



**Vector-borne diseases**

# Vector-borne diseases

- More than 17% of all infectious diseases
- More than 1 million deaths annually.
- More than 2.5 billion people in over 100 countries are at risk of contracting dengue alone.
- Malaria causes more than 600 000 deaths every year globally
- Preventable diseases

# Vector-borne diseases

- Are illnesses caused by pathogens and parasites in human populations which transmitted via vector
- **Vectors**
  - are living organisms that can transmit infectious diseases between humans or from animals to humans
- Many of these vectors are bloodsucking insects

# Vector-borne diseases

TABLE 11-3

Arthropods that Serve as Vectors of Human Infectious Diseases

VECTORS	DISEASE(S)
Black flies ( <i>Simulium</i> spp.)	Onchocerciasis ("river blindness") (H)
<i>Cyclops</i> spp.	Fish tapeworm infection (H), guinea worm infection (H)
Fleas	Dog tapeworm infection (H), endemic typhus (B), murine typhus (B), plague (B)
Lice	Epidemic relapsing fever (B), epidemic typhus (B), trench fever (B)
Mites	Rickettsial pox (B), scrub typhus (B)
Mosquitoes	Dengue fever (V), filariasis ("elephantiasis") (H), malaria (P), viral encephalitis (V), yellow fever (V)
Reduviid bugs	American trypanosomiasis (Chagas' disease) (P)
Sand flies ( <i>Phlebotomus</i> spp.)	Leishmaniasis (P)
Ticks	Babesiosis (P), Colorado tick fever (V), ehrlichiosis (B), Lyme disease (B), relapsing fever (B), Rocky Mountain spotted fever (B), tularemia (B)
Tsetse flies ( <i>Glossina</i> spp.)	African trypanosomiasis (P)

B, bacterial disease; P, protozoal disease; H, helminth disease; V, viral disease.

# Factors predisposing VBD

- A complex dynamic of environmental and social factors:
  - Globalization of travel and trade
  - Unplanned urbanization
  - Climate change
  - Changes in agricultural practices

# Prevention and control

- Provide education and improve awareness
- Access to water and sanitation
- Providing technical support and guidance to countries to manage cases and outbreaks
- Improve reporting systems
- Training on clinical management, diagnosis and vector control
- Developing new tools to combat the vectors e.g. insecticide products and spraying technologies