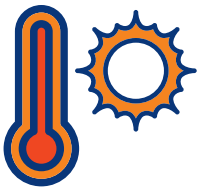
Attachment 2: Selected Health Impacts of Climate Change and Toronto Public Health Activities

*The sample of recent TPH activities have been aligned with the Public Health Agency of Canada's public health functions using the following shortform notation: Health Promotion (HP); Health Surveillance (HS); Health Protection (HPT); Population Health Assessment (PH); Disease & Injury Prevention (DI); Emergency Prediction, Preparedness & Response (EP)

Area of Impact	Health Impact of Climate Change	Sample of Recent TPH Activities*	Examples of surveillance and data
Extreme Heat 	• Increased heat-related illness and deaths: heat stroke, heat exhaustion, heat fainting, heat edema, heat rash and heat muscle cramps • Increased impacts on mental health • Exacerbation of chronic conditions including cardiovascular diseases, respiratory diseases, diabetes and kidney disease	Heat Relief Network development (HPT) Education and Risk Communication (HP) Advise protective behaviour (HPT) Shade Policy (HP)	Exposure to extreme heat: number of days where the daily maximum temperature was 30C or hotter as called by Environment and Climate Change Canada **(2022) 19** Heat-related hospital emergency department visits **(2013-2022) 1,492** Proportion of total land area of the city covered by parks and ravines **(2019) 13 percent** Canopy cover is the area of the tree population as viewed from above **(2019) 28 percent**
Air Quality 	• Increased exposure to key air pollutants, including fine particulate matter and ozone • Increased all-cause mortality, stroke, ischaemic heart disease, chronic obstructive pulmonary disease, lung cancer, pneumonia and respiratory tract damage • Increasing length of airborne allergen seasons, and pollen counts • Increased respiratory allergies and asthma	Education and Risk Communication (HP) Advise protective behaviour (HPT) Wildfire Smoke Response Strategy (HPT)	Estimated number of premature deaths in Toronto **(2021) 48 per 100,000 people or 1,375 deaths per year** Estimated number of hospitalizations in Toronto **(2021) 3,550 per year** Number of days that a Special Air Quality Statement was issued for Toronto due to wildfire smoke as called by Environment and Climate Change Canada **(2023) 12**

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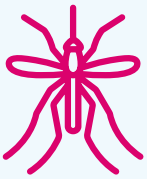
Area of Impact	Health Impact of Climate Change	Sample of Recent TPH Activities*	Examples of surveillance and data
Severe Weather 	• Increased spread of bacteria in airborne particles • Increased acute gastrointestinal illness from contaminated water • Increased mould, fungi, and bacteria in flooded homes and workplaces • Increased vulnerable user and motor vehicle related injuries • Increased restricted access to food and water supplies • Increased limited or delayed vital access to health, social and community support and services • Increased negative impact on stress and mental health issues from damages and impacts of severe storms	Beach water testing (HPT) Education and Risk Communication (HP) Advise Protective Behaviour (HPT) Inspecting food premises post natural events (HPT)	Beach water: Percent of potential days deemed as swimmable beach days **(2022) 89** Environment Canada **(2020 and 2021) average of 5 days had rainfall warnings in effect**
Vector Borne Disease (VBD) 	• Increased exposure to and prevalence of VBD increases risk of contacting either Lyme Disease or West Nile Virus in Toronto via blacklegged tick and the mosquito	Education and Risk Communication (HP) Advise protective behaviour (HPT) Tick Surveillance Program (HS) West Nile Virus Surveillance and Reporting (HS) West Nile Virus City Larviciding Program (HPT)	Number of reported cases of Diseases of Public Health Significance (DoPHS) • West Nile Virus **(2020) 33** • Lyme Disease **(2021) 125** Positive West Nile Virus pools **(2020) 39**
Extreme Cold 	• Risk of direct injury or death (falls, frostbite, hypothermia) and potential injury from power outage from winter storms (including ice storms) • Exacerbation of chronic conditions including cardiovascular morbidity and mortality	Education and Risk Communication (HP) Advise protective behaviour (HPT)	Exposure to extreme cold: number of extreme cold weather days as called by Environment and Climate Change Canada **(2021-2022 winter season) 49**

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Area of Impact	Health Impact of Climate Change	Sample of Recent TPH Activities*	Examples of surveillance and data
Water Safety & Availability 	• Increased risk of water-borne diseases and reduced swimmable days due to overwhelmed sewers and run-off • Increased risk of novel contaminants from rising water temperatures	Beach water testing (HPT) Education and Risk Communication (HP) Advise Protective Behaviour (HPT)	Percent of potential days deemed as swimmable beach days **(2022) 89**
Food Safety and Security 	• Increased negative health impacts due to food insecurity from food pricing and availability • Increased risk of food borne illness due to food safety issues from transportation interruptions and electrical issues resulting from extreme weather events and extended opportunities for food mishandling • Increased risk of food insecurity due to transportation interruptions and electrical issues • Increased risk to food production, supply, distribution and price due to extreme heat, variable precipitation levels, extreme weather	Reporting and investigating food related illnesses (HPT) Assessing food production plants (HPT) Assess restaurants (HPT) Nutritious food basket pricing (DI)	Canadian Income Survey **(2022) about 1:4 (24.1%) of individuals in Toronto experienced household food insecurity in the past year (up from 1:5 in 2021)**

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Area of Impact	Health Impact of Climate Change	Sample of Recent TPH Activities*	Examples of surveillance and data
Mental Health and Well-Being 	• Increased risk of aggression, suicides, and hospitalizations related to mental health emergencies due to heat • Increasing climate anxiety is especially common amongst young people • Increase anxiety, depression, and post-traumatic stress from extreme weather events leading to loss of home, habitat, loved ones, injuries, loss of sleep, and other challenges	Our Health, Our City: Mental Health, Harm Reduction, Treatment and Substance Use Strategy (HP)	Environment and Energy Division's survey of City of Toronto Climate change Perceptions (2021) • **78 percent of residents are concerned about the impact of climate change on Toronto** • **89 percent felt climate change threatens the personal health and well-being of individuals**

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