

ENVIRONMENTAL HEALTH RESEARCH SCAN

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Environmental Health (EH) Research Scan: Aims and Scope

NCCEH's EH Research Scan aims to expand awareness of topics in environmental health, in line with NCCEH's vision to be the indispensable online resource for environmental health practitioners and policy-makers across Canada. "We focus on health risks associated with the physical environment and identify evidence-based interventions to mitigate those risks." This review is not official or peer reviewed. It does not cover all research, news, and information, and NCCEH is not responsible for the accuracy of the content from media or databases. How to access the items? Click on the link related to each entry and it should take you to the item. Not all links are open access; some are abstract links where paid journal subscription is required.

EDITOR PICKS

A review of the experimental evidence on the toxicokinetics of carbon monoxide: the potential role of pathophysiology among susceptible groups

Prabjit Barn (pictured on right), Luisa Giles, Marie-Eve Héroux, Tom Kosatsky, 2018



“Following three fatalities attributed to CO in a long-term care facility (LTCF), we queried whether pathologies other than CVD could alter CO-COHB relationships. Our primary objective was to inform susceptibility-specific modeling that accounts for physiological deficits that may alter CO-COHB relationships, ultimately to better inform CO management in LTCFs.”

Lead in drinking water: homes and schools [topic page]

National Collaborating Centre for Environmental Health, Feb 2018

The resources presented here are intended to:

- *assist public health practitioners in understanding the issues around lead in drinking water;*
- *highlight the approaches taken to addressing lead nation-wide; and*
- *provide practical advice on sampling, testing, and mitigating lead exposure in homes and schools.*



Naturally occurring asbestos in an outdoor setting [field inquiry]

Aroha Miller, Michele Wiens, Feb 2018

What are the potential public health risks from exposure to naturally occurring asbestos (NOA) in these outdoor settings? What methods are available for sampling airborne NOA in outdoor settings?



Cannabis legalization and environmental health

Angela Eykelbosh, Jan 2018

This presentation was part of the NCCEH Environmental Health Seminar Series.



EDITOR PICKS, CONTINUED

Risks and Impacts to First Nations health and the Mount Polley mine tailings dam failure

Shandro et al, 2017 Vol 12(2)

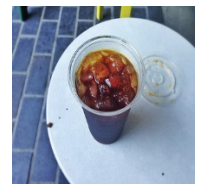
“This work documents the unidentified and unfulfilled need to ameliorate the extent of emotional trauma prompted by...”



Food issues: Notes from the field – Nitro cold brew coffee food safety risks

Lorraine McIntyre, British Columbia Centre for Disease Control, Sep 2017

“Cold-brew coffee has more risk than hot-brew coffee due to several process factors...”



Strengthening surveillance of and response to foodborne diseases

World Health Organization, Nov 2017

This document includes these stages: Using indicator- and event-based surveillance to detect foodborne events; Investigating foodborne disease outbreaks; Strengthening indicator-based surveillance; Integrating surveillance data to better understand risks across the food chain.



Response to Health Canada’s response to the proposed approach to the regulation of cannabis

Canadian Public Health Association, Feb 2018

This self-directed course was developed for public health inspectors and focuses on micro-, small-, and medium-sized ready-to-eat meat production operations. There are nine modules to complete and the course is free to members of the Canadian Institute of Public Health Inspectors.



ENVIRONMENTAL HEALTH RESEARCH SCAN

SELECTED STAFF PUBLICATIONS (NCCEH or BCCDC)

1. Eykelbosh A. **Cannabis legalization and environmental health.** NCCEH Environmental Health Seminar Series; Jan 10; Vancouver, BC: National Collaborating Centre for Environmental Health (NCCEH); 2018. Available from: http://www.ncceh.ca/sites/default/files/2018-01-10_EH_Seminar_Cannabis_legalization_and_EH-Eykelbosh.pdf.
2. Lubik A, Kosatsky T. **Developing a municipal heat response plan: A guide for medium-sized municipalities.** Vancouver, BC: British Columbia Center for Disease Control and the National Collaborating Centre for Environmental Health; 2017 Aug. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/Developing%20a%20municipal%20heat%20response%20plan.pdf>.
3. National Collaborating Center for Environmental Health. **Lead in drinking water: homes and schools [topic page].** Vancouver, BC: National Collaborating Centre for Environmental Health; 2018 02 14 [updated 2018 02 14]; Available from: <http://www.ncceh.ca/environmental-health-in-canada/health-agency-projects/lead-drinking-water-homes-and-schools>.
4. National Collaborating Center for Environmental Health. **Naturally occurring asbestos in an outdoor setting [field inquiry].** Vancouver, BC: National Collaborating Centre for Environmental Health; 2018 02 19 [updated 2018 02 19]; Available from: <http://www.ncceh.ca/documents/field-inquiry/naturally-occurring-asbestos-outdoor-setting>.

NCCEH e-News (French and English)

1. Centre de collaboration nationale en santé environnementale. **e-Nouvelles du CCNSE: Odeurs émanant d'un centre de compostage: L'amiante dans les milieux naturels; Cimetières : distances de recul pour prévenir la contamination des eaux de surface; plus...** Vancouver, BC: CCNSE; 2018 février. Available from: <https://tinyurl.com/ybffa26s>.
2. National Collaborating Center for Environmental Health. **NCCEH eNews: Odour from a compost facility: Naturally occurring asbestos in an outdoor setting; Cemetery setback distances to prevent surface water contamination; more...** Vancouver, BC: NCCEH; 2018 Feb. Available from: <https://tinyurl.com/ybffa26s>.

ABORIGINAL ENVIRONMENTAL HEALTH

1. Arsenault R, Diver S, McGregor D, Witham A, Bourassa C. **Shifting the framework of Canadian water governance through Indigenous research methods: acknowledging the past with an eye on the future.** *Water*. 2018;10(1):49. Available from: <http://www.mdpi.com/2073-4441/10/1/49>.
2. Greenwood M, de Leeuw S, Lindsay N. **Challenges in health equity for Indigenous peoples in Canada.** *The Lancet*. 2018. Available from: [http://dx.doi.org/10.1016/S0140-6736\(18\)30177-6](http://dx.doi.org/10.1016/S0140-6736(18)30177-6).
3. Juric AK, Batal M, David W, Sharp D, Schwartz H, Ing A, et al. **Risk assessment of dietary lead exposure among First Nations people living on-reserve in Ontario, Canada using a total diet study and a probabilistic approach.** *J Hazard Mater*. 2018;344:55-63. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29031094>.
4. Omosule A. **Exploring water insecurity in Canadian Indigenous communities. A literature review.** St John's, NL: Memorial University, Rural Policy Learning Commons; 2017 Dec. Available from: http://rplc-capr.ca/wp-content/uploads/2015/04/ExploringWater-InsecurityInCanadianIndigenousCommunities_LiteratureReview_AyoOmosule.pdf.

5. Seltenrich N. **Erratum: "Traditional Ecological Knowledge: A Different Perspective on Environmental Health"**. *Environ Health Perspect.* 2018;126(2):029001.
6. Shandro J, Jokinen L, Stockwell A, Mazzei F, Winkler MS. **Risks and impacts to First Nation Health and the Mount Polley mine tailings dam failure.** *International Journal of Indigenous Health.* 2017;12(2). Available from: <https://journals.uvic.ca/index.php/ijih/issue/view/1329>.

AGRICULTURAL OPERATIONS

BIOLOGICAL AGENTS

BUILT ENVIRONMENT

1. Consult Australia, Smart Cities Council Australia New Zealand. **Smart cities guide for built environment consultants.** Australia: Queensland Institute of Public Works Engineering Australasia; 2018. Available from: <http://ipweaq.intersearch.com.au/ipweaqjspui/bitstream/1/3417/1/Smart%20Cities%20Guide%20for%20Built%20Environment%20Consultants%20Revised%20Structure%20FINAL%20DRAFT%20FOR%20INFORMATION%20Rev2.pdf>.
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3. MacMillan F, George ES, Feng X, Merom D, Bennie A, Cook A, et al. **Do natural experiments of changes in neighborhood built environment impact physical activity and diet? A systematic review.** *Int J Environ Res Public Health.* 2018;15(2). Available from: <http://www.mdpi.com/1660-4601/15/2/217>.
4. Mazumdar S, Learnihan V, Cochrane T, Davey R. **The built environment and social capital: a systematic review.** *Environment & Behavior.* 2018;50(2):119-58. Available from: <http://journals.sagepub.com/doi/abs/10.1177/0013916516687343>.
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CHEMICAL AGENTS – METALS, GENERAL

General

1. **Do microplastic residuals in municipal compost bioaccumulate in plant tissue?** Victoria, BC: Royal Roads University; Marika Smith. Available from: <https://viurrspace.ca/handle/10613/5453>.
2. Galloway TS, Baglin N, Lee BP, Kocur AL, Shepherd MH, Steele AM, et al. **An engaged research study to assess the effect of a 'real-world' dietary intervention on urinary bisphenol A (BPA) levels in teenagers.** *BMJ Open.* 2018;8(2). Available from: <http://bmjopen.bmj.com/content/bmjopen/8/2/e018742.full.pdf>.
3. McDonald BC, de Gouw JA, Gilman JB, Jathar SH, Akherati A, Cappa CD, et al. **Volatile chemical products emerging as largest petrochemical source of urban organic emissions.** *Science.* 2018;359(6377):760-4. Available from: <http://science.sciencemag.org/content/sci/359/6377/760.full.pdf>.
4. Saxe JK, Predale RA, Sharples R. **Reducing the environmental risks of formulated personal care products using an end-of-life scoring and ranking system for ingredients: Method and case studies.** *Journal of Cleaner Production.* 2018;180:263-71. Available from: <http://www.sciencedirect.com/science/article/pii/S0959652618301628>.

CHEMICAL AGENTS - PESTICIDES

1. Melo KG, DeNucci G, Trape A, Jacobucci S, Garlipp C, Rosa P. **Brief review analytical methods for the determination of glyphosate.** MedCrave. 2018;4(2). Available from: <http://medcraveonline.com/MOJT/MOJT-04-00088.pdf>.

CHEMICAL AGENTS – SHALE GAS

1. Hirsch JK, Bryant Smalley K, Selby-Nelson EM, Hamel-Lambert JM, Rosmann MR, Barnes TA, et al. **Psychosocial impact of fracking: a review of the literature on the mental health consequences of hydraulic fracturing.** International Journal of Mental Health & Addiction. 2018;16(1):1-15. Available from: <https://link.springer.com/article/10.1007/s11469-017-9792-5>.

CHILDREN’S ENVIRONMENTAL HEALTH

1. Bellinger DC, Matthews-Bellinger JA, Kordas K. **A developmental perspective on early-life exposure to neurotoxicants.** Environ Int. 2016;94:103-12. Available from: <http://www.sciencedirect.com/science/article/pii/S0160412016301878>.
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CLIMATE CHANGE

1. Berner J, Brubaker M, Revitch B, Kreummel E, Tcheripanoff M, Bell J. **Adaptation in Arctic circumpolar communities: food and water security in a changing climate.** Int J Circumpolar Health. 2016;75:10.3402/ijch.v75.33820. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5156855/>.
2. Filho W, Al-Amin A, Nagy G, Azeiteiro U, Wiesböck L, Ayal D, et al. **A comparative analysis of climate-risk and extreme event-related impacts on well-being and health: Policy implications.** Int J Environ Res Public Health. 2018;15(2):331. Available from: <http://www.mdpi.com/1660-4601/15/2/331>.
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COMMUNICABLE AND INFECTIOUS DISEASES

DRINKING WATER

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EMERGENCY PREPAREDNESS

1. Turner SL, Johnson RD, Weightman AL, Rodgers SE, Arthur G, Bailey R, et al. **Risk factors associated with unintentional house fire incidents, injuries and deaths in high-income countries: a systematic review.** *Inj Prev.* 2017;23(2):131-7. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/28119340>.

ENVIRONMENTAL HEALTH SURVEILLANCE

1. Aalhus M. **The social determinants of health impacts of resource extraction and development in rural and northern communities: a summary of impacts and promising practices for assessment and monitoring.** Vancouver, BC: Prepared for Northern Health and the Provincial Health Services Authority; 2018 Jan. Available from: https://www.northernhealth.ca/Portals/0/Your_Health/Programs/Public%20Health/OfficeHealthResourceDevelopment/impacts-and-promising-practices-for-assessment-monitoring.pdf.

ENVIRONMENTAL PLANNING

1. Canadian Institute of Planners. **Planning for Healthy Communities - A Planner's Prescription. An annotated bibliography. Healthy Communities Committee Issue 1.** Ottawa ON: CIP; 2018. Available from: https://www.cip-icu.ca/Files/Resources/Annotated-Bibliography_-_CIP-Healthy-Communities-Co.aspx.

FOOD

Safety

1. Fleck-Derderian S, Shankar M, Rao AK, Chatham-Stephens K, Adjei S, Sobel J, et al. **the epidemiology of foodborne botulism outbreaks: a systematic review.** *Clin Infect Dis.* 2018;66:S73-S81. Available from: https://academic.oup.com/cid/article/66/suppl_1/S73/4780431.
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3. Lynch L. **On the Coast - "New tech out of UBC reveals widespread seafood fraud in Metro Vancouver"**. Vancouver, BC: CBC Radio; 2018 Jan 26. Available from: <http://www.cbc.ca/news/canada/british-columbia/seafood-fraud-vancouver-1.4506831>.
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- World Health Organization. **Strengthening surveillance of and response to foodborne diseases**. Geneva, Switzerland: WHO; 2017 Nov. Available from: http://www.who.int/foodsafety/publications/foodborne_disease/surveillancemanual/en/.

Security

- McIntyre L, Jessiman-Perreault G, Mah CL, Godley J. **A social network analysis of Canadian food insecurity policy actors**. Can J Diet Pract Res. 2018:1-7. Available from: <https://doi.org/10.3148/cjdpr-2017-034>.

GENERAL

- Brownson RC, Eyer AA, Harris JK, Moore JB, Tabak RG. **Getting the word out: New approaches for disseminating public health science**. J Public Health Manag Pract. 2018;24(2):102-11. Available from: https://journals.lww.com/jphmp/Fulltext/2018/03000/Getting_the_Word_Out_New_Approaches_for.4.aspx.
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HEALTH EQUITY

- Pauly B, MacDonald M, Hancock T, O'Briain W, Martin W, Allan D, et al. **Health equity tools 2.0**. Victoria, BC: University of Victoria; 2016. Available from: <https://www.uvic.ca/research/projects/elph/assets/docs/Health%20Equity%20Tools%20Inventory%202.0.pdf>.

HEALTH IMPACT ASSESSMENT

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INDOOR AIR

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NUISANCE CONTROL

OUTDOOR AIR

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1. British Columbia Ministry of Health. **Guidelines for body modification.** Victoria, BC: Ministry of Health, Health Protection Branch; 2017 Nov. Available from: https://www2.gov.bc.ca/assets/gov/health/keeping-bc-healthy-safe/pses/body_modification_guidelines_nov_2017.pdf.

PEST CONTROL

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PHYSICAL AGENTS

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RADIATION

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<http://sante.gouv.qc.ca/conseils-et-prevention/radon-domiciliaire/>.

RECREATIONAL AND SURFACE WATER

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<https://doi.org/10.1186/s12940-017-0347-9>.

RISK ASSESSMENT, COMMUNICATION

SENIORS' ENVIRONMENTAL HEALTH

TOBACCO, CANNABIS

1. Canadian Public Health Association. **Response to Health Canada's consultation on the proposed approach to the regulation of cannabis.** Ottawa, ON: CPHA; 2018 Feb. Available from: <https://www.cpha.ca/response-health-canadas-consultation-proposed-approach-regulation-cannabis>.
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WASTE

ZOONOSES

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For more on environmental health information and evidence, visit NCCEH.ca