Community Research Agreement.

- 9.2 The Lead Researcher will benefit by this research study in the following ways:
 - a) Scientific publications will be developed and published in peer-reviewed media at different times throughout the 10-year study period and 10 years after the project completion.
 - b) First Nation-level results will be disseminated both orally and in reports through meetings with each participating First Nation prior to the release of results to the public. Regional and national-level reports will be developed as well, on the basis of aggregated information and provided to regional and national First Nations organizations.
 - c) Results of the study will be maintained with a secure server, without any personal identifiers and will be utilized for probabilistic risk-benefit assessment on an ongoing basis and when requested by a First Nation. The custodian of the archived data will be FNIGC.
 - d) The FEHNCY project will pave the way for new collaborations with First Nation partners.
- 9.3 Potential risks- The study may pose the following individual risks for participants and collective risks for the community; also outlined below are measures that will be taken to help minimize each of these risks.
 - Participants may experience a degree of discomfort and anxiety when giving blood, urine or hair. Samples will be collected during the clinical session at a friendly and comfortable environment in the local Health Centre or in the FEHNCY Mobile trailer, in the parking lot the local Health Centre. An experienced pediatric research nurse and laboratory technician part of the FEHNCY individual health assessment who are specially trained to work with young children and deal with all eventualities in a safe manner. Local staff who are familiar with the community, will also be part of the FEHNCY individual health assessment team. As with all aspects of the study, the collection of biological samples requires the informed consent of a parent and the assent of the child (ages 3 to 18), or the informed consent of young adults (ages 18-19). In order to minimize any discomfort for children, a butterfly needle will be used to draw blood. Individual blood sample collection will be cancelled after two unsuccessful attempts to draw blood (or sooner, if that is the wish of the participant or parent). For children under 12-years old, a less invasive pin-prick method is available for acquiring blood samples. The other members of the FEHNCY individual health assessment team will also be on hand to ensure the well-being of all participants. Water and snacks will be available at all times for participants who experience discomfort.
 - b) Participants or their guardian may experience fatigue while completing the questionnaire.

Participants and/or their parents will have the right to withdraw from the study at any time without prejudice to themselves or their family.

- c) The communities or participants involved in the study may experience discrimination if the status of their house of their health are disclosed.
 - Individual study results will be strictly confidential, and participants and their guardians will receive their individual results directly. A report will be submitted to each participating community, including its authorities and health stakeholders. This report will present aggregate results, in the form of averages by age group and gender, to ensure that individual study participants are not identified.
- 9.4 The Lead Researcher shall provide the First Nation with information to minimize these risks identified in section 9.3.

10. DATA MANAGEMENT AND OWNERSHIP

- 10.1 In this section "Data" includes anything that is collected from or provided by the First Nation, or individual member thereof, participating in the project for the purposes of the project including all social, health, diet and lifestyle information, and test results from blood, urine, hair samples, and any qualitative information collected during arts-based activities, food environment observations, and key informant interviews.
- 10.2 The Data collected are confidential and no name is attached to a record. Copies will be kept at the offices of the principal investigators Dr. Laurie Chan (University of Ottawa), Dr. Malek Batal (Université de Montréal), Dr. Mélanie Lemire (Université Laval), Dr. Britany Jock (McGill University), and Dr. Tonio Sadik (AFN) where the Data will be stored in electronic form. Each First Nation will have a copy of its own Data. The FNIGC will securely store a backup copy of the data on behalf of the First Nation and will not use or provide it to anyone unless explicitly directed to do so by the community. The principal investigators will be available to answer questions and assist First Nation members should First Nation members decide to use the Data for different purposes beyond the objectives of this particular project.
- 10.3 An annual report summarizing all FEHNCY work done during each year including copies of all collected Data, reports, presentation materials and accompanying data dictionaries (with names of the communities removed, but regional identifiers intact), will be submitted by the Lead Researcher to Indigenous Services Canada, the project funder, at the end of each fiscal year. A final report will be distributed after approval from the First Nation community. See sections 9.2b, 10.5, 12.1 and 12.4.

- 10.4 All Data shall vest in and remain the property of the First Nation, or individual member thereof who provided it according to the principles of OCAP®.
- 10.5 The Lead Researcher will be able to use the Data for purposes set out in this Agreement. The First Nation understands that the Lead Researcher's participation in FEHNCY is conducted under a broader scope of scientific research and the Lead Researcher intends to present the research findings by a variety of means including conference presentations, teaching, publishing in academic journals, and reports to the funding agency, Indigenous Services Canada. The publication and dissemination of the research results will respect the cultural and intellectual integrity of the First Nation. Once published, copyright will vest in the publisher. For example, a graduate student will hold the copyright to his/her thesis, and an academic journal will hold the copyright to an article published in that journal. Distribution of copyrighted material will be in accordance with the Copyright Act. In all circumstances, any published material will be made freely available to any First Nation (individual or organization) that requests such materials.

11. INDIGENOUS SERVICES CANADA ROLE IN THE RESEARCH

12. Indigenous Services Canada is the funder of the FEHNCY.

13. DISSEMINATION OF RESULTS

- 13.1 Any future publication or dissemination of research results, beyond what is described in this agreement shall not be undertaken without an agreement between the Lead Researcher and consultation/accommodation with the First Nation community.
- 13.2 The First Nation Community will be the first to receive community research results and the first invited to provide input and feedback on the results, except in the events as noted above in 3.3/3.4 Community results will be presented in a format and language appropriate and accessible to the First Nation community. Results will not be released without prior presentation and consultation with the First Nation Community. If necessary, the investigators will endeavor to modify their publications to reflect the comments they receive. If there is no response, by email, to the proposed dissemination material within these timeframes, the information will be considered approved for dissemination.
- 13.3 In compliance with section 9.2, the Lead Researcher agrees to participate in community meetings to discuss the results and their implications.
- 13.4 In compliance with section 9.2, the Lead Researcher shall release the findings of the study to the public at large in a joint research report, scientific journal or other publication. Participating First Nations will be acknowledged by name with their explicit permission.

14. TERM AND TERMINATION

- 14.1 This agreement shall have an effective date of August 1st, 2024 and until three years after the FEHNCY project is concluded until July 31st, 2027.
- 14.2 The Lead Researcher agrees to stop the research project under the following conditions:
 - a) If First Nation leaders decide to withdraw participation.
 - b) If the Lead Researcher believes that the project will no longer benefit the First Nation community.

Signed by: (First Nation)	
	Date :
University of Ottawa:	Date:

Appendix A. List of health markers and contaminant analyses to be measured in the FEHNCY study.

Method and Age Group	3-5y	6-11y	12-19y
Finger prick			
On site	Hemoglobin	Hemoglobin	Hemoglobin
	Hb1Ac	Hb1Ac	Hb1Ac
	Lipids	Lipids	Lipids
Mitravams for sampling and	Metals (Lead, cadmium,	Metals (Lead, cadmium,	Metals (Lead, cadmium,
analyzed at the lab	selenium)	selenium)	selenium)
Hair			
On site	Mercury	Mercury	Mercury
Veinous blood sample			
Health biomarkers			
At the lab			Vitamin D
			Ferritin
			Iron
			Soluble transferrin receptor
			TIBC
			CRP
			ALT
			AST
			IgE
Contaminants			
At the lab			Metals (Mercury, lead, cadmium,
At the lab			selenium, manganese)
			PFAS
			PCBs, PBDEs, Organochlorines
			Total lipids
Urine			
Substance use markers			
At the lab	Cotinine	Cotinine	Cotinine

Method and Age Group	3-5y	6-11y	12-19y
	THC	THC	THC
Contaminants			
At the lab	Metals (Total arsenic, cadmium, nickel, uranium)	Metals (Total arsenic, cadmium, nickel, uranium)	Metals (Total arsenic, cadmium, nickel, uranium)
	As speciation	As speciation	As speciation
	Environmental phenols	Environmental phenols	Environmental phenols
	(bisphenols) and triclosan	(bisphenols) and triclosan	(bisphenols) and triclosan
	Organophosphate pesticide	Organophosphate pesticide	Organophosphate pesticide
	metabolites	metabolites	metabolites
	Phthalates	Phthalates	Phthalates
	Pyrethroid pesticides	Pyrethroid pesticides	Pyrethroid pesticides
	Creatinine	Creatinine	Creatinine

These analyses will be realized in pooled samples first and if elevated, we will seek additional funding to analyze at individual level