

AIM: Toxicology and Human Health: How do they cross over?

### Transmissible / Communicable

Disease Name	Characteristics of disease
Cholera	Bacterial disease that is contracted from infected water (contaminated with fecal matter)
Dysentery	Disease is caused by several types of infectious pathogens such as bacteria and parasites that cause an infection of the intestines. Possible ways of transmission: <ul style="list-style-type: none"> <li>- person who prepares food is sick and didn't properly wash their hands</li> <li>- something is touched that has the parasite or bacteria on it, such as a toilet handle or sink knob</li> <li>- swimming in contaminated water, such as lakes or pools</li> <li>- untreated sewage in streams and rivers that serve as a water supply</li> </ul>
Encephalitis	Encephalitis is inflammation of the brain. There are several causes, but the most common is viral infection transmitted by a bite from an infected mosquito or tick.
Malaria	Parasitic disease caused by bites from infected mosquitoes. Most often found in Sub-Saharan Africa.
MERS: Middle East Respiratory Syndrome	Middle East Respiratory Syndrome (MERS) is viral respiratory illness that is new to humans. It was first reported in Saudi Arabia in 2012 and has since spread to several other countries, including the United States. Studies have shown that direct contact with camels is a risk factor for human infection.
Plague	The plague is a serious bacterial infection that can be deadly. This bacterium is found in animals throughout the world and is usually transmitted to humans through fleas or through contact with contaminated fluids or tissues of another human.
SARS: Severe Acute Respiratory Syndrome	Form of pneumonia. It is transferred by inhaling or touching infected fluids.
Tuberculosis	Bacterial infection that typically attacks the lungs. Spread by breathing in the bacteria from bodily fluids of an infected person.
West Nile Virus	West Nile virus (WNV) is the leading cause of mosquito-borne disease in the continental United States. It is most commonly spread to people by the bite of an infected mosquito that had become infected by feeding on infected birds.
Zika	Virus caused by bites from infected mosquitoes. Can be transmitted through sexual contact or from pregnant woman to fetus.

## Non-Transmissible / Non-Communicable

examples: cancers (skin, lung, leukemia, etc), Alzheimer's, asthma, epilepsy

## Non-Transmissible / Non-Communicable as related to human nutrition

<b><u>Malnutrition:</u></b> poor nutrition – imbalanced nutrient intake (lacking, or in excess)	
<b>a. <u>Overnutrition</u></b> <ul style="list-style-type: none"> <li>- diet high in calories and/or saturated fat</li> <li>- developed nations with abundant resources</li> </ul>	<b>b. <u>Undernutrition</u></b> <ul style="list-style-type: none"> <li>- consume fewer than required daily calories</li> <li>- lack sufficient nutrient intake</li> </ul>
<b><u>Diseases:</u></b> "wealth diseases" obesity atherosclerosis / arteriosclerosis - plaque build-up in arteries (cholesterol) type 2 diabetes - difficulty regulating insulin production and processing glucose	<b><u>Diseases:</u></b> marasmus – lack of overall nutrition (emaciation) kwashiorkor – lack of protein (distended belly) anemia – red-blood cell/hemoglobin deficiency (lacking iron) goiter – enlarged thyroid gland – iodine deficiency