

Short Communication

# Status of Malaria in the W.H.O. Region of Africa

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## I N F O

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## A B S T R A C T

**Background:** No attempt had been made so far to compare the status of Malaria in countries belonging to the W.H.O. Region of Africa. This study is an attempt in that direction.

**Objectives:** The objective of this paper is to present a birds-eye view of the Malaria situation in the W.H.O. Region of Africa.

**Methods:** The study design included online searches related to Malaria for each country such as from the W.H.O. as well as other international organization websites.

**Results:** Four countries (Algeria, Lesotho, Mauritius, and Seychelles) are certified to be free from Malaria. Cabo Verde, which has not reported local transmission of Malaria for 3 years as of January 2021 may soon join this list. Forty-two countries (Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, South Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe) continue to report high rates of Malaria transmission.

**Conclusion:** Many countries in the W.H.O. Region of Africa are yet to receive a certification for Malaria elimination.

**Keywords:** Malaria, W.H.O., Africa

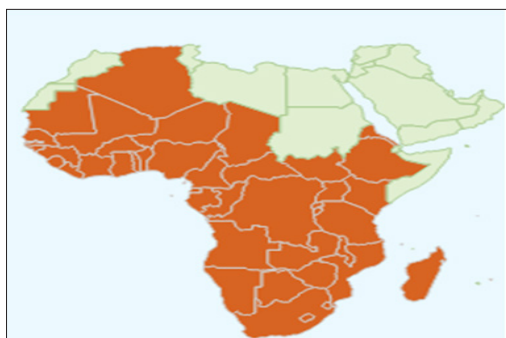


Figure 1. Map of W.H.O.'s Region of Africa [Source: (1)]

## Introduction

The W.H.O. Region of Africa (Figure 1) consists of the following forty-seven countries: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, South

Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

No attempt had been made so far to compare the status of Malaria in countries belonging to the W.H.O. Region of Africa. This study is an attempt in that direction.

The objective of this paper is to present a birds-eye view of the Malaria situation in the W.H.O. Region of Africa.

## Methods

The study design included online searches related to Malaria for each country such as from the W.H.O. as well as other international organization websites.

## Results

### 1. Algeria:

Algeria was certified by the W.H.O. to be free from Malaria in 2019.<sup>2</sup>

### 2. Angola:

In 2021, there were 3,874,892 confirmed cases of Malaria in Angola. The cases were generally spread out throughout the country with a large segment in the north-western part.<sup>3</sup>

### 3. Benin:

In 2021, there were 1,573,163 confirmed cases of Malaria in Benin. The cases were generally spread out throughout the country with larger portions in the west and south.<sup>4</sup>

### 4. Botswana:

In 2021, there were 1900 confirmed cases of Malaria in Botswana. The cases were generally spread out throughout the country with a larger portion in the north.<sup>5</sup>

### 5. Burkina Faso:

During 2021, there were 10,225,459 confirmed cases of Malaria in Burkina Faso. The cases were generally spread out throughout the country.<sup>6</sup>

### 6. Burundi:

In 2021, there were 7,670,177 confirmed cases of Malaria in Burundi. The cases were generally spread out throughout the country.<sup>7</sup>

### 7. Cabo Verde:

As of January 2021, Cabo Verde has not reported local Malaria transmission for three consecutive years. This makes it eligible to apply to the W.H.O. for certification of Malaria elimination.<sup>8</sup>

### 8. Cameroon:

In 2021, there were 7,670,177 confirmed cases of Malaria in Cameroon. The cases were generally spread out throughout the country.<sup>9</sup>

### 9. Central African Republic:

In 2021, there were 383,309 confirmed cases of Malaria in the Central African Republic. The cases were generally spread out throughout the country with a higher density in the central part.<sup>10</sup>

### 10. Chad:

In 2021, there were 1,962,372 confirmed cases of Malaria in Chad. The cases were generally spread out throughout the country with a higher density in the southern part.<sup>11</sup>

### 11. Comoros:

In 2021, there were 2274 confirmed cases of Malaria in Comoros. The cases were present in only one of the three islands i.e., Grande Comore and were spread out evenly throughout the island.<sup>12</sup>

### 12. Congo:

In 2021, there were 127,939 confirmed cases of Malaria in Congo. The cases were generally spread out throughout the country with larger portions in the north and south.<sup>13</sup>

### 13. Cote d'Ivoire:

In 2021, there were 3,274,683 confirmed cases of Malaria in Cote d'Ivoire. The cases were generally spread out throughout the country with larger portions in the northwest, central, and southeast parts.<sup>14</sup>

### 14. Democratic Republic of Congo:

In 2020, there were 24,959,997 presumed and confirmed cases of Malaria in the Democratic Republic of Congo.<sup>15</sup>

### 15. Equatorial Guinea:

In 2021, there were 15,725 confirmed cases of Malaria in Equatorial Guinea. The cases were equally spread out throughout the country.<sup>16</sup>

### 16. Eritrea:

In 2021, there were 31,486 confirmed cases of Malaria in Eritrea. The bulk of the cases occurred in the northern part of the country with the southern part and a portion of the central part devoid of Malaria cases.<sup>17</sup>

### 17. Eswatini:

In 2021, there were 724 confirmed cases of Malaria in Eswatini. The cases were present only along the northern and eastern borders of the country.<sup>18</sup>

### 18. Ethiopia:

In 2021, there were 1,530,739 confirmed cases of Malaria in Ethiopia. The cases were generally spread across the country with large pockets in the areas bordering Sudan and South Sudan.<sup>19</sup>

**19. Gabon:**

In 2021, there were 35,244 confirmed cases of Malaria in Gabon. The cases were present throughout the country in varying proportions.<sup>20</sup>

**20. Gambia:**

In 2021, there were 69,931 confirmed cases of Malaria in Gambia. The cases were present uniformly throughout the country with a mild increase towards the eastern part.<sup>21</sup>

**21. Ghana:**

In 2021, there were 4,348,694 confirmed cases of Malaria in Ghana. The cases were present uniformly throughout the country with an increase in the northern and western parts.<sup>22</sup>

**22. Guinea:**

In 2021, there were 1,335,323 confirmed cases of Malaria in Guinea. The cases were present throughout the country with a slight decrease in two northern areas.<sup>23</sup>

**23. Guinea-Bissau:**

In 2021, there were 89,784 confirmed cases of Malaria in Guinea-Bissau. The cases were present throughout the mainland of the country with an increase in the central and eastern parts. An even higher incidence was seen to be present in the Bissagos Islands in the Atlantic Ocean.<sup>24</sup>

**24. Kenya:**

In 2021, there were 3,215,116 confirmed cases of Malaria in Kenya. The cases were present throughout the country with a higher proportion in the west along the border with Uganda.<sup>25</sup>

**25. Lesotho:**

Lesotho was certified by the W.H.O. to be free from Malaria. in 2012.<sup>2</sup>

**26. Liberia:**

In 2021, there were 23,002 confirmed cases of Malaria in Liberia. The cases were present uniformly throughout the country.<sup>26</sup>

**27. Madagascar:**

In 2021, there were 800,661 confirmed cases of Malaria in Madagascar. The cases were generally spread across the island with larger pockets in the western and southern parts of the island.<sup>27</sup>

**28. Malawi:**

In 2021, there were 4,901,344 confirmed cases of Malaria in Malawi. The cases were present uniformly and densely throughout the country.<sup>28</sup>

**29. Mali:**

In 2021, there were 1,918,376 confirmed cases of Malaria in Mali. The cases were present throughout the country with an area of higher concentration in the eastern part.<sup>29</sup>

**30. Mauritania:**

In 2021, there were 20,105 confirmed cases of Malaria in Mauritania. The cases were present in the southern one-fourth of the country since the remaining three-fourth part of the country is desert or semi-desert.<sup>30</sup>

**31. Mauritius:**

Mauritius was certified by the W.H.O. to be free from Malaria. in 1973.<sup>2</sup>

**32. Mozambique:**

In 2017, there were 8,520,376 confirmed cases of Malaria in Mozambique. The cases were present throughout the country with an area of higher concentration in the northern part.<sup>31</sup>

**33. Namibia:**

In 2021, there were 54,268 confirmed cases of Malaria in Namibia. The cases were present in the northern one-third of the country since the remaining two-third part of the country is occupied by the Kalahari Desert.<sup>32</sup>

**34. Niger:**

In 2021, there were 2,638,580 confirmed cases of Malaria in Niger. The cases were present throughout the country with some pockets of high density along the southern border with Nigeria.<sup>33</sup>

**35. Nigeria:**

In 2021, there were 11,571,958 confirmed cases of Malaria in Nigeria. The cases were present throughout the country with pockets of high density spread throughout the country.<sup>34</sup>

**36. Rwanda:**

In 2021, there were 1,876,123 confirmed cases of Malaria in Rwanda. The cases were present throughout the country with pockets of the high-density present in the southern and eastern parts of the country.<sup>35</sup>

**37. Sao Tome and Principe:**

During 2021, there were 2239 confirmed cases of Malaria in Sao Tome and Principe. The cases were present on both islands.<sup>36</sup>

**38. Senegal:**

In 2021, there were 395,706 confirmed cases of Malaria in Senegal. The cases were present throughout the

country with a pocket of the high-density present in the southeastern part of the country.<sup>37</sup>

### 39. Seychelles:

Seychelles was certified by the W.H.O. to be free from Malaria. in 2012.<sup>2</sup>

### 40. Sierra Leone:

In 2021, there were 1,651,236 confirmed cases of Malaria in Sierra Leone. The cases were present throughout the country with bands of the high-density present in the central and western parts of the country.<sup>38</sup>

### 41. South Africa:

In 2021, there were 22,061 confirmed cases of Malaria in South Africa. The cases were present only in two parts of the country: firstly, the areas bordering Botswana, Zimbabwe, and Mozambique and secondly, the northeastern part of the country along the Indian Ocean.<sup>39</sup>

### 42. South Sudan:

In 2021, there were 1,488,005 confirmed cases of Malaria in South Sudan. The cases were present uniformly throughout the country.<sup>40</sup>

### 43. Togo:

In 2021, there were 1,209,034 confirmed cases of Malaria in Togo. Two pockets of high density were present in the southwest and northeast parts of the country.<sup>41</sup>

### 44. Uganda:

In 2021, there were 11,667,831 confirmed cases of Malaria in Uganda. Three bands of high density were present in the northern, central, and southern parts of the country.<sup>42</sup>

### 45. United Republic of Tanzania:

In 2021, there were 5,351,137 confirmed cases of Malaria on the Mainland. The cases were present uniformly throughout the country. In the Zanzibar Archipelago, there were 3359 confirmed cases of Malaria. *P. falciparum* caused 99% of them and they were present uniformly in the islands.<sup>43,44</sup>

### 46. Zambia:

In 2021, there were 5,505,639 confirmed cases of Malaria in Zambia. Areas of high density were present in the northern, western, and eastern parts of the country.<sup>45</sup>

### 47. Zimbabwe:

In 2021, there were 315,624 confirmed cases of Malaria in Zimbabwe. Areas of high density were present along the eastern border of the country with Mozambique.<sup>46</sup>

## Discussion

At present, Algeria and Lesotho are the only two countries in the mainland of the African continent that have been

certified to be free of Malaria. Lesotho is in a peculiar position because it is enclosed by South Africa which itself is not free from Malaria. So, it must maintain an extra vigil. Mauritius and Seychelles are island countries which have been certified to be free from Malaria and may be joined soon by Cabo Verde, another island country, since it has not reported any local transmission of Malaria in the last 3 years as of January 2021. The remaining 42 countries are nowhere near the elimination target and have a long way to go to achieve it. Only 3 out of these 42 countries reported *P. vivax* transmission in addition to *P. falciparum* transmission. These 3 countries were Eritrea, Ethiopia, and Madagascar. The remaining 39 countries reported 100% *P. falciparum* transmission. This is important because the disease caused by *P. falciparum* is more severe and fatal than that caused by *P. vivax*.

## Conclusion:

Many countries in the W.H.O. Region of Africa are yet to receive a certification for Malaria elimination.

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