Anemia is a common symptom of malaria infection. In Liberia, 8% of children under age 5 have severe anemia, which is defined as hemoglobin less than 8.0 g/dl. Anemia is most common in children age 9-11 months (12%).

Key Findings from the 2011 Liberia Malaria Indicator Survey

The 2011 Liberia Malaria Indicator Survey (LMIS) assessed malaria knowledge, prevention, and treatment practices and malaria and anemia prevalence. Over 4,000 households were interviewed, and almost 3,000 children were tested for both anemia and malaria.

Malaria Prevalence in Children
Percent of children age 6-59 months testing positive for malaria by microscopy

<table>
<thead>
<tr>
<th>Age in months</th>
<th>6-8</th>
<th>9-11</th>
<th>12-17</th>
<th>18-23</th>
<th>24-35</th>
<th>36-47</th>
<th>48-59</th>
<th>Total 6-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8</td>
<td>10</td>
<td>19</td>
<td>16</td>
<td>25</td>
<td>28</td>
<td>33</td>
<td>35</td>
<td>28</td>
</tr>
</tbody>
</table>

Almost three in ten (28%) children under age five tested positive for malaria according to blood smears. Malaria is most common in older children.

Prevalence of Malaria in Children by Region
Percent of children 6-59 months testing positive for malaria by microscopy

- Malaria prevalence is highest in North Central and South Eastern B regions. It is least common in Monrovia.
- North Western: 29%
- North Central: 35%
- South Central: 26%
- Monrovia: 7%
- South Eastern A: 33%
- South Eastern B: 49%

Anemia is a common symptom of malaria infection. In Liberia, 8% of children under age 5 have severe anemia, which is defined as hemoglobin less than 8.0 g/dl. Anemia is most common in children age 9-11 months (12%).

Nearly 9 in 10 mosquito nets in Liberian households were obtained free of charge.

Prevalence of Severe Anemia in Children
Percent of children 6-59 months with severe anemia (hemoglobin <8.0 g/dl)

<table>
<thead>
<tr>
<th>Age in months</th>
<th>6-8</th>
<th>9-11</th>
<th>12-17</th>
<th>18-23</th>
<th>24-35</th>
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<th>Total 6-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8</td>
<td>6</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

Access to and Use of ITNs in Liberian Households
Percent of household population who:

- Has access to an ITN: 31%
- Slept under an ITN the night before the survey: 32%

More than 3 in 10 individuals have access to an ITN, which means that there are enough ITNs available in the household for the number of people in that household. The 2011 LMIS results show that an equal proportion (32%) of the household population slept under an ITN the night before the survey.

Prevalence of Malaria in Children
Percent of children age 6-59 months testing positive for malaria by microscopy

<table>
<thead>
<tr>
<th>Age in months</th>
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<td>26</td>
<td>37</td>
<td>39</td>
<td>39</td>
<td>33</td>
</tr>
</tbody>
</table>

Trends in Use of ITNs
Percent who slept under an ITN the night before the survey

- Children under 5: 2009 LMIS 26% 2011 LMIS 37%
- Pregnant women 15-49: 2009 LMIS 33% 2011 LMIS 39%

Half of Liberian households own at least one insecticide-treated net (ITN). ITN ownership is lowest in the South Central region and highest in South Eastern B and South Eastern A regions.

Children and pregnant women are the most vulnerable to malaria. Currently, 37% of children under five and 39% of pregnant women slept under an ITN the night before the survey. Use of mosquito nets by both children and pregnant women has increased since 2009.
For more information on the results of the 2011 Liberia Malaria Indicator Survey, please contact:

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The 2011 Liberia Malaria Indicator Survey (LMIS) was implemented by the National Malaria Control Program of the Ministry of Health and Social Welfare (MOHSW). The Liberia Institute of Statistics and Geo-Information Services (LISGIS) assisted in the design of the survey, as well as the training and monitoring of data collection staff. The Laboratory at the China-Liberia Malaria Center at JFK Hospital implemented the microscopic reading of malaria slides. Technical assistance was provided by ICF International, through the worldwide MEASURE DHS program. Funding was provided by the United States Agency for International Development (USAID) through the MEASURE DHS program, and the President’s Malaria Initiative.

Response rates and methodology:
Malaria and anemia testing were carried out on all children age 6-59 months living in selected households. Malaria testing was done through both First Response rapid diagnostic blood testing, as well as blood smear microscopy. Anemia testing was carried out on a blood drop using the HemoCue system. Of the 3,229 eligible children, 98% provided blood for anemia and rapid diagnostic testing, while 94% provided blood for malaria microscopy testing.