



Australian Government

Department of Education, Employment and Workplace Relations

HLTPOP306C Establish agent of disease transmission and mode of control

Release: 1

HLTOP306C Establish agent of disease transmission and mode of control

Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit's intent is for an environmental health worker to make a basic determination of the relevant diseases they might confront in their work, the mode of disease transmission, and the possible means of transmission control

Application of the Unit

Application

Working in compliance with relevant legislation and regulations within which the worker's organisation operates is essential

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in *italics* are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | |
|---|--|
| 1. Determine the disease/s affecting the target population | 1.1 Identify possible germ or parasite causes of disease for target population
1.2 Search for basic <i>signs and symptoms</i> of disease/s
1.3 Apply knowledge and understanding of how relevant diseases are transmitted, including vehicles/agents of transmission
1.4 Check with supervisor on determination |
| 2. Work with basic environmental health strategies to limit the transmission of disease | 2.1 Depending on the disease/s prevalent, develop appropriate control measures to limit the transmission of disease from: water contamination and the transmission of disease in a water supply context; a sewage context; a rubbish collection and disposal context; and a food storage and handling context
2.1 Discuss and clear with supervisor appropriateness of environmental health strategy selected |

ELEMENT**PERFORMANCE CRITERIA**

3. Implement environmental health strategies to limit the transmission of disease

- 3.1 Identify roles and responsibilities of the worker
- 3.2 Clarify roles and responsibilities of other key people or agencies
- 3.3 Identify points of contact in relation to job role
- 3.4 Demonstrate knowledge of organisation policies and procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- Basic knowledge of disease signs and symptoms
- Basic understanding of how diseases are transmitted, including vehicles/agents of transmission
- Demonstrated understanding and application of knowledge on relevant diseases and their modes of transmission as they relate specifically to environmental health
- Other key people or agency responsibilities
- Own roles and responsibilities in relation to the identified strategies
- Points of contact to assist with the implementation of strategies which are outside of the worker's responsibility
- Strategies to limit the transmission of diseases including through water supply, sewerage, pests, waste disposal and food handling/storage

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Apply basic problem-solving skills in relation to identifying strategies for disease prevention
- Locate information in regards to names and contact numbers of key people and/or agencies responsible for specific strategies
- Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate this competency unit:

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Competence is to be demonstrated over a full range of performance criteria
- Consideration should be given to assessing consistency of performance over a period of time

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

EVIDENCE GUIDE

Context of and specific resources for assessment:

- This unit is best assessed in the workplace, or in a simulated workplace and under the normal range of workplace conditions
- Knowledge obtained from this unit can also be applied to other areas of environment health that may be within the worker's responsibility i.e.: dog health, land care, pest control, domestic and personal hygiene
- Access to:
 - telephone directories, staff telephone and fax listings for relevant others
 - duty statements and position descriptions for the worker and/or relevant others
 - a simulation of realistic work place setting

Method of assessment may include:

- Assessment may include:
 - observations
 - questioning
 - evidence gathered from the work place
- Assessment may also include the way in which competency is applied to other environmental health specific units over a period of time

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

RANGE STATEMENT

- Basic germ theory may include:*
- What germs are, including conflict/compatibility with traditional knowledge
 - Where germs live
 - Their source e.g. raw meat, rubbish, sewerage, sick animals
 - Conditions that germs need for growth e.g. temperature, food, water and time
 - What parasites are, and types of parasites e.g. protozoa, worms, mites and lice
 - Disease categories (bacterial, viral), types of diseases and their signs and symptoms
 - Diseases or infection that can be attributed to parasites, types of diseases and their signs and symptoms

- Bacterial diseases may include:*
- Salmonella
 - Staphylococcus
 - Campylobacter

- Signs and symptoms may include:*
- Diarrhoea
 - Vomiting and/or nausea
 - Fever
 - Abdominal cramps and pains
 - Headaches
 - Lethargy

- E-Coli signs and symptoms may include:*
- Abdominal cramps and pains
 - Severe diarrhoea
 - Vomiting and/or nausea
 - Lethargy
 - Dehydration
 - Fever
 - Indigestion

RANGE STATEMENT

- Tetanus signs and symptoms may include:*
- Very painful muscles
 - Severe spasms and cramps in the neck, face, and body
 - Inability to control movements
 - Death

- Viral diseases may include:*
- Colds and flu
 - Hepatitis A
 - Gastroenteritis
 - Trachoma
 - Ross River Fever
 - Australian Encephalitis

- Colds and flu signs and symptoms may include:*
- Blocked and runny nose
 - Coughs and sneezes
 - Dry or sore throat
 - Headache and fever

- Hepatitis A signs and symptoms may include:*
- Vomiting and/or nausea
 - Abdominal cramps and pains
 - Yellowing of the skin and whites of the eyes
 - Liver dysfunction
 - Death

- Gastroenteritis signs and symptoms may include:*
- Diarrhoea
 - Vomiting and/or nausea
 - Dehydration
 - Fever
 - Lethargy
 - Abdominal cramps and pains

- Trachoma signs and symptoms may include:*
- Sore eyes
 - Red eyes
 - Watering eyes

RANGE STATEMENT

Ross River Fever signs and symptoms may include:

- Severe joint pain
- Skin rash
- Lethargy
- Fever and headaches

Australian encephalitis - signs and symptoms may include:

- Very severe headache
- Fever
- Convulsions
- Paralysis
- Inflammation of the brain
- Coma
- Brain damage
- Death

Diseases attributed to parasites may include:

- Dwarf Tape Worm infection
- Giardiasis
- Hookworm infection
- Threadworm (or Pinworm) infection
- Scabies infection

Dwarf Tape Worm infection - signs and symptoms may include:

- Diarrhoea
- Weight loss
- Lethargy
- Abdominal pain

Giardiasis signs and symptoms may include:

- Very severe or chronic diarrhoea
- Abdominal cramps and pains
- Lethargy
- Fatigue
- Weight loss

Hookworm infection signs and symptoms may include:

- Anaemia
- Fever
- Diarrhoea or constipation

RANGE STATEMENT

Threadworm (or Pinworm) infection signs and symptoms may include:

- Anal itching
- Disturbed sleep
- Irritability

Scabies infection signs and symptoms may include:

- Itchy skin
- Excessive scratching
- Infections from breaks in the skin as a result of excessive scratching
- Irritability

Vehicles/agents of transmission may include:

- Water droplets in the air
- Hands
- Wind blown dust
- Water
- Vectors (insects and rodents)
- The blood which carries germs around in the body

The way in which diseases are transmitted may be via:

- A person with a cold or flu coughing or sneezing near other people without covering their mouth/nose, others breathe in the water droplets containing the flu germ and contract the disease
- Not washing hands after going to the toilet, carrying germs from faeces onto the hands, and then eating food: faecal-oral (mouth) route
- A person with trachoma sharing clothes, towels etc. with others
- Insects and rodents crawling over rubbish, and then onto food which is then eaten
- Directly from insects such as mosquitoes that are carrying diseases from animals to people e.g. Australian Encephalitis, Ross River Fever, etc.
- Direct contact with germs through the skin e.g. open cuts, sores or other kind of breaks in the skin
- The burrowing of larvae (hookworm) or mites (scabies) through the skin

RANGE STATEMENT

Destination of germs refers to:

- The place where the germs and parasites finally land and cause infection

Destination of germs may include:

- The eyes
- The skin
- The stomach

Strategies to prevent the transmission of disease in a housing context may include:

- The provision of functional and durable health hardware, e.g. taps, drains, toilets, washing machines, shower roses, hot water systems
- Ongoing repairs and maintenance to health hardware
- Good domestic hygiene practices
- Environmental pest control strategies in relation to housing e.g. fly screens on the windows, fly-proofed toilet vent pipes, household bins with tight fitting lids, removal of rubbish in yard which could potentially become a breeding place for mosquitoes
- Utilisation of the yard area for visitors to reduce the impact of overcrowding in the house, e.g. wind breaks, cooking areas and protected sleeping areas
- Education/health promotion

RANGE STATEMENT

Strategies to prevent the transmission of disease in a water supply context may include:

- Assessing where and how a community accesses its water supply in order to monitor and prevent possible contamination either at the source, such as a river or bore, in storage such as elevated tanks, or in the pipe system which delivers water to the user
- Identifying possible water supply contaminants, (organic and inorganic) that can contaminate or pollute a water supply, e.g. animal carcasses, animal and human sewage, decaying plant matter, oil, petrol, scrap metal and chemical etc.
- Preventing possible contamination of surface water supply (rivers, lakes, billabongs etc.) by:
 - obtaining water upstream from any possible contamination sources such as effluent run off points, or swimming holes
 - obtaining water from the deepest possible point in the water supply
 - ensuring that people do not use the area around the water supply source for recreation uses
 - ensuring that there is little or no building development near the water supply
 - ensuring that septic tanks/leach drains and effluent disposal systems are 100m from the water supply etc.
- Preventing possible contamination of bore water at the source e.g. fences around the bore head to keep animals away, raised bore head above ground level in case of flooding, septic tanks/leach drains and effluent disposal sites 100m away from the bore etc.
- Preventing possible contamination of community water tanks, e.g. tanks need to have proper fitting lids, be clean, not leaking, and free from animals such as frogs. It is advisable to also have a high fence with a locked gate around the tank to keep people and animals out, etc.
- Preventing possible contamination of domestic rain water tanks e.g. tanks need to have a proper fitting lid or some form of cover, be clean, not leaking. Roof and gutters also need to be clean and free from debris

continued ...

RANGE STATEMENT

Strategies to prevent the transmission of disease in a water supply context may include (contd):

- Preventing possible contamination in the pipe system e.g. all joints need to be maintained free of leaks, pipes placed below ground whenever possible to protect them from damage, any above ground pipes held secure to protect them from damage especially from vehicles, any leaks or broken pipes repaired as soon as possible, and connections to tanks, pumps and bores maintained free of leaks
- Testing water supply (bacterial/chemical)
- Disinfection of water supply
- Basic plumbing e.g. changing washers, reseating taps, unblocking drains etc.
- Education/health promotion

RANGE STATEMENT

Strategies to prevent the transmission of disease in a sewage context may include:

- Maintenance of sewerage disposal systems to ensure that all faulty, blocked, damaged broken or worn out parts are mended as soon as possible
- Monitoring and reporting sewage or effluent collecting in pools as a result of overflowing sewage lagoons or broken sewerage pipes
- Monitoring and maintaining sewage lagoons e.g. eroded or broken lagoon banks, trees and /or other vegetation growing in or around the sewage lagoon, signs of mosquitoes breeding, rubbish in the water, a damaged gate or fence that can not be locked properly to keep out animals and children etc.
- Checking for signs of potential problems with sewage ponds e.g. bad smells, still areas on the surface of the pond, water which is not a light flecked green colour, water depth not being maintained at one metre etc.
- All installations of septic systems on communities need to meet adequate environmental health standards e.g. septic tanks/leach drains need to be 100m away from the water supply, and large enough to cope with fluctuating occupancies in the household etc.
- Monitoring and maintaining septic tanks e.g. check scum bucket, blanket, inlet/outlet pipes, sludge, and the lid of the tank for cracks and damage. Also need to check for overflow, and if drain has collapsed.
- Checking for signs of potential problems with on site systems e.g. the sewage in the toilet or the liquid waste from other fixtures flows away very slowly, liquid waste overflows from the disconnecter traps, bad smells near the septic tank, wet areas on top of the tank, the grass around the tank is very green and growing well etc.
- Septic tanks need to be pumped out and leach drains replaced when required
- Adopting strategies for communities and/or outstations without a sewerage disposal system e.g. grease traps, soakage pits, pit toilets etc.
- Education/health promotion

RANGE STATEMENT

Strategies to prevent the transmission of disease in a rubbish collection and disposal context may include:

- The promotion and implementation of special clean up days in the community e.g. larger items such as washing machines, car bodies, fridges and freezers to reduce potential mosquito breeding areas, and safety hazards
- Rubbish must be collected and disposed of at an approved tip site at least twice a week to prevent pest breeding cycles
- Ensuring that there is all season access to the tip site
- Ensuring that the collection vehicle is adequate e.g. constructed so that collected rubbish can not "fall" or be blown out as it is being transported to the disposal site
- Ensuring that tip sites are constructed and operated appropriately e.g. location of tip site in relation to the community, roads leading in and out, appropriate signage, access, depth of trenches etc.
- Education/health promotion

Strategies to prevent the transmission of disease in a food storage and handling context may include:

- Assessing and monitoring community food stores to ensure that adequate environmental health standards are being met/enforced
- The development of store management plans which take into account food handling training protocols, stock rotation practices, quality control check points and equipment maintenance log
- Education/health promotion in relation to food storage and handling practices in the home and community e.g. the dangers of food being left uncovered, or out overnight on the stove or near the camp fire, not washing hands after going to the toilet, sneezing or coughing on food, re- freezing food that has already thawed out etc
- Appropriate use of cleaning equipment and agents in relation to food hygiene practice
- Provision of, or access to, functional and durable refrigerators and freezers for use of householders and community members
- Adequate dry storage areas, as well as food preparation and storage surfaces, in the household and/or living areas

RANGE STATEMENT

Other key people and agencies may include:

- Environmental Health Officers
- Other health service professionals
- Essential Services Officers
- Aboriginal Health Workers
- Relevant government authorities
- Other community workers
- Householders and community members
- Community council
- Community store manager/owner

Points of contact refers to:

- Names and contact numbers of people and/or organisations who are responsible for the overseeing and implementation of various preventative strategies in relation to housing, water supply, sewerage, rubbish collection and disposal and food storage and handling

Organisation may include:

- Community council
- Community clinic
- Other employer body/agency

Unit Sector(s)

Not Applicable