# Zoonotic Disease Investigations Acute and Communicable Disease

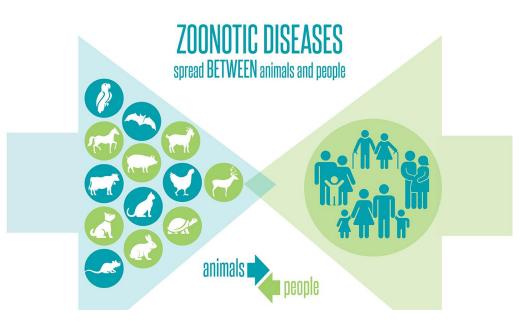
### February 15th 2022

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Seventy-five percent of all <u>new infectious diseases</u> originate from nonhuman animals.

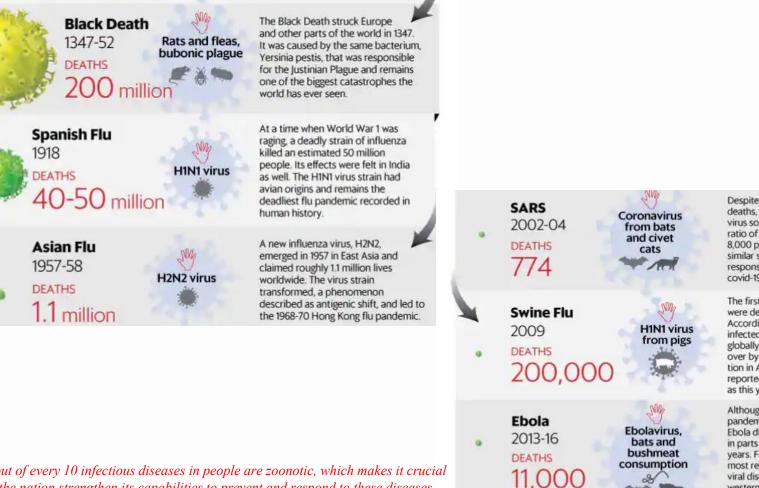
# Zoonotic Disease Transmission





### **A BRIEF HISTORY OF OUTBREAKS**

Covid-19 is not the first pandemic to hit the world. Here's a look at the complex relationship humans have had with deadly viruses and infectious diseases.



Six out of every 10 infectious diseases in people are zoonotic, which makes it crucial that the nation strengthen its capabilities to prevent and respond to these diseases using a One Health approach

Despite the low number of deaths, what made the SARS virus so deadly was its case-fatality ratio of 15%. It affected almost 8,000 people and 29 countries—a similar strain of the coronavirus is responsible for the current covid-19 pandemic.

The first cases of the 2009 pandemic were detected in Mexico and the US. According to studies, the virus infected more than a billion people globally. The pandemic was declared over by the World Health Organization in August 2010 but cases were reported across the world as recently as this year.

Although not yet deemed a pandemic, the highly contagious Ebola disease has wreaked havoc in parts of Africa over the last few years. First discovered in 1976, the most recent outbreak of this deadly viral disease was recorded in western Africa in 2013-16. It led to more than 11,000 deaths.

Health Authority

### What do we track

- We have rules that • require the report of different conditions
- Such as but not • limited to
- Anthrax •
- Rabies •
- Plague •
- Avian flu and other • infectious conditions

LABORATC of and specific for" the tions, microorganisms and anying table. These results solation or identification; CIVIL PENALTIES FOR VIOLATIONS OF OREGON REPORTING LAW vd identification of acid sequences. A civil penalty may be imposed against a qualifying Civil penalties shall be imposed laboratory that fails to seek or obtain ELR approval. to the patient's local or against a clinical laboratory for failing to nce within one report a reportable disease according to Oregon · Each day out of compliance wi, 's local health Administrative Rules 6 hemselves with a new violation. at have potential to clude the patient's Report by phone immediately, day or night. New reportables are highlighted. e, specimen O Report within 24 hours. on date, lab test, NOTE: Those items below without a symbol next to them require rdering clinician reporting within one local public health authority working day. Provide the Oregon State Public Health Laboratory (OSPHL). s should also Ø Forward isolate if cultured; otherwise, send the test-positive specimen to OSPHL. BACTERIA Mycobacterium, other finician is (non-respiratory only) Anaplasma egardless of Bacillus anthracis 3 🙃 🙆 Neisseria gonorrhoeae rts on out-of-Neisseria meningitidis 🔿 🚱 Bacillus cereus that state's Rickettsia prowazekii 3 💿 🚱 biovar anthracis 3 🙃 🗎 Division of the Rickettsia, non-prowazekii Bordetella pertussis reports in a log. Salmonella 🙉 Borrelia Shigella 🕲 Brucella 3 😨 🔿 mit the data Treponema pallidum Burkholderia mallei 3 🐵 🗈 in the Oregon Vibrio cholerae 😨 🙆 Burkholderia pseudomallei 3 🙃 🔿 Electronic Vibrio, non-cholerae 🙆 Campylobacter Yersinia pestis 3 🙃 🖹 Chlamydia trachomatis r ELR initiation, Chlamydia psittaci Yersinia, non-pestis 🕑 Clostridium botulinum 3 💿 FUNGI Clostridium tetani LR shall have Coccidioides 🕚 Corynebacterium diphtheriae 😳 🕑 tions plan to Cryptococcus 🕑 Coxiella burnetii 3 😨 🚱 uations. At least Ehrlichia PARASITES d be incorporated. Enterobacteriaceae family isolates Amebic infections<sup>9</sup> that are resistant to any (central nervous system only) carbapenem antibiotics by Babesia ly in Oregon's Data current CLSI breakpoints7.8 Cryptosporidium cified in the Oregon Escherichia coli, enterotoxigenic Cyclosnora landatory Electronic Escherichia coli, Shiga-toxigenic Giardia (E. coli O157 and other Plasmodium rts shall meet relevant serogroups)8 🔗 Taenia solium and undifferentiated Francisella tularensis 3 😨 🔁 Taenia soo Grimontia 🙆 Trichinella Haemophilus ducrevi PRION DISEASES Haemophilus influenzae 🔿 🚳 Creutzfeldt-Jakob disease Legionella (CJD), other prion diseases Leptospira Listeria monocytogenes 🙆 VIRUSES Mycobacterium bovis 🕑 Arboviruses 10 Mycobacterium tuberculosis 🔿

Hantavirus Hepatitis A Hepatitis B Hepatitis C Hepatitis D (delta) Hepatitis E Hemorrhagic fever HIV infection and A Influenza, novel str Measles (rubeola) Mumps Polio 😳 🚱 Rabies 🐵 Rubella 😨 🚱 SARS-coronavin Variola major (sr West Nile Yellow fever 🤕 Zika **OTHER IN** 

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diseases and conditions h lab-confirmed and vtable. The parallel obviate the clinician's vns (e.g., uncommon animal bites.

resticide poisoning, · First violation \$100, second v dentified by labs. **IMMEDIATELY** third or subsequent violation \$ Anthrax (Bacillus anthracis)

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Bacillus cereus biovar anthracis t least the Botulism (Clostridium botulinum) umber, date of Brucellosis (Brucella) n onset. Most Cholera (*Vibrio cholerae* O1, O139, or toxigenic) ng day of the exceptions Diphtheria (Corvnebacterium diphtheriae) lic health utbreaks, Eastern equine encephalitis y patterns, Glanders (Burkholderia mallei) PAA Arenaviruses 3, 11 🤕 ed health Hemorrhagic fever caused by Filoviruses 3,11 2 6 le purpose viruses of the filovirus (e.g., Ebola, ng public Marburg) or arenavirus (e.g., Lassa, Machupo) families Influenza (novel) OREGON Marine intoxication (intoxication caused by marine microorganisms or their byproducts (e.g., paralytic shellfish poisoning, domoic acid son or Chapter clude d on this erate s in their ases. Civil

intoxication, ciguatera, scombroid Measles (rubeola) Melioidosis (Burkholderia pseudomallei) Plaque (Yersinia pestis) Poliomyelitis Q fever (Coxiella burnetii) Rabies (human) Rubella SARS (Severe Acute Respiratory Syndrome or SARS-coronavirus)

Smallpox (variola) Tularemia (Francisella tularensis) Typhus, louse-borne (Rickettsia prowazekii) Yellow fever

Outbreaks and uncommon illnesses (any known or suspected common-source outbreak; any uncommon illness of potential public health significance)

## **CLINICIANS**

#### New reportables are highlighted. WITHIN ONE LOCAL HEALTH AUTHORITY WORKING

Amebic infections 6 Hepatitis D (delta) (central nervous system only) Hepatitis E Anaplasmosis (Anaplasma) HIV infection (does not app Animal bites (of humans) anonymous testing) and / Arthropod vector-borne disease Influenza (laboratory-confir (e.g.,California encephalitis, Colorado tick fever, dengue, Heartland virus death of a person <18 year Lead poisoning<sup>a</sup> infection, Kyasanur Forest disease, Legionellosis (Legionella) St. Louis encephalitis. Western Leptospirosis (Leptospira) equine encephalitis, etc.) Listeriosis Babesiosis (Babesia) (Listeria monocytogenes) Campylobacteriosis Lyme disease (Campylobacter) (Borrelia burgdorferi) Chancroid (Haemophilus ducrevi) Malaria (Plasmodium) Chlamydiosis Mumps (Chlamydia trachomatis; Non-tuberculous mycoba lymphogranuloma venereum) infection (non-respiratory Coccidioidomycosis (Coccidioides) Pertussis (Bordetella pert Creutzfeldt-Jakob disease (CJD) and other transmissible Psittacosis (Chlamydia psittaci) spongiform encephalopathies Relapsing fever (Bornelia) Cryptococcosis (Cryptococcus) **Rocky Mountain spotted f** Cryptosporidiosis and other Rickettsia (exce (Cryptosporidium) louse-borne typhus, which Cyclosporosis immediately reportable) (Cvclospora cavetanensis) Salmonellosis (Salmonella Ehrlichiosis (Ehrlichia) including typhoid) Enterobacteriaceae family Shigellosis (Shigella) isolates that are resistant to any Syphilis (Treponema palli carbapenem antibiotic by current CLSI breakpoints 7 Taenia infection Escherichia coli (enterotoxigenic, (including cysticercosis Shiga-toxigenic, including E. coli and tapeworm infections) O157 and other serogroups) Tetanus (Clostridium tetai Giardiasis (Giardia) Trichinosis (Trichinella) Gonococcal infections

Tuberculosis (Mycobacter (Neisseria gonorrhoeae) tuberculosis and M. bovis Grimontia spp. infection Vibriosis (other than chole West Nile Hemolytic uremic syndrome (HUS) Yersiniosis (other than pla which is immediately repo Zika

FOOTNOTES

Hantavirus

Hepatitis A

Hepatitis B

Hepatitis C

In addition to reporting updates, please be aware of new OAR 333-019-0 requiring health care professionals to observe standard precautions as de in Centers for Disease Control and Prevention's <u>Cardeline for Isolation</u> Pre-ter Standard Standa Preventing Transmission of Infectious Agents in Healthcare Settings (200 https://www.cdc.gov/infectioncontrol/guidelines/isolation/





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# The zoonotic diseases of most concern in the U.S.

- Zoonotic influenza
- Salmonellosis
- West Nile virus
- Plague
- Emerging coronaviruses (e.g., <u>severe acute respiratory syndrome</u> and <u>Middle East respiratory syndrome</u>)
- Rabies
- Brucellosis
- Lyme disease

#### **Exotic Emerging Zoonoses**

- Ebola primates, reservoir unknown
- Nipah bats
- West Nile birds, mosquitoes
- SARS masked palm civets, bats
- Avian Influenza poultry, wild birds
- Monkeypox rodents, primates

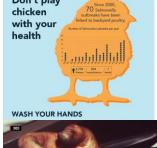


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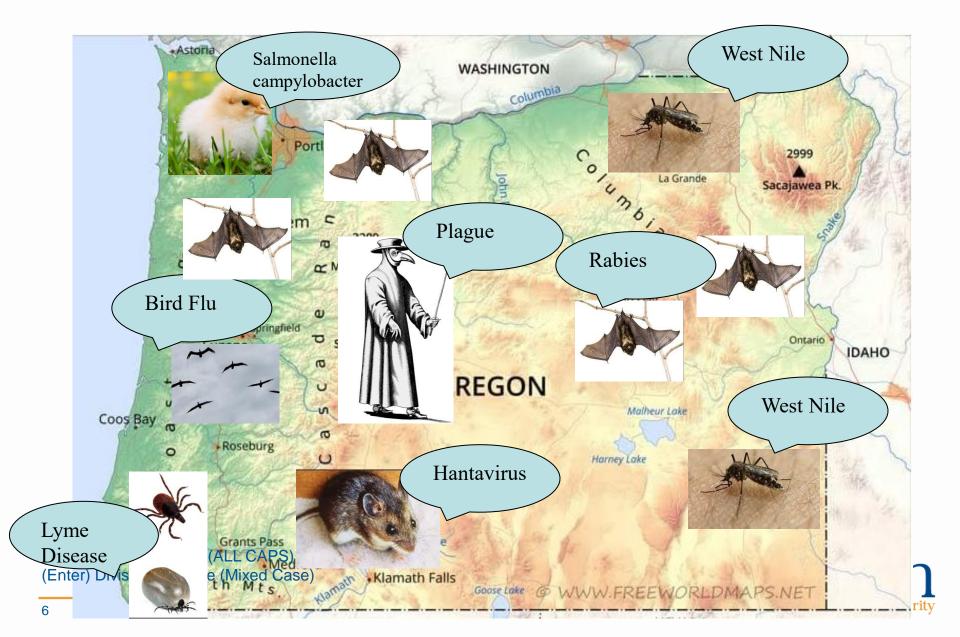
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EM, Marburg virus, CDC gallery









#### With animal importation other animals, such as ticks, may also come along.

### What do Asian longhorned ticks look like?



Nymph and adult female, top view.



Nymph and adult female, underside.

#### What we know about Asian longhorned ticks

- Not normally found in the Western Hemisphere, these ticks were reported for the first time in the United States in 2017.
- Asian longhorned ticks have been found on pets, livestock, wildlife, and people.

# Protect yourself, your pets, and your livestock

- Use Environmental Protection Agency (EPA)-registered insect repellents containing DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthanediol, or 2-undecanone. Always follow product instructions.
- Wear permethrin-treated clothing.

#### What to do if you think you have found an Asian longhorned tick

- Remove ticks from people and animals as quickly as possible.
- Save the ticks in rubbing alcohol in a jar or a ziplock bag, then:
  - Contact your health department about steps you can take to