

Health and Safety Programs

One Health

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What is One Health?

One Health is an approach that recognizes the connection between the health of people, animals (both domestic and wild), plants, and the environment. The approach brings together experts from different sectors, disciplines, and communities from local, regional, national, and global levels. The goal of One Health is to improve the health of people, animals, and the environment. The approach is important to prevent, predict, detect, and respond to global issues, such as [climate change](#), [zoonotic diseases](#) (diseases that are transmitted between animals and humans), and [pandemics](#).

Is One Health a new concept?

The idea of One Health is not new. Some important points in its history include:

- Early 19th century - The connection between animal and human health was recognized.
- 20th century - The concept of “one medicine” was introduced and the idea of veterinary and human health professionals working together to prevent zoonotic diseases was proposed.
- 2008 - the World Health Organization (WHO), the World Organisation for Animal Health (WOAH), and other international organizations developed the framework “Contributing to One World, One Health™” in response to emerging and re-emerging infectious diseases.

- 2012 - The first One Health summit was held in Switzerland.
 - Today - One Health is used by organizations, such as the Public Health Agency of Canada (PHAC), WHO, and the Centers for Disease Control and Prevention (CDC) to address shared health risks involving people, animals, and the environment.
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What is an example of how One Health can help identify issues that affect workplaces?

An example of One Health in action is responding to [avian influenza A\(H5N1\)](#) outbreaks. Avian influenza A(H5N1) typically spreads among wild aquatic birds but can sometimes spread to humans, such as workers in poultry farming and dairy plant processing.

Managing outbreaks requires actions including:

- monitoring animal health to detect infections early,
 - implementing biosecurity measures to prevent the spread of disease, such as isolating sick animals and storing bedding in a designated area,
 - using control measures, such as [ventilation](#), safe work practices, and [personal protective equipment](#), and
 - collaborating with animal health experts, [public health officials](#), and [environmental agencies](#).
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Why is a One Health approach important for workplaces?

Interactions between people, animals, and the environment are increasing for many reasons, including:

- increased movement of people, animals, and goods,
- climate change,
- intensive farming, and
- habitat loss.

Hazards that may not have traditionally been viewed as workplace risks, such as emerging viruses, are now becoming more relevant.

The One Health approach can be integrated into your workplace's existing health and safety processes, such as hazard identification, risk assessment, and control, to recognize how worker health might be affected by interactions with animals and the environment.

The following examples show how [health and safety program elements](#) can be adapted to protect workers:

Health and safety committee or representative – Involve and seek input from [health and safety committees](#) or representatives and encourage them to provide feedback to improve workplace procedures relating to One Health issues.

Training and education – Train workers on applicable One Health threats and how to perform their work safely.

Workplace inspections – Update [workplace inspections](#), where appropriate. For example, your [checklist](#) can include making sure that sources of stagnant water are regularly removed to reduce exposures to mosquitoes.

Hazard identification, assessment, and control – Conduct risk assessments to determine hazards and control measures from biological (such as bacteria, viruses, fungi), chemical (such as antiviral medications), and environmental hazards (such as [extreme weather](#) events). Use these risk assessments to implement effective control measures tailored to your specific workplace. Regularly review workplace hazards and your risk assessments to make sure that no hazards are being overlooked.

Emergency planning – Develop [emergency response plans](#) that address a range of potential emergency situations, including pandemics, zoonotic disease outbreaks, and climate-related events.

Health and safety promotion – Provide mental health resources, including access to an [employee assistance program](#) (EAP), if available, to workers who are ill. Becoming ill with a zoonotic disease can impact a worker's health, including physical and mental health symptoms of increased stress, anxiety, and depression.

Another way to include a One Health approach in your workplace is by collaborating with other sectors, disciplines, and communities. Workplaces can do this by reaching out to external organizations, such as environmental agencies, public health authorities, and healthcare providers for information and support.

What are other issues One Health can help address?

One Health helps address any threats that are shared between people, animals, and the environment. Some threats include:

[Mosquito-](#) and [tick-borne diseases](#), such as [Lyme disease](#) and [West Nile virus](#), which are increasing because of warmer temperatures and the expansion of mosquito and tick habitats.

Diseases in animals used for human food production, such as poultry, cattle, and swine, are increasing due to factors such as growing food animal populations and concentrated animal feeding operations. Diseases like avian influenza A(H5N1) can spread quickly among domestic poultry and [dairy cattle](#) to threaten both worker and animal health, while also having a negative impact on food security.

[Wildlife zoonotic diseases](#) have been increasing significantly both in frequency and in severity over time, putting workers, especially those working outdoors with or near wildlife, at risk. The invasion and destruction of wildlife habitats and increased human travel are some of the reasons for this increase.

[Diseases in companion animals](#) can put workers at risk, such as animal shelter employees, dog walkers, groomers, and veterinary clinic workers. Working with or near cats and dogs can result in the transmission of diseases like salmonellosis, [toxoplasmosis](#), and [rabies](#) to humans.

Food safety risks, including bacteria, viruses, parasites, metals, pesticides, and foreign objects that enter the food chain and expose workers or the public to Salmonella, Listeria, and E. coli. Climate change, unsafe farming practices, and poor sanitation practices may increase this risk.

Water pollution, including harmful algal bloom events can lead to sudden accumulations of microalgae, which can cause illness in workers and in animals. Harmful algal blooms arise from nutrient pollution of waters, warming waters, and stagnant water conditions. Exposure can happen from:

- direct contact with water,
- inhalation of water droplets, mist, or sea spray, or
- ingestion of water or contaminated food.

Workers who spend time in or near water that is affected by harmful algal blooms, such as lakes, rivers, or oceans, are at highest risk of exposure.

Antimicrobial resistance, which occurs when the medications used to treat diseases caused by pathogens (bacteria, viruses, fungi, or parasites) become less effective or not effective at all. The improper use of antimicrobial medications in food-producing animals (such as poultry) and uncontrolled waste releases are some of the factors that can cause antimicrobial-resistant pathogens. [Farmers](#), meat processing plant workers, and healthcare workers are examples of occupations at risk of being exposed to antimicrobial-resistant pathogens.

Climate change can worsen issues, such as water pollution and zoonotic diseases. Climate change can also directly impact workers and natural resources because it can result in greater exposure to extreme weather, such as severe storms, [heat](#) and [cold](#), and greater exposure to air pollution from natural disasters like [wildland fires](#). Climate change can also cause a loss of natural resources or crop loss due to changes in precipitation levels, or changing water temperatures that affect fish or other marine life that is farmed or caught. For more information on climate change and how it can affect workplaces, please see our free publication [Climate Change: Workplace Impacts](#).

How is mental health connected to One Health?

[Mental health](#) is influenced by many factors, including occupational, biological, and environmental health. Threats to human, animal, and environmental health are increasing and the link between these threats and psychological well-being is limited but growing.

Measuring mental health outcomes related to environmental threats is complex and there is currently little literature about the topic. Some studies have shown that environmental stressors, such as air pollution and climate change, have been linked to negative mental health outcomes, including:

- Anxiety
- Depression
- Trauma
- Social isolation

Workplaces should give the same priority and attention to psychological hazards related to One Health as they would with hazards that could cause physical harm.

Where can I get more information?

More information is available from:

- [One Health](#) – Health Canada
- [One Health](#) – World Health Organization
- [About One Health](#) – U.S. Centers for Disease Control and Prevention (CDC)
- [One Health](#) – Australian Centre for Disease Control

(*We have mentioned these organizations as a means of providing a potentially useful referral. You should contact the organization(s) directly for more information about their services. Please note that mention of these organizations does not represent a recommendation or endorsement by CCOHS of these organizations over others of which you may be aware.)

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