2021
EH Scan

National Collaborating Centre for Environmental Health
Centre de collaboration nationale en santé environnementale

ENVIRONMENTAL HEALTH RESEARCH SCAN

WITH COVID-19 SECTIONS

VOL 5 (5) MAY 2021

CONTENTS

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. COVID-19 Publications are listed in the sections above and there are also COVID-19 Additional Topics at the end of this issue.

EDITOR PICKS

Recalls highlight importance of hand sanitizer safety [journal article]

Anne-Marie Nicol, Knowledge Translation Scientist, NCCEH

This article highlights key aspects of hand sanitizer safety and also describes the role of public health practitioners in addressing potential safety concerns over hand sanitizers.

Masking during the COVID-19 pandemic - update [guidance document]

[May update is forthcoming]
Juliette O'Keeffe, Knowledge Translation Scientist, NCCEH

"Given the changes to guidance from public health agencies and emergence of newly published literature, this document has been updated from previous versions published in 2020 to reflect these changes and address additional questions arising about the use of masks to reduce transmission of SARS-CoV-2."

Indoor CO2 sensors for COVID-19 risk mitigation: current guidance and limitations [guidance document] [forthcoming]

Angela Eykelbosh, Knowledge Translation Scientist, NCCEH

"Building on a previous NCCEH document in which we explored some of the concerns around CO_2 monitoring as a public health tool, the scope was expanded to include all public health guidance regarding CO_2 monitoring by occupants to address ventilation adequacy during pandemic conditions."

Respiratory impacts of wildland fire smoke: future challenges and policy opportunities. An Official American Thoracic Society workshop report

Sarah Henderson, Scientific Director, Environmental Health Services, BCCDC, and co-authors

"Workshop participants identified top priorities for fire management, research, communication and public policy to address health risks of wildland fires. The workshop concluded...." more

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Well-being in urban environments - Improving urban wellbeing [HBE forum webinar]

This webinar included two presentations by two groups of speakers. The first speakers shared insights from Edmonton's Urban Well-being Framework. The second discussed how to integrate equity and how community economic development can support local and just economies, contribute to social connectedness, and create stronger and more

resilient communities overall.

ENVIRONMENTAL HEALTH RESEARCH SCAN

SELECTED STAFF PUBLICATIONS

NCCEH

1. Eykelbosh A. **Indoor CO2 sensors for COVID-19 risk mitigation: current guidance and limitations [guidance document]**. Vancouver, BC: National Collaborating Centre for Environmental Health; 2021 May 19. Available from: https://ncceh.ca/guidance-documents/desc.
2. National Collaborating Centre for Environmental Health. **COVID-19 management during public health emergencies [topic page]**. Vancouver, BC: NCCEH; 2021 Apr 15. Available from: https://ncceh.ca/environmental-health-in-canada/health-agency-projects/covid-19-management-during-public-health.
3. National Collaborating Centre for Environmental Health. **April research scan with COVID-19 sections [blog]**. Vancouver, BC: NCCEH; 2021 Apr 21. Available from: https://ncceh.ca/content/blog/april-research-scan-covid-19-sections.
4. National Collaborating Centre for Environmental Health. NCCEH eNews (April 2021)**: Visual Tools and Processes for Engaging Intersectoral Partners on the Health Impacts of Resource Development; The Healthy Built Environment (HBE) Forum moves to Facebook; HBE Webinar - Integrating Health into Scenario Planning for Transportation & Land Use Applications; more**... Vancouver, BC: NCCEH; 2021 Apr 22. Available from: https://tinyurl.com/hcb9huph.
5. Nicol A-M. **Recalls highlight importance of hand sanitizer safety**. Environ Health Rev. 2021;64(1):6-10. Available from: https://pubs.ciphi.ca/doi/abs/10.5864/d2021-005.
6. O'Keeffe J. **Masking during the COVID-19 pandemic - update [guidance document]**. Vancouver, BC: National Collaborating Centre for Environmental Health; 2021 May 19. Available from: https://ncceh.ca/documents/guide/masking-during-covid-19-pandemic.
7. Recover Edmonton. **Improving urban wellbeing [HBE forum webinar]**. Edmonton, AB: Recover Edmonton; 2021 Apr 9. Available from: https://ncceh.ca/sites/default/files/RECOVER%20Overview%20Apr%202021%20presentation%20for%20HBE%20Forum%20-%20web.pdf.

BCCDC

1. British Columbia Centre for Disease Control. **COVID-19 variants**. Vancouver, BC: BCCDC; 2021 May 13. Available from: http://www.bccdc.ca/health-info/diseases-conditions/covid-19/about-covid-19/variants.
2. Rice MB, Henderson SB, Lambert AA, Cromar KR, Hall JA, Cascio WE, et al. **Respiratory Impacts of Wildland Fire Smoke: Future Challenges and Policy Opportunities.** An Official American

Thoracic Society Workshop Report. Annals of the American Thoracic Society. 2021. Available from: https://www.atsjournals.org/doi/abs/10.1513/AnnalsATS.202102-148ST.

INDIGENOUS ENVIRONMENTAL HEALTH

1. Aldred T, Alderfer-Mumma C, de Leeuw S, Farrales M, Greenwood M, Hoogeveen D, et al. **Mining sick: Creatively unsettling normative narratives about industry, environment, extraction, and the health geographies of rural, remote, northern, and Indigenous communities in British Columbia**. The Canadian Geographer 2021;16(1):87-107. Available from: https://doi.org/10.1111/cag.12660.
2. Armstrong CG, Miller JED, McAlvay AC, Ritchie PM, Lepofsky D. **Historical Indigenous Land-Use Explains Plant Functional Trait Diversity**. Ecology and Society. 2021;26(2). Available from: https://www.ecologyandsociety.org/vol26/iss2/art6/.
3. Domingo A, Charles K-A, Jacobs M, Brooker D, Hanning RM. **Indigenous Community Perspectives of Food Security, Sustainable Food Systems and Strategies to Enhance Access to Local and Traditional Healthy Food for Partnering Williams Treaties First Nations (Ontario, Canada).** Int J Environ Res Public Health. 2021;18(9):4404. Available from: https://www.mdpi.com/1660-4601/18/9/4404.
4. Heuer F. **'Forest gardens' show how Native land stewardship can outdo nature**. National Geographic. 2021 Apr 23. Available from: https://www.nationalgeographic.com/environment/article/forest-gardens-show-how-native-land-stewardship-can-outdo-nature?ct=t(RSS_EMAIL_CAMPAIGN).

AGRICULTURAL OPERATIONS

1. Appolloni E, Orsini F, Specht K, Thomaier S, Sanyé-Mengual E, Pennisi G, et al. **The global rise of urban rooftop agriculture: A review of worldwide cases**. Journal of Cleaner Production. 2021;296. Available from: https://doi.org/10.1016/j.jclepro.2021.126556.
2. Blay-Palmer A, Santini G, Halliday J, Malec R, Carey J, Keller L, et al. **City Region Food Systems: Building Resilience to COVID-19 and Other Shocks**. Sustainability. 2021;13(3):1325. Available from: https://www.mdpi.com/2071-1050/13/3/1325.
3. Caputo S, Schoen V, Specht K, Grard B, Blythe C, Cohen N, et al. **Applying the food-energy-water nexus approach to urban agriculture: From FEW to FEWP (Food-Energy-Water-People)**. Urban Forestry & Urban Greening. 2021;58:126934. Available from: https://www.sciencedirect.com/science/article/pii/S1618866720307512.
4. Chalmin-Pui LS, Roe J, Griffiths A, Smyth N, Heaton T, Clayden A, et al. "**It made me feel brighter in myself"- The health and well-being impacts of a residential front garden horticultural intervention**. Landscape Urb Plan. 2021;205:103958. Available from: https://www.sciencedirect.com/science/article/pii/S016920462030325X.
5. Drangert J-O. **Urban water and food security in this century and beyond: Resource-smart cities and residents**. Ambio. 2021;50(3):679-92. Available from: https://doi.org/10.1007/s13280-020-01373-1.
6. Friedman A. **Urban Agriculture and Community Gardens**. Fundamentals of Sustainable Urban Design. Cham: Springer International Publishing; 2021. p. 277-84. Available from: https://doi.org/10.1007/978-3-030-60865-1_29.

7. Gray RS, Torshizi M. **Update to agriculture, transportation, and the COVID-19 crisis**. Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie. 2021. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/cjag.12280.
8. Mullins L, Charlebois S, Finch E, Music J. **Home Food Gardening in Canada in Response to the COVID-19 Pandemic**. Sustainability. 2021;13(6):3056. Available from: https://www.mdpi.com/2071-1050/13/6/3056.
9. Schauder N. **Urban Food Forests: Demonstrating City Permaculture**. 2021 [Feb 21]; Available from: https://www.tenthacrefarm.com/urban-food-forests/.
10. Steenkamp J, Cilliers EJ, Cilliers SS, Lategan L. **Food for Thought: Addressing Urban Food Security Risks through Urban Agriculture**. Sustainability. 2021;13(3):1267. Available from: https://www.mdpi.com/2071-1050/13/3/1267.
11. Weersink A, von Massow M, Bannon N, Ifft J, Maples J, McEwan K, et al. **COVID-19 and the agri-food system in the United States and Canada**. Agric Syst. 2021;188:103039. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33362333.

BIOLOGICAL AGENTS

BUILT ENVIRONMENT

1. Burns N, Follis L, Follis K, Morley J. **Chapter 3. Moving Target, Moving Parts: The Multiple Mobilities of the COVID-19 Pandemic**. In: Lupton D, Willis K, editors. The COVID-19 Crisis Social Perspectives. New York, NY: Routledge; 2021. Available from: https://www.routledge.com/The-COVID-19-Crisis-Social-Perspectives/Lupton-Willis/p/book/9780367628987.
2. Dėdelė A, Miškinytė A. **Promoting Sustainable Mobility: A Perspective from Car and Public Transport Users**. Int J Environ Res Public Health. 2021;18(9):4715. Available from: https://www.mdpi.com/1660-4601/18/9/4715.
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4. Jay J, Heykoop F, Hwang L, de Jong J, Kondo M. **Effects of the COVID-19 Pandemic on Park Use in U.S. Cities**. medRxiv. 2021. Available from: https://www.medrxiv.org/content/medrxiv/early/2021/04/25/2021.04.23.21256007.full.pdf.
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6. Jobe J, Griffin GP. **Bike share responses to COVID-19**. Transportation Research Interdisciplinary Perspectives. 2021;10:100353. Available from: https://www.sciencedirect.com/science/article/pii/S2590198221000609.
7. Kluck J, Boogaard F. **Climate Resilient Urban Retrofit at Street Level**. In: de Graaf-van Dinther R, editor. Climate Resilient Urban Areas: Governance, design and development in coastal delta cities. Cham: Springer International Publishing; 2021. p. 45-66. Available from: https://doi.org/10.1007/978-3-030-57537-3_3.

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10. Lourens H. Chapter 6. The Politics of Touch-Based Help for Visually Impaired Persons During the COVID-19 Pandemic: An Autoethnographic Account. In: Lupton D, Willis K, editors. **The COVID-19 Crisis Social Perspectives.** New York, NY: Routledge; 2021. Available from: https://www.routledge.com/The-COVID-19-Crisis-Social-Perspectives/Lupton-Willis/p/book/9780367628987.
11. Monfaredi Z, Najjar M. **Studying the association between built environment interventions, health, and gentrification: The what and the why**. Montreal, QC: Interact; 2021 Mar. Available from: https://equipeinteract.ca/wp-content/uploads/2021/03/Final-Website_BEI_kl-1.pdf.
12. Nieuwenhuijsen MJ. **Green Infrastructure and Health**. Annu Rev Public Health. 2021;42(1):317-28. Available from: https://www.annualreviews.org/doi/abs/10.1146/annurev-publhealth-090419-102511.
13. Pouso S, Borja Á, Fleming LE, Gómez-Baggethun E, White MP, Uyarra MC. **Contact with blue-green spaces during the COVID-19 pandemic lockdown beneficial for mental health**. Sci Total Environ. 2021;756:143984. Available from: https://doi.org/10.1016/j.scitotenv.2020.143984.
14. Recover Edmonton. **Improving urban wellbeing [HBE forum webinar]**. Edmonton, AB: Recover Edmonton; 2021 04 09 Apr 9. Available from: https://ncceh.ca/sites/default/files/RECOVER%20Overview%20Apr%202021%20presentation%20for%20HBE%20Forum%20-%20web.pdf.
15. Surico J. **Can 'Open Streets' Outlast the Pandemic?** Bloomberg City Lab. 2021 Apr 29. Available from: https://www.bloomberg.com/news/articles/2021-04-29/what-s-next-for-the-open-streets-of-the-pandemic?srnd=citylab-transportation.
16. Zamfir M, Ciobanu I, Marin AG, Zamfir M-V. **Smart dwellings. Architectural perspectives opened by COVID-19 pandemic**. Smart Cities and Regional Development (SCRD) Journal. 2021;5(2):33-49. Available from: http://www.scrd.eu/index.php/scrd/article/view/102.

CHEMICAL AGENTS – METALS, GENERAL

General

1. Erickson P, Lazarus M. **Examining risks of new oil and gas production in Canada** Stockholm, Sweden: Stockholm Environment Institute; 2020 Jun. Available from: https://cdn.sei.org/wp-content/uploads/2020/06/examining-risks-of-new-oil-and-gas-production-in-canada.pdf.
2. Steinemann A. **The fragranced products phenomenon: air quality and health, science and policy**. Air Quality,Atmos Health. 2021;14(2):235-43. Available from: https://doi.org/10.1007/s11869-020-00928-1.
3. World Health Organization. **Case study: Chemicals Management Plan (CMP) Science Committee in Canada**. Geneva, Switzerland: WHO; 2021 Feb 11. Available from: https://www.who.int/publications-detail-redirect/9789240017702.

CHEMICAL AGENTS – PESTICIDES

1. Canadian Environmental Law Association. **Use of Pesticides Indoors: Differences in Risk, Regulation, and Necessary Precautions**. Toronto, ON: CELA; 2020 Jun. Available from: https://cela.ca/wp-content/uploads/2020/06/Indoor-pesticides-backgrounder-CELA-PCN-CAPE.pdf.
2. Console RP. **Paraquat Exposure Alert: Paraquat Linked to Parkinson's Disease—Agricultural Workers Could Be Entitled to Compensation**. National Law Review. 2021;XI(116). Available from: https://www.natlawreview.com/article/paraquat-exposure-alert-paraquat-linked-to-parkinson-s-disease-agricultural-workers.
3. Jiang A, Belton k, Fuselli P. **Evidence Summary on the Prevention of Poisoning in Canada**. Toronto, ON: Parachute Canada; 2020 Nov. Available from: https://parachute.ca/wp-content/uploads/2020/11/Evidence-Summary-on-Poisoning-in-Canada-UA.pdf.
4. Larsen K, Black Moher P, Rydz E, Nicol A-M, Peters C. **Using geographic information systems to estimate potential pesticide exposure at the population level in Canada [presentation]**. Vancouver, BC: Carex Canada; 2021 Feb. Available from: http://www.occupationalcancer.ca/wp-content/uploads/2021/03/Larsen_GISPesticides_Feb2021.pdf.
5. Nguyen TT, Rosello C, Bélanger R, Ratti C. **Fate of Residual Pesticides in Fruit and Vegetable Waste (FVW) Processing**. Foods. 2020;9(10):1468. Available from: https://www.mdpi.com/2304-8158/9/10/1468.
6. Seiler LY. **The Short-Lived Effect of Pesticide Bans on Residential Pesticide and Fertilizer Use in Canada**. Queen's Policy Review. 2020;11(11):46-55. Available from: https://www.queensu.ca/sps/qpr/sites/webpublish.queensu.ca.qprwww/files/files/2020/THE%20POLITICS%20OF%20CLIMATE%20CHANGE%20-%20QPR%20ISSUE%2011.pdf.

CHEMICAL AGENTS – SHALE GAS

1. Denham A, Willis MD, Croft DP, Liu L, Hill EL. **Acute myocardial infarction associated with unconventional natural gas development: A natural experiment**. Environ Res. 2021;195:110872. Available from: https://www.sciencedirect.com/science/article/pii/S0013935121001663.

CHILDREN'S ENVIRONMENTAL HEALTH

1. Barrable A, Booth D, Adams D, Beauchamp G. **Enhancing Nature Connection and Positive Affect in Children through Mindful Engagement with Natural Environments**. Int J Environ Res Public Health. 2021;18(9):4785. Available from: https://www.mdpi.com/1660-4601/18/9/4785.
2. Gislason MK, Kennedy AM, Witham SM. **The Interplay between Social and Ecological Determinants of Mental Health for Children and Youth in the Climate Crisis**. Int J Environ Res Public Health. 2021;18(9):4573. Available from: https://www.mdpi.com/1660-4601/18/9/4573.
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Travel Promotion. Int J Environ Res Public Health. 2021;18(9):4992. Available from: https://www.mdpi.com/1660-4601/18/9/4992.

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CLIMATE CHANGE

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COMMUNICABLE AND INFECTIOUS DISEASES

See Covid 19 subsections in this issue and in the COVID-19 Additional Topics and Guidance section at the end of this issue (e.g., Occupational Guidance, Transit, Transmission)

DRINKING WATER

1. Mian HR, Hu G, Hewage K, Rodriguez MJ, Sadiq R. **Drinking water quality assessment in distribution networks: A water footprint approach**. Sci Total Environ. 2021 06;775:145844. Available from: https://www.sciencedirect.com/science/article/pii/S0048969721009116.

EMERGENCY PREPAREDNESS

1. National Collaborating Centre for Environmental Health. **COVID-19 management during public health emergencies [topic page]**. Vancouver, BC: NCCEH; 2021 Apr 15. Available from: https://ncceh.ca/environmental-health-in-canada/health-agency-projects/covid-19-management-during-public-health.
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ENVIRONMENTAL HEALTH SURVEILLANCE

1. Greco SL, MacIntyre E, Young S, Warden H, Drudge C, Kim J, et al. An approach to estimating the environmental burden of cancer from known and probable carcinogens: application to Ontario, Canada. BMC Public Health. 2020;20(1):1017. Available from: https://doi.org/10.1186/s12889-020-08771-w.

ENVIRONMENTAL PLANNING

FOOD

Safety

1. Domingo NGG, Balasubramanian S, Thakrar SK, Clark MA, Adams PJ, Marshall JD, et al. **Air quality–related health damages of food**. Proceedings of the National Academy of Sciences. 2021;118(20):e2013637118. Available from: https://www.pnas.org/content/pnas/118/20/e2013637118.full.pdf.
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Security

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5. Food and Agriculture Organization of the United Nations. Cities and local governments at the forefront in building inclusive and resilient food systems. Key results from the FAO Survey "Urban Food Systems and COVID-19", Revised version. Rome, Italy: FAO; 2020. Available from: http://www.fao.org/documents/card/en/c/cb0407en.
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Nanoplastics, Microplastics

1. Bucci K, Bikker J, Stevack K, Watson-Leung T, Rochman C. **Impacts to Larval Fathead Minnows Vary between Preconsumer and Environmental Microplastics**. Environ Toxicol Chem. 2021. Available from: https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5036.
2. Oosthoek S. **Chemical Impact: Microplastic pollution more complex than we think, says new research**. Michigan Now. 2021 May 5. Available from: https://www.michiganradio.org/post/chemical-impact-microplastic-pollution-more-complex-we-think-says-new-research?ct=t(RSS_EMAIL_CAMPAIGN).
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GENERAL

1. National Association of County and City Health Officials. Environmental Health and COVID-19 Resource Library (Education & Childcare; Extreme Weather; Food Safety; Indoor Environments; Wastewater Surveillance; Health Equity). Washington, DC: NACCHO; 2021 Apr. Available from: https://www.naccho.org/programs/our-covid-19-response/environmental-health-and-covid-19-resource-library#Health-equity.

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Health Policy – See Covid-19 section

HEALTH EQUITY

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COVID-19 ADDITIONAL TOPICS & GUIDANCE

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