

ENVIRONMENTAL HEALTH RESEARCH SCAN

VOL 4 (1) JANUARY 2020



CONTENTS

- [STAFF](#)
- [INDIGENOUS ENVIRONMENTAL HEALTH](#)
- [AGRICULTURAL OPERATIONS](#)
- [BIOLOGICAL AGENTS](#)
- [BUILT ENVIRONMENT](#)
- [CHEMICAL AGENTS – METALS, GENERAL](#)
- [CHEMICAL AGENTS – PESTICIDES](#)
- [CHEMICAL AGENTS – SHALE GAS](#)
- [CHILDREN'S ENVIRONMENTAL HEALTH](#)
- [CLIMATE CHANGE](#)
- [COMMUNICABLE AND INFECTIOUS DISEASES](#)
- [DRINKING WATER](#)
- [EMERGENCY PREPAREDNESS](#)
- [ENVIRONMENTAL HEALTH SURVEILLANCE](#)
- [ENVIRONMENTAL PLANNING](#)
- [FOOD](#)
- [GENERAL](#)
- [HEALTH EQUITY](#)
- [HEALTH IMPACT ASSESSMENT](#)
- [INDOOR AIR](#)
- [NUISANCE CONTROL](#)
- [OUTDOOR AIR](#)
- [PERSONAL SERVICE ESTABLISHMENTS](#)
- [PEST CONTROL](#)
- [PHYSICAL AGENTS](#)
- [RADIATION](#)
- [RECREATIONAL AND SURFACE WATER](#)
- [RISK ASSESSMENT, COMMUNICATION](#)
- [SENIORS' ENVIRONMENTAL HEALTH](#)
- [TOBACCO](#)
- [WASTE](#)
- [ZOOSES](#)

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

2019 NCCEH year in review [blog]

Lydia Ma, Manager, National Collaborating Centre for Environmental Health

“As we reflect on 2019 it is our pleasure to recount highlights of our NCCEH work in 2019. We continue to focus on built environment, climate-related public health impacts, emergency preparedness and response, and other environmental health areas, and our team produced knowledge products, shared information at conferences, meetings, and webinars and curated resources from external sources.”



Artificial turf: The contributions and limits of toxicology in decision-making [journal article]

Angela Eykelbosh, Knowledge Translation Scientist, National Collaborating Centre for Environmental Health

“This paper will examine the risk aspects of artificial turf that make it particularly tenacious in occupying public attention and provide a brief update of the most recent artificial turf research. We will also discuss the expected contributions, and potential shortcomings, of the large inter-agency efforts to...”

Blog: [Weighing the complex public health and community impacts of artificial turf](#)



Legionella [topic page]

Juliette O’Keeffe Knowledge Translation Scientist, National Collaborating Centre for Environmental Health

The resources listed here are intended to assist environmental and public health professionals and those responsible for managing water systems in buildings in several ways.... Read [more](#).



Cannabis edibles: regulatory updates, risk assessment and public health messaging [webinar]

Keith Warriner, Professor, Department of Food Science Graduate Coordinator, University of Guelph

“In the following presentation an overview of a foundation risk assessment will be provided. This will include risk identification (biological, physical and chemical), risk characterization, risk management options and risk communication strategies.”



ENVIRONMENTAL HEALTH RESEARCH SCAN

SELECTED STAFF PUBLICATIONS (NCCEH or BCCDC)

1. Eykelbosh A. **Artificial turf: The contributions and limits of toxicology in decision-making.** Environ Health Rev. 2019;62(4):106-11. Available from: <https://doi.org/10.5864/d2019-026>.
2. Eykelbosh A. **Weighing the complex public health and community impacts of artificial turf [blog].** Vancouver, BC: National Collaborating Center for Environmental Health; 2020 01 12 Jan. Available from: <http://www.ncceh.ca/content/blog/weighing-complex-public-health-and-community-impacts-artificial-turf>.
3. Ma L. **2019 NCCEH year in review [blog].** Vancouver, BC: NCCEH; 2019 12 19 Dec. Available from: <http://www.ncceh.ca/content/blog/2019-ncceh-year-review>.
4. National Collaborating Centre for Environmental Health. **Legionella [topic page].** Vancouver, BC: NCCEH; 2020 01 07 Jan. Available from: <http://www.ncceh.ca/environmental-health-in-canada/health-agency-projects/legionella>.

NCCEH e-News and Research Scans

1. National Collaborating Center for Environmental Health. **NCCEH eNews: Season's Greetings; New Healthy Built Environment Newsletter; more...** . Vancouver, BC: NCCEH; 2019 12 Dec. Available from: <https://tinyurl.com/te8xr35>.
2. National Collaborating Center for Environmental Health. **October research scan [blog].** Vancouver, BC: National Collaborating Center for Environmental Health; 2019 10 Oct 10. Available from: <http://www.ncceh.ca/content/blog/october-research-scan>.
3. National Collaborating Center for Environmental Health. **November research scan [blog].** Vancouver, BC: National Collaborating Center for Environmental Health; 2019 11 Nov 10. Available from: <http://www.ncceh.ca/content/blog/november-research-scan>.
4. National Collaborating Center for Environmental Health. **December research scan [blog].** Vancouver, BC: National Collaborating Center for Environmental Health; 2019 12 Dec 17. Available from: <http://www.ncceh.ca/content/blog/december-research-scan>.

NCCEH EH Seminar Series

1. Holmes L, Varughese S, Spilchuk V. **An investigation of mercury poisoning and home contamination: success through multi-sectoral collaboration [webinar].** Vancouver, BC: National Collaborating Centre for Environmental Health; 2020 Jan 20. Available from: <https://www.eventbrite.ca/e/an-investigation-of-mercury-poisoning-and-home-contamination-success-through-multi-sectoral-registration-86572836685>.
2. Warriner K. **Cannabis edibles: regulatory updates, risk assessment and public health messaging [webinar].** Guelph, ON: University of Guelph, Center for Public Health and Zoonosis; 2019 Dec. Available from: https://www.youtube.com/watch?v=7Ee3_AFIEQ0.

INDIGENOUS ENVIRONMENTAL HEALTH

1. Chan L, Batal M, Sadik T, Tikhonov C, Schwartz H, Fediuk K, et al. **First Nations Food, Nutrition & Environment Study (FNFNES. Final report for eight assembly of First Nations regions.** Ottawa, ON: University of Ottawa; University of Montreal; 2019 Nov. Available from: http://www.fnfnfes.ca/docs/FNFNES_draft_technical_report_Nov_2_2019.pdf.

2. Fernández-Llamazares Á, Garteizgogeoasca M, Basu N, Brondizio ES, Cabeza M, Martínez-Alier J, et al. **A State-of-the-Art Review of Indigenous Peoples and Environmental Pollution.** *Integr Environ Assess Manag.* 2019;10.1002/ieam.4239. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31863549>.
3. Haalboom B. **Confronting risk: A case study of Aboriginal peoples' participation in environmental governance of uranium mining, Saskatchewan.** 2014;58(3):276-90. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/cag.12086>.

AGRICULTURAL OPERATIONS

BIOLOGICAL AGENTS

BUILT ENVIRONMENT

1. Colley R, Christidis T, Michaud I, Tjepkema M, Ross N. **The association between walkable neighbourhoods and physical activity across the lifespan.** *Health Rep.* 2019;30:3-13. Available from: <https://www150.statcan.gc.ca/n1/pub/82-003-x/2019009/article/00001-eng.htm>.
2. Colley RC, Christidis T, Michaud I, Tjepkema M, Ross NA. **An examination of the associations between walkable neighbourhoods and obesity and self-rated health in Canadians.** *Health Rep.* 2019;30(9):14-24. Available from: <https://www150.statcan.gc.ca/n1/pub/82-003-x/2019009/article/00002-eng.htm>
3. Ede J, Morley A. **Review of transport for London's 'Healthy Streets Approach' and its potential contribution to biophilic cities.** *Cities & Health.* 2020:1-8. Available from: <https://www.tandfonline.com/doi/abs/10.1080/23748834.2019.1698937>.
4. Fernández JA, Herrera OE, Mérida W. **Impact of an electrified parkade on the built environment: An unsupervised learning approach.** *Transportation Research Part D: Transport and Environment.* 2020;78:102199. Available from: <http://www.sciencedirect.com/science/article/pii/S1361920919305772>.
5. Godfrey N. Exploring Peel Region's "Healthy Development Assessment" Healthy Built Environment Tool and Policy-Making Process: Critical Lessons for Future Research and Policy. UWSpace; 2019.
6. Hagel BE, Macpherson A, Howard A, Fuselli P, Cloutier M-S, Winters M, et al. **The built environment and active transportation safety in children and youth: a study protocol.** *BMC Public Health.* 2019;19(1):728. Available from: <https://doi.org/10.1186/s12889-019-7024-6>.
7. Hosford K, Winters M, Gauvin L, Camden A, Dube AS, Friedman SM, et al. Evaluating the impact of implementing public bicycle share programs on cycling: the International Bikeshare Impacts on Cycling and Collisions Study (IBICCS). *Int J Behav Nutr Phys Act.* 2019;16(1):107. Available from: <https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-019-0871-9>.
8. Hossain M, Sultana A, Ma P, Fan Q, Sharma R, Purohit N, et al. **Effects of natural environment on mental health: an umbrella review of systematic reviews and meta-analyses.** *PsyArXi.* 2020. Available from: <https://doi.org/10.31234/osf.io/4r3mh>.
9. Howell NA, Tu JV, Moineddin R, Chen H, Chu A, Hystad P, et al. The probability of diabetes and hypertension by levels of neighborhood walkability and traffic-related air pollution across 15

- municipalities in Southern Ontario, Canada: A dataset derived from 2,496,458 community dwelling-adults. Data in Brief. 2019;27:104439. Available from: <http://www.sciencedirect.com/science/article/pii/S2352340919307942>.
10. Kepper MM, Myers CA, Denstel KD, Hunter RF, Guan W, Broyles ST. **The neighborhood social environment and physical activity: a systematic scoping review.** Int J Behav Nutr Phys Act. 2019;16(1):124. Available from: <https://doi.org/10.1186/s12966-019-0873-7>.
 11. Mooney SJ, Hosford K, Howe B, Yan A, Winters M, Bassok A, et al. **Freedom from the Station: Spatial Equity in Access to Dockless Bike Share.** J Transp Geogr. 2019;74:91-6. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0966692318305726>.
 12. Nieves M. **Planning Healthy Cities: Privately-owned publicly-accessible spaces in Toronto.** Toronto, ON: York University; 2019. Available from: <https://yorkspace.library.yorku.ca/xmlui/handle/10315/36862>.
 13. Phansikar M, Ashrafi AS, Khan AN, Massey VW, Mullen PS. Active Commute in Relation to Cognition and Academic Achievement in Children and Adolescents: A Systematic Review and Future Recommendations. Int J Environ Res Public Health. 2019;16(24). Available from: <http://www.mdpi.com/resolver?pii=ijerph16245103>.
 14. Robbins J. **Ecopsychology: How Immersion in Nature Benefits Your Health.** 2020 [Jan 9]; Available from: <https://e360.yale.edu/features/ecopsychology-how-immersion-in-nature-benefits-your-health>.
 15. Sersli S, Rothman L. **Getting at Mode Share: Comparing 3 Methods of Travel Mode Measurement for School Travel Research.** 2019;89(5):365-72. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/josh.12743>.
 16. Shepley M, Sachs N, Sadatsafavi H, Fournier C, Peditto K. **The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis.** Int J Environ Res Public Health. 2019;16(24):5119. Available from: <https://www.mdpi.com/1660-4601/16/24/5119>.
 17. US News. **U.S. News and Aetna Foundation Release 2019 Healthiest Communities Rankings.** Washington, DC: US News and Aetna Foundation; 2019. Available from: <https://www.usnews.com/info/blogs/press-room/articles/2019-03-26/us-news-and-aetna-foundation-release-2019-healthiest-communities-rankings>.
 18. Wang L, Arden CI, Chen D. Geographic Variation in Cardiovascular Disease Mortality: A Study of Linking Risk Factors and Built Environment at a Local Health Unit in Canada. In: Lu Y, Delmelle E, editors. Geospatial Technologies for Urban Health. Cham: Springer International Publishing; 2020. p. 31-51. Available from: https://doi.org/10.1007/978-3-030-19573-1_3.
 19. White MP, Alcock I, Grellier J, Wheeler BW, Hartig T, Warber SL, et al. **Spending at least 120 minutes a week in nature is associated with good health and wellbeing.** Scientific Reports. 2019;9(1):7730. Available from: <https://doi.org/10.1038/s41598-019-44097-3>.
 20. Winters M, Hosford K, Javaheri S. **Who are the 'super-users' of public bike share? An analysis of public bike share members in Vancouver, BC.** Prev Med Rep. 2019;15:100946. Available from: <https://www.sciencedirect.com/science/article/pii/S2211335519301202>.
 21. Yang Y. Spatial Analysis of Geographic Variation in Mental Health Visits and Its Association with Social and Built Environment in Toronto Neighbourhoods. UWSpace; 2019.

CHEMICAL AGENTS – METALS, GENERAL

General

1. Chattha S. **Winnipeg Releases Results from Lead Water Quality Testing Program**. Toronto, ON: Water Canada; 2019 Dec. Available from: <https://www.watercanada.net/winnipeg-releases-results-from-lead-water-quality-testing-program/>.
2. Domingo JL, Nadal M. **Human exposure to per- and polyfluoroalkyl substances (PFAS) through drinking water: A review of the recent scientific literature**. Environ Res. 2019;177:108648. Available from: <http://www.sciencedirect.com/science/article/pii/S0013935119304451>.
3. Etteieb S, Magdoui S, Zolfaghari M, Brar S. **Monitoring and analysis of selenium as an emerging contaminant in mining industry: A critical review**. Sci Total Environ. 2020;698:134339-. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31783461>.
4. Eykelbosh A. **Artificial turf: The contributions and limits of toxicology in decision-making**. Environ Health Rev. 2019;62(4):106-11. Available from: <https://doi.org/10.5864/d2019-026>.
5. Government of New South Wales. **Fire retardants and private water sources**. Australia: NSW Health; 2019 Nov. Available from: <https://www.health.nsw.gov.au/environment/factsheets/Pages/fire-retardants.aspx>.
6. Grandjean P. **Developmental fluoride neurotoxicity: an updated review**. Environ Health. 2019;18(1):110. Available from: <https://doi.org/10.1186/s12940-019-0551-x>.
7. Klinčić D, Dvorčák M, Jagić K, Mendaš G, Herceg Romanić S. **Levels and distribution of polybrominated diphenyl ethers in humans and environmental compartments: a comprehensive review of the last five years of research**. Environ Sci Poll Res. 2020. Available from: <https://doi.org/10.1007/s11356-020-07598-7>.
8. Lu D, Sha S, Luo J, Huang Z, Zhang Jackie X. **Treatment train approaches for the remediation of per- and polyfluoroalkyl substances (PFAS): A critical review**. J Hazard Mater. 2019;386:121963. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S030438941931917X?via%3Dihub>.
9. National Toxicology Program. **NTP Research on synthetic turf/recycled crumb rubber: characterization of the biological activity of crumb rubber in vitro**. Triangle Park, NC: U.S. Department of Health and Human Services; 2019 Jul. Available from: https://ntp.niehs.nih.gov/ntp/results/pubs/rr/reports/rr12_508.pdf?utm_source=direct&utm_medium=prod&utm_campaign=ntpgolinks&utm_term=rr12.
10. National Toxicology Program. **NTP Research on synthetic turf/recycled crumb rubber: feasibility study in support of non-inhalation in vivo exposures of synthetic turf/recycled tire crumb rubber**. Triangle Park, NC: U.S. Department of Health and Human Services; 2019 Jul. Available from: https://ntp.niehs.nih.gov/ntp/results/pubs/rr/reports/rr13_508.pdf?utm_source=direct&utm_medium=prod&utm_campaign=ntpgolinks&utm_term=rr13.
11. National Toxicology Program. **The chemical and physical characterization of recycled tire crumb rubber**. Triangle Park, NC: U.S. Department of Health and Human Services; 2019 Jul. Available from: https://ntp.niehs.nih.gov/ntp/results/pubs/rr/reports/rr11_508.pdf?utm_source=direct&utm_medium=prod&utm_campaign=ntpgolinks&utm_term=rr11.
12. New Zealand Office Of The Prime Minister's Chief Science Advisor. **Methamphetamine contamination in residential properties: Exposures, risk levels, and interpretation of**

- standards.** Auckland, NZ: New Zealand; 2018 May. Available from: <https://www.gliha.org/wp-content/uploads/2019/11/Methamphetamine-contamination-in-residential-properties.pdf>.
13. US Environmental Protection Agency. **PFOA, PFOS and Other PFASs. Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS.** Washington, DC: US EPA; 2019. Available from: <https://www.epa.gov/pfas/interim-recommendations-addressing-groundwater-contaminated-pfoa-and-pfos>.
 14. Zheng G, Boor BE, Schreder E, Salamova A. **Indoor exposure to per- and polyfluoroalkyl substances (PFAS) in the childcare environment.** Environ Pollut. 2019;258:113714. Available from: <https://www.sciencedirect.com/science/article/pii/S0269749119345488>.

CHEMICAL AGENTS - PESTICIDES

1. Bao W, Liu B, Simonsen DW, Lehmler H-J. Association Between Exposure to Pyrethroid Insecticides and Risk of All-Cause and Cause-Specific Mortality in the General US Adult Population. JAMA Internal Medicine. 2019. Available from: <https://doi.org/10.1001/jamainternmed.2019.6019>.

CHEMICAL AGENTS – SHALE GAS

1. Baker R. **Hydro dams in B.C.'s northeast at risk from fracking, says watchdog report.** 2020 Jan 9. Available from: <https://www.cbc.ca/news/canada/british-columbia/fracking-earthquakes-hydro-dam-vulnerability-1.5420287>.
2. Parfitt B. **Peace River frack up.** Vancouver, BC: Canadian Centre for Policy Alternatives; 2020 Jan 9. Available from: <https://www.policynote.ca/frack-up/>.

CHILDREN'S ENVIRONMENTAL HEALTH

1. Ataol Ö, Krishnamurthy S, van Wesemael P. **Children's Participation in Urban Planning and Design: A Systematic Review.** Children, Youth and Environments. 2019;29(2):27-47. Available from: www.jstor.org/stable/10.7721/chilyoutenvi.29.2.0027.
2. Banack H, Berger I. **The emergence of early childhood education outdoor programs in British Columbia: a meandering story.** Children's Geographies. 2020;18(1):58-68. Available from: <https://www.tandfonline.com/doi/full/10.1080/14733285.2019.1590527>.
3. Donzelli G, Llopis-Gonzalez A, Llopis-Morales A, Cioni L, Morales-Suárez-Varela M. **Particulate Matter Exposure and Attention-Deficit/Hyperactivity Disorder in Children: A Systematic Review of Epidemiological Studies.** Int J Environ Res Public Health. 2019;17(1):E67. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31861799>.
4. Gaylord A, Osborne G, Ghassabian A, Malits J, Attina T, Trasande L. **Trends in neurodevelopmental disability burden due to early life chemical exposure in the USA from 2001 to 2016: A population-based disease burden and cost analysis.** Mol Cell Endocrinol. 2020:110666. Available from: <http://www.sciencedirect.com/science/article/pii/S0303720719303685>.
5. Hartley K, Ryan P, Brokamp C, Gillespie GL. **Effect of greenness on asthma in children: A systematic review.** Public Health Nursing (Boston, Mass). 2020. Available from: <https://doi.org/10.1111/phn.12701>.
6. Jansen EC, Dunietz GL, Dababneh A, Peterson KE, Chervin RD, Baek J, et al. **Cumulative Childhood Lead Levels in Relation to Sleep During Adolescence.** J Clin Sleep Med. 2019. Available from: <http://jcsn.aasm.org/ViewAbstract.aspx?pid=31682>.

7. Kalloo G, Wellenius GA, McCandless L, Calafat AM, Sjodin A, Romano ME, et al. **Exposures to chemical mixtures during pregnancy and neonatal outcomes: The HOME study.** *Environ Int.* 2020;134:105219-. Available from: <https://www.sciencedirect.com/science/article/pii/S0160412019304246>.
8. Margolis AE, Banker S, Pagliaccio D, De Water E, Curtin P, Bonilla A, et al. **Functional connectivity of the reading network is associated with prenatal polybrominated diphenyl ether concentrations in a community sample of 5 year-old children: A preliminary study.** *Environ Int.* 2020;134:105212. Available from: <http://www.sciencedirect.com/science/article/pii/S0160412019309407>.
9. Martin G, Reilly KC, Gilliland JA. **Impact of awareness and concerns of climate change on children's mental health: a scoping review protocol.** JBI Database Of Systematic Reviews And Implementation Reports. 2020. Available from: <http://dx.doi.org/10.11124/JBISRI-D-19-00253>.
10. Minatoya M, Araki A, Miyashita C, Itoh S, Kobayashi S, Yamazaki K, et al. Cat and Dog Ownership in Early Life and Infant Development: A Prospective Birth Cohort Study of Japan Environment and Children's Study. *Int J Environ Res Public Health.* 2020;17(1):205. Available from: <https://www.mdpi.com/1660-4601/17/1/205>.
11. Ng M, Rosenberg M, Thornton A, Lester L, Trost SG, Bai P, et al. **The Effect of Upgrades to Childcare Outdoor Spaces on Preschoolers' Physical Activity: Findings from a Natural Experiment.** *Int J Environ Res Public Health.* 2020;17(2):468. Available from: <https://www.mdpi.com/1660-4601/17/2/468>.
12. Padula AM, Monk C, Brennan PA, Borders A, Barrett ES, McEvoy CT, et al. **A review of maternal prenatal exposures to environmental chemicals and psychosocial stressors-implications for research on perinatal outcomes in the ECHO program.** *Journal Of Perinatology: Official Journal Of The California Perinatal Association.* 2020;40(1):10-24. Available from: <https://www.nature.com/articles/s41372-019-0510-y>.
13. Sandomierski MC, Morrongiello BA, Colwell SR. **SAFER Near Water: An Intervention Targeting Parent Beliefs About Children's Water Safety.** *J Pediatr Psychol.* 2019. Available from: <https://academic.oup.com/jpepsy/article-lookup/doi/10.1093/jpepsy/jsz042>.
14. Till C, Green R, Flora D, Hornung R, Martinez-Mier EA, Blazer M, et al. **Fluoride exposure from infant formula and child IQ in a Canadian birth cohort.** *Environ Int.* 2020;134:105315-. Available from: <https://www.sciencedirect.com/science/article/pii/S0160412019326145>.
15. UNICEF. **Are climate change policies child-sensitive? A guide for action: summary.** UNICEF; 2019. Available from: <https://www.unicef.org/documents/are-climate-change-policies-child-sensitive>.
16. Volpe M, Derr V, Kim S. **"And it made me feel good inside": Initial Evidence and Future Methods for Evaluating Nature School Effectiveness.** *Children, Youth and Environments.* 2019;29(2):5-27. Available from: www.jstor.org/stable/10.7721/chilyoutenvi.29.2.0005.
17. Whelan M, HubkaRao T, Stang A, Freedman S, Macpherson A, Howard A, et al. **Child Bicyclist Perspectives on Danger and Injury Circumstances in the Built Environment.** *Children, Youth and Environments.* 2019;29(2):77-91. Available from: www.jstor.org/stable/10.7721/chilyoutenvi.29.2.0077.

CLIMATE CHANGE

1. Anguelovski I, Connolly JJT, Pearsall H, Shokry G, Checker M, Maantay J, et al. **Opinion: Why green "climate gentrification" threatens poor and vulnerable populations.** *Proceedings of the*

- National Academy of Sciences. 2019;116(52):26139-43. Available from: <https://www.pnas.org/content/pnas/116/52/26139.full.pdf>.
2. Chhetri BK, Galanis E, Sobie S, Brubacher J, Balshaw R, Otterstatter M, et al. **Projected local rain events due to climate change and the impacts on waterborne diseases in Vancouver, British Columbia, Canada.** Environ Health. 2019;18(1):116. Available from: <https://doi.org/10.1186/s12940-019-0550-y>.
 3. Filho WL, Scheday S, Boenecke J, Gogoi A, Maharaj A, Korovou S. **Climate Change, Health and Mosquito-Borne Diseases: Trends and Implications to the Pacific Region.** Int J Environ Res Public Health. 2019;16(24):5114. Available from: <https://www.mdpi.com/1660-4601/16/24/5114>.
 4. Khirfan L, El-Shayeb H. **Urban climate resilience through socio-ecological planning: a case study in Charlottetown, Prince Edward Island.** Journal of Urbanism: International Research on Placemaking and Urban Sustainability. 2019;1-26. Available from: <https://doi.org/10.1080/17549175.2019.1650801>.
 5. Mezey L. **Mental Health and Climate Change.** Crozet Gazette. 2020. Available from: <https://www.crozetgazette.com/2020/01/06/mental-health-and-climate-change/>.
 6. World Health Organization. **2018 WHO Health and Climate Change Survey Report: Tracking Global Progress.** Geneva, Switzerland: WHO; 2019. Available from: <https://www.who.int/globalchange/publications/country-profiles-global-report-2019/en/>.

COMMUNICABLE AND INFECTIOUS DISEASES

DRINKING WATER

1. Hu G, Mian HR, Dyck R, Mohseni M, Jasim S, Hewage K, et al. **Drinking Water Treatments for Arsenic and Manganese Removal and Health Risk Assessment in White Rock, Canada.** Exposure and Health. 2019. Available from: <https://doi.org/10.1007/s12403-019-00338-4>.
2. US Environmental Protection Agency. **National water reuse action plan draft.** Washington, DC: EPA; 2019 Sep. Available from: <https://www.epa.gov/sites/production/files/2019-09/documents/water-reuse-action-plan-draft-2019.pdf>.
3. Westcott T. **Managing reservoirs for water quality could help toxic algae blooms.** Toronto, ON: Water Canada; 2019 Nov. Available from: https://www.watercanada.net/managing-reservoirs-for-water-quality-could-help-toxic-algal-blooms/?utm_source=Droplet+E-newsletter&utm_campaign=f4f4ea4003-EMAIL_CAMPAIGN_2019_11_25&utm_medium=email&utm_term=0_1c508e472e-f4f4ea4003-43017985.
4. Xu X, Zhou G, Lei K, LeBlanc GA, An L. **Phthalate Esters and Their Potential Risk in PET Bottled Water Stored under Common Conditions.** Int J Environ Res Public Health. 2019;17(1):141. Available from: <https://www.mdpi.com/1660-4601/17/1/141>.

EMERGENCY PREPAREDNESS

1. Doubleday A, Schulte J, Sheppard L, Kadlec M, Dhammapala R, Fox J, et al. **Mortality associated with wildfire smoke exposure in Washington state, 2006–2017: a case-crossover study.** Environ Health. 2020;19(1):4. Available from: <https://doi.org/10.1186/s12940-020-0559-2>.
2. Karim F. **How do second homes and coastal short-term rentals affect municipal planning and decision making in the context of climate change?** Halifax, NS: Dalhousie University; 2019.

Available from: <https://dalspace.library.dal.ca/bitstream/handle/10222/76776/Karim-Farzana-MES-ENVI-December-2019.pdf?sequence=1&isAllowed=y>.

3. National Academies of Sciences E, Medicine. **Implications of the California Wildfires for Health, Communities, and Preparedness: Proceedings of a Workshop**. Olson S, editor. Washington, DC: The National Academies Press; 2019. Available from: <https://www.nap.edu/catalog/25622/implications-of-the-california-wildfires-for-health-communities-and-preparedness>.
4. National Institute for Environmental Health Sciences. **Disaster preparedness app**. Rockville, MD: NIEHS; 2019. Available from: <https://www.niehs.nih.gov/about/od/ocpl/contact/>.
5. Strahm AM, Bagne AG, Rued HA, Larson KJ, Roemmich JN, Hilmert CJ. **Prenatal traumatic stress and offspring hair cortisol concentration: A nine year follow up to the Red River Flood Pregnancy Study**. Psychoneuroendocrinology. 2020;104579. Available from: <http://www.sciencedirect.com/science/article/pii/S0306453019313204>.

ENVIRONMENTAL HEALTH SURVEILLANCE

ENVIRONMENTAL PLANNING

1. Chen Z, van Lierop D, Ettema D. **Dockless bike-sharing systems: what are the implications?** Transport Reviews. 2020;1-21. Available from: <https://www.tandfonline.com/doi/abs/10.1080/01441647.2019.1710306>.
2. Hall C, Andrews F. **Designing high-density neighbourhoods to promote social health in Australia.** Journal of Social Inclusion. 2019;10(2):18–40. Available from: <https://josi.org.au/articles/abstract/147/#>.
3. Hippensteel CL, Sadler RC, Milam AJ, Nelson V, Debra Furr-Holden C. **Using Zoning as a Public Health Tool to Reduce Oversaturation of Alcohol Outlets: an Examination of the Effects of the New “300 Foot Rule” on Packaged Goods Stores in a Mid-Atlantic City.** Prev Sci. 2019;20(6):833-43. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30284159>.
4. Ling R, Rothman L, Cloutier M-S, Macarthur C, Howard A. **Cyclist-motor vehicle collisions before and after implementation of cycle tracks in Toronto, Canada.** Accid Anal Prev. 2020;135:N.PAG-N.PAG. Available from: <https://www.sciencedirect.com/science/article/pii/S000145751930658X>.
5. Myran DTduc, Chen JT, Bearnot B, Ip M, Giesbrecht N, Rees VW. **Alcohol Availability Across Neighborhoods in Ontario Following Alcohol Sales Deregulation, 2013–2017.** Am J Public Health. 2019;109(6):899-905. Available from: <https://ajph.aphapublications.org/doi/10.2105/AJPH.2019.305014>.
6. Numer M, McEachern J, Rushton F, Steeves D, Whiteman J, Kirk S. **Community Health Implications of Regulations Variances in Alcohol Retail: An Examination of Access and Policy in Rural and Urban Nova Scotia.** International Journal of Health, Wellness & Society. 2019;9(4):37-46. Available from: <http://ezproxy.library.ubc.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=140212374&site=ehost-live&scope=site>.
7. Sacks JJ, Brewer RD, Mesnick J, Holt JB, Zhang X, Kanny D, et al. **Measuring Alcohol Outlet Density: An Overview of Strategies for Public Health Practitioners.** J Public Health Manag Pract. 2019. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31136416>.

8. Wilkinson C, MacLean S, Room R. **Restricting alcohol outlet density though cumulative impact provisions in planning law: Challenges and opportunities for local governments.** Health Place. 2019;102227.

FOOD

Safety

1. Clark MA, Springmann M, Hill J, Tilman D. **Multiple health and environmental impacts of foods.** Proceedings of the National Academy of Sciences. 2019;116(46):23357-62. Available from: <https://www.pnas.org/content/pnas/116/46/23357.full.pdf>.
2. Gizaw Z. **Public health risks related to food safety issues in the food market: a systematic literature review.** Environ Health Prev Med. 2019;24(1):68. Available from: <https://doi.org/10.1186/s12199-019-0825-5>.
3. Jorgensen V, Ritson M, Tam G. **Cantonese-style barbecue meat food safety in Vancouver Coastal Health.** Environ Health Rev. 2019;62(4):112-20. Available from: <https://doi.org/10.5864/d2019-025>.
4. Moghimi E, Wiktorowicz EM. **Regulating the Fast-Food Landscape: Canadian News Media Representation of the Healthy Menu Choices Act.** Int J Environ Res Public Health. 2019;16(24). Available from: <https://www.mdpi.com/1660-4601/16/24/4939>.
5. Oruko Ongon'g R, Edokpayi JN, Msagati TAM, Tavengwa NT, Ijoma GN, Odiyo JO. **The Potential Health Risk Associated with Edible Vegetables Grown on Cr(VI) Polluted Soils.** Int J Environ Res Public Health. 2020;17(2):470. Available from: <https://www.mdpi.com/1660-4601/17/2/470>.
6. Public Health Ontario. **Foraged Mushroom Consumption in Ontario [Evidence brief].** Toronto, ON: Public Health Ontario; 2019 Nov. Available from: <https://www.publichealthontario.ca/-/media/documents/eb-foraged-mushroom-consumption.pdf?la=en>.
7. Yang K, Wang A, Fu M, Wang A, Chen K, Jia Q, et al. **Investigation of Incidents and Trends of Antimicrobial Resistance in Foodborne Pathogens in Eight Countries from Historical Sample Data.** Int J Environ Res Public Health. 2020;17(2):472. Available from: <https://www.mdpi.com/1660-4601/17/2/472>.
8. Young I, Chung A, McWhirter J, Papadopoulos A. **Observational assessment of food safety behaviours at farmers' markets in Ontario, Canada: A cross-sectional study.** Food Control. 2020;108:N.PAG-N.PAG. Available from: <https://www.sciencedirect.com/science/article/pii/S0956713519304645>.
9. Zhang Y, Lu J, Wu J, Wang J, Luo Y. **Potential risks of microplastics combined with superbugs: Enrichment of antibiotic resistant bacteria on the surface of microplastics in mariculture system.** Ecotoxicol Environ Saf. 2020;187:N.PAG-N.PAG. Available from: <https://www.sciencedirect.com/science/article/pii/S0147651319311832>.

Security

1. National Academies of Sciences E, Medicine. **Innovations in the Food System: Exploring the Future of Food: Proceedings of a Workshop—in Brief.** Maitin-Shepard M, editor. Washington, DC: The National Academies Press; 2019. Available from: <https://www.nap.edu/catalog/25645/innovations-in-the-food-system-exploring-the-future-of-food>.
2. Public Health Agency of Canada. **Foodnet Canada annual report 2018.** Ottawa, ON: PHAC; 2019 Dec.

GENERAL

HEALTH EQUITY

1. Collins D, Stout M. **Does Housing First policy seek to fulfil the right to housing? The case of Alberta, Canada.** Housing Studies. 2020:1-23. Available from: <https://doi.org/10.1080/02673037.2019.1707782>.
2. Kilborn M, Cabaj J, Navratil L, Torry A, Schindler R. **Addressing Health Inequities in Environmental Public Health in Alberta.** Environ Health Rev. 2019;62(4):121-4. Available from: <https://doi.org/10.5864/d2019-027>.
3. Naik Y, Baker P, Ismail SA, Tillmann T, Bash K, Quantz D, et al. **Going upstream – an umbrella review of the macroeconomic determinants of health and health inequalities.** BMC Public Health. 2019;19(1):1678. Available from: <https://doi.org/10.1186/s12889-019-7895-6>.
4. National Association of County and City Health Officials. **A Rising Tide: Increasing Rural Local Health Department Capacity to Address the Social Determinants of Health.** Washington, DC: NACCHO; 2019. Available from: https://eweb.naccho.org/eweb/DynamicPage.aspx?WebCode=ProdDetailAdd&ivd_prc_prd_key=f6282557-a58a-4ac0-abcd-c50aed53211f&ivd_qty=1&Action=Add&site=naccho&ObjectKeyFrom=1A83491A-9853-4C87-86A4-F7D95601C2E2&DoNotSave=yes&Par.

HEALTH IMPACT ASSESSMENT

1. Yehia EJ. **Applying a health lens to the Environmental Assessment process: a British Columbia case study of the Ajax mine proposal.** Victoria, BC: University of Victoria; 2020. Available from: <https://dspace.library.uvic.ca/handle/1828/11437>.

INDOOR AIR

1. Ade R, Rehm M. **Home is where the health is: what indoor environment quality delivers a “healthy” home?** Pacific Rim Property Research Journal. 2019:1-17. Available from: <https://doi.org/10.1080/14445921.2019.1707949>.
2. Fermo P, Comite V, Falciola L, Guglielmi V, Miani A. **Efficiency of an Air Cleaner Device in Reducing Aerosol Particulate Matter (PM) in Indoor Environments.** Int J Environ Res Public Health. 2019;17(1):18. Available from: <https://www.mdpi.com/1660-4601/17/1/18>.
3. U.S. Environmental Protection Agency. **RESIDENTIAL AIR CLEANERS: A Technical Summary. Portable Air Cleaners, Furnace and HVAC Filters.** Washington, DC: US EPA; 2018 Jul. Available from: https://www.epa.gov/sites/production/files/2018-07/documents/residential_air_cleaners_-_a_technical_summary_3rd_edition.pdf.

NUISANCE CONTROL

OUTDOOR AIR

1. Braithwaite I, Zhang S, Kirkbride JB, Osborn DPJ, Hayes JF. **Air Pollution (Particulate Matter) Exposure and Associations with Depression, Anxiety, Bipolar, Psychosis and Suicide Risk: A Systematic Review and Meta-Analysis.** *Environ Health Perspect.* 2019;127(12):126002. Available from: <https://ehp.niehs.nih.gov/doi/abs/10.1289/EHP4595>.
2. Burns J, Boogaard H, Polus S, Pfadenhauer LM, Rohwer AC, van Erp AM, et al. **Interventions to reduce ambient air pollution and their effects on health: An abridged Cochrane systematic review.** *Environ Int.* 2020;135:N.PAG-N.PAG. Available from: [https://linkinghub.elsevier.com/retrieve/pii/S0160-4120\(19\)32205-6](https://linkinghub.elsevier.com/retrieve/pii/S0160-4120(19)32205-6).
3. Bustaffa E, Cori L, Manzella A, Nuvolone D, Minichilli F, Bianchi F, et al. **The health of communities living in proximity of geothermal plants generating heat and electricity: A review.** *Sci Total Environ.* 2019;706:135998-. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31862594>.
4. Global Alliance on Health and Pollution. **Pollution and health metrics. Global, regional, and country analysis.** New York, NY: GAHP; 2019 Dec. Available from: https://gahp.net/wp-content/uploads/2019/12/PollutionandHealthMetrics-final-12_18_2019.pdf.
5. Hapke WB, Black RW, Eagles-Smith CA, Smith CD, Johnson L, Ylitalo GM, et al. **Contaminant Concentrations in Sediments, Aquatic Invertebrates, and Fish in Proximity to Rail Tracks Used for Coal Transport in the Pacific Northwest (USA): A Baseline Assessment.** *Arch Environ Contam Toxicol.* 2019;77(4):549-74. Available from: <https://link.springer.com/article/10.1007/s00244-019-00667-0>.
6. Liu C, Chen R, Sera F, Vicedo-Cabrera AM, Guo Y, Tong S, et al. **Ambient Particulate Air Pollution and Daily Mortality in 652 Cities.** *N Engl J Med.* 2019;381(8):705-15. Available from: <https://www.nejm.org/doi/full/10.1056/NEJMoa1817364>.
7. Marris CR, Kompella SN, Miller MR, Incardona JP, Brette F, Hancox JC, et al. **Polyaromatic hydrocarbons in pollution: A heart-breaking matter.** *J Physiol.* 2019. Available from: <https://physoc.onlinelibrary.wiley.com/doi/abs/10.1113/JP278885>.
8. National Toxicology Program. **Systematic Review of Traffic-related Air Pollution and Hypertensive Disorders of Pregnancy.** Triangle Park, NC: U.S. Department of Health and Human Services; 2019 Dec. Available from: https://ntp.niehs.nih.gov/publications/monographs/mgraph07/index.html?utm_source=direct&utm_medium=prod&utm_campaign=ntpgolinks&utm_term=mgraph07abs.
9. Schraufnagel DE, Balmes JR, Matteis SD, Hoffman B, Kim WJ, Perez-Padilla R, et al. **Health Benefits of Air Pollution Reduction.** *Annals of the American Thoracic Society.* 2019;16(12):1478-87. Available from: <https://www.atsjournals.org/doi/abs/10.1513/AnnalsATS.201907-538CME>.
10. Zhang L, Yang L, Zhou Q, Zhang X, Xing W, Wei Y, et al. **Size distribution of particulate polycyclic aromatic hydrocarbons in fresh combustion smoke and ambient air: A review.** *J Environ Sci.* 2020;88:370-84. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31862078>.

PERSONAL SERVICE ESTABLISHMENTS

1. World Health Organization. **Mercury in cosmetics and skin lightening products.** Geneva, Switzerland: WHO; 2019 Nov. Available from: <https://www.who.int/publications-detail/mercury-in-cosmetics-and-skin-lightening-products>.

PEST CONTROL

PHYSICAL AGENTS

1. Steele D, Kerrigan C, Guastavino C. **Sounds in the city: bridging the gaps from research to practice through soundscape workshops.** J Urb Design. 2019;1-19. Available from: <https://doi.org/10.1080/13574809.2019.1699399>.

RADIATION

1. Miller AB, Sears ME, Morgan LL, Davis DL, Hardell L, Oremus M, et al. **Risks to Health and Well-Being From Radio-Frequency Radiation Emitted by Cell Phones and Other Wireless Devices.** Frontiers in public health. 2019;7:223-. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31457001>.

RECREATIONAL AND SURFACE WATER

1. Burford MA, Gobler CJ, Hamilton DP, Visser PM, Lurling M. **Solutions for managing cyanobacterial blooms: A scientific summary for policy makers.** Paris: UNESCO; 2019. Available from: http://www.globalhab.info/files/Cyano_mitigation_GlobalHAB2019.pdf.
2. Hackbusch S, Wichels A, Gimenez L, Döpke H, Gerdt G. **Potentially human pathogenic Vibrio spp. in a coastal transect: Occurrence and multiple virulence factors.** Sci Total Environ. 2020;707:136113. Available from: <http://www.sciencedirect.com/science/article/pii/S0048969719361091>.

RISK ASSESSMENT, COMMUNICATION

SENIORS' ENVIRONMENTAL HEALTH

1. Lak A, Rashidghalam P, Myint PK, Bradaran HR. **Comprehensive 5P framework for active aging using the ecological approach: an iterative systematic review.** BMC Public Health. 2020;20(1):33. Available from: <https://doi.org/10.1186/s12889-019-8136-8>.
2. Mysyuk Y, Huisman M. **Older people's emotional connections with their physical urban environment.** Cities & Health. 2019;1-6. Available from: <https://doi.org/10.1080/23748834.2019.1693190>.
3. Vu A, Rutherford S, Phung D. **Heat Health Prevention Measures and Adaptation in Older Populations-A Systematic Review.** Int J Environ Res Public Health. 2019;16(22):4370. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31717424>

TOBACCO, CANNABIS

1. Carlini BH. **Public Health Impact of Cannabis Legalization: What Do We Know so Far? [oresentation].** Seattle, WA: University of Washington; 2019 Dec. Available from: <http://www.cpe.rutgers.edu/MCS2019/Rutgers%20FINAL%20Carlini%2012.15.19.pdf>.
2. Council of Chief Medical Officers of Health (CCMOH). **Council of Chief Medical Officers of Health (CCMOH) Statement on Cannabis Extracts, Edibles and Topical Products.** Ottawa, ON: Health

- Canada; 2020 Jan 6. Available from: <https://www.newswire.ca/news-releases/council-of-chief-medical-officers-of-health-ccmoh-statement-on-cannabis-extracts-edibles-and-topical-products-880161434.html>.
3. Grewal JK, Loh LC. **Health considerations of the legalization of cannabis edibles.** Can Med Assoc J. 2020;192(1):E1-E2. Available from: <https://www.cmaj.ca/content/cmaj/192/1/E1.full.pdf>.

Ecigs, Vaping

1. Bhatta DN, Glantz SA. **Association of E-Cigarette Use With Respiratory Disease Among Adults: A Longitudinal Analysis.** Am J Prev Med. 2019. Available from: <http://www.sciencedirect.com/science/article/pii/S0749379719303915>.

WASTE

1. Stroski KM, Luong KH, Challis JK, Chaves-Barquero LG, Hanson ML, Wong CS. **Wastewater sources of per- and polyfluorinated alkyl substances (PFAS) and pharmaceuticals in four Canadian Arctic communities.** Sci Total Environ. 2020;708:N.PAG-N.PAG. Available from: <https://www.sciencedirect.com/science/article/pii/S0048969719344857>.

ZOONOSSES

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