

A blue stethoscope is positioned diagonally across the frame, with its chest piece in the lower-left and its tubing extending towards the upper-right. The background is a soft, out-of-focus light blue.

Health Officer Report

Tracie Newman, MD, MPH, FAAP

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COVID-19 Bivalent Boosters



COVID-19 Bivalent Boosters

FDA granted EUA for
Omicron-specific boosters →
ACIP recommended → CDC
endorsed recommendation

- Pfizer ≥ 12 years
- Moderna ≥ 18 years

Bivalent booster targets
original virus + BA.4/5
subvariants

Older monovalent mRNA
vaccines / boosters will be
phased out

Bivalent Booster Challenges for Public Health

General pandemic fatigue

Vaccine mis- and disinformation

Low uptake of current boosters

Confusion about who should get new booster

- Experts recommend waiting 3-6 months after last vaccine or infection

Neither vaccine completed human trials; safe and effective vaccines often rapidly produced via fast-track model (in this case, updated antigen profile with SARS-CoV-2, but manufacturing and safety protocols used unchanged)

Antibodies generated for BA.4/5 may not protect against potential future variants (BA.2.75)

CDC MMWR on Current COVID-19 Booster Uptake

What we know: COVID-19 boosters provide enhanced protections against infections, ED visits, hospitalizations, and deaths

New data tells us:

- Of 214 million people ≥ 5 years eligible for a booster, around 1/2 have received one
- Of 55 million people ≥ 50 years eligible, around 1/3 have received a 2nd booster
- Rates lowest in: youngest ages, males, African Americans, Hispanic/Latino, multiracial persons, residents of rural counties, J&J primary series recipients

Implications for public health: efforts to reach populations with low booster coverage with focused interventions to improve vaccine equity should be implemented

Better Birth Outcomes in Women who participate in WIC

Research published in the journal
Annals of Internal Medicine

Expecting mothers who took part in
WIC Special Supplement Nutrition
Program had:

- **10 – 15% lower risk of preterm birth**
- **11 – 24% lesser risk of low-birth-weight babies**
- **14 – 40% lower risk of infant mortality**



Rise in N.D. West Nile Cases

- As of 9/7/22, 11 cases of human West Nile reported (more cases pending)
 - 4 hospitalized; 4 cases neuroinvasive
- More mosquitos spreading WNV; take precautions:
 - ✓ Use bug spray that contains DEET, picaridin, IR3535, oil of lemon eucalyptus, PMD, 2-undecanone, or permethrin clothing
 - ✓ Wear long, breathable clothes that protect skin exposure
 - ✓ Limit outdoor activities between dusk and dawn
 - ✓ Eliminate stagnant water around home
 - ✓ Ensure adequate screens on windows and doors



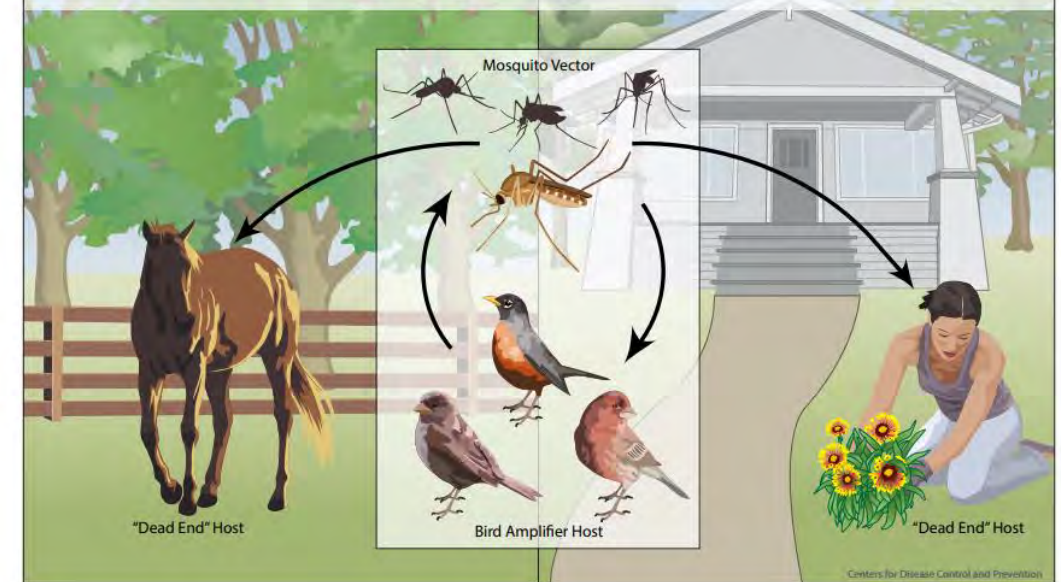
West Nile Virus

- Leading cause of mosquito-borne disease in U.S.
- Spread by infected mosquitos summer through fall
- No vaccines or treatments
- Most people infected (8:10) don't get sick
- 1:5 develop fever or other symptoms like headache, body aches, vomiting, diarrhea, rash (most recover, but weakness and fatigue can last weeks or months)
- 1:150 become very ill, sometimes fatal, with meningitis /encephalitis
 - People > 60 years and with underlying medical conditions at higher risk

West Nile Virus Transmission Cycle

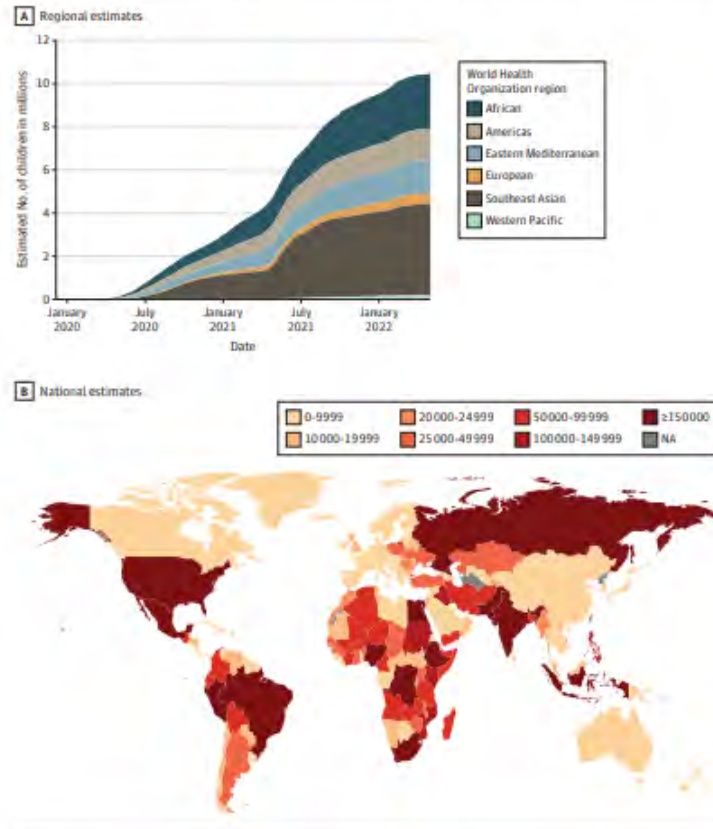
In nature, West Nile virus cycles between mosquitoes (especially *Culex* species) and birds. Some infected birds, can develop high levels of the virus in their bloodstream and mosquitoes can become infected by biting these infected birds. After about a week, infected mosquitoes can pass the virus to more birds when they bite.

Mosquitoes with West Nile virus also bite and infect people, horses and other mammals. However, humans, horses and other mammals are 'dead end' hosts. This means that they do not develop high levels of virus in their bloodstream, and cannot pass the virus on to other biting mosquitoes.



7.5 Children Orphaned Due to COVID-19

Figure. World Health Organization (WHO) Regional and National Estimates of Orphanhood and Primary and/or Secondary Caregiver Loss From January 1, 2020, Through May 1, 2022



- Results published in JAMA Pediatrics:
 - 10.5 million children globally have lost a caregiver to COVID-19
 - 7.5 million lost a parent or primary caregiver
 - 40% losses in Southeast Asia; 24% in Africa

* Billions spent preventing COVID-19-associated deaths; little being done to care for children left without parents

* Impacts children now and future societies



Resources

- [Booster COVID-19 Vaccinations Among Persons Aged ≥5 Years and Second Booster COVID-19 Vaccinations Among Persons Aged ≥50 Years — United States, August 13, 2021–August 5, 2022 | MMWR \(cdc.gov\)](#)
- [Maternal, Infant, and Child Health Outcomes Associated with the Special Supplemental Nutrition Program for Women, Infants, and Children: A Systematic Review: Annals of Internal Medicine: Vol 0, No 0 \(acpjournals.org\)](#)
- [Increase of West Nile Virus cases reported in North Dakota | Health and Human Services North Dakota](#)
- [West Nile Virus | West Nile Virus | CDC](#)
- [Orphanhood and Caregiver Loss Among Children Based on New Global Excess COVID-19 Death Estimates | Global Health | JAMA Pediatrics | JAMA Network](#)