The WHO defines health inequalities as: differences in health status or in the distribution of health determinants between different population groups. When health inequalities are seen to be avoidable and unjust, the term **health inequities** is used. Health inequities within and between populations are the result of complex interactions between biological, lifestyle, environmental, social and economic factors – **the determinants of health**.

Dahlgren and Whitehead's (1993) multilevel Rainbow model (Diagram 1) is widely used to identify the full range of health determinants. In this model, determinants are categorized based on their level of influence. In addition, the rainbow model highlights the interactions between layers and between various determinants of health. For example:



In order to effectively address health inequities in our community, public health action must be taken at each layer of the rainbow.

Diagram 1: The Rainbow Model



Social Determinants of Health: Definitions & Opportunities for Public Health Actions

The determinants of health impact the health status of everyone in our community. *Health inequities* occur because their influence is experienced in different ways by different people. The above example of increases in property values clearly has a greater negative impact on those living on lower incomes. When planning/implementing public health programs with the goal to reduce health inequities, it is critical that the unique needs of priority populations (e.g. those living in poverty, with limited access to education/employment, marginalized due to race/culture/language, etc.) are considered. Ask yourself the following questions:

- Layer 1: In what ways can our programs support healthy behaviours/lifestyles among priority populations?
- Layer 2: In what ways can our programs foster greater social networks and community participation among priority populations?
- Layer 3: In what ways can we improve the environments where people live, work and play so that priority populations have greater access to opportunities for health?
- Layer 4: In what ways can we improve the social and economic conditions (the root causes) that put individuals at greater risk of poor health outcomes in the first place?

The social determinants of health described in the following table form the basis for the Health Equity Checklist. Using the Dahlgren and Whitehead Rainbow Model as a framework, examples of public health actions that address the social determinants of health at each layer of the rainbow are provided. Refer to this table as you reflect on the above questions and complete the Health Equity Checklist for your program/activity.

Social Determinant of Health	Public Health Actions to Increase Health Equity
Income & Income Distribution	Rainbow Layer 1: Individual Lifestyle Factors
 Protective/supportive factors Individuals receive incomes that support the cost of living in their community The income gap between the wealthiest and the poorest members of the community is narrow 	 Implement smoking cessation programs designed to meet the specific needs of individuals living on low-incomes, e.g. smoking cessation support group for street youth Provide car seat clinics in low-income neighbourhoods
	Rainbow Layer 2: Social & Community Networks
The evidence	 Include individuals living on low-incomes in the planning/implementation of
• Only 47% of Canadians in the lowest income bracket rate their health as very good or excellent,	SDHU programs
compared with 73% of Canadians in the highest income group (Health Canada, 1999).	 Provide programs in collaboration with social service agencies
Low-income Canadians are more likely to die earlier and to suffer more illnesses than Canadians	
with higher incomes, regardless of age, sex, race and place of residence (Health Canada, 1999).	Rainbow Layer 3: Living & Working Conditions
 At each rung up the income ladder, Canadians have less sickness, longer life expectancies and improved health (Health Canada, 1999). 	 Support projects that increase opportunities for physical activity in low-income neighbourhoods
 Studies suggest that the distribution of income in a given society may be a more important 	
determinant of health than the total amount of income earned by society members. Large gaps in	Rainbow Layer 4: Socioeconomic, cultural and environmental conditions
income distribution lead to increases in social problems and poorer health among the population as a whole (Health Canada, 1999).	 Monitor and report local demographic data including % families living below low- income cut-off
	Educate and raise community awareness re: health impact of income/poverty
	Advocate for minimum wage, Ontario Works and Ontario Disability Support Program rates that reflect actual cost of living

Social Determinant of Health	Public Health Actions to Increase Health Equity
 Early Childhood Development Protective/supportive factors Children receive positive nurturing and support from their families and caregivers (positive role modeling, esteem-building, fostering of independence, etc.) Children's social and physical environments support healthy growth and development (adequate nutrition, opportunities for physical activity, appropriate learning opportunities, socialization with others, etc.) The evidence Experiences from conception to age six have the most important influence of any time in the life cycle on the connecting and sculpting of the brain's neurons. Positive stimulation early in life improves learning, behaviour and health into adulthood (Health Canada, 1999). A loving, secure attachment between parents/caregivers and babies in the first 18 months of life helps children to develop trust, self-esteem, emotional control and the ability to have positive relationships with others in later life (Health Canada, 1999). Infants and children who are neglected or abused are at higher risk for injuries, a number of behavioural, social and cognitive problems later in life, and death (Health Canada, 1999). 	 Rainbow Layer 1: Individual Lifestyle Factors Increase awareness re: preconception and prenatal health, e.g. folic acid supplementation, tobacco/alcohol use, etc.) Provide dental hygiene/screening programs for all children Rainbow Layer 2: Social & Community Networks Encourage parent participation in community activities and coalitions. For example, provide parenting classes that are welcoming, accessible and meet the needs of vulnerable populations Ensure meetings are held at family-friendly times/locations, child-care is provided when possible Rainbow Layer 3: Living & Working Conditions Support universal student nutrition programs in elementary schools, e.g. salad bar program, breakfast programs Support universal student nutrition programs in elementary schools, e.g. salad bar program, breakfast programs Support programs that promote healthy physical environments for children, e.g. smoke-free homes/vehicles Advocate for breastfeeding friendly policies in homes and workplaces Rainbow Layer 4: Socioeconomic, cultural and environmental conditions
 Education/Skill Building/Literacy Protective/supportive factors Individuals have access to education/skill-building opportunities that are flexible and cost-effective Students do not experience economic/social barriers to completing secondary school education The evidence Canadians with low literacy skills are more likely to be unemployed and poor, to suffer poorer health and to die earlier than Canadians with high levels of literacy (Health Canada, 1999). People with higher levels of education have better access to healthy physical environments and are better able to prepare their children for school than people with low levels of education. They also tend to smoke less, to be more physically active and to have access to 	 Rainbow Layer 1: Individual Lifestyle Factors Ensure that educational materials (posters, brochures, program information) are accessible to individuals with lower literacy levels and/or English as a second language, e.g. translation of Food Safety Course materials into Mandarin Provide subsidized food handler training to priority groups/populations, e.g. youth employment services, community shelters/soup kitchens, etc. Rainbow Layer 2: Social & Community Networks Provide peer education and training opportunities that foster positive relationships between community members, e.g. community food advisors, breastfeeding companions Involve community members in participatory research projects

Social Determinant of Health	Public Health Actions to Increase Health Equity
 healthier foods (Health Canada, 1999). In the 1996-97 National Population Health Survey (NPHS), only 19% of respondents with less than a high school education rated their health as "excellent" compared with 30% of university graduates (Health Canada, 1999). 	 Rainbow Layer 3: Living & Working Conditions Promote comprehensive school health programs with an emphasis on meeting the needs of at-risk, marginalized students Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Monitor and report local demographic data including % of individuals who have completed high secondary education Support accessible child-care options for young parents who wish to complete secondary education. Advocate for accessible, cost-effective opportunities for individuals to pursue secondary and post-secondary school training/education
 Employment & Working Conditions Protective/supportive factors Suitable and meaningful employment opportunities are available to all individuals Work environments are safe and supportive of employees' professional and personal needs The evidence Employment has a significant effect on a person's physical, mental and social health. Paid work provides not only money, but also a sense of identity and purpose, social contacts and opportunities for personal growth. When a person loses these benefits, the results can be devastating to both the health of the individual and his or her family. Unemployed people have a reduced life expectancy and suffer significantly more health problems than people who have a job (Health Canada, 1999). Between 1991 and 1995, the proportion of Canadian workers who were "very satisfied" with their work declined, and was more pronounced among female workers, dropping from 58% to 49%. Reported levels of work stress followed the same pattern. In the 199697 NPHS, more women reported high work stress levels than men in every age category. Women aged 20 to 24 were almost three times as likely to report high work stress than the average Canadian worker (Health Canada, 1999). 	 Rainbow Layer 1: Individual Lifestyle Factors Promote campaigns that support nutritious food options in the workplace Encourage physical activity breaks in the workplace Rainbow Layer 2: Social & Community Networks Support social enterprise projects that engage unemployed individuals in meaningful, paid employment Engage employees in workplace wellness initiatives, including identification of wellness needs Rainbow Layer 3: Living & Working Conditions Provide clinical health services that accommodate diverse work schedules (e.g. night shift-work) Promote comprehensive workplace wellness programs to small businesses Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Monitor the distribution of different causes of illness by type/level of employment (seasonal, shift work, part-time, unemployed, etc.) Advocate for minimum wage that reflects actual cost of living Advocate for health benefits for those who are precariously employed (seasonal, part-time, etc.)

Social Determinant of Health	Public Health Actions to Increase Health Equity
 Safe & Affordable Housing Protective/supportive factors Individuals have access to adequate and affordable housing options (spend less than 30% of income on shelter costs) Housing conditions are safe (dependable heat/hydro/clean water, no mold, no overcrowding, safe neighbourhood etc.) The evidence Homeless/at-risk individuals have poor access to health care (Bryant, 2004). Poor housing conditions are associated with adverse physical and mental health outcomes (Bryant, 2004). Stresses linked with unaffordable and/or inadequate housing can have a negative impact on health status (Bryant, 2004). 	 Rainbow Layer 1: Individual Lifestyle Factors Provide clinical outreach services to vulnerable populations, e.g. homeless/atrisk Rainbow Layer 2: Social & Community Networks Work with residents of low-income neighbourhoods to identify and prioritize elements of a healthy neighbourhood Rainbow Layer 3: Living & Working Conditions Work with tenants/local landlords/housing corporations to establish/implement safe housing standards, e.g. clean water, indoor air quality, pesticide-free grounds Participate on interagency committees/advisory groups, e.g. homelessness initiative, Community Outreach Coordination Committee Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Monitor and report local demographic data including local vacancy rates and % of families that spend more than 30% of income on shelter Advocate for increases in the quantity/availability of safe and affordable housing
 Social Inclusion (social support networks, culture) Protective/supportive factors Individuals feel a sense of trust and belonging in their communities Individuals are able to fully participate in the normal routines and activities of their communities Individuals are able to depend on their families, friends and communities for support when needed The evidence According to Health Canada, groups more likely to experience social exclusion include: Aboriginal Peoples, immigrants and refugees, racialized groups, people with disabilities, children and youth in disadvantaged circumstances, women, the elderly, gays, lesbians, bisexual and transgendered people (Galabuzi, 2004). Poor social and economic conditions and inequalities in access to resources and services affect an individual's or group's health and well-being. Groups experiencing some form of social exclusion tend to sustain higher health risks and lower health status Galabuzi, 2004). An extensive study in California found that, for men and women, the more social contacts people have, the lower their premature death rates (Health Canada, 1994) 	 Rainbow Layer 1: Individual Lifestyle Factors Support low-cost/no-cost opportunities for individuals to participate in physical activity programs Provide injury prevention outreach services to seniors Rainbow Layer 2: Social & Community Networks Involve traditionally disadvantaged/isolated groups in the planning of programs/services (capacity building/empowerment) Encourage diverse citizen participation in community coalitions, advocacy and decision-making, e.g. Community Action Networks Rainbow Layer 3: Living & Working Conditions Promote a built environment that encourages active transportation. Social benefits include opportunities for positive interactions between people, equitable access, connectedness to community Advocate for a public transit system that is safe, affordable and accessible to all Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Identify and raise awareness of community strengths and assets. Highlight their role as resources for health.

Social Determinant of Health	Public Health Actions to Increase Health Equity
 Food Security Protective/supportive factors Individuals have access to nutritious, safe, affordable, culturally appropriate food Community members have access to locally grown food, grown in an economically and environmentally sustainable way The evidence Access to nutritious, safe, affordable and culturally appropriate food is a prerequisite to good health. Among many factors, food security is impacted by income levels, geographic access to food sources and the ability to access food that is locally grown and produced using sustainable methods. "Some 10% of Canadian households, representing 3 million people, experience food insecurity each year. Prevalence is greatest among those who rely on social assistance, lone mothers with children, Aboriginal people and Canadians who live in remote communities. 	 Rainbow Layer 1: Individual Lifestyle Factors Support meal/snack programs in schools, community centres, etc. Rainbow Layer 2: Social & Community Networks Support community kitchens that are accessible to vulnerable populations Promote the development of community gardens supported by diverse sectors (neighbourhoods, corporations, municipalities, etc.) Rainbow Layer 3: Living & Working Conditions Promote/implement policies that support the purchase/serving of locally grown foods at community events Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Advocate for incomes that reflect the actual cost of eating nutritiously (based on Cost of Nutritious Food Basket)
Food insecurity is associated with increased odds of poor or fair self-rated health, multiple chronic conditions, distress and depression" (Health Disparities Task Group, 2004). Physical & Built Environments	 Advocate to municipal planners re: zoning for full-service grocery stores in low- income neighbourhoods Rainbow Layer 1: Individual Lifestyle Factors Provide vulnerable populations with information/resources to adopt sun-safe
 Protective/supportive factors Water, air, soil and other environmental conditions are free of toxins and harmful contaminants The built environment is environmentally friendly and sustainable The environment (natural and built) enables individuals to make healthy choices 	 behaviours (low-cost/no cost sunscreen, sun hats) Promote use of local trails and community ice path/rinks Rainbow Layer 2: Social & Community Networks Promote increased use of neighbourhood greenspaces/gathering places
 The evidence In the built environment, factors related to housing, indoor air quality, and the design of communities and transportation systems can significantly influence our physical and psychological well-being. Air pollution, including exposure to second hand tobacco smoke, has a significant association with health. A study in southern Ontario found a consistent link between hospital admissions for respiratory illness in the summer months and levels of sulphates and ozone in the air. However, it now seems that the risk from small particles such as dust and carbon particles that are by-products of burning fuel may be even greater than the risks from pollutants such as ozone. As well, research indicates that lung cancer risks from second hand tobacco smoke are greater than the risks from the hazardous air pollutants from all regulated industrial emissions combined (Health Canada, 1994). 	 Rainbow Layer 3: Living & Working Conditions Support the conduct of walkability assessments of communities within the CGS Advocate to municipality re: reduction of pesticide use Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Monitor the differential impact of environmental factors on vulnerable populations, e.g. asthma rates by income group, occupation type, etc.

Social Determinant of Health	Public Health Actions to Increase Health Equity
Personal Health Practices & Coping Skills	Rainbow Layer 1: Individual Lifestyle Factors
 Protective/supportive factors Individuals feel they have the information, resources and support required to make healthy choices 	 Promote folic acid supplementation among women who may become pregnant Increase awareness of and referral to community resources, e.g. self-help network, crisis intervention, youth employment services, etc.
 The environment (natural and built) enables individuals to make healthy choices 	Rainbow Layer 2: Social & Community Networks
 The social environment (cultural, political, economic, spiritual, etc) enables individuals to make healthy choices 	 Support and expand opportunities for meaningful peer support, e.g. A Breastfeeding Companion; Family Home Visitors; Community Food Advisors; HOPE (postpartum depression support group)
The evidence	
• Coping skills, which seem to be acquired primarily in the first few years of life, are also important in supporting healthy lifestyles. These are the skills people use to interact effectively with the world around them, to deal with the events, challenges and stress they encounter in their day to day lives. Effective coping skills enable people to be self-reliant, solve problems and make informed choices that enhance health. These skills help people face life's challenges in positive ways, without recourse to risky behaviours such as alcohol or	 Rainbow Layer 3: Living & Working Conditions Provide accessible, welcoming clinical outreach services to vulnerable populations Advocate for integrated community services that support individuals with substance use/addiction issues
drug abuse. Research tells us that people with a strong sense of their own effectiveness and ability to cope with circumstances in their lives are likely to be most successful in adopting and sustaining healthy behaviours and lifestyles (Health Canada, 1994).	 Rainbow Layer 4: Socioeconomic, cultural and environmental conditions Conduct health impact assessments of provincial policies such as taxes charged on smoking cessation products.

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