

Component Five

***Human Settlements and
Environmental Health***

COMPONENT FIVE

HUMAN SETTLEMENTS AND ENVIRONMENTAL HEALTH

Human Settlements and Environmental Health tackles the living conditions of humans and how they affect their health.

As human settlements affect the environment as well as the health of the people, it becomes necessary to compile its statistics for management enhancement and better quality conditions related to human settlements.

Compiled statistics in this subcomponent may provide indicators helpful to achieve the Sustainable Development Goals e.g. to ensure healthy lives and promote well-being for all at all ages (SDG 3), to ensure access to water and sanitation for all (SDG 6), and to make cities inclusive, safe, resilient and sustainable (SDG 11). The subcomponent also contains statistics related to ensuring access to affordable, reliable, sustainable and modern energy for all (SDG 7) and taking urgent action to combat climate change and its impacts (SDG 13).

This component is divided into two subcomponents: Human Settlements and Environmental Health. It contains 54 statistics, 12 of which are core statistics. Five core statistics were compiled in the compendium, three of which are under the subcomponent human settlement and two are in the subcomponent environmental health.

5.1 Human Settlements

The sub-component on human settlements deals with the totality of human community where people reside, may it be on large cities, towns, or villages. Statistics on this are usually gathered so that policy makers, analyst, and civil society will have information on how the residents work and live in their settlements, how they transform the landscape and supporting ecosystem and how it affects the resident's well-being and health.

Out of the five topics under Human Settlements, only two topics specifically 5.1.2 Access to selected basic services and 5.1.5 Environmental concerns specific to urban settlements contained core statistics. Data for these statistics are gathered usually in the form of censuses, surveys, administrative records and remote sensing.

5.1.2 Access to selected basic services

Access to selected basic services include access to water, sanitation, and waste removal services. Having access to the said basic services can have a favorable effect on a person's health and well-being, which in turn can contribute to better environmental quality.

Collected statistics for the compendium included access to improved drinking water quality and improved sanitation facility obtained from the Philippine Statistics Authority's (PSA) Census of Population and Housing (CPH) for the year 2010.

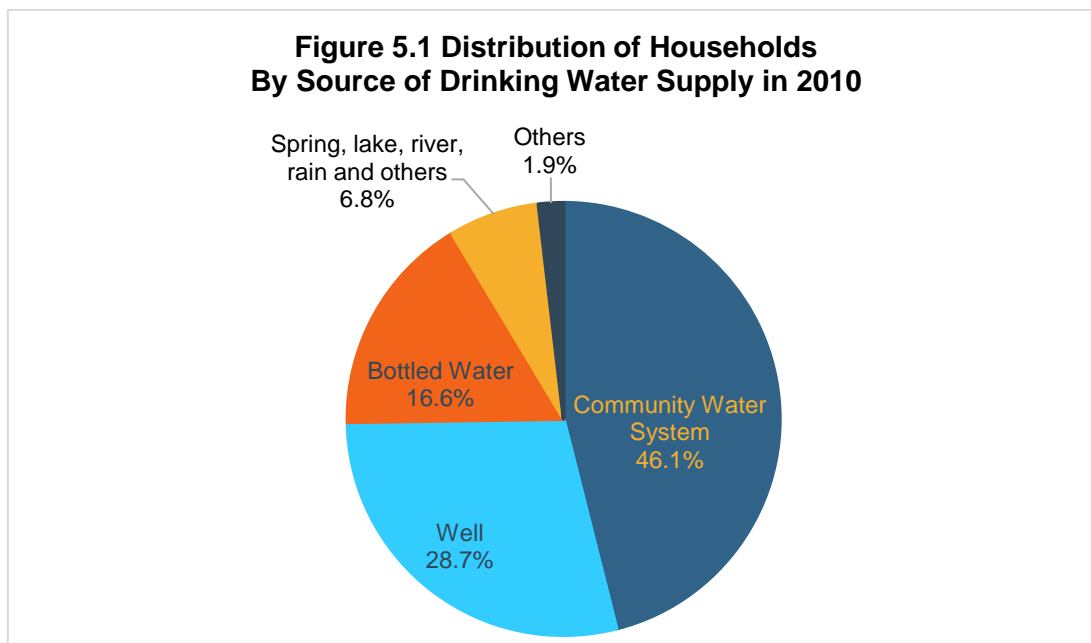
Figure 5.1 shows the percent distribution of households by source of water supply for drinking from the Census of Population and Housing. The Community Water System comprises of the own use faucet and shared faucet; Well consisting of shared tubed/piped deep well or, own use tubed/piped deep well, tubed/piped shallow well and dug well; others' category include peddlers and others; springs (further disaggregated into protected and unprotected), lake, river rain and others; and bottled water.

A total of 20,171,899 households was reported in the CPH. In the Community Water System, 32 percent or 6,446,213 household use own faucet compared to those with shared faucet. Shared tubed/piped deep well system was used by 11.5 percent of households. Water sourced from protected spring was also the source of 805,131 households (4 percent). A little over one percent of the households indicated peddlers as their water source.

In NCR, 51.5 percent or over 1.4 million households use their own faucets as their primary drinking water source. Almost all regions in Luzon source their drinking water primarily from their own faucets, except the Ilocos Region and Cagayan Valley Region where households use shared tubed/piped deep wells for drinking water at 22.4 percent and 27.0 percent, respectively.

Meanwhile, the Visayas regions differ in their main drinking water source. Almost 20 percent of Western Visayas households get their drinking water primarily from shared tubed/piped deep well, while 17.2 percent have their own faucets connected to community water systems. Central Visayas mainly uses bottled water (27.1 percent) and own faucets (25.8 percent) while Eastern Visayas households utilize shared faucets (32.1 percent), and own faucets (24.8 percent).

Majority of the regions in Mindanao also primarily source their drinking water from their own faucets, with the exception of ARMM which uses dug wells (20.3 percent) as their primary drinking water source.



Source: Philippine Statistics Authority, 2010 Census of Population and Housing

Another core statistic under this topic is access to improved sanitation facilities. On this, the number of households by kind of toilet facility from the PSA's Census of Population and Housing 2010 was used as an indicator.

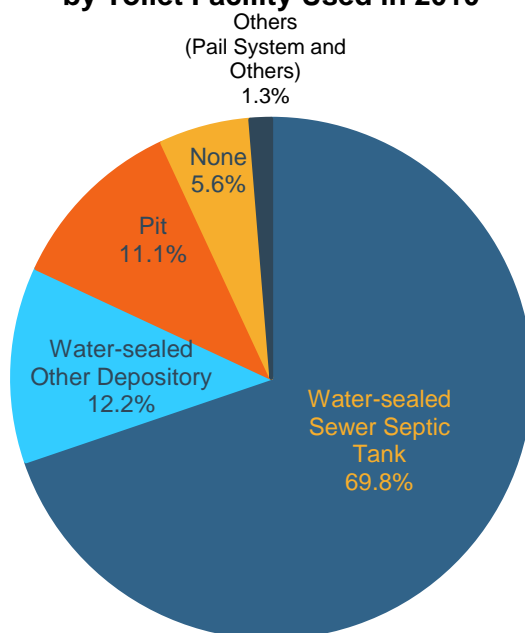
Figure 5.2 shows the percent distribution of households and the type of toilet facility being used. The following types of toilet facility were identified: the water-sealed sewer septic tank which includes those that are used exclusively by households and those that are shared with other household; water sealed other depository which consists of those used exclusively by the household and those that are shared with other households; pits consisting of open and closed pits; households that do not have toilet facilities (none); and lastly other types of toilet facility.

Almost nine percent of the households use water-sealed sewer septic tank, being shared with other households. Water-sealed other depository used exclusively by households was posted at 8.6 percent. Closed pit are used by 7 percent of households.

Sixty-one percent of Filipino households have water-sealed sewer septic tank used exclusively. All regions except for ARMM use this type of facility, with NCR having the largest share at 81 percent. ARMM households primarily use closed pits (29.7 percent) and open pits (28.5 percent).

Almost six percent of the total Filipino households do not have sanitation facility. MIMAROPA has the highest percentage at 13.9 percent.

Figure 5.2 Distribution of Households by Toilet Facility Used in 2010



Source: Philippine Statistics Authority, 2010 Census of Population and Housing

5.1.5 Environmental concerns specific to urban settlements

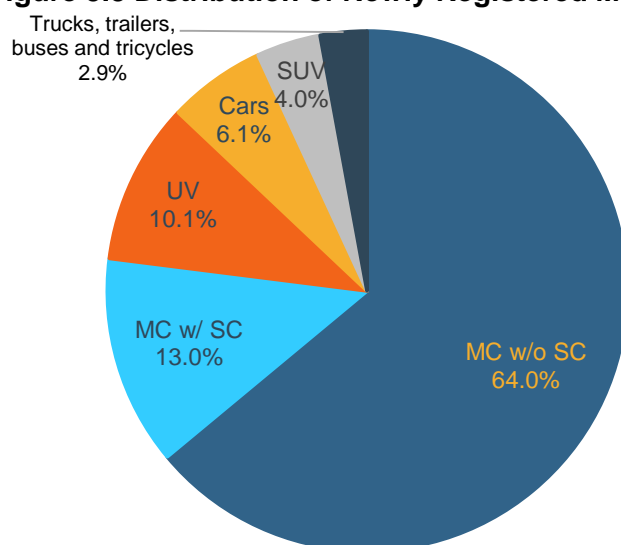
Urban settlements are deemed a primary concern due to increasing population density, which in turn has an effect on human health and well-being, as well as the quality of environment. Other issues that are of concern here are the extent of urban sprawl, availability of green spaces for urban residents, the prevailing types of transportation in and between urban areas, and the existence and effectiveness of urban planning and zoning.

The core statistic for this topic is the number of private and public vehicles. The data gathered as an indicator for this statistics was the number of registration by type of registration and vehicle in 2015, gathered from the Land Transportation Office (LTO).

The LTO reports seven types of motor vehicles including Cars, Utility Vehicles (UV), Sports Utility Vehicle (SUV), Trucks, Buses, Trailers, and Motor Cycles which is further classified to without sidecars, with sidecars and non-conventional ones (Tricycles).

A total of 8,706,607 motor vehicles were registered in 2015. There were 1,829,753 new registrations and 6,876,854 renewed registrations.

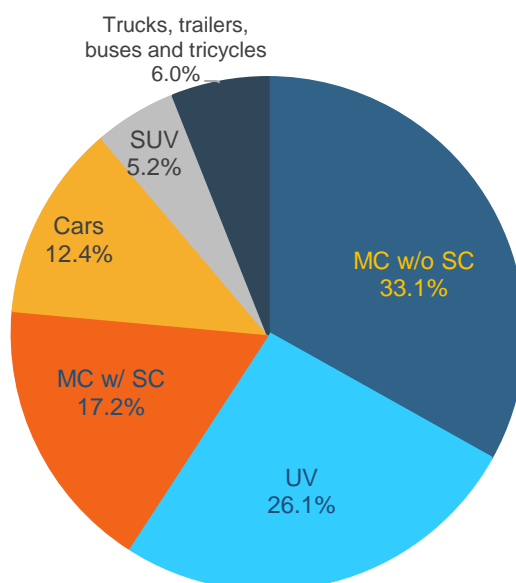
Motorcycles without sidecars make up the largest share (39.6 percent) of the new and renewed vehicles in the country. They also comprise 64.0 percent of the newly registered vehicles, as shown in Figure 5.3, where the most motorcycles without sidecars were the ones newly registered in Cagayan Valley. Thirty-three percent of the renewals are also motorcycles without sidecars as shown in Figure 5.4, with the highest renewed in NCR.

Figure 5.3 Distribution of Newly Registered Motor Vehicles

Source: Land Transportation Office

Aside from motorcycles without side cars, utility vehicles also comprise a significant share (22.7 percent) of the total registered vehicles, as well as motorcycles with sidecars (16.4 percent).

NCR, CALABARZON and Central Luzon have the greatest shares of the combined new and renewal registrations as of 2015, with respective shares of 26.6 percent, 12.8 percent and 12.0 percent of the total 8.7 million registrations. NCR also has the most abundant of these types of vehicles registered in total. Of the 2.3 million motor vehicles registered in Metro Manila, 27.8 percent are utility vehicles, 25.8 percent are motorcycles without sidecars, and 20.6 percent are passenger cars.

Figure 5.4 Percent Distribution of Renewed Motor Vehicles

Source: Land Transportation Office

5.2 Environmental Health

Environmental health focuses on how the environmental factors and processes affect and alter the health of an individual. Statistics that are usually gathered here are morbidity (incidence and prevalence) and mortality of certain types of diseases.

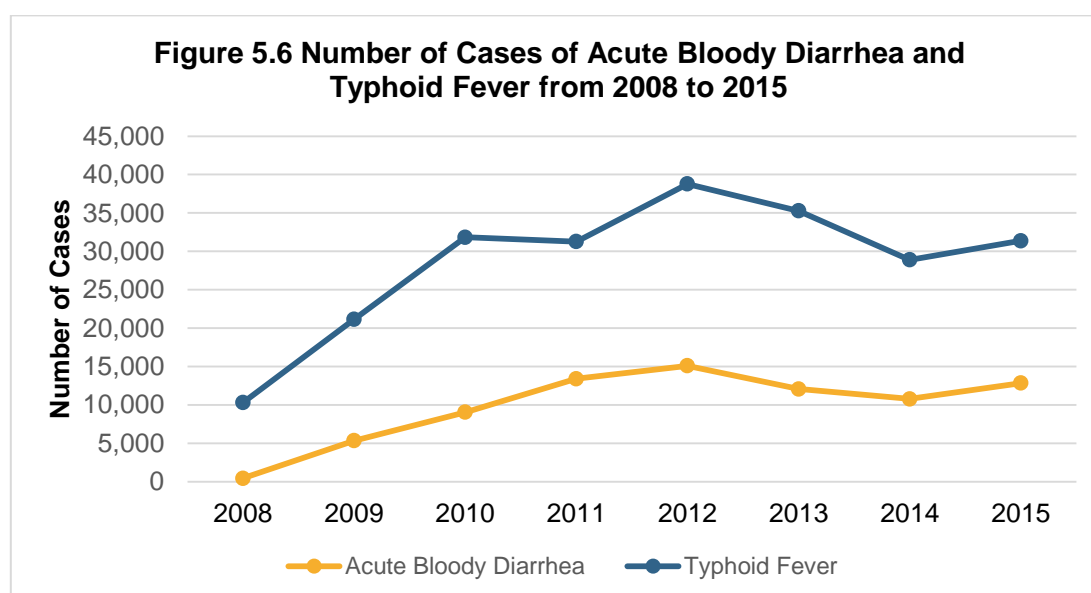
The subcomponent has five topics wherein only 5.2.2 Water related diseases and conditions, and 5.2.3 Vector Borne Diseases have core statistics.

5.2.2 Water-related diseases and conditions

Water related diseases are caused by the ingestion of chemicals and micro-organisms. These include diseases caused by bacteria, viruses, protozoa, water-borne parasite infection and chemical contamination of water. Water-related diseases pose great threat to a person's health since it can trigger health problems such as cancer, organ damage, and increase in blood cholesterol and blood pressure.

The FDES 2013 recommends compiling statistics for this topic on the incidence (the rate of occurrence of new cases of disease), prevalence (part of the population with a disease at a given time period) and mortality (number of deaths by place, time and cause) of water-borne diseases. However, only the last two were compiled for this compendium.

Statistics on water-borne diseases were gathered from the Department of Health (DOH). These include the number of cases of and deaths due to Acute Bloody Diarrhea, Confirmed Cholera, Confirmed Hepatitis A, Rotavirus, and Typhoid Fever. Confirmed cholera patients are those with diarrhea that has been laboratory-confirmed through the isolation of *Vibrio cholera* from stools. Confirmed Hepatitis A cases are those laboratory-confirmed positive for IgM anti-HAV. Prevalence and deaths due to these waterborne diseases were reported for 2008 to 2015, except for Rotavirus, which has been monitored only starting in 2015 only.



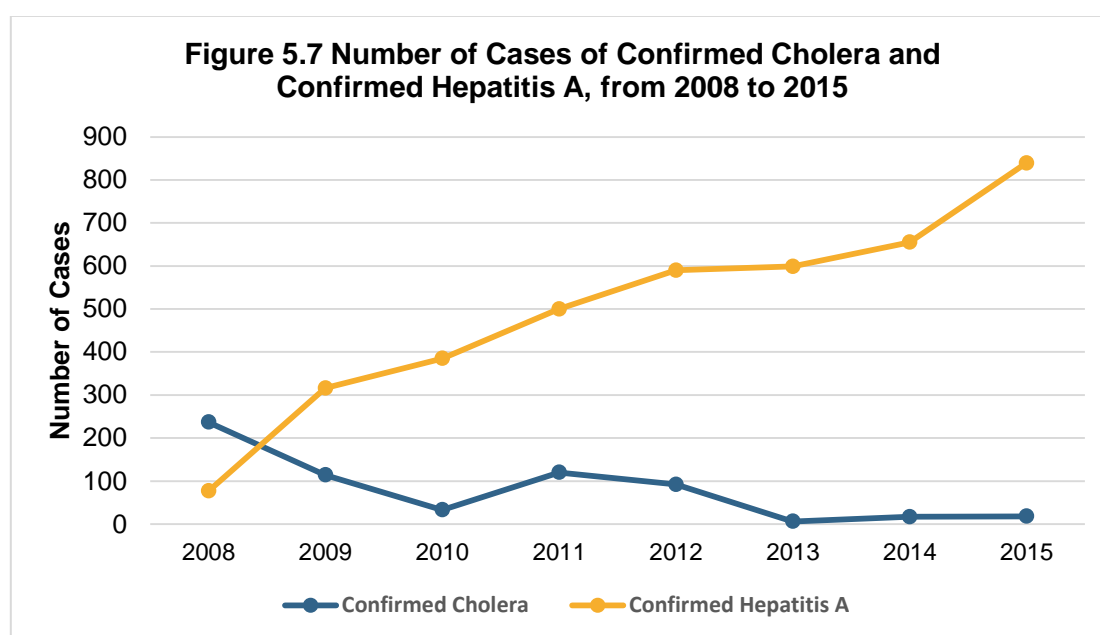
Source: Department of Health

As shown in Figure 5.6, the number of cases for Typhoid Fever increased from 2008 to 2012, with peaks in 2012 with 38,783 cases, and exhibiting a decline in the succeeding years. This ailment commonly affects children and teens aged five to 15 years old, and teens and young adults aged 15 to 24 years old. Around 30 percent and 21.4 percent of patients were diagnosed with typhoid under these two latter age groups, respectively.

Cases of acute Bloody Diarrhea has been increasing from 2008 to 2012, with its highest incidence reported in 2012. A gradual decline is noted in the succeeding years. This disease commonly affects toddlers aged one to four years old (27.2 percent), adults aged 40 to 64 years old (14.5 percent), and babies aged less than a year old (14.4 percent).

Figure 5.7 shows the number of cases of confirmed cholera and confirmed hepatitis. The number of cases for Confirmed Hepatitis A has been increasing over the years from 2012 to 2015, posting the highest in 2015. More males were diagnosed with the disease than females. Majority of the patients diagnosed annually are aged 15 to 24 years old (33.6 percent), 25 to 39 years old (27.7 percent), and 5 to 14 years old (22.5 percent).

Cases of Confirmed Cholera, on the other hand, has decreased over time, with the highest reported cases of 120 cases in 2011 and the lowest in 2013 with only 6 cases. On average, this disease is most prevalent in children, at 27.4 percent for those aged one to four years old, and 29.5 percent for those aged five to 14 years old.



Source: Department of Health

The highest number of reported deaths from water-borne diseases for the years 2008 to 2015 were due to Typhoid Fever (599 deaths) and Acute Bloody Diarrhea (186 deaths). Cases of reported deaths due to Hepatitis A were posted at 17 deaths and for the confirmed Cholera, eight deaths. Mortality due to Typhoid Fever was highest in 2012 with 141 recorded deaths, while mortality due to Acute Bloody Diarrhea peaked in 2011, with 48 deaths.

On average among deaths due to Typhoid Fever patients are more common among those aged 15 to 24 years old (23.7 percent), 25 to 39 years old (22.8 percent), and 40 to 64 years old (22.1 percent). Acute bloody diarrhea mortality is more common in infants aged less than a year old (30.9 percent) and toddlers aged 1 to 4 years old (24.6 percent).

As mentioned above, surveillance of the DOH for Rotavirus commenced in 2015 for certain Rural Health Units. A total of 3,240 cases and 44 deaths was recorded due to rotavirus.

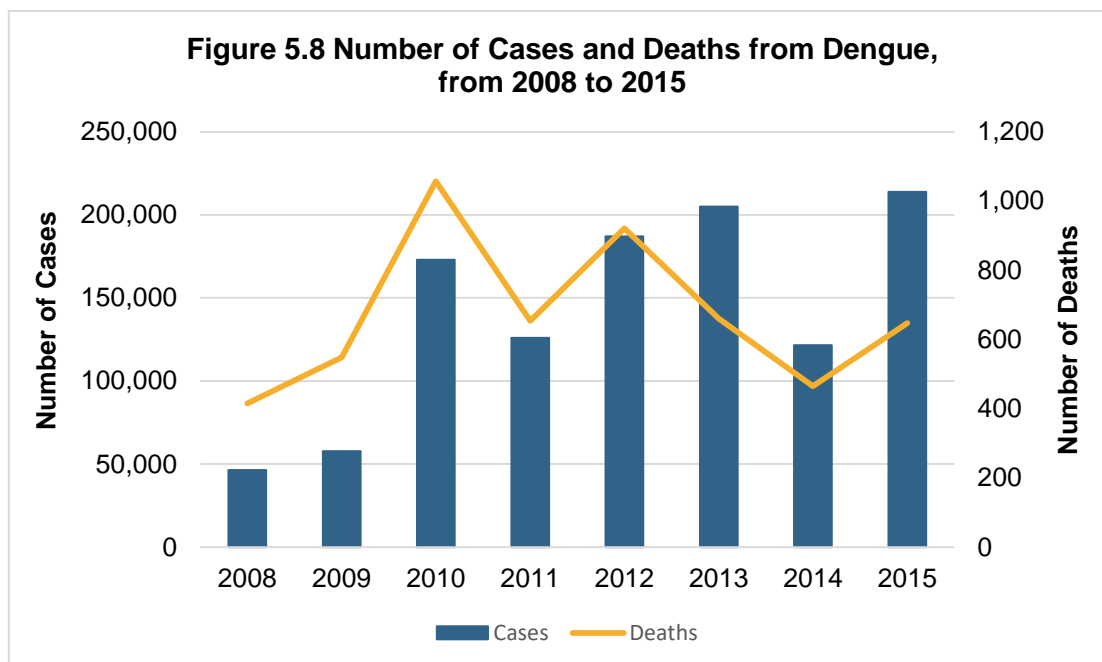
5.2.3 Vector-borne diseases

Vector-borne diseases are those that are transferred by organisms such as insects that have viruses, bacteria, protozoa and other pathogens in them.

Statistics on vector-borne diseases were gathered from the Department of Health (DOH). These include the number of cases and deaths for Dengue and Malaria.

A total of 1,130,658 cases and 5,367 deaths were reported due to Dengue from 2008 to 2015. Figure 5.8 displays the number of cases and deaths caused by Dengue per year. The highest number of deaths occurred in 2010, within 213,930 recorded deaths. In 2014, the number of cases dropped by 40.7 percent from the preceding year. However, it went up to 76.0 percent in the following year.

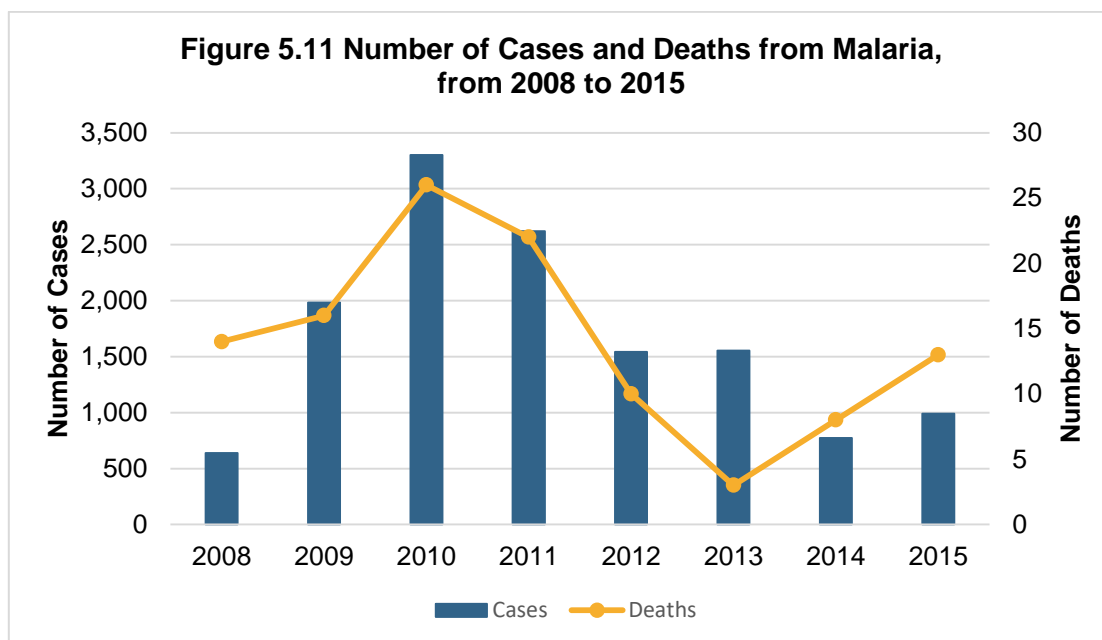
On average, of the recorded cases of Dengue on an annual basis, 33.1 percent were children aged five to 14 years old, and 31.7 percent of were aged 15 to 24 years old. An average of 21,674 cases were recorded annually in NCR. Central Luzon respectively recorded annual averages of 20,625 and 18,519 cases.



Source: Department of Health

Figure 5.9 shows the recorded number of cases and deaths due to malaria peaking in 2010 at 3,300 recorded cases and 26 deaths.

Incidence of malaria is more common in five to 14 year-olds at 28.1 percent of the average annual number of cases, and 15 to 24 year-olds and 25 to 34 year-olds, with an approximate share of 18.6 percent for both. In recent years, malaria is more prevalent in MIMAROPA than in other regions reflecting 594 of the 990 cases in 2015.



Source: Department of Health