Animal contact guidelines – reducing the risk to human health 2014

Interim

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Animal contact guidelines – reducing the risk to human health, 2014

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An electronic version of this document is available at
www.health.qld.gov.au/ph/documents/cdb/zoo_guidelines.pdf

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Introduction

These guidelines contain important information that can reduce the risk of visitors contracting an infection from animals when visiting an animal farm or show, petting zoo, wildlife exhibit and other similar settings offering visitors the opportunity of seeing and coming into contact with animals. Visiting these venues does present a low, but possible, risk to visitors.

Zoonotic infections

Zoonoses are infections that can be passed from animals to humans. Sources of zoonoses reported in Australia include cattle, sheep, horses, goats, pigs, guinea pigs, ferrets, dogs, cats, poultry, birds, tropical fish, rodents, amphibians, reptiles (including turtles and tortoises), bats and other species of native wildlife.

Reports of human illness associated with animal contact through farms, shows, zoos, petting zoos and wildlife exhibitors are infrequent in Australia. However, where illness does occur, the disease can be serious, especially for:

- infants and young children
- pregnant women
- older adults
- people with compromised immune systems.

Table 1 provides details of outbreaks where there has been direct or indirect contact with animals in Australia.

Providers of animal contact opportunities have a duty under the *Work, Health and Safety Act 2011* to ensure the health and safety of themselves, staff and other persons, so far as is reasonably practicable. Most zoos and wildlife parks (wildlife exhibitors) in Queensland belong to a recognised industry association that requires adherence to professional levels in all areas of operation. Animal care in relation to husbandry, health, facilities, safety and hygiene are regulated and subject to various codes of practice and minimum standards. Wildlife exhibitors should work closely with veterinarians to ensure their animals remain in good health.

Table 1 Zoonotic disease outbreaks in Australia 2002 to 2013

Location and year	Disease	Affected	Mode of transmission
Agricultural show, Brisbane, Queensland 2013	Shiga toxin-producing Escherichia coli 0157	57 cases (65% children)	Direct and indirect animal contact via a petting zoo
Petting zoo, Western Australia 2013	Salmonella Typhimurium phage (STM), pulsed-field gel electrophoresis (PFGE) 13 (type 141) and STM PFGE 303	5 cases, median age 3 years	Direct and indirect animal contact
Aged care facility, Australian Capital Territory 2012	Campylobacter	14 residents, 1 staff member and 1 puppy	Animal to person transmission
Agricultural show,	Shiga-toxin producing	10 cases—2	Direct and indirect animal

Adelaide, South Australia 2011	Escherichia coli and Haemolytic Uraemic Syndrome (HUS)	developed HUS (median age 5 years)	contact via a petting zoo
Kindergarten farm visit, Western Australia 2010	Cryptosporidiosis	10 children	Direct and indirect animal contact
Animal sanctuary, Queensland 2007	HUS due to Enterohaemorrhagic Escherichia coli	1 child	Animal to person transmission
Poultry hatching programs – childcare centres, Queensland 2003	Salmonella Typhimurium PT 170	6 children	Direct contact
Petting zoo, South Australia 2002	Escherichia coli O26:H	5 people	Direct and indirect contact and secondary transmission to contacts.

Aim

The guidelines aim to:

- identify potential disease transmission risks to operators, staff and visitors at petting zoos, animal farms, wildlife exhibits and similar enterprises in Queensland
- provide advice on measures to minimise the risk to those managing, coordinating or attending at those venues or events.

While these guidelines support visits to these venues, it is recommended that operators identify health risks and implement control measures—the most critical of these being proper hand washing after contact with animals.

Specific guidance for animal exhibitors, schools, early education and care services is provided in the appendices. The risk for industry related exposure to zoonotic diseases (e.g. the risk of zoonotic disease transmission in abattoirs) is not within the scope of these guidelines and appropriate guidance should be sought.

The measures described here represent good practice. These guidelines aim to provide appropriate control measures for operators to:

- meet work health and safety requirements and public safety standards
- reduce the risk to children and adults from contracting zoonoses in these settings.

For the purpose of this document, ‘animal contact’ is the term used to encompass events (including animal rides), open farms, travelling shows or premises where animals are made available for contact with members of the public whether a fee is charged or not.

They include (but are not limited to):

- agricultural shows and field days
- animal exhibits held at shopping centres/early childhood education and care centres, schools
- animals visiting or resident of an early childhood education and care centre, school or healthcare setting (e.g. classroom pet, egg hatching programs, mini farms, animals used in class room studies, animal nurseries)

- animals on agricultural farms run by schools
- animal nurseries, petting zoos
- commercial farm visits (e.g. farm stays)
- wildlife exhibitions
- nature education centres
- pet shops
- travelling farms, mobile exhibits or animal troupes (e.g. circus, carnivals)
- wildlife sanctuaries, parks, photo opportunities
- zoos, wildlife parks, aquaria (wildlife exhibitors).

The term ‘animal contact area’ refers to an enclosure or defined area containing a number of enclosures where members of the public are invited, or encouraged to have direct contact with animals (e.g. petting, feeding or holding).

In some settings, this contact may occur outside a defined area, for example where a keeper roams with an animal which the public are actively encouraged to pet. The term ‘animal contact area’ does not encompass every situation where the public may (of their own accord) have contact with animals.

The ways zoonotic diseases are spread

It should be noted, that the vast majority of contact between animals and humans do not result in any illness. But, animals may carry a range of micro-organisms (germs) potentially harmful to humans without showing any signs of illness. Zoonotic diseases can be spread by:

- direct contact through touching or handling animals or their carcasses, or animal bites and scratches
- indirect contact with animal faeces, blood and bodily fluids, aerosols, birth products or contact with contaminated objects, such as enclosures and rails, animal environments, screens, aquariums, food and water.

Some animals present a higher risk of zoonoses because of increased shedding of harmful micro-organisms through their faeces, urine.

These include:

- birthing and pregnant animals
- new-born hooved animals (e.g. calves)
- newly hatched chickens
- some reptiles and amphibians (e.g. snakes, lizards, frogs)
- animals that are stressed or unwell.

There are several ways that zoonotic diseases can be spread, these are known as the different routes of transmission (see Table 2). Further description of these routes can be found in Appendix 1.

Table 2 Routes of transmission

Ingestion—these diseases can be transmitted by ingestion of food or water contaminated with a pathogen. This typically occurs from faecal contamination on unwashed hands or soil contact.

Preventative measures:

- hand washing and before putting anything into the mouth or touching the mouth
- consuming only milk products produced by accredited facilities
- implement and monitor worm and other gastro-enteric parasite control programs for animals
- avoid contact with faeces, urine, soiled animal bedding or other potentially contaminated materials
- avoid eating raw or undercooked meat.

Disease	Main animal reservoir	Clinical effects
Campylobacter infection	Cattle, sheep, poultry, birds, wildlife, pigs, rodents, puppies, kittens	Diarrhoea (loose bowel movements), mild fever, stomach cramps, nausea, vomiting
Cryptosporidiosis,Giardiasis	Cattle, domestic animals, macropods	Watery diarrhoea, stomach cramps, fever, vomiting, anorexia
Salmonellosis	Reptiles, cattle, sheep, horses, pigs, poultry	Diarrhoea, fever, stomach cramps, nausea, vomiting
Shiga toxin producing Escherichia coli (STEC)	Cattle, sheep, goats, deer	Diarrhoea +/- blood. In severe cases, kidney and brain injury
Hydatids	Dogs (native and feral)	Slow growing fluid- filled cysts mainly on liver or lungs. No symptoms unless very large or rupturing
Toxoplasmosis	Cats, while intermediate hosts include sheep, goats, rodents, pigs, cattle, chickens and birds	May be asymptomatic or acute with fever and swollen lymph glands—can cause birth defects.
Toxocariasis	Dogs and cats, especially puppies	Flu-like illness with rash and wheezing. Blindness (rarely)
Yersiniosis	Wild and domestic birds and mammals, especially pigs	Fever, diarrhoea and abdominal pain

Dermal—direct contact with mucous membranes, skin or coat of animal

Preventative measures:

- good personal hygiene
- wash exposed area with soap and water
- cover cuts and abrasions
- minimise close facial contact with animals, such as kissing on the nose or muzzle
- screen animals routinely for skin parasites or conditions and treat using approved products
- take care when handling aquatic animals, especially skin puncture due to spines, bites. Avoid contact with contaminated tank water.

Disease	Main animal reservoir	Clinical effects
Orf	Sheep, goats	Lesion on hands, arms or face
Mites (e.g. scabies)	All animals	Itchy, red, inflamed skin lesions
Ringworm (Dermatophytosis)	Cattle, horses, cats, dogs, goats macropods	Flat, spreading, ring-shaped lesions

Aquatic dermatoses: • Mycobacteria, • Erysipelothrix • Vibrio species • Pseudomonads	Aquatic mammals, fish, crustacea, molluscs, echinoderms	Skin plaques, nodules, ulcers. Often itchy or painful. Sometimes slow growing and persistent, and usually on the hands.

Respiratory—inhalation of aerosols and dust that can be contaminated with faeces

Preventative measures:

- avoid the generation of dust and aerosols when cleaning enclosures and bird cages. Use appropriate personal protective equipment (PPE)
- minimise stress on birds
- isolate sick birds
- human vaccination e.g. Q fever
- avoid inhaling aerosols and dust contaminated with animal birth products, urine, milk and faeces. Visitors should not be exposed to birthing animals or new born animals
- all animal waste should be managed, stored and handled in such a way to prevent the generation and human exposure to dust from contaminated materials (e.g. clothing, straw, wool or hides). Further information is available on exhibiting animals in Queensland.

Disease	Main animal reservoir	Clinical effects
Psittacosis	Birds	Fever, headache, rash, myalgia, chills, respiratory disease
Q Fever	Cattle, sheep, goats, cats	Fever, chills, profuse sweating, severe headache, fatigue, nausea

Respiratory/contact—direct contact with respiratory or oral secretions and by other tissues and fluids, or by droplet transmission

Preventative measures:

- vaccination of animals, for example Hendra virus vaccination for horses
- human vaccination, for example annual influenza vaccination, especially for at risk groups
- cover cuts and abrasions
- hand washing and personal hygiene
- appropriate PPE and clothing
- isolation of sick animals
- use appropriate PPE if casing for a sick animals.

Disease	Main animal reservoir	Clinical effects
Hendra virus	Horses	Pneumonitis, coma and death, Encephalitis
Avian Influenza	All bird species are thought to be susceptible, with reports showing it to occur in more than 140 species, including domestic poultry—chickens, turkeys, pheasants, partridges, quail, pigeons, ducks, geese, guinea fowl, ostriches, wild birds.	Conjunctivitis, human influenza-like illness, severe disease with multi-organ dysfunction, death—severity of disease varies with influenza strain
Swine Influenza	Usually in pigs, but they have been found in other species, including turkeys and ducks	Seems to resemble human influenza—severity of disease varies

Bites, scratches, mucous membranes or broken skin		
Preventative measures: • hand washing and personal hygiene • cover cuts and abrasions • appropriate PPE • vaccination of animals and humans, for example animal vaccination to protect against Hendra virus and leptopsirosis, and human vaccination to protect against Q fever, Tetanus and Australian bat lyssavirus (ABLV) infection • bats should only be handled by workers who have current rabies vaccination, who are trained in the safe handling of bats and who are wearing suitable PPE • avoid bites and scratches • aggressive animals should not be exhibited or allowed to interact with the public • wash bites and scratches immediately with soap and running water for approximately five minutes and seek medical advice • flea control in domestic animals • do not let animals lick people's wounds • staff should receive training in animal handling, restraint and appropriate selection and use of PPE. • further guidelines for exhibitors of animals.		
Disease	**Main animal reservoir**	**Clinical effects**
Leptospirosis	Domestic and wild animals, reservoir hosts include rodents, dogs, cattle, pigs, among others	Sudden onset of fever, headache, chills, muscle aches, conjunctivitis, rash
Australian Bat Lyssavirus	Bats, flying foxes	Serious illness which results in paralysis, delirium, convulsions and death—death is usually due to respiratory paralysis
Tetanus	Many animal reservoirs	Lockjaw, painful muscular contractions
Cat scratch disease and wound infections from bites	Cats, dogs, rodents	Flu-like symptoms, painful lymph node swelling, occasionally more severe forms

Groups at increased risk

People who are at increased risk of contracting zoonoses and who may suffer more severe symptoms include:

- **Young children.** This age group should be closely supervised when in contact with animals and their enclosures to:
  - prevent animals licking their faces and hands
  - prevent age related behaviours, including hand-to-mouth activities, such as putting potentially contaminated fingers in their mouths.

  Infants less than one year of age are at particular risk from direct and indirect contact with animals, and it is recommended they do not touch animals or their enclosures.
- **Pregnant women and the unborn babies.** Pregnancy can affect the immune system. Women who are pregnant may be more susceptible to certain diseases.

There are also zoonotic diseases that can affect the unborn child, causing birth defects or miscarriage.

- **Immuno-compromised adults or children.**
  - individuals with impaired immunity due to disease or medical treatment, including people with diabetes, chronic kidney or liver disease, human immunodeficiency virus (HIV) or other severe illnesses
  - individuals who are taking medications (e.g. chemotherapy, corticosteroids) that impair their immune system.
- **Older persons.** Although this age group may have a reduced risk of contracting disease (because they are more likely to have acquired immunity), they may suffer more severe symptoms from any diseases to which they do not have immunity due to age related changes to their immune system.

Avoiding high-risk activities

High-risk activities have been categorised by risk groups. The activities apply to all visitors and staff based on their risk of exposure.

Young children

A young child's immune system is not fully matured leaving them more susceptible to some diseases. Be aware that children are at higher risk of exposure because of their height, and their natural curiosity and attraction to animals. Adults should supervise children closely when they are in contact with animals. Children under the age of five years should not assist in cleaning of animal cages, enclosures or fish tanks.

When visiting animals, do not allow children to:

- touch their mouths with their hands or lick their fingers (note: feeding animals or having hands licked by animals increase the risk of infection)
- eat animal food
- eat or drink inside the animal contact area
- use dummies, spill-proof cups or baby bottles in animal contact areas. If dummies or toys inadvertently fall on the ground or if they have been in contact with animals do not return them to a child until they have been thoroughly washed with soap and water
- lie down, play or roll in areas where animals are housed (e.g. petting zoo bedding)
- handle animal faeces or bedding
- kiss animals
- wipe hands on clothing. It may be advisable to pack a spare change of clothes for young children.

Regardless of whether children have or have not had direct contact with the animals and their environment during the visit, children should always wash their hands properly with soap and running water prior to leaving the animal contact area.

Pregnant women

Women who are pregnant or planning pregnancy should avoid contact with certain animals, their faeces and urine, including:

Cat faeces and cat litter. *Toxoplasma gondii* can be carried by cats and passed in their faeces and toxoplasmosis infection during a woman's pregnancy can cause birth defects, still births and miscarriage.

To reduce the risk of toxoplasmosis during pregnancy, hygiene measures should be strictly adhered to, including:

- hand washing
- safe food and drink preparation
- cleaning
- avoiding consumption of unpasteurised milk products.

With regards to cat litter, someone who is healthy and not pregnant should change the cat's litter box daily. If this is not possible, wear gloves and clean the litter box every day because the parasite found in cat faeces needs one or more days after being passed to become infectious. Wash hands well with soap and water afterwards.

Rodents (mice, rats, guinea pigs, hamsters) and their droppings. Lymphocytic choriomeningitis (LCMV) is a rare virus that can be transmitted in rodent urine, droppings, saliva or nesting material of infected rodents. Virus transmission can also occur when these materials are directly introduced with broken skin or into the nose, eyes or mouth, or by a bite from an infected animal.

People can be infected through contact with urine, blood, saliva, droppings or nesting materials of infected rodents. If a woman has an LCMV infection while pregnant, the unborn baby can also become infected. LCMV infection can cause severe birth defects or loss of pregnancy (miscarriage). Although the risk of LCMV infection is low, women who are pregnant or planning to become pregnant should avoid contact with wild or pet rodents, such as pet mice and guinea pigs.

To reduce the risk of LCMV infection during pregnancy:

- avoid vacuming or sweeping rodent urine, droppings or nesting materials
- avoid contact with rodents and ask another person to clean the cage and care for the pet. Avoid prolonged stays in the room where the rodent lives.

If contact occurs with a wild rodent or its urine, droppings or nesting materials wash hands very well with soap and running water.

Other infections that also present a risk to pregnant women include Q fever, leptospirosis, psittacosis and listeriosis.

Immuno-compromised adults or children

People who are immune-compromised need to protect themselves from infection by:

- avoiding direct contact with animals or their environments (enclosures, bedding, railings etc). Animals that pose the greatest risk include reptiles, amphibians, poultry, chicks, young ruminants (young cattle, sheep, goats) and sick animals

- thoroughly washing hands with soap and running water after viewing or being in an animal environment.

Older Persons

In general, as a person ages beyond 65 years their immunity diminishes leaving them with a greater risk for contracting illnesses.

The risk of contracting zoonoses in those aged 65 years and above can be reduced by:

- avoiding direct contact with animals or their environments (enclosures, bedding, railings etc). Animals that pose the greatest risk include reptiles, amphibians, poultry, chicks, young ruminants (young cattle, sheep, goats) and sick animals
- thoroughly washing hands with soap and running water after viewing or being in an animal environment.

People with known allergies

People with known allergies to some animals and their environments should be aware of the potential risk for an allergic reaction and in the case of asthmatics, have their medication (e.g. inhalers) with them.

Recommendations for providers of animal contact opportunities

The operator is liable for people reasonably likely to be harmed by their actions or omissions (negligence) when there is an identifiable, avoidable risk. The operator must take appropriate measures to manage any risk where contact between animals and visitors is promoted, and to provide a safe work environment and safe systems of work to minimise zoonotic risks.

Therefore, operators should exercise their duty of care and take precautions to protect visitors. Refer to Legal obligations for animal contact areas.

What precautions should operators take?

Operators should assume that all animals are capable of carrying micro-organisms that are potentially harmful to humans and take appropriate precautions to prevent the spread of disease, including:

Animal wellbeing

- Provide only healthy animals for public display or contact, and keep them in an environment appropriate to maintaining their health and wellbeing.

Hygiene

- Use and promote good hygiene practices in the animal contact area, including hand washing and the provision of separate designated areas for eating and drinking (generally not in animal contact areas).

Waste

- Ensure animal waste, including birth products are regularly and appropriately disposed of, and are removed from all public areas.

Information

- Ensure health risks are communicated to parents and care givers before children enter, and ensure adequate supervision is available in the contact areas to reinforce the information given.
- Provide specific advice for groups at increased risk of contracting zoonoses.
- Implement controls to manage risks associated with animal contact areas, including the display of information and ensuring facilities are appropriately designed, managed and staffed.

Cleaning

- All areas where animals and animal products have been present should be cleaned and disinfected.
- Recommendations for cleaning and disinfection should be tailored to the specific situation taking into consideration the micro-organisms being targeted.
- Staff should be trained and provided with the appropriate equipment and tools to safely carry out all cleaning duties.

For further information refer to Appendix 2.

Hand washing

Hand washing is considered the most important practice in preventing the spread of disease for staff and visitors in animal contact areas. Infectious diseases may spread from either animals or their environment to people via contaminated hands. Good hygiene practices, such as the correct hand washing technique and washing hands at appropriate times, will significantly decrease the risk of disease. Hand washing with soap and water is the most effective way to clean your hands.

Wash hands with soap and running water:

- after touching animals, their enclosures or food containers
- after being licked or bitten by animals
- after any contact with soil, bedding, urine, faeces or animal feed in an animal contact area
- before eating, drinking or other hand-to-mouth activities, such as smoking

Children should be supervised to ensure proper hand washing. Hand washing and other infection control resources are available for teachers.

Requirements for hand washing facilities

Whether temporary or permanent, it is important that hand washing facilities provide:

- running water
- soap (preferably liquid soap)
- disposable paper towels (preferred option) or air dryer
- bins to dispose of disposable paper towel
- signage providing instruction on how to effectively wash hands and placed at appropriate heights for adults, children and those with impaired mobility.

The facility should:

- have sufficient supply of soap and paper towel
- be cleaned regularly (cleaning log to completed)
- be restocked of soap and paper towel regularly
- have regular waste collection and appropriate disposal arrangements.

Steps to clean hands

1. Wet hands thoroughly under running water and lather with soap, warm water is better than cold water (water temperature should not exceed 50°C).
2. Rub hands together vigorously for at least 15 to 20 seconds, paying attention to the back of hands, wrists, between fingers, around the thumbs and under fingernails.
3. Rinse hands well under running water.
4. Dry hands thoroughly with a disposable paper towel or air dryer.
5. Turn off the tap with the paper towel, if applicable.

Adults may need to help young children.

It is the responsibility of the animal exhibitor to plan and organise suitable, adequate and accessible hand washing facilities for visitors, regardless of whether the exhibit is permanent, temporary or mobile.

Studies indicate that people are more likely to wash their hands when they pass by a hand washing facility to exit the premises.[13] Hand washing facilities need to be accessible to visitors leaving the animal contact area and to those eating or drinking on the premises (in non-animal areas). Ensure small children and people with disabilities can reach and use the hand washing facilities.

Signs directing visitors to hand washing facilities should be placed at entry and exit points to animal enclosures, and before they enter designated eating areas. For further information refer to Appendix 2.

If visitors are invited to touch animals during or after an animal demonstration, the presenter should communicate the potential health risks beforehand and advise participants to wash their hands at the conclusion of the presentation.

Temporary and mobile hand washing facilities

Where permanent hand washing facilities are not available or are not located in a suitable location, the exhibitor/s will need to ensure temporary hand washing facilities are made available—this can be achieved through hiring, leasing or constructing temporary hand washing stations. While there are a variety of suitable designs available, temporary/mobile hand washing facilities need to have:

- free flowing water from a tap—water collected in wash bowls is not suitable
- adequate water, soap and single use paper towel in sufficient quantities
- hand washing signage instructing staff and visitors on where, when and how to wash their hands. Signage should be fixed at appropriate heights so they can be seen, read and understood by adults, children and those with impaired mobility
- safe waste water disposal—ensuring waste water does not spill into the hand washing area and that hand washing facilities are connected to an appropriate drainage system. If storage tanks are used then these must be of sufficient capacity and must be emptied as often as necessary to prevent overly, nuisance or an insanitary condition. Storage times for waste water should be discussed with the venue owner and environmental health officers
- regular waste collection and appropriate disposal arrangements
- a cleaning schedule implemented to ensure all areas are inspected, cleaned and re-supplied regularly.

Emergency hand washing provision

In extreme situations, where this level of hand washing facility is not possible (for example, disruption to/or absence of an established water supply or where the proper and safe disposal of waste water is not possible), the following should be provided:

- moist hand wipes to facilitate the removal of dirt and other visible organic matter from hands
- waste containers for the used hand wipes
- alcohol-based hand rub (ABHR), at least 60 per cent alcohol, to be applied after all dirt or organic matter has been removed.

In all cases, individuals need to be strongly advised to wash their hands with soap and water as soon as possible, especially before eating, drinking or preparing food. ABHR cannot be considered an adequate substitute for soap and water for animal contact areas as it is not effective:

- in the presence of dirt or organic matter
- against certain germs, such as Norovirus, cryptosporidium and bacterial spores (NHMRC, 2010).

Baby wipes and wet wipes can be used to remove visible contamination and dirt, but do not contain enough alcohol to be effective disinfectants.

Alcohol based hand rub considerations

If soap and water is not available and ABHR has to be used in animal settings, it is necessary to take into consideration the following:

- antimicrobial efficiency (at least 60 per cent alcohol)
- good user acceptability (skin tolerance, fragrance, colour, texture, ease of use):
  - consistency: gels are less likely to drip and spill, but also take longer to dry than rinse type preparations
  - fragrance: heavily scented products are not acceptable to everyone, especially those with allergies to certain fragrances. Mild and no added fragrances are preferable
  - product dispensers: dispensers need to deliver the correct volume of product onto the hand. Dispensers need to be suitable for the product they are dispensing. A product that is too viscous for the dispenser it has been placed in can lead to clogging. The dispenser design needs to take into consideration the location of where the dispenser is to be located e.g. wall mounted or free standing
- the product is therapeutics goods administration authorised for skin antisepsis.

Consideration should be given to safety issues associated with ABHR, including safe use, secure storage of flammable substances, supervision of children and appropriate usage.

Steps for cleaning hands with alcohol-based hand rub

ABHR selected must contain at least 60 per cent alcohol to be effective. Baby wipes and wet wipes can be used to remove visible contamination and dirt, but these do not contain enough alcohol to be an effective disinfectant.

The following hand cleaning technique with ABHR is recommended in animal contact environments:

1. Apply the amount of ABHR recommended by the manufacturer onto dry hands.
2. Rub together so the solution comes into contact with all surfaces of the hands, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers and around jewellery.
3. Continue rubbing until the solution has evaporated and the hands are dry.

Caregivers should supervise children using ABHR, and operators should keep/store these products out of children's reach.

Recommendations for pet shops

All premises that allow contact with animals need to be aware of the risk of zoonotic diseases and the measures they should take to minimise the risk to themselves, staff and the public.

These measures include:

- understanding and abiding by legislative requirements
- maintaining appropriate facilities to promote hygiene, disease prevention and infection control
- providing accurate and appropriate information to staff and the pubic regarding zoonotic diseases.

For further information refer to Appendix 3.

Recommendations for animals in healthcare facilities

While animals can benefit residents, patients and staff by providing comfort, entertainment, therapeutic care and a sense of wellbeing, the potential risks of introducing animals into these types of settings must be taken into consideration, including exacerbation of phobias, allergies and the potential for zoonosis transmission.

Organisers should ensure the suitability and preparation of animals. It is recommended that all animals receive a health evaluation through a licensed veterinarian prior to any visit as well ensuring infection control measures are in place during the animal visit to reduce the risk of disease transmission.

For further information refer to Appendix 4.

Specific information for schools and early childhood education and care services

Schools and early childhood education and care services have a duty of care to protect children and workers from foreseeable risk of harm or injury.

Refer to the

- *Education and Care Services Act 2013*[1]
- Education and Care Services Regulation 2013[2].

This includes responsibility to:

- be informed about and aware of risks
- develop and implement procedures to minimise associated harm
- supervise children to ensure they follow procedures to keep themselves safe.

For further information refer to Appendix 5.

Legal obligations for animal contact areas

Providers of animal contact activities have a legal responsibility to provide a safe environment.

The following apply to animal contact activities:

- Animal business operators have a duty of care under the *Work Health and Safety Act 2011* to ensure so far as is reasonably practicable the health and safety of themselves, their staff and other persons, such as visitors.
- Local governments can use the powers of the *Public Health Act 2005* to reduce public health risks by enforcing the removal of waste or a dead or living animal from an animal contact area. Local governments also have the power to create local laws

[1] www.legislation.qld.gov.au/legisltn/acts/2013/13ac044.pdf
[2] http://deta.qld.gov.au/earlychildhood/service/ecs-act/operational/index.html Accessed 26 March 2014.

and may have their own local laws about public health risks or animal contact requirements.

- As organisers of visits to animal exhibits, schools and early education and care services are required to comply with the *Education and Care Services Act 2013*.
- Queensland Health is the lead agency during investigations relating to notifiable conditions. Notifiable conditions are illnesses listed in the Public Health Regulation 2005 and include illnesses relating to pathogens, such as enterohaemorrhagic Escherichia coli and Salmonella. Under the *Public Health Act 2005*, Queensland Health is able to obtain information from people who may have been exposed to a notifiable condition and use that information to prevent or minimise the transmission of the notifiable condition.

Environmental health officer

An environmental health officer's (EHO) role is to:

- provide advice on the public health risks associated with animal contact and ways to reduce the risks
- deliver regulatory and non-regulatory environmental health services to protect, promote and prevent risks to the community arising from environmental health hazards that impact on the natural and built environment and human health.

An EHO is authorised to carry out the above functions under various pieces of legislation, including the *Public Health Act 2005*.

Contacts

For information and advice on zoonotic disease contact:

- your doctor
- your veterinarian
- an EHO at your local council
- your local public health unit or 13 HEALTH (13 43 25 84)
- Workplace Health and Safety Queensland on 1300 369 915 or visit www.worksafe.qld.gov.au
- Department of Environment and Heritage Protection on 13 QGOV (13 74 68) or visit www.ehp.qld.gov.au
- Queensland's Department of Agriculture, Fisheries and Forestry on 13 25 23 or visit www.daff.qld.gov.au

Appendix 1: Routes of transmission

Ingestion

Faeces

When animal fur, hair, skin and saliva becomes contaminated with animal faeces it may pass directly from soiled hands to mouth during petting, touching or feeding of animals, or indirectly by way of contact with contaminated objects (e.g. enclosures, bedding) surfaces, water or food. This spread may occur after touching animals or their enclosures, and not washing hands properly with soap and running water. An example of disease spread this way is salmonella infection.

Example: egg hatching

Egg hatching programs should obtain their eggs from a commercial hatchery. Particular care with hand washing should be taken when children handle newborn chickens. An example of a disease associated with hatching programs is salmonella infection. Live baby poultry can carry salmonella and still look healthy. A potential source of salmonella is egg shells contaminated with faecal matter. The feathers of chicks can be contaminated during the hatching process. If salmonella is present, it can be passed onto humans when the chicks are handled or by touching items within their living environment, such as cages or feed and water bowls.

Young children are especially at risk for illness because their immune systems are still developing and they are more likely than others to put their fingers or other potentially contaminated items into their mouths.

Urine

Some infections may spread when urine is transferred from soiled hands or objects to the mouth, mucous membranes or cuts and scratches. An example of disease spread this way is leptospirosis, caused by the bacterium *leptospira*, which can be carried by animals, such as rodents, pigs and cattle.

Consumption (eating or drinking contaminated food or water)

Consuming or preparing contaminated food or water may lead to illness, for example consumption of unpasteurised milk from an infected animal or eating animal feed. An example of disease spread this way is salmonella infection.

Example: unpasteurised milk

On some farms, visitors may be offered unpasteurised milk to taste. Unpasteurised (raw, untreated) milk is considered by Queensland Health to be unsafe for human consumption because such milk may contain pathogenic micro-organisms. Milk may only be offered for sale or tasting if it has been produced in an accredited facility.

Inhalation

Humans may breathe in aerosols containing harmful organisms originating from an infected animal. Dust or dried matter (for example, on the ground of animal enclosures)

may also contain harmful organisms which can become airborne and be inhaled. This is a particular problem associated with birthing or newly born animals. This can occur through direct exposure to birthing products (for example when aerosols are inhaled) or indirectly through a contaminated environment (for example, contaminated dust). An example of disease spread this way is Q fever, bacterium *Coxiella burnetii*, which can be transmitted to humans when barnyard dust and aerosols contaminated by placental material, birth fluids and excreta of infected herd animals is inhaled.

Example: animal birthing

Animals giving birth and animals that have just been born may present a risk to human health. Infection in humans can be caused through direct exposure to birthing products or indirectly through a contaminated environment. An example of a disease transmitted this way is Q fever. Operators should ensure visitors are not exposed to aerosols from birthing animals (particularly cattle, sheep, goats, cats, dogs, camels, lamas, alpacas) or their newborn. Therefore, if an animal birth occurs, operators should ensure visitors have no contact with the birthing environment and non-immune workers are immunised against Q fever.

Skin or mucous membrane contact

Infections can be spread directly through animal bites and scratches, or indirectly when a person's broken skin or mucous membranes come in contact with animals, their excreta or contaminated surfaces.

Example: aquatic animals

A number of diseases are associated with direct contact with aquatic animals and their tank water. For example, *Plesiomonas shigelloides,* which can cause gastroenteritis, has been isolated from tropical fish tanks in pet stores. Apart from general recommendations (such as hand washing and avoiding puncture wounds), people with pre-existing skin wounds or diseases, such as eczema should not have contact with potentially contaminated water, even if lesions are covered. Aquaria should be maintained and monitored following the recommended *Aquatic animal welfare guidelines* on ensuring water quality and animal health. Operators should ensure workers follow hygiene practices and wear suitable PPE for tasks involving contact with aquatic environments.

Example: animal bites and scratches

If skin penetration from an animal bite or scratch occurs, it is important to thoroughly wash the wound with soap and running water for approximately five minutes followed by the application of an appropriate skin antiseptic. Medical advice should always be sought regarding the need for further treatment in order to prevent disease (e.g. tetanus).

Bats, including flying foxes and microbats, may carry Australian Bat Lyssavirus (Field, 1999). The public can avoid being scratched or bitten by bats by remaining a safe distance from them (i.e. not within touching distance and at least an arms-length away) and not trying to handle them under any circumstances. Wildlife carers and veterinarians are trained in handling bats and are vaccinated for this purpose. If you find a sick, injured or orphaned bat, do not touch it. Contact the Department of

Environment and Heritage Protection on 1300 130 372 or RSPCA (Queensland) on 1300 264 625.

Bat exhibitors must not allow members of the public to touch bats and should keep them within suitable enclosures to prevent public access. Tourism operators should inform wildlife tourist groups about Australian Bat Lyssavirus (ABLV) risks and take steps to avoid placing tourists in close contact with bats, such as positioning groups away from the direct flight path of bats. Bat exhibitors should have current rabies vaccination, be trained in safe handling of bats and wear suitable PPE, such as puncture resistant gloves, gauntlets, and protective clothing. Safety eyewear should be worn if there is a risk of bites or scratches to the face or mucous membrane contact with bat saliva.

As there is no specific treatment available for ABLV, all potential exposures (e.g. bites, scratches, contact between a person's mucous membranes and bat saliva) require immediate first aid treatment followed by medical advice regardless of vaccination status. If bitten or scratched, immediately wash the wound/contact area thoroughly with soap and water for at least five minutes as proper cleansing of the wound reduces the risk of infection. If available an antiseptic with an anti-viral action, such as those containing iodine or alcohol should be applied after washing. If bat saliva contacts the eyes, nose or mouth, immediately flush the area thoroughly with water. Seek medical attention immediately for further assessment and consideration of rabies post exposure prophylaxis (i.e. rabies vaccine and, if required, rabies immuno-globulin) as soon as possible.

Example: tetanus

Animal bites present a risk for tetanus. Tetanus is an acute illness caused by the toxin of the bacterium, *Clostridium tetani*. *Clostridium tetani* spores are found in the soil and in the intestines and faeces of animal, such as horses, sheep, cattle, dogs, cats, rats, guinea pigs and chickens. Animal saliva can be heavily contaminated and passed to humans through bites or licking of pre-existing cuts or scratches. Tetanus is preventable by vaccination. Animal contact operators and staff should have current tetanus vaccination.

Appendix 2: Specific information for providers of animal contact opportunities

Operators have a duty of care to ensure staff and visitors to their operations are safe. Refer to Legal obligations for animal contact areas.

What precautions should operators take

Operators should assume that all animals are capable of carrying germs potentially harmful to humans and should take appropriate precautions to prevent the spread of disease, including:

Animal wellbeing

- Provide only healthy animals for public display or contact:
  - establish a close association with a veterinarian to ensure animals are clinically healthy
  - maintain a comprehensive parasite control program with the veterinarian
  - exclude animals which are unwell, for example with skin sores and diarrhoea
  - vaccinate or screen animals when appropriate (as per veterinary advice), for example Hendra virus vaccination for horses.
- Maintain animals in an environment appropriate to maintaining their health, welfare and biosecurity.
- Do not use animals with unsuitable temperaments as contact animals.
- Alleviate any stress, over handling and overcrowding of animals to reduce possibility of disease.
- The operator must take appropriate measures to manage any associated risk where contact between animals and visitors is promoted, or where visitors are allowed unsupervised access to animals. For example, in order to minimise the risk of visitors or staff being bitten, scratched or otherwise injured by the animals, exhibitors should:
  - monitor animal behaviour during the exhibit
  - remove any animals that exhibit signs of irritability or aggression
  - not exhibit animals that may have increased potential for aggressive behaviour associated with mating/breeding.
- Provide adequate barriers and signage to prevent visitors from touching animals that are not available for touching or that should not be touched.

Provide information

- Consider sending pre-visit information to school and early education and care groups (refer to Appendix 3), and encourage teacher pre-excursion visits before they attend the petting zoo, farm or wildlife exhibitor. This provides the teacher or carer with opportunities to enhance the educational experience for children. Pre-visit information could include the types of animals, their behavioural characteristics, activities offered, facilities available and the recommended precautions to prevent spread of disease.

- Alternatively, a short presentation can be given by a staff member detailing appropriate conduct in the animal contact area, and the importance of washing hands after touching animals and before eating.
- Ensure health risks are communicated to parents and care givers before children enter, for example signs at the entrance to the exhibit.
- Advise visitors to an animal exhibit to wear enclosed footwear, and cover cuts and abrasions with a waterproof dressing which should be changed if soiled.
- Consider providing the public with advice regarding groups at increased risk of contracting zoonoses (refer to Groups at increased risk) by:
  - including this information on signage at entry point, for example Immuno-compromised persons and infants under one should avoid touching or feeding any animals
  - providing this information in a fact sheet at the front counter.

Managing risks associated with feeding animals

- Label animal feed as being for animal use only.
- Do not sell/provide animal feed in containers that are associated with human food (e.g. yoghurt cartons).
- Do not allow visitors to handle potentially contaminated animal feed (e.g. feeding rodent carcasses to snakes).
- Ensure proper containment and storage of animal feed to prevent access by pests (insects both flying and crawling) and vermin (rodents and wild birds normally excluded from the premises).
- Implement a pest and vermin control program.

Hygiene

- Use good hygiene practices in the animal contact area.
- Monitor visitors' behaviour and alert visitors to any observed behaviour that may expose persons to risk (e.g. kissing animals, letting a child roll in the hay, eating inside the animal enclosure).
- Only eat or drink in designated areas, generally not in animal contact areas.
- Hand washing:
  - Place hand washing and directional signs in appropriate and visible locations, such as the entrance and exits of animal contact areas to remind staff and visitors to clean their hands when leaving animal contact areas and before eating.
  - Practise and promote good thorough hand washing with soap and running water. When the provision of soap and water is not possible (see Requirements for hand washing), the use of moist wipes (to remove visible dirt/organic matter) combined with ABHR can be used after contact with animals or their enclosures. In these cases, people should be strongly advised to wash their hands with soap and water as soon as possible.
  - Organisers should actively encourage hand washing and position hand washing facilities so visitors can wash their hands on exiting animal contact areas and before entering designated eating areas.
  - Advise adults to supervise young children during contact/interaction with animals and during hand washing to reduce risk of infection.

- Ensure hand washing products and hand sanitisers are properly labelled.[3]
- Provide adequate bins for disposal of paper towel and other solid wastes. Arrange for regular emptying to prevent overfilling of bins and waste being incorrectly discarded.
- Contact a local council EHO to discuss options for an appropriate waste disposal system. Waste water temporarily stored in a suitable holding tank of sufficient capacity must be emptied as often as necessary to prevent overflow, nuisance or an insanitary condition. Storage times for waste water should also be discussed with the venue owner and EHOs.
- Further advice on waste management is available from the Department of the Environment and Heritage Protection.

Animal waste

- Regularly replace animal bedding to avoid build-up of animal waste material.
- Regularly remove and appropriately dispose of faeces and other wastes, such as birth products.
- Keep birthing animals that may pose a risk out of public areas (as aerosols produced may be hazardous).
- Ensure adequate supervision is provided to enable high-risk behaviours to be identified by event staff.

Precautions to protect workers

Provide a safe work environment and safe systems of work to minimise occupational zoonotic risks:

- information, instruction, training and supervision of workers on safe animal handling and how to manage zoonotic risks
- advice on appropriate vaccination
  - Q fever vaccination if working with at-risk animals
  - rabies vaccination and ongoing antibody titre measurements/ boosters every two years if working with bats
  - annual seasonal influenza vaccination
  - current tetanus vaccination
- providing suitable hand washing, dining and first aid facilities
- covering cuts and other non-intact skin
- sharps safety
- laundry and waste management
- use of PPE for contact with animals, blood and body substances
  - gloves(e.g. disposable or utility gloves)
  - safety eyewear if splashes to the face are likely
  - protective clothing (e.g. overalls) if splashes to clothing is likely

[3] Labelling of Workplace Hazardous Chemicals Code of Practice 2011 (Workplace Health and Safety Queensland, 2011)

  - enclosed footwear
  - respiratory protective equipment (e.g. disposable P2 respirator) if exposure to potentially infectious aerosols and dust is likely, for example if pressure cleaning animal environments or assisting during animal birthing
- notify Workplace Health and Safety Queensland if a person acquires a work-caused zoonotic disease.

Environmental cleaning

Recommendations for cleaning and disinfection should be tailored to the specific situation taking into consideration the micro-organisms being targeted, the characteristics of a specific disinfectant and environmental issues.

All areas where animals and animal products have been present should be regularly cleaned with household grade detergent and water. Maintaining a cleaning log will assist with this. To prepare a cleaning log start at one end of the exhibit and write down everything that needs to be cleaned as you walk towards the other end. Then, write down how it should be cleaned, how often it should be cleaned, what materials and products will be used and who will do the cleaning.

Commonly touched surfaces (such as benches, floors, gates and railings) in frequent areas should be regularly cleaned during the exhibit. The type of surface to be cleaned can impact on the effectiveness of this process. Porous, uneven, cracked, or pitted surfaces, especially wooden surfaces and earthen floors can harbour germs and can be difficult to clean properly. Ideally, surfaces should be impervious and smooth.

When cleaning and disinfecting (if required) it is important:

- to wear heavy duty gloves, overalls and facial protection (if splashes are likely)
- not to clean animal cages, enclosures or aquariums, and sinks or other areas used to prepare, serve or consume food or drinks for humans
- to avoid the creation of dust during cleaning by wetting cages or enclosures before cleaning or by using a damp cloth
- to use and store cleaning products and dedicated cleaning equipment according to the manufacturer's instructions
- to always wash hands with soap and running water after gloves have been removed.

An example of a cleaning and disinfection procedure is given below:

1. Put on appropriate PPE.
2. Remove all grossly visible contamination and organic matter, such as faeces and bedding material.
3. Wash the area or item with warm water and household grade detergent.
4. Rinse thoroughly to remove any detergent residue.
5. Allow the area to dry completely whenever possible.

In the case where disinfection may also be required, for example if animals become unwell, overly stressed or are birthing, then the following steps should be followed:

6. Select and apply an appropriate, effective disinfectant. Details of various disinfectants can be found in the *Australian Veterinary Association Guidelines for Veterinary Personal Biosecurity, 2013*.[4] Disinfectants should always be used in accordance with the manufacturer's instructions. Please refer to the product's safety data sheet for health and safety information, for example safe storage and handling.
7. Allow the correct contact time. This is one of the most important yet often overlooked steps. Contact time may vary depending on the disinfectant selected, but is usually at least 10 minutes. Consult the product label.
8. Thoroughly rinse away any residual disinfectant and allow the area or item to dry.
9. Upon completion of cleaning and disinfecting areas it is important to always wash hands and any exposed skin with soap and water.

Personal protective actions and equipment for cleaning

Personnel engaged in cleaning and disinfection should be trained in safe practices and provided with necessary safety equipment according to the products' safety data sheet, which should be made available.

Actions include:

Hand hygiene

- Always wash hands immediately after contact with faeces, body fluids/discharge, vomit or articles contaminated by these substances.
- Wash hands before eating, drinking or smoking, after using the toilet, after cleaning animal cages or animal-care areas and whenever hands are visibly soiled.
- Keep fingernails short. Do not wear artificial nails or hand jewellery when handling animals.
- Keep hand washing supplies stocked at all times.
- Alcohol-based rubs may be used as an interim measure in situations where soap and running water are not immediately available.

Use of gloves

- Gloves are not necessary when handling healthy animals if you have intact skin.
- Use gloves when handling animal faeces/waste, emptying litter trays or cleaning cages, enclosures, aquariums and environmental surfaces.
- Gloves reduce the risk of pathogen transmission by providing barrier protection. They should be worn for contact with an animal's blood, body substances, mucous membranes or non-intact skin.
- Gloves should be removed promptly after use, avoiding contact between skin and the outer glove surface.
- In particular, change gloves and perform hand hygiene:
  - after contact with faeces, body fluids/discharge and vomitus
  - between individual animals
  - if gloves become torn or damaged.

[4] www.ava.com.au/sites/default/files/AVA_website/pdfs/Biosecurity%20Guidelines%202013%20FINAL.pdf

- Many chemicals will cause latex gloves to perish and this will affect their usefulness. When cleaning and disinfecting cages, disposable nitrile gloves or heavier reusable rubber gloves like dishwashing gloves can be used.

Facial protection

Wear facial protection whenever splashes or sprays are likely to occur. Use a face shield to protect your eyes and airways or alternatively wear goggles and a surgical mask.

Respiratory protection

Respirators, such as disposable P2 respirators should be worn if exposure to potentially infectious aerosols and dust is likely.

Protective outerwear

Wear a protective outer garment, such as coveralls when attending animals and when cleaning. Outerwear should be changed and laundered daily.

These should also be changed whenever grossly soiled and immediately after handling an animal with a known or suspected infectious disease.

Impermeable outwear should be worn whenever substantial splashes of large quantities of fluid are likely to occur.

Shoes or boots should have thick soles, closed toes and be impermeable to water and easily cleaned.

Boots should be cleaned of all visible contamination including faeces, dirt, blood, and other body substances before leaving the property and then washed with a suitable disinfectant.

Locating an exhibition

- When arranging to hold an exhibition in a shared use environment (e.g. shopping centre), discuss placement issues with the management of the centre when the event booking is made. An EHO from the local council could be consulted for further advice if needed.
- The exhibition should be well separated from food service operators.
- The exhibition should be located as close as practicable to hand washing facilities.
- Refer to Possible designs for animal contact facilities.

Facilities

- Separate animal contact areas from visitor eating areas and implement controls to manage any risks associated with animals in visitor eating areas.
- Only provide milk or milk products for tasting that have been produced in an accredited facility.
- Have a designated storage area for prams, trollies etc., to discourage these being taken into the exhibit.
- Design work and people flow to minimise infection risks, for example to prevent transit of waste or sick animals through public areas, and to restrict the number of people allowed into the enclosure at any one time. This is to ensure the volume of people does not exceed the availability of hand washing facilities.

- Have sufficient numbers of suitable trained and experienced staff to properly monitor and supervise the exhibit.
- Ensure suitable ventilation of animal contact areas.
- Use dust suppression strategies in livestock areas (e.g. sprinkler systems in stockyards).
- Maintain a first-aid kit in case of accidental scratching or biting to visitors. The contents of the first aid kit should be appropriate for the types of injuries and illnesses likely to occur at the workplace. To decide on the type, quantity and sizes of items needed, an assessment should be carried out to determine the likely demand. Please refer to the First Aid code of Practice (2012).

Signage

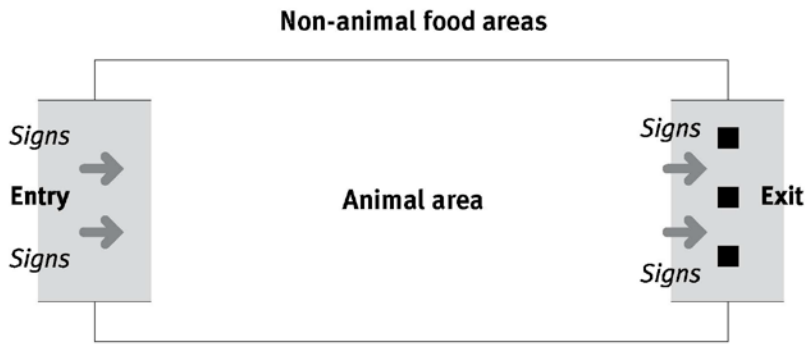
- Appropriate signage should be erected by the animal exhibitor to ensure visitors are aware of possible health risks associated with animal contact and the precautions (e.g. hand washing) they can take to reduce their risk of becoming ill.
- Visitor information signs should be erected in locations that allow for maximum exposure to visitors, such as the entrance to a premise, ticket office, designated eating area, and the entrance and exit of all animal areas.
- Erect signage instructing visitors not to eat inside the animal contact areas, and when and where to wash their hands.
- Hand washing signs should be placed in clear and visible locations, such as the exit of an animal exhibit and in areas where visitors, prepare, buy or consume food and drink.
- If ABHR is being used as an interim measure then signs and instructions should be posted to reflect this and to wash hands with soap and water as soon as possible and before eating.
- Signage should also identify behaviours to be avoided, such as rolling in the animal bedding, sitting and playing on the floors or picking up faeces.
- Public health signage should use diagrams/pictures—this is useful to children and non-English speakers.
- Examples of wording of public health signage include:
  - wash hands thoroughly after touching animals or their enclosures
  - wash hands thoroughly before eating, drinking or smoking
  - eat and drink in designated areas only and use bins provided
  - hand washing facilities are located ... (locations or directions to be added by operator)
  - this advice is in the interest of public health
  - avoid hand to mouth activities (e.g. nail biting, placing fingers or objects, such as dummies into mouth, finger or thumb sucking) while in the animal area
  - restricted access, authorised personnel only (restricting public access to animal isolation areas).

Possible designs for animal contact facilities

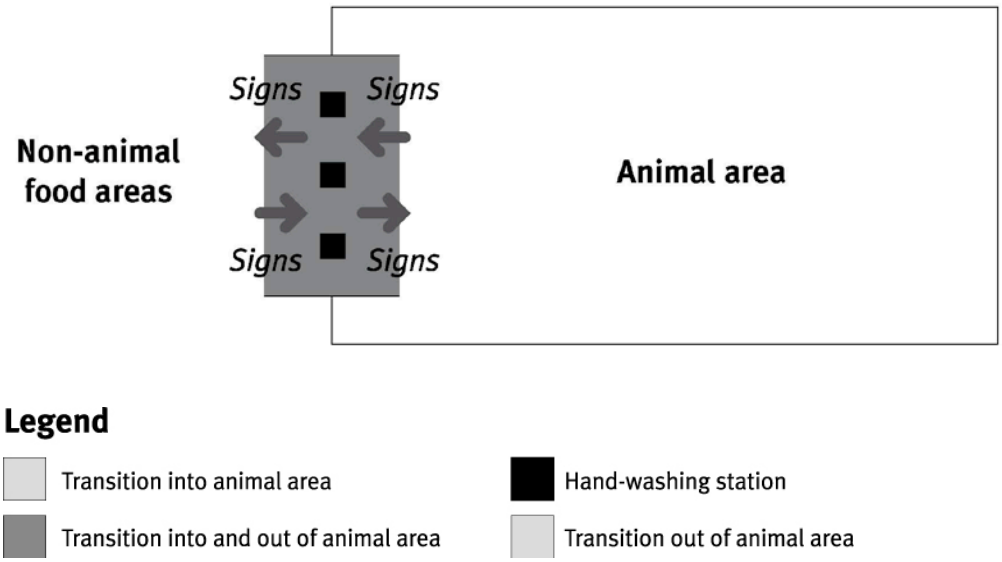
The design of facilities and animal pens should minimise the risk associated with animal contact, including limiting direct contact with manure and encouraging hand washing. For areas where animal contact is encouraged, a one-way flow of visitors is preferable with separate entry and exit points.

Signs at the entrance should notify visitors that they are entering an animal area and that there are risks associated with animal contact. At the exit, transition areas signs should be posted to encourage and facilitate hand washing prior to leaving. See Appendix 2 for examples of signage.

Design 1



Design 2



(Adapted from: *Compendium of measures to prevent disease associated with animals in public settings, 2013*. National Association of State Public Health Veterinarians, USA)

Directional signs (optional)

Suggested sign for entrance of petting zoos and other animal exhibits

Reference: The National Association of State Public Health Veterinarians, 2013.

Sign to encourage hand washing compliance

Wash Hands Immediately After Leaving the Animal Contact Area

WHO

Everyone, especially infants and young children, pregnant women, people with weakened immune systems and older individuals

WHEN

After touching animals or their living area

After leaving the animal area

After taking off dirty clothes /shoes

After going to the bathroom

Before preparing foods, eating, or drinking

HOW

- Wet your hands with clean, running water
- Apply soap
- Rub hands together to make a lather and scrub well, including backs of hands, between fingers, and under fingernails
- Rub hands at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice
- Rinse hands
- Dry hands using a clean paper towel.
- Switch off the tap using the paper towel
- Dispose of paper towel in the bin

Sample operators self-inspection checklist

Hand washing		
Is there an adequate number of hand washing stations based on the expected visitor numbers? (e.g. 30 persons exiting every 15 minutes would require a minimum of two hand washing stations)	☐ *Yes* ☐ *No*	Comments:
Are the sinks properly equipped with: • running water • liquid soap • paper towel • rubbish bins	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
Are the sinks accessible and convenient for: • small children • persons with disabilities • adults	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
Are there hand washing stations located at/near: • all exits from petting zoo area • food Service/Eating areas • washroom/Portable toilets	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
Is there a designated person responsible for replenishing liquid soap and paper towel, and emptying the waste bins?	☐ *Yes* ☐ *No*	Comments:
If soap and water is not available, is there alcohol- based hand rub and wipes: • in a wall-mounted dispenser • movable bottle • does it have an alcohol content of at least 60 per cent	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
If using alcohol-based hand rub and wipes, is the public aware to wash their hands with soap and water as soon as possible? If yes, how is this communicated?	☐ *Yes* ☐ *No*	Comments:
Operation		
Is there a barrier provided between the animals and the visitors?	☐ *Yes* ☐ *No*	Comments:
Is the work environment safe and are there safe systems of work in place to minimise occupational zoonotic risks: • staff education and training • staff vaccination • appropriate personal protective equipment, including footwear	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *N*	
Is there a procedure/person in place to have manure removed promptly?	☐ *Yes* ☐ *No*	Comments:
Is there a storage place for manure that is inaccessible to visitors?	☐ *Yes* ☐ *No*	Comments:
Is bedding (i.e. straw, sawdust, etc.) changed regularly?	☐ *Yes* ☐ *No*	Comments:

Is there trained staff to supervise animal contact at all times?	☐ *Yes* ☐ *No*	Comments:
Is there adequate staff present in animal contact areas to supervise and encourage appropriate human-animal interactions, to reduce risk (e.g. how to correctly pet animals, to promptly cleaning up wastes), and to address reports of injuries and exposures?	☐ *Yes* ☐ *No*	Comments:
Are animals allowed to be fed by the public?	☐ *Yes* ☐ *No*	Comments:
How does the public feed the animals: • are all containers appropriately labelled (e.g. animal feed only, not for human consumption) • what type of containers will be used • will the containers be refilled	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
Do staff: • remind visitors not to kiss the animals • remind visitors not to touch their mouths while in the animal area • remind visitors not to eat, drink or chew gum in the animal area • remind visitors to wash their hands after leaving the animal area	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
If milk products are offered for tasting or sale are they pasteurised and from an accredited facility?	☐ *Yes* ☐ *No*	Comments:
Are all eating areas located outside the petting zoo?	☐ *Yes* ☐ *No*	Comments:
Animal		
Are the animals clean?	☐ *Yes* ☐ *No*	Comments
Are all of the animals well-tempered/comfortable in the exhibit?	☐ *Yes* ☐ *No*	Comments:
Are the animals free of lesions/illness and/or disease (especially diarrhoea)?	☐ *Yes* ☐ *No*	Comments:
Are all animals up-to-date with vaccines/shots applicable in the area?	☐ *Yes* ☐ *No*	Comments:
Have exotic pets been approved by public health inspectors?	☐ *Yes* ☐ *No*	Comments:
Signage		
Are there adequate signs informing visitors of the importance of personal hygiene and hand washing after handling animals?	☐ *Yes* ☐ *No*	Comments:
Are there hand washing signs posted at: • every entrance and exit to the animal area • at all hand washing stations • in washrooms • at the entrance to the food service or eating area	 ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No* ☐ *Yes* ☐ *No*	Comments:
Do the hand washing signs explain proper hand	☐ *Yes* ☐ *No*	Comments:

washing procedures?		
Are there 'Do not eat or drink' signs located at the entrance/s to animal area?	☐*Yes* ☐*No*	Comments:
Are there adequate signs at the entrance instructing visitors not to place their hands in their mouth while in the animal handling area?	☐*Yes* ☐*No*	Comments:
Is there adequate signage displayed at or before the entrance outlining the activities NOT recommended while within the enclosure? (e.g. don't lie on bedding of animals, don't play with animal faeces?)	☐*Yes* ☐*No*	Comments:
Is there adequate signage displayed advising visitors not to take toys, sippy cups, pacifiers and strollers into the animal handling area?	☐*Yes* ☐*No*	Comments:
Is there adequate signage notifying parents and caregivers that children must be supervised at all times?	☐*Yes* ☐*No*	Comments:
Cleaning of fixtures and fittings		
Do you have a procedure for cleaning environmental surfaces (e.g. taps, railings, benches)?	☐*Yes* ☐*No*	Comments:
Do you keep and maintain a cleaning log?	☐*Yes* ☐*No*	Comments:

Appendix 3: Recommendations for pet shops

Public contact with animals can occur in pet stores and other places where animals are sold or traded. Healthy animals can harbor and shed organisms that can cause zoonotic diseases in humans. The increasing number of household pets, including exotic species, such as amphibians and reptiles means that an increasing number of people are exposed to the risk of acquiring zoonotic diseases—for example, *Plesiomonas shigelloides and Mycobacterium marinum* from fish tanks or salmonellosis from exposure to reptiles, amphibians, pet rodents or contaminated pet food supplies, such as pig ears.

A sick animal in a pet shop can potentially spread an illness to other animals within the shop and to a large number of geographically dispersed owners as newly purchased pets are taken home. Pet shops and similar centres therefore can act as a nexus point for zoonotic disease placing employees and potential pet owners at risk.

Responsibilities of management and staff

Education is critical not only at traditional animal venues like petting zoos, but also at retail venues where live animals are sold to the public (e.g. pet stores or animal feed stores). Evidence suggests that staff and visitors who are knowledgeable about potential risks are less likely to become ill. Any person who works with animals should be aware of the risk of zoonotic diseases and the measures they should take to minimise the risk.

These measures include:

- understanding and abiding by legislative requirements (see Legal obligations for animal contact areas)
- maintaining appropriate facilities
- maintaining appropriate hygiene measures
  - disease prevention measures
  - infection control
  - hand washing
- providing accurate and appropriate information to staff and the public regarding zoonotic diseases.

Animal welfare

Biosecurity Queensland and RSPCA educate the community about animal care responsibilities and agreed standards for animal care and use in Queensland. In respect to pet shops, RSPCA's main responsibility is to enforce the *Animal Care and Protection Act 2001*, in urban, semi-rural and rural areas.

If you are planning to open a pet shop, it is recommended that you liaise with your local council planning officer/s and EHO/s to discuss the requirements in establishing and managing the business.

For the relevant legislative obligations, refer to Legal obligations for animal contact areas.

Facilities

- Ensure the building is appropriate for use, in good repair and secured to protect animals from injury or escape, and restrict unauthorised entry of animals and people from the outside.
- Ensure the provision of a designated isolation area for sick animals and birds.
- Enclosures, floors and walls should be constructed with readily cleanable and water resistant materials to facilitate appropriate cleaning and removal of waste, without requiring excessing handling of animals.
- Enclosures, tanks, benches, cages etc., should be maintained in a state of good repair and cleanliness to assist with zoonotic disease prevention and the wellbeing of animals.
- Ensure adequate and appropriate hand washing facilities and supplies are provided.
- Ensure food and water containers are suitable for purpose, in good condition, and cleaned regularly.
- Ensure food, medicines and other animal supplies are kept separate and stored in accordance with manufacturer's instructions.
- Store equipment on the premises in a sanitary and orderly manner.
- Implement odour control measures.
- Implement appropriate, adequate and sanitary waste disposal methods:
  - Animal waste is to be regularly collected from enclosures and wrapped or sealed in a container for disposal. The storage and disposal should be tailored to suit the type and number of animals housed at the premises. Frequent disposal is recommended to prevent offensive odours, and the attraction and breeding of flies.
  - Cats must be provided with litter trays and the litter replaced at least once daily.
  - Large quantities of animal waste should be disposed of frequently, and in some circumstances the services of a licensed waste management company may be required.
- Refer to Appendix 2 for specific information for providers of animal contact opportunities.

Hygiene

Disease prevention and control

Persons responsible for animal care should be familiar with the signs of disease which are common to the type of animal being held. When signs of disease or injury are observed, prompt veterinary or other appropriate treatment should be obtained to protect the health of individual animals and prevent the spread of disease.

- Remove from display and sale animals with potentially infectious diseases or those which are injured.
- Keep potentially infectious animals in isolation with adequate ventilation and care to keep from exposing persons or other animals and seek veterinary advice.

- Do not knowingly sell/transfer a potentially infectious or injured animal without notifying the person receiving the animal of the illness, injury or condition of the animal.
- Do not offer for sale/trade/adoption animals that have not received appropriate vaccination and treatment of parasites—consult a veterinarian.
- Ensure adequately experienced and trained personnel are left in charge of the premises at all times.
- Provide proper and appropriate food and potable water to animals according to the needs of the species.
- Ensure hygienic storage of animal feed and implement a pest control program.
- Animal enclosures, their surrounds and equipment should be kept clean and hygienic, particularly they should be:
  - cleaned and disinfected prior to the introduction of a replacement animal, and at least once a week
  - cleaned and disinfected when moving animals from one enclosure to another
  - cleaned and disinfected when an animal is unwell or an infectious disease is suspected.

Hand washing

It is important hand washing facilities are made available to, and are used routinely by, staff after contact with animals, their enclosures, their equipment, waste, food or food containers, and when moving from one enclosure to another.

Visitors should be encouraged to wash their hands after having contact with animals or their environment. If hand washing facilities are not readily available for use by visitors, management and staff should provide moist hand wipes and ABHR for use as an interim measure, and visitors should be advised to wash their hands after contact with animals at the nearest available hand washing facilities. Refer to Requirements for hand washing facilities.

Infection control

- Establish and maintain cleaning and disinfection of cages, surfaces and equipment. Zoonotic disease risk (e.g. psittacosis risks from cleaning bird cages) should be properly managed by ensuring hand washing, cleaning methods that minimise dust and aerosols, and ensuring the availability and usage of suitable PPE
- Ensure appropriate methods for handling and disposal of animal waste and bedding.
- Provide adequate and appropriate PPE for cleaning purposes.
- Cleaning and disinfection chemicals and materials should be chosen and used on the basis of their suitability, safety and effectiveness, and only in accordance with the manufacturer's instructions.

Information

Venues, such as pet stores that sell live animals should provide educational materials to customers about the risk of illness and prevention of zoonotic infections along with information on how to properly care for the animal.

If offering reptiles, amphibians, poultry/chicks or other high-risk animals for sale, signage should be clearly visible and contain information about the risk to humans e.g. risk of contracting salmonella or psittacosis bacterial infections. Signage and information should also include advice regarding the unsuitability of these types of pets for households with children under the age of five and other high-risk groups.

Information on health risks from pets can be obtained at:

- Pet Industry Association of Australia Code of Practice
- US CDC Healthy Pets
- United Kingdom, Health Protection Unit, Salmonella in reptiles
- USA National Association of State Public Health Veterinarians, Psittacosis compendium (includes a checklist for pet stores)

Appendix 4: Animals in healthcare facilities

Healthcare and residential care facilities are frequently visited by companion and therapeutic animals, as well as guide and assistance dogs. These animals play a vital role in the health, wellbeing and independence of the patients and clients within these facilities. However, a healthy animal's normal flora (bacteria, fungi, and protozoa that live on or within the bodies of animals) can pose a greater risk of disease transmission which cannot be controlled by treatment or vaccination (e.g. reptiles can carry salmonella). For this reason, some animals need to be restricted from entering healthcare facilities while others, such as domestic pets have been shown to be beneficial for some patients' emotional, physical and social wellbeing leading to an improvement in the quality of life of some patients. Types of animal contact include:

- animal assisted activity—a casual meet and greet activity where animals and a specially trained volunteer or professional handler visit patients and their families at the bedside or in common areas
- animal assisted therapy—tailored individual therapy under professional supervision with an animal trained for the role
- assistance dogs—dogs trained to provide support to people with a physical disability
- guide dogs—dogs trained by registered guide dog organisations to provide support to people with vision impairment
- hearing dogs—dogs trained to provide support to people with hearing impairment
- facility pets—animals in permanent residence within a facility
- personal pet visitation—the patient's own pet visiting them while in a healthcare facility.

While animals can benefit residents, patients and staff by providing comfort, entertainment, therapeutic care and a sense of wellbeing, one must take into consideration the potential risks of incorporating animals into this type of setting, including exacerbation of phobias and allergies, and the potential for zoonosis transmission.

Suitable animals

Animals in healthcare facilities should be healthy and well behaved, and restricted to domestic companion animals suited as household pets. Examples of animals that should be excluded include reptiles, amphibians, hamsters, mice, rats and other animals that have not been litter trained or for which no other measures can be taken to prevent exposure to animal excrement.

Animals in healthcare facilities should be adults (cats should be at least one year of age and dogs should be at least one year of age, but ideally two years of age). They should not come directly from an animal shelter or similar facility and should be in a permanent home for at least six months prior to being considered for patient visits (Lefebvre S et al 2008).

Animals should have temperament assessment to evaluate its behavior under conditions that they might encounter while in a healthcare facility, such as reactions towards strangers, loud noises, crowded situations and human contact. Ideally, animals

and their handlers will have undergone appropriate training, for example dogs should have undergone and passed a formally recognised obedience training program with their handler.

Animal handlers should be encouraged to undergo further training that includes information on zoonoses, infection control practices, how to recognise parasites and reading an animal's body language to identify sign of stress, discomfort, fear and aggression.

Veterinary clearance

Animals should have undergone health screening by a licensed veterinarian. Certification of attendance should be presented and recorded. Annual updates to records should be undertaken in conjunction with the recommended vaccination schedule for the animal species concerned.

Basic requirements would include all appropriate routine vaccinations and flea, tick and parasite control. Breakthrough infestations should be immediately treated by the veterinarian, and a new clearance provided in order for the animal to be able to return to the healthcare or residential care facility.

Although routine screenings for specific organisms, such as group A streptococci, Clostridium difficile, vancomycin-resistant enterococci and methicillin-resistant Staphylococcus aureus (MRSA) is not recommended, ad-hoc testing maybe required in situations where contact has occurred with a known infected person or other animal.

People at increased risk of illness

Some people are at greater risk of acquiring a zoonotic disease and may suffer more severe symptoms. These include pregnant women, children aged less than five years, people who are immuno-compromised, and people aged 65 years and over. People who are at higher risk should be assessed by their healthcare provider to determine whether visiting with an animal would be appropriate, for example exposure to reptiles and amphibians may be considered not appropriate for high-risk groups due to the risk of salmonella infection.

See Groups at increased risk for further information.

It is not recommended to feed any raw or dehydrated (but otherwise raw) foods, chews or cat/dog treats of animal origin to animals that reside or visit a healthcare setting.

Infection control professionals

Most healthcare facilities employ an infection control professional (ICP). The use of animals in a healthcare facility should be discussed in the first instance with the facility's ICP.

Hand washing

All patients, visitors and healthcare staff should wash their hands with soap and running water before and after contact with animals or their environments.

Hand washing is especially important after contact with an animal and before touching a patient, or handling/preparing food or drinks.

Managing contact between animals and people

Before a visit, the animal handler (i.e. the person who has ownership or responsibility for the animal) should:

- ensure animal/s are well and free of symptoms of infection, such as diarrhoea
- brush/comb the animal/s (as appropriate) to remove excess hair and dander
- ensure nails are short and free of sharp edges
- ensure the animal/s are visibly clean and free of malodour (unscented shampoo products are preferable)
- visually inspect animal for parasites (e.g. fleas and ticks)
- provide animal/s with the opportunity to urinate/defecate prior to visit.

In a healthcare facility, animal handlers are required to manage all contact between animals and people by:

- preventing animals from coming into contact with sites of invasive devices (e.g. drips, wound drains), open or bandaged wounds, surgical incisions or other breaches of skin, or any patient medical equipment
- preventing animals from licking patients, medical equipment and staff
- ensuring patients or residents use a barrier, such as a clean towel or sheet if having an animal placed on their bed (this should be laundered immediately after use and not used for multiple patients or residents)
- reporting any incidents (e.g. accidents, bites, scratches) immediately to staff
- ensuring animal visits or activities are not conducted in areas considered unsuitable due to health, safety and infection control requirements, including kitchens, dining rooms, bathrooms/toilets, high dependency areas, operating and procedure rooms
- discussing with staff the suitability of a visit for isolated patients and immuno-compromised patients.

Law enforcement and assistance animals

Guide, hearing, or other service and law enforcement animals should be under the control of a person familiar with the specific animal and in accordance with recommendations of the sponsoring organisations.

The *Disability Discrimination Act 1992* prevents a person from refusing a person entry to its premises because the person has an assistance animal. It is not unlawful, however to politely ask for evidence from a person that their animal is an assistance animal.

It is lawful to refuse access to premises to a person who is accompanied by an animal if:

- no evidence is provided by the person seeking entry with the animal, when requested, which shows that it is an assistance animal or is trained to meet standards of hygiene and behaviour acceptable for a public place
- the animal presents with signs that it has an infectious disease
- the animal exhibits behaviour that could endanger people's health, or the health of other animals.

Illness after contact with animals

If a person becomes ill after having contact with animals, it is advisable for them to visit a doctor and explain there has been recent contact with animals.

Appendix 5: Specific information for schools, early education and care services

Schools and early childhood education and care services have a duty of care, and health and safety duty to protect children and workers from foreseeable risk of harm or injury. Refer to the:

- *Education and Care Services Act 2013*[5]
- *Education and Care Services Regulation 2013*[6]
- *Work Health and Safety Act 2011*[7].

This encompasses responsibility to:

- be informed about and aware of risks
- develop and implement procedures to minimise associated harm
- supervise children to ensure they follow procedures to keep themselves safe.

In Queensland, exhibitors need a licence or permit to exhibit animals. Exhibitors are required to meet codes of practice and demonstrate a duty of care to animals in their care. The animals exhibited are also protected by animal welfare, biosecurity and environmental protection laws.

- *Animal Care and Protection Act 2001* promotes the responsible care and use of animals. It places a legal duty of care on people in charge of animals to meet those animals' needs.
- *Nature Conservation Act 1992* requires you to hold a wildlife exhibitor or wildlife demonstrator licence to exhibit, demonstrate or use protected, international or prohibited wildlife for film or television productions.
- *Queensland Land Protection (Pest and Stock Route Management) Act 2002* governs control, movement and management of plants and animals declared as pests.

Given the risks associated with handling animals, precautions should be taken to reduce the risk of ill health to children who visit petting zoos, farms or wildlife exhibitors, or have animal shows visit them. Also ensure exhibitors hold a current licence to exhibit or demonstrate animals. Assume all animals are capable of carrying micro-organisms potentially harmful to humans and take appropriate precautions to prevent disease spread.

Proper hand washing is the most important practice in preventing the spread of disease. Allow enough time during the visit for children and carers to follow the advice in these guidelines.

[5] www.legislation.qld.gov.au/legisltn/acts/2013/13ac044.pdf Accessed 26 March 2014.
[6] http://deta.qld.gov.au/earlychildhood/service/ecs-act/operational/index.html Accessed 26 March 2014.
[7] www.legislation.qld.gov.au/LEGISLTN/CURRENT/W/WorkHSA11.pdf Accessed 26 March 2014.

Before the visit

Communicating with the organiser/exhibitor during the organisation phase of a field trip is important for both parties. A fact sheet for schools, early education and care services can found at the end of this section.

Seek information from the petting zoo, farm, animal show operator or wildlife exhibitor you are visiting regarding:

- which animals are on display
- which animals may be touched by the children
- whether viewing animal birthing is likely and if so, would the onlookers be at risk from exposure to aerosols produced during that process
- whether facilities are available for hand washing, including running water, soap, disposable paper towel and bins. (If hand washing facilities are not available take ABHR or alcohol-based wipes to use until proper hand washing can be done. It should be noted, that the difference in the alcohol content of different products might mean that some products might not be as effective. These products should contain at least 60 per cent ethanol)
- whether all students can reach and use hand washing facilities, including wheelchair accessibility
- any other information relevant to your visit (e.g. staff/students who are immuno-compromised, foreseeable student behavioural issues, supervision and class management).

Educate the children before the visit regarding:

- how to safely interact with animals
- respectful behaviour towards animals. This reduces the risk of disease spread, for example through accidental scratching or biting
- take particular care in never coming between an animal and its food or its young, and not handling its food or young
- the use of calm, quiet behaviour, talking quietly with no loud noises or sudden movements and treating animals with consideration
- how to wash hands.

Familiarise children and adults with the behaviours outlined in *During the visit*, below. Discuss how children will be supervised by accompanying carers, especially for proper hand washing to ensure the duty of care requirement is met.

During the visit

To reduce the risk of exposure to infection during a visit, children and their carers should adhere to the following:

- Ensure any open wounds are covered.
- Wash hands after leaving animal contact areas, whether animals were touched or not.
- Wash hands with soap and running water before eating.
- Only eat or drink in designated areas, not in animal contact areas.

- While visiting animals do not:
  - suck fingers or objects
  - kiss the animals
  - touch mouth with hands, or lick fingers
  - eat food intended for animals
  - eat in animal contact areas
  - wipe hands on clothing
  - sit or play on the ground
  - touch animal manure or bedding.
- Always wash with soap and running water after:
  - touching animals, their enclosures or food containers
  - being licked or bitten by animals
  - having contact with soil, urine and faeces.
- Always wash hands with soap and running water before eating or drinking.
- Do not allow dummies, toys, spill-proof cups or drink bottles inside the animal enclosures.
- Should dummies or toys inadvertently fall on the ground or come into contact with animals, wash them with soap and running water. They should not be returned to the child until you have left the animal contact area.
- Advise parents and guardians to supervise children to prevent children undertaking at-risk behaviours described previously and importantly to ensure good hand washing practices.
- Ensure animal manure on shoes, wheelchairs, strollers and trollies have been rinsed off after exiting the animal contact area.
- Ensure that staff/guardian to student ratios are sufficient for adequate supervision of children.

After the visit

If a member of the group becomes ill (e.g. diarrhoea, nausea, vomiting, flu-like symptoms) in the days after the visit, advise them to see their doctor and explain that they have had recent contact with animals.

Sample fact sheet for schools and early education and care services

Queensland Health

Preventing illness in animal contact areas

Animal handling events—such as petting zoos and animal nurseries—offer an enjoyable experience for children and adults alike.

Many animals naturally carry illness-causing germs that can make people sick after handling them.

Contact with animals, their saliva, excreta, other body fluids, bedding, enclosure and feed are all potential sources of infection.

Getting sick can be prevented by following a few simple steps.

Hand washing

Always wash your hands:

- immediately if they become dirty while you are in the animal contact area
- immediately after touching animals, their enclosures, bedding or their food containers
- after leaving the animal contact area—and always before eating, drinking or smoking
- after removing footwear or clothing.

Avoiding high risk activities

While visiting animals **do not**:

- touch animal waste or bedding, or eat food intended for the animals
- touch your mouth with your hands, or lick your fingers
- take your own food or drink into the animal contact area—including dummies, spill-proof cups or baby bottles
- take strollers in the animal contact area—make use of storage areas if available.

And remember, **always** supervise children in the animal contact area and while washing hands, and follow all instructions provided by staff.

QH244 05/14

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Glossary

Aerosols	A suspension of tiny particles or droplets in the air, such as dusts, mists, or fumes which may contain micro-organisms.
Alcohol based hand rub	Alcohol based hand gels or hand rubs that contain at least 60 per cent alcohol and are intended to kill germs.
Animal contact	Contact between animals or their environments (e.g. bedding, enclosures) and humans.
Animal handler, animal exhibitor or operator	A person who handles or exhibits animals.
Animal waste	Materials, such as hair, feathers, skin, faeces, urine, birthing products (e.g. placenta) and bodily fluids that are either shed, secreted or eliminated from an animal's body.
Business	Profit and not-for-profit businesses, including schools, charities and community events.
Child	A person who is under the age of 18 years.
Council	As defined in the *Queensland Local Government Act 2009*.
Environmental health officer	A local or state government officer authorised under a suite of public health legislation, including the *Public Health Act 2005* to deliver regulatory and non-regulatory environmental health services to protect, promote and prevent risks to the community arising from environmental health hazards that impact on the natural and built environment, and human health.
Germs	A disease-causing organism e.g. some bacteria, viruses, fungi.
Immuno-compromised	When a person's immune system is less able to fight off infection than normal due to a medical condition, such as poorly controlled diabetes, chronic kidney or liver disease (including viral hepatitis), HIV infection and taking immuno-suppressing drugs (such as treatment for cancer).
Micro-organisms	Organisms too small to be seen by the unaided human eye, including bacteria, viruses and some fungi.
Mucous membrane	A moist membrane lining many structures of the body, such as the nose, mouth, eyes and throat.
Pathogen	A disease-causing organism e.g. some bacteria, viruses, fungi.
Pasteurisation	Application of a heat treatment to a liquid or food that inactivates or kills germs.
Relevant authority	The chief public health officer or a local government council.
The Act	The *Queensland Public Health Act 2005.*
Waste	Also known as general waste and consists of unwanted materials, including anything soiled by animal faeces and urine (e.g. soiled bedding material, and unwanted food and rubbish).
Vector	An agent that transmits a pathogen from one living organism to another (e.g. mosquito).
Zoonotic diseases	Diseases that can be transmitted from animals and their environments to humans.

References

Ashbolt R and Kirk MD, Salmonella Mississippi infections in Tasmania: the role of native Australian animals and untreated drinking water. Epidemiol Infect. 2006 Dec;134(6):1257-65.

Ashbolt RH, Coleman DJ, Misrachi A, Conti JM, Kirk MD, An outbreak of cryptosporidiosis associated with an animal nursery at a regional fair, Commun Dis Intell, 2003:27(2): 244-9.

Australian Veterinary Association, Guidelines for Veterinary Personal Biosecurity, 2nd edn, 2013, Australian Veterinary Association, St Leonards NSW.

Bender JB, Shulman SA, The Animals in Public Contact subcommittee of the National Association of State Public Health Veterinarians. Reports of zoonotic disease outbreaks associated with animal exhibits and availability of recommendations for preventing zoonotic disease transmission from animals to people in such settings. J Am Vet Med Assoc 2004, vol. 224, pp.1105-1109.

Centers for Disease Control and Prevention (CDC), 2011, Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2011. National Association of State Public Health Veterinarians, Inc. (NASPHV), USA. MMWR, vol.60, no. 4, pp.1-24. Retrieved on 31/3/2014. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6004a1.htm#Fig3>

Department Agriculture, Fisheries and Forestry, 2013, Code of Practice of the Australasian Regional Association of Zoological Parks and Aquaria, Minimum standards for exhibiting wildlife in Queensland, Nature Conservation Act 1992, Queensland Government, Brisbane.

Department of Health and Aging 2013, The Australian Immunisation Handbook 10th edn, Australian Government, Department for Health and Ageing, Canberra.

DiSalvo H, Haiduven D, Johnson N, Reyes V, Hench C, Shaw R and Stevens D. Who let the dogs out? Infection control did: Utility of dogs in healthcare settings and infection control aspects. American Journal of Infection Control. 2005, vol. 34, no. 5, pp. 301-307.

Field, H 1999, Information on Zoonotic Bat Viruses For Veterinary Practitioners, Animal Health Surveillance Quarterly, vol. 4, no. 4, pp.6.

Hanna JN, Humphreys JL, Ashton SE, Murphy DN, Haemolytic Uraemic Syndrome associated with a family cluster of enterohaemorrhagic Escherichia Coli, Commun Dis Intell 2007 Sep; 31(3): 300-302.

Lefebvre S, et al. Guidelines for animal-assisted interventions in health care facilities, American Journal of Infection Control. 2008, vol 36 pp 78-85.

Lehane L, Rawlin GT. Topically acquired bacterial zoonoses from fish: a review. Med J Aust. 2000 Sep;173(5):256-9.

National Association of State Public Health Veterinarians Animal Contact Compendium Committee 2013, Compendium of Measures to Prevent Disease Associated with Animals in Public Settings 2013, Vet Med Today: Public Veterinary Medicine, JAVMA, vol. 243, no. 9 pp.1270 - 1288. Retrieved 2 April 2014, <http://avmajournals.avma.org/doi/pdf/10.2460/javma.243.9.1270>

National Association of State Public Health Veterinarians, Inc. (NASPHV), Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2011, Recommendations and Reports, May 6, 2011 / 60(RR04);1-24, Morbidity and Mortality Weekly Report (MMWR).

National Association of State Public Health Veterinarians, 2010, Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel. JAVMA, vol. 237, no. 12, pp.1403-22.

NSW Ministry of Health, 2012, Guidelines for animal visits and interventions in public and private health care facilities in NSW. NSW Ministry of Health, Sydney, NSW. Retrieved 2 April 2014, <http://www0.health.nsw.gov.au/policies/gl/2012/pdf/GL2012_007.pdf>

OzFoodNet Working Group, 2003, Foodborne disease in Australia: incidence, notifications and outbreaks, Annual report of the OzFoodNet Network 2002. Commun Dis Intell. vol. 27, no.2, pp. 230. Retrieved 1 April 2014.

Schultz DJ, Hough IJ, Boardman W. Special challenges of maintaining wild animals in captivity in Australia and New Zealand: prevention of infectious and parasitic diseases. Rev Sci Tech. 1996 Mar; vol.15, no. 1, pp.289-308.

Stafford R, Schluter P, Kirk M, Wilson A, Unicomb L, Ashbolt R, Gregoryj, and the OzFoodNet Working Group. A multi-centre prospective case-control study of campylobacter infection in persons aged 5 years and older in Australia. Epidemiol Infect 2007, vol.135, pp. 978–988.

Steinmuller N, Demma L, Bender JB, Eidson M, Angulo FJ. Outbreaks of enteric disease associated with animal contact: not just a food-borne problem anymore. Clin Infect Dis 2006; vol. 43, pp.1596-1602.

Tenkate TD and Stafford R. Risk factors for campylobacter infection in infants and young children : a matched case-control study. Epidemiol. Infect. 2001, vol. 127, pp. 399-404.

Thomas AD, Forbes-Faulkner JC, Speare R, Murray C. Salmonellosis in wildlife from Queensland. J Wildlife Dis 2001, vol. 37, pp. 229-238.

Weese J. S, McCarthy L, Mossop M, Martin H, Lefebvre S. Observation of Practices at Petting Zoos and the Potential Impact on Zoonotic Disease Transmission. Clin Infect Dis, 2007, vol. 45, pp. 10-15.

Workplace Health and Safety, 2013, Australian bat lyssavirus and handling bats, retrieved 02 April 2014, < http://www.deir.qld.gov.au/workplace/resources/pdfs/lyssavirus-handling-bats.pdf>