

## Public Health Services One Health Epidemiology Program Newsletter

Thursday, October 3, 2024

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Announcements

#### World Rabies Day was Celebrated on September 28, 2024



World Rabies Day is celebrated each year, on September 28<sup>th</sup>, to raise awareness about rabies disease prevention and highlight efforts towards intervention and control methods. September 28<sup>th</sup> honors the anniversary of Louis Pasteur's death as he developed the first rabies vaccination for use in dogs in 1884 and for post-exposure prophylaxis in a boy in 1885. Worldwide, Rabies is responsible for 70,000 human deaths every year. Rabies prevention measures include avoiding contact with wildlife, vaccinating pets against rabies, and seeking healthcare if you are bitten or scratched by an animal.

To report a suspect exposure to rabies, call the County of San Diego Epidemiology Unit at (619) 692-8499 or (858) 565-5255 after hours, holidays, and weekends.

#### For more information, please visit:

- <u>Global Rabies: What You Should Know | Centers for Disease Control and</u>
  <u>Prevention (CDC)</u>
- Rabies | CDC
- World Rabies Day | World Health Organization (WHO)

#### One Health Day is Celebrated on November 3, 2024





The One Health term which has brought more awareness to the interconnection between human-animal-environment might seem new; however, this concept has been around for a very long time. The interconnectedness of the natural world of humans, animals, and environments are central to the Traditional Ecologic Knowledge of indigenous communities dating back tens of thousands of years.<sup>1-2</sup> The Greek philosopher Hippocrates acknowledged the health of people is dependent on the environment.<sup>3</sup> Rudolf Virchow, a German physician and pathologist in the 19<sup>th</sup> century, coined the term 'zoonosis'

and stated, "Between animal and human medicine there are no dividing lines - nor

should there be. The object is different, but the experience obtained constitutes the basis of all medicine."

Today, advances in medicine rely on the outcomes of laboratory animal studies to understand pathophysiology and extrapolate safe medical and surgical techniques for people. In addition, air quality, water quality, weather patterns, and biodiversity of plants are all essential to make up healthy environments and ecosystems for all life to thrive.

#### References

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- Riley T, Anderson NE, Lovett R, Meredith A, Cumming B, Thandrayen J. One Health in Indigenous Communities: A Critical Review of the Evidence. Int J Environ Res Public Health. 2021 Oct 28;18(21):11303. doi: 10.3390/ijerph182111303. PMID: 34769820; PMCID: PMC8583238.
- Roncada, P.; Modesti, A.; Timperio, A.M.; Bini, L.; Castagnola, M.; Fasano, M.; Urbani, A. One Medicine–One Health–one biology and many proteins: Proteomics on the verge of the One Health approach. *Biosyst.*2014, 10, 1226–1227.

#### Join the CDC Zoonoses and One Health Update (ZOHU) Calls or Watch the Recordings

The most recent ZOHU call was on October 2<sup>nd</sup>.

Topics included:

- Federal Response to the Emergence of Highly Pathogenic Avian Influenza A (H5N1) in Dairy Cattle,
- Overview of CDC's Response to H5N1, and
- U.S. Food and Drug Administration (FDA) Response to H5N1.

To watch the recording and for more information on continuing education credits for veterinary professionals, visit the CDC's <u>Zoonoses & One Health Updates</u> (<u>ZOHU</u>) Call Webinar Series webpage.

## **Community Highlights**

#### Conservation in Action at The San Diego Natural History Museum

The San Diego Natural History Museum (SDNHM), a private non-profit scientific organization incorporated in 1874, is a Southern California leader in the natural sciences. Our mission is to serve as one of the leading centers for the scientific study of natural history, biological diversity, and evolution within our region. Our scientists integrate ecological, botanical, entomological, herpetological, mammalogical, and ornithological disciplines, often as multidisciplinary investigations designed to tackle some of our region's toughest conservation challenges.



As part of our investigations, we are permitted to handle, sample, and assess various vertebrate animals, including birds, mammals, reptiles, and amphibians. Recent examples include a study to sample regional bat populations for the deadly fungus known as White Nose Syndrome that has decimated bat populations throughout North America. The bats were also sampled for their viromes (i.e. virus populations), to assess what viruses local bat populations are harboring. As one of the few institutions in the state permitted to capture, sample, and release bats, we are well positioned to lead this effort along with our project partners. Additional recent examples include sampling for ectoparasites from local bird populations (e.g. Knemidokoptes mites),

as well as ectoparasites from area bats (e.g. mites and bat flies). We also have multiple projects studying wildlife movement, and as part of those projects assess the health of animals (such as the ringtail cat) while providing samples for laboratory analyses.

One of our long-term ongoing collaborative partnerships has been with San Diego County veterinarians, where we have been obtaining the rabies-tested negative bats and preparing them as museum specimens. This relationship has greatly enhanced our understanding of regional bat species and has provided us with genetic tissue samples that we are able to contribute to genetics studies.

We are always looking for more collaborative opportunities to help us provide more data and analyses to better understand the health of regional wildlife populations.

#### How to get Featured in the OHEP Newsletter

We would love to feature your work in our newsletter! Please send photos, videos, and short descriptions to <u>phs.ohep.hhsa@sdcounty.ca.gov</u> so we can highlight the work you do around the County.



### **Zoonotic Diseases**

# Highly Pathogenic Avian Influenza (H5N1) – It is an Evolving Situation

The avian influenza H5N1 panzootic continues to devastate agricultural animals and wildlife populations reaching as far as the Antarctic continent. In the United States, a wide range of domestic and wild animals have become susceptible to this virus. Now, H5N1 has infected many dairy cattle herds in California as well as a commercial turkey flock. The genomic epidemiology is not currently available for the outbreak in California, however from the data available from other states, the spread of the disease to herds has been linked to the movement of the asymptomatic dairy cattle, people, equipment and vehicles. Although the original spillover event has been linked to wild birds, no subsequently direct spillover from wild birds have been identified.

There have been fifteen identified human cases of influenza H5 in people since the outbreak in poultry began in 2022. Symptoms have included conjunctivitis and flulike symptoms. One recent case in Missouri did not have any known or disclosed animal exposures so how that person became infected is still unknown. Everyone known to have been infected in the United States has recovered.

In San Diego County in 2024, there was a detection of H5 in a wastewater plant on September 1<sup>st</sup>; there have been no positive results since that time. It is unknown if the source of the positive result was from an infected human, animal (wild or domestic), or animal product that entered the wastewater system. Stormwater and wastewater do not intentionally mix in San Diego County making a wild bird source less likely but not impossible.

We are expecting more H5N1 positive wild birds in San Diego County this Fall given that we have had positive cases in 2022 and 2023. The best way to protect the health of animals and people is to implement the following:

- 1. **Biosecurity** Limit the movement and mixing of wild and domestic animals.
- 2. **Quarantine** suspected animal cases and **limit** the number of people working with these animals.
- 3. <u>Personal Protective Equipment</u> (PPE) are important tools to prevent human infections.
- 4. <u>Animal Testing</u> Available at the California Animal Health and Food Safety Laboratory System:
  - Oral pharyngeal, cloacal or whole bird carcasses can be submitted.
  - Avian Influenza PCR Test Code: 11008
- 5. **Disinfection** of areas and equipment exposed to suspected cases.
- Reporting California Department of Food and Agriculture (CDFA) has updated their <u>reporting quidelines</u> to include livestock symptomatic for avian influenza. Concern for human cases or non-agricultural animals are reportable to the Epidemiology Unit by calling (619) 692-8499.
- Monitoring the Epidemiology Unit will work with you to contact those exposed to infected animals to discuss exposures and provide guidance if symptoms for H5N1 develop.
- 8. Food Safety visit <u>FDA</u> and <u>CDC</u> webpages for updates.

To learn more about H5N1, post-exposure monitoring, or prevention strategies from the Epidemiology Unit, please contact us to set up a meeting by emailing us at PHS.OHEP.HHSA@sdcounty.ca.gov or calling at (619) 692-8499.

#### Additional Resources

- Avian and Novel Influenza Quicksheet | California Department of Public Health
- H5N1 Informational Videos | CDC
- H5 Bird Flu: Current Situation | CDC
- Highly Pathogenic Avian Influenza (HPAI) H5N1 Virus in Livestock | CDFA

## How to Contact Us

For more information, contact the San Diego One Health Epidemiology Program through our <u>contact form</u>, via e-mail at <u>phs.ohep.hhsa@sdcounty.ca.gov</u>, or call the Epidemiology Unit at (619) 692-8499.

We want to know if you are seeing any unusual, new, or emerging animal disease or outbreak. We can provide consultation, help investigate these diseases, and provide resources. Keeping us informed helps us protect our human and animal community.

Sign up for our One Health Epidemiology Network Updates

#### Thank you!

If you have any questions about the content of this newsletter or the One Health Epidemiology Program, please email <u>phs.ohep.hhsa@sdcounty.ca.gov</u>.



The Public Health Services department, County of San Diego Health and Human Services Agency, has maintained national public health accreditation, since May 17, 2016, and was re-accredited by the Public Health Accreditation Board on August 21, 2023.