Tracking the 2024 measles outbreak: updates from Iraq

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Abstract

The history of measles spans centuries, marked by devastating outbreaks until the identification of the measles virus in 1963. Despite vaccination efforts, measles resurfaced globally in 2019 after years of decline. The COVID-19 pandemic further disrupted vaccination campaigns, leading to missed doses and heightened risks of outbreaks. By November 2020, over 94 million individuals were at risk of missing vital vaccines. As of May 2024, around 63 countries faced genuine measles outbreaks, with Iraq ranking third, reporting approximately 25,429 cases. Iraq’s healthcare system, already strained by decades of crises, struggles to manage the outbreak amidst challenges such as limited access to healthcare, vaccine hesitancy, and the suspension of vaccination campaigns. Urgent interventions are needed to address these challenges and prevent further escalation of the measles outbreak in Iraq.

Keywords: Measle, Virus, Outbreak, COVID-19, Iraq

Background

The history of measles dates back to many centuries, with several documented outbreaks as early as the nineteenth century. However, the virus responsible for measles was not identified until the early 20th century when scientists began to isolate and characterize the pathogen [1]. Prior to the development of a vaccine, measles outbreaks were frequent and often devastating, particularly in densely populated areas. The first measles vaccine was licensed in 1963, leading to a dramatic decline in measles cases and mortality rates. Subsequent vaccination efforts, including the introduction of the measles, mumps, and rubella (MMR) vaccine, further contributed to the control and near-elimination of measles in many parts of the world. Despite significant advancements, periodic outbreaks persist, often exacerbated by clusters of communities with low vaccination rates and hesitancy towards immunization [1,2]. Following consistent global advancements from 2010 to 2016, reported measles incidents surged steadily until 2019. In fact, 2019 witnessed a global resurgence of measles, marking the highest tally of reported cases in 23 years [3]. Prior to the onset of the coronavirus pandemic, the world was already contending with a measles resurgence. Notably, numerous countries continue to grapple with ongoing outbreaks [4]. While 2020 has seen a decrease in reported measles cases, the imperative measures to contain COVID-19 have inadvertently disrupted vaccination efforts, undermining endeavors to prevent and mitigate measles outbreaks. By November 2020, over 94 million individuals faced the risk of missing out on vital vaccines due to the suspension of measles campaigns across 26 nations [3].

Unfortunately, the effect of COVID-19 pandemic has not expired until the measles outbreak returned to cast a shadow over the world again. Following three years of declines in measles vaccination coverage, in 2022, 37 countries experienced large or disruptive measles outbreaks compared with 22 countries in 2021 and that number ticked up to 51 countries in 2023 [5]. The measles outbreak persists, reaching its highest number of cases in the past decade during the first third of 2024. As of May 2024, around 63 countries are currently facing genuine measles outbreaks, with Africa reporting 34, Asia 9, Europe 8, and the Middle East 12 instances [4].

According to the centers for disease control and prevention (CDC), the risk of measles outbreaks has heightened due to COVID-19, as over sixty million doses of measles-containing vaccines were postponed or missed between 2020 and 2022 owing to pandemic-related delays in supplementary immunization activities [4]. This scenario heightens the likelihood of larger outbreaks occurring globally in early 2024, with an estimated nine out of ten unvaccinated individuals expected to contract the measles virus upon exposure.
Situation of Iraq

The emergence of measles cases in Iraq, while not entirely unexpected, presents a significant challenge to an already strained healthcare system. Iraq's health infrastructure has faced recurring crises over the past three decades, including three notable measles outbreaks. The first outbreak in 1997 occurred amidst the unjust sanctions imposed on Iraq by the United Nations Security Council from 1990 to 2003. Subsequently, the second outbreak transpired during the internal armed conflict from 2006 to 2009 (Figure 1) [6,7]. Now, in 2024, the country faces another surge in measles cases following the COVID-19 pandemic. Each of these outbreaks has placed immense pressure on Iraq's healthcare resources, exacerbating existing challenges and highlighting the urgent need for strengthened healthcare systems and vaccination campaigns.

In conclusion, Iraq's placement as the third-ranked country for measles outbreaks in 2024, with approximately 25,429 reported cases according to the CDC, underscores the urgent need for strengthened healthcare systems and vaccination campaigns. The situation highlights the challenges posed by interrupted healthcare services, conflicts, and the ongoing COVID-19 pandemic.

Addressing these issues requires collaborative efforts between governments, healthcare providers, and international organizations to ensure adequate access to vaccines, healthcare infrastructure, and public health education. Failure to do so may perpetuate the cycle of preventable diseases and jeopardize public health outcomes.

Table 1: Number of cases per top ten countries experienced measles outbreak 2024-up to 30 April 2024

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Azerbaijan</td>
<td>28,787</td>
</tr>
<tr>
<td>2</td>
<td>Kazakhstan</td>
<td>28,660</td>
</tr>
<tr>
<td>3</td>
<td>Iraq</td>
<td>25,429</td>
</tr>
<tr>
<td>4</td>
<td>India**</td>
<td>15,183</td>
</tr>
<tr>
<td>5</td>
<td>Kyrgyzstan</td>
<td>11,723</td>
</tr>
<tr>
<td>6</td>
<td>Russian Federation</td>
<td>11,537</td>
</tr>
<tr>
<td>7</td>
<td>Pakistan</td>
<td>8,648</td>
</tr>
<tr>
<td>8</td>
<td>Yemen</td>
<td>8,558</td>
</tr>
<tr>
<td>9</td>
<td>Burkina Faso</td>
<td>4,810</td>
</tr>
<tr>
<td>10</td>
<td>Nigeria</td>
<td>4,701</td>
</tr>
</tbody>
</table>


Figure 1: Number of measles cases in Iraq over three decades (1994-2024), adopted from: https://apps.who.int/gho/data/view.main.1520_62?lang=en
Abbreviation
COVID-19: Coronavirus Disease; MMR: Measles, Mumps, Rubella; CDC: Centers for Disease Control and Prevention; DRG: Diagnosis Related Groups; UHC: universal Health Coverage;

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Availability of data and materials
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Authors’ contributions
All authors equally conceived and designed the study, analyzed and interpreted the data; drafted the manuscript; and revised the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate
We conducted the research following the declaration of Helsinki. However, the “Review Article” needs no ethical approval.

Consent for publication
Not applicable

Competing interest
The authors declare that they have no competing interests.

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