

Malaria exists and is prevalent in poor tropical and subtropical areas. One of the countries most affected in the world with this epidemic is Africa. Some of the regions in this continent live on the edge of poverty, ignorance, malnutrition, poor education and lacks levels of health security.

This pandemic is considered one of the most leading causes of illness and death. moreover, In areas with high transmission, the most vulnerable groups are young children, who have not developed immunity to malaria yet, and pregnant women, whose immunity has been decreased by pregnancy.

"In 2019, malaria caused an estimated 229 million clinical episodes, and 409,000 deaths. An estimated 94% of deaths in 2019 were in the WHO African Region "

#### Who Is Most Vulnerable?

The most vulnerable are persons with no or little immunity against the disease. In areas with high transmission (such as Africa south of the Sahara), the most vulnerable groups are:

- Young children, who have not yet developed partial immunity to malaria
- <u>Pregnant women</u>, whose immunity is decreased by pregnancy, especially during the first and second pregnancies
- Travelers or migrants coming from areas with little or no malaria transmission, who lack immunity.

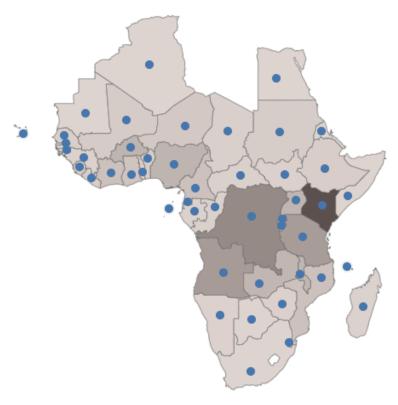
In areas with lower transmission (such as Latin America and Asia), residents are less frequently infected. Many persons may reach adult age without having built protective immunity and are thus susceptible to the disease, including severe and fatal illness."

In addition to loss of life, malaria places an economic burden on African nations. It is estimated that malaria costs Africa US\$12 billion per year in direct costs and reduces GDP growth by 1.3 percent annually2. The burden is carried mostly by poor, rural families that have less access to current prevention and treatment services.

Despite the devastation caused by malaria, increased international attention and funding for prevention and treatment is saving lives. Between 2000-2013, malaria incidence was cut by 30% globally and 34% in Africa and that malaria mortality decreased by 47% worldwide and 54% in Africa.

### A - What is the average number of deaths caused by the malaria epidemic?

Darker shading marks a higher number of deaths caused by malaria:



## The following statistics show:

1) the average number of deaths and in what year they occurred on the whole continent of Africa from 2000 to 2014:

Year	Measure Names	Measure Values
2010	Africa Average	1,303.02

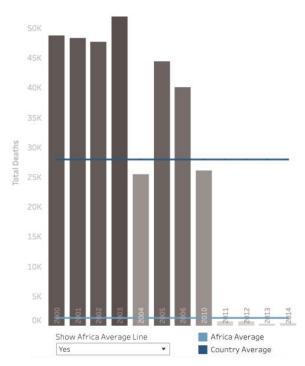
2) Total Deaths by Statistics recorded from 2000 - 2014:

total number of deaths:	1763339
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## B - Which countries are most affected by the malaria epidemic?



How have the number of malaria deaths changed over time in **Kenya**?



Country	years	Deaths	Deaths per day
Kenya	2000	48767	134
Kenya	2001	48286	132
Kenya	2002	47697	131
Kenya	2003	51842	142
Kenya	2004	25403	70
Kenya	2005	44328	121
Kenya	2006	40079	110
Kenya	2010	26017	71
Kenya	2011	713	2
Kenya	2012	785	2
Kenya	2013	360	1
Kenya	2014	472	1

Country	Deaths per day	Avg. Deaths
Kenya	76	27896
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# Conclusions:

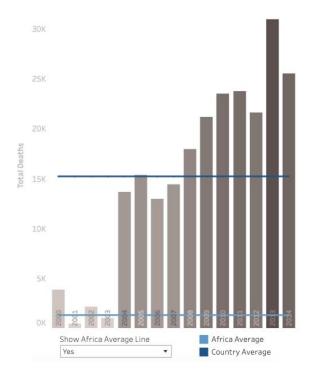
- 1- The most affected country which has the biggest malaria outbreak was Kenya. Statistical studies show the average death rate was: 27,896 in Kenya, in comparison with the average number of deaths that occurred from malaria in Africa was 1303.
- 2- The average daily deaths toll in Kenya is 76 deaths It is clear that Kenya has a very high outbreak epicenter, as the difference between the two averages is 26,593 cases in Kenya.
- 3- Kenya recorded a sharp increase in the incidence in 2003, the highest incident rate was 51,842.
- 4- The trend witnessed a decrease in the level of disease outbreaks and an increase in the level of immunity among citizens, as the percentage of infections decreased by 25,403, meaning a negative decrease by 26,439, which is a good indicator for enhancing the health of citizens.
- 5- Unfortunately in 2005, we noticed a positive increase of approximately 44,328 thousand infections.
- 6- The good news is that the cases after 2010 witnessed a severe decrease and an excellent increase in the citizens' immunity against the disease.

# C - What about Democratic Republic of the Congo?

Which countries are most affected?



How have the number of malaria deaths changed over time in **Democratic Republic of the Congo**?



years	Deaths	Deaths per day
2000	3856	11
2001	416	1
2002	2152	6
2003	989	3
2004	13613	37
2005	15322	42
2006	12970	36
2007	14372	39
2008	17940	49
2009	21168	58
2010	23476	64
2011	23748	65
2012	21601	59
2013	30918	85
2014	25502	70

Total number of deaths:	228043

Country	Deaths per day	Avg. Deaths
Democratic Republic of the Congo	42	15203

# Conclusions:

- 1- The sad thing is that the Democratic Republic of the Congo is still witnessing a sharp increase in infections even after 2010.
- 2- As the statistics recorded in 2013 show, the following infections were present:

30,918 infections, a high compared to the country of Kenya. Kenya had the highest infection rate in the history of the disease.

3- It is clear that the Republic has not been able to control the disease even in recent years because, based on statistics, it witnessed the second increase in infections, with a rate of 25,502 infections in 2014, and this is a serious health indicator.

### D- Anything special in South Africa?

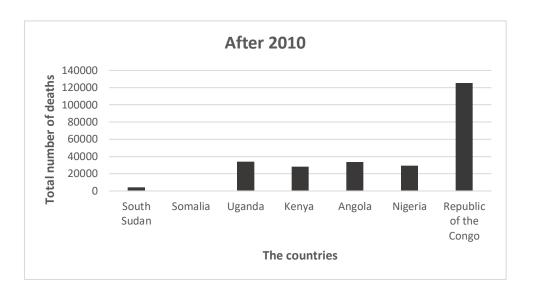
South Africa is one of the more developed countries in the continent, so it did not witness severe suffering and was able to control the epidemic at different stages.

The table shows the five years most affected by the epidemic, which span from 2000-2004

years	Deaths
2000	424
2001	174
2002	142
2003	105
2004	96

159
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## E- Which countries are more affected after 2010?



Countries	Total Deaths
South Sudan	4091
Somalia	58
Uganda	34172
Kenya	28347
Angola	33773
Nigeria	29285
Republic of the Congo	125245

Reference : cdc.gov