**DISEASES FACT SHEETS**   
(Information from the World Health Organization)

**Cholera**

* General
  + Cholera is an acute diarrheal disease that can kill within hours if left untreated.
  + There are an estimated 3–5 million cholera cases and 100,000–120,000 deaths due to cholera every year.
  + Up to 80% of cases can be successfully treated with oral rehydration salts.
  + Safe water and sanitation is critical in reducing the impact of cholera and other waterborne diseases.
* Causative Agent and Transmission
  + *Vibrio cholerae,* a bacteria
  + Get the disease by drinking contaminated water or eating food contaminated by the water—a preventable disease due entirely to poor sanitation
* Symptoms
  + About 75% of people infected with *V. cholerae* do not develop any symptoms, although the bacteria are present in their feces for 7–14 days after infection and are shed back into the environment, potentially infecting other people.
  + Among people who develop symptoms, 80% have mild or moderate symptoms, while around 20% develop acute watery diarrhea with severe dehydration.
  + Can lead to death if untreated.
  + People with low immunity – such as malnourished children or people living with HIV – are at a greater risk of death if infected.
* Prevention and Control
  + Effective control measures rely on prevention, preparedness and response .
  + Clean water supplies essential, as the disease is contracted by drinking or consuming contaminated water.
  + Oral cholera vaccines are considered an additional means to control cholera, but should not replace conventional control measures.

**Malaria**

* General
  + Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected mosquitoes.
  + In 2010, malaria caused an estimated 660 000 deaths (with an uncertainty range of 490 000 to 836 000), mostly among African children.
  + Malaria is preventable and curable.
  + Non-immune travelers from malaria-free areas are very vulnerable to the disease when they get infected.
* Causative Agent and Transmission
  + Malaria is caused by Plasmodium parasites, a protozoan protist.
  + The parasites are spread to people through the bites of infected Anopheles mosquitoes, called "malaria vectors," which bite mainly between dusk and dawn.
  + There are four parasite species that cause malaria in humans:
    - *Plasmodium falciparum*
    - *Plasmodium vivax*
    - *Plasmodium malariae*
    - *Plasmodium ovale*
    - *Plasmodium falciparum* and *Plasmodium vivax* are the most common.
    - *Plasmodium falciparum* is the most deadly.
* Symptoms
  + Acute febrile illness
  + In a non-immune individual, symptoms appear seven days or more (usually 10–15 days) after the infective mosquito bite.
  + First symptoms: fever, headache, chills and vomiting – may be mild and difficult to recognize as malaria.
  + If not treated within 24 hours, P. falciparum malaria can progress to severe illness often leading to death.
  + Children with severe malaria frequently develop one or more of the following symptoms: severe anemia, respiratory distress in relation to metabolic acidosis, or cerebral malaria.
  + In adults, multi-organ involvement is also frequent.
  + In malaria endemic areas, persons may develop partial immunity, allowing asymptomatic infections to occur.
  + For both *P. vivax* and *P. ovale*, clinical relapses may occur weeks to months after the first infection, even if the patient has left the malarious area.
    - These new episodes arise from dormant liver forms known as hypnozoites (absent in *P. falciparum* and *P. malariae*); special treatment – targeted at these liver stages – is required for a complete cure.
    - Malaria is a disease that keeps on giving—it can relapse and come back.
* Prevention and Control
  + Increased malaria prevention and control measures are dramatically reducing the malaria burden in many places.
  + Mosquito netting and avoiding them at night can prevent infection.

**HIV/AIDS (Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome)**

* General
  + HIV continues to be a major global public health issue, having claimed more than 25 million lives over the past three decades.
  + There were approximately 34 [31.4–35.9] million people living with HIV in 2011.
  + Sub-Saharan Africa is the most affected region, with nearly 1 in every 20 adults living with HIV. Sixty nine per cent of all people living with HIV are living in this region.
  + HIV infection is usually diagnosed through blood tests detecting the presence or absence of HIV antibodies.
* Causative Agent and Transmission
  + Caused by a virus (the Human Imuno-Deficiency Virus)
  + HIV can be transmitted via the exchange of a variety of body fluids from infected individuals, such as blood, breast milk, semen and vaginal secretions.
    - Individuals cannot become infected through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing personal objects, food or water.
  + Risk Factors for transmission:
    - having unprotected anal or vaginal sex
    - having another sexually transmitted infection such as syphilis, herpes, chlamydia, gonorrhoea, and bacterial vaginosis
    - sharing contaminated needles, syringes and other injecting equipment
    - receiving unsafe injections, blood transfusions, medical procedures that involve unsterile cutting or piercing
    - experiencing accidental needle stick injuries, including among health workers.
* Symptoms
  + Targets the immune system and weakens people's surveillance and defense systems against infections and some types of cancer.
  + As the virus destroys and impairs the function of immune cells, infected individuals gradually become immunodeficient.
  + Immunodeficiency results in increased susceptibility to a wide range of infections and diseases that people with healthy immune systems can fight off.
  + The most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS), which can take from 2 to 15 years to develop depending on the individual.
  + AIDS is defined by the development of certain cancers, infections, or other severe clinical manifestations
* Treatment
  + There is no cure for HIV infection.
  + Effective treatment with antiretroviral drugs can control the virus so that people with HIV can enjoy healthy and productive lives.
  + In 2011, more than 8 million people living with HIV were receiving antiretroviral therapy (ART) in low- and middle-income countries.
  + Another 7 million people need to be enrolled in treatment to meet the target of providing ART to 15 million people by 2015
  + HIV can be suppressed by combination antiretroviral therapy (ART) consisting of three or more antiretroviral (ARV) drugs.
    - ART does not cure HIV infection but controls viral replication within a person's body and allows an individual's immune system to strengthen and regain the capacity to fight off infections.
* Prevention and Control
  + Individuals can reduce the risk of HIV infection by limiting exposure to risk factors. Key approaches for HIV prevention, which are often used in combination, include:
    - 1. Male and female condom use: Correct and consistent use of male and female condoms during vaginal or anal penetration can protect against the spread of STIs, including HIV. Evidence shows that male latex condoms have an 85% or greater protective effect against the sexual transmission of HIV and other sexually transmitted infections (STIs).
    - 2. Testing and counselling for HIV and STIs: Testing for HIV and other STIs is strongly advised for all people exposed to any of the risk factors so that they can learn of their own infection status and access necessary prevention and treatment services without delay.
    - 3. Voluntary medical male circumcision: Medical male circumcision, when safely provided by well-trained health professionals, reduces the risk of heterosexually acquired HIV infection in men by approximately 60%.
    - 4. ARV based prevention: A recent trial has confirmed if an HIV-positive person adheres to an effective antiretroviral therapy regimen, the risk of transmitting the virus to their uninfected sexual partner can be reduced by 96%.
    - 5. Harm reduction for injecting drug users: People who inject drugs can take precautions against becoming infected with HIV by using sterile injecting equipment, including needles and syringes, for each injection.
    - 6. Elimination of mother-to-child transmission of HIV (eMTCT): The transmission of HIV from an HIV-positive mother to her child during pregnancy, labour, delivery or breastfeeding is called vertical or mother-to-child transmission (MTCT). In the absence of any interventions HIV transmission rates are between 15-45%. MTCT can be nearly fully prevented if both the mother and the child are provided with antiretroviral drugs throughout the stages when infection could occur.

**Tuberculosis**

* General
  + Tuberculosis (TB) is second only to HIV/AIDS as the greatest killer worldwide due to a single infectious agent.
  + In 2011, 8.7 million people fell ill with TB and 1.4 million died from TB.
  + Over 95% of TB deaths occur in low- and middle-income countries, and it is among the top three causes of death for women aged 15 to 44.
  + In 2010, there were about 10 million orphan children as a result of TB deaths among parents.
  + TB is a leading killer of people living with HIV causing one quarter of all deaths.
  + Multi-drug resistant TB (MDR-TB) is present in virtually all countries surveyed.
  + The estimated number of people falling ill with tuberculosis each year is declining, although very slowly, which means that the world is on track to achieve the Millennium Development Goal to reverse the spread of TB by 2015.
    - The TB death rate dropped 41% between 1990 and 2011.
* Causative Agent and Transmission
  + Bacteria (Mycobacterium tuberculosis) that most often affect the lungs.
  + TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air. A person needs to inhale only a few of these germs to become infected.
  + About one-third of the world's population has latent TB, which means people have been infected by TB bacteria but are not (yet) ill with disease and cannot transmit the disease.
  + Tuberculosis mostly affects young adults, in their most productive years. However, all age groups are at risk. Over 95% of cases and deaths are in developing countries.
* Symptoms
  + Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
  + When a person develops active TB (disease), the symptoms (cough, fever, night sweats, weight loss etc.) may be mild for many months.
  + This can lead to delays in seeking care, and results in transmission of the bacteria to others. People ill with TB can infect up to 10-15 other people through close contact over the course of a year.
  + Without proper treatment up to two thirds of people ill with TB will die
* Treatment
  + TB is a treatable and curable disease.
  + Active, drug-sensitive TB disease is treated with a standard six-month course of four antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
  + The vast majority of TB cases can be cured when medicines are provided and taken properly.
  + Since 1995, over 51 million people have been successfully treated and an estimated 20 million lives saved.
  + Standard anti-TB drugs have been used for decades, and resistance to the medicines is growing. Disease strains that are resistant to a single anti-TB drug have been documented in every country surveyed.
* Prevention and Control
  + WHO's pursues six core functions in addressing TB:
    - Provide global leadership on matters critical to TB.
    - Develop evidence-based policies, strategies and standards for TB prevention, care and control, and monitor their implementation.
    - Provide technical support to Member States, catalyze change, and build sustainable capacity.
    - Monitor the global TB situation, and measure progress in TB care, control, and financing.
    - Shape the TB research agenda and stimulate the production, translation and dissemination of valuable knowledge.
    - Facilitate and engage in partnerships for TB action.

**Antimicrobial resistance**

* Infections caused by resistant microorganisms often fail to respond to conventional treatment, resulting in prolonged illness and greater risk of death.
* About 440,000 new cases of multidrug-resistant tuberculosis (MDR-TB) emerge annually, causing at least 150,000 deaths.
* Resistance to earlier generation antimalarial medicines such as chloroquine and sulfadoxine-pyrimethamine is widespread in most malaria-endemic countries.
* A high percentage of hospital-acquired infections are caused by highly resistant bacteria such as methicillin-resistant Staphylococcus aureus (MRSA).
* Inappropriate and irrational use of antimicrobial medicines provides favorable conditions for resistant microorganisms to emerge, spread and persist.
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  + For example, when patients do not take the full course of a prescribed antimicrobial or when poor quality antimicrobials are used, resistant microorganisms can emerge and spread.