Modeling meningococcal A conjugate vaccine coverage in the meningitis belt from 2010 to 2019

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SUMMARY

This study synthesizes campaign coverage data with routine immunization data to produce estimates of MACV coverage in all meningitis belt countries, from 2010 to 2019, for the 1 to 4 and 1 to 29 age groups.

DATA

We compiled data sources for MenAfriVac routine immunization coverage from 2010 to 2019 via systematic review, and campaign coverage via published WHO report1.

METHODS

Multistage mixed effects regression used to estimate routine immunization in infants

RI Calculation:

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
<th>Target Age</th>
<th>Group: 1-29 years</th>
<th>New group: 1-29 years</th>
<th>New group: 1-29 years</th>
<th>New group: 1-29 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Mass campaign</td>
<td>1-29 years</td>
<td></td>
<td>1-year olds in</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
</tr>
<tr>
<td>2011</td>
<td>No activity</td>
<td></td>
<td>1-year olds age in</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
</tr>
<tr>
<td>2016</td>
<td>Catch-up campaign</td>
<td>1-6 years</td>
<td>1-year olds age in</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
</tr>
<tr>
<td>2017</td>
<td>RI introduced</td>
<td>15 months</td>
<td>1-year olds with</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
<td>New group: 1-29 years</td>
</tr>
</tbody>
</table>

Coverage Calculation:

95.9% coverage via survey: Apply to full age group
97.0% coverage via survey: Apply to 1-6 year olds in group

Routine Immunization Coverage at target age, 2019

IMPLICATIONS AND CONCLUSIONS

Overall, MenAfriVac mass campaigns have been highly successful; however, without routine immunization, the protection they provide diminishes over time. These estimates help to highlight gaps in MenA immunity, and emphasize the need for routine immunization in countries where past campaigns are the only source of immunity.

REFERENCES


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