THE 2019 VERBAL AUTOPSY AND SOCIAL AUTOPSY STUDY TO DETERMINE CAUSES AND DETERMINANTS OF DEATHS OF NEONATES AND CHILDREN UNDER-FIVE YEARS OF AGE IN NIGERIA

OCTOBER 2020

National Population Commission
Federal Ministry of Health
USAID/CIRCLE Project
STUDY IMPLEMENTATION

The 2019 Verbal and Social Autopsy (VASA) study was implemented by the National Population Commission in collaboration with the Federal Ministry of Health. The funding for the 2019 VASA was provided by the United States Agency for International Development (USAID) through the Coordinating Implementation Research to Communicate Learning and Evidence (CIRCLE) Project led by Social Solutions International who also provided technical support.
BACKGROUND
INTRODUCTION

- Under-five mortality in Nigeria has declined from 201 per 1,000 live births in 2003 to 132 per 1,000 live births in 2018, a 35% decline in 15 years.

- Most of this decline occurred in children 1 to 59 months of age with a smaller decline in neonatal mortality.

- However, the decline is much lower than what is needed to achieve the Sustainable Development Goal (SDG) 3 target of reducing under-five mortality to 25 deaths per 1,000 live births by 2030.

Nigeria 2019 Verbal and Social Autopsy Study
NIGERIA HAS THE WORLD’S HIGHEST CHILD MORTALITY

In a 2020 UN report on child mortality, Nigeria has the highest number of deaths in children under-five.

858,000 deaths per year 117 per 1,000 live births

Nigeria has improved, but other countries have improved faster.

**NIGERIA MORTALITY RATES**

**Trends in early childhood mortality rates**

Deaths per 1,000 live births in the 5-year period before the survey.

![Graph showing trends in mortality rates from 1990 to 2018.](image)

- **Under-5 mortality**
- **Infant mortality**
- **Neonatal mortality**

Figure is from NDHS 2018.
DEATH RATES IN NEONATES BY ZONE

At 39 per 1000 live births neonatal mortality in Nigeria remains far from the SDG target of 12 per 1000 and the average of 27 for Africa.

South South zone neonatal mortality rate is 27 per 1000 live births.

Even Nigeria’s lowest mortality zones only reach the average for the rest of Africa.
DEATH RATES IN CHILDREN BY ZONE

Neonatal, 1-11 months and 1-4 years mortality by geopolitical zone – DHS 2018

Mortality per 1,000

- Neonatal
- 1-11 Months
- 1-4 Years

<table>
<thead>
<tr>
<th>Zone</th>
<th>Neonatal</th>
<th>1-11 Months</th>
<th>1-4 Years</th>
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<tbody>
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<tr>
<td>NW</td>
<td>117</td>
<td>46</td>
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</tbody>
</table>
VASA STUDY DESIGN
OBJECTIVES OF STUDY

The objectives of the 2019 VASA were to provide National and Zonal level:

- estimates of the major causes of under-five mortality in Nigeria in the 2013-2018 period.
- data on patterns of care-seeking, social factors, and interventions related to deaths in children under-five, along with qualitative narratives of factors associated with these patterns.
- analysis and insights into the causes and social determinants of death among children to enable policy makers to make evidence-based decisions and to inform programmes to best improve health outcomes among under-five children.
WHAT IS VERBAL AND SOCIAL AUTOPSY (VASA)?

Verbal Autopsies

- ask caregivers about the symptoms around the time of death and use various methods to assign probable causes of death.

Social Autopsies

- ask the same caregivers about the sequence of care for the child before death and about various factors that may have contributed to the death.

Qualitative component

- added to the 2019 Nigerian VASA to provide more in-depth understanding of social and contextual factors related to child deaths.
Identified from 2018 NDHS = 4,096

Did not agree to revisit = 103 (2.5%)

Agree to revisit = 3,993 (97.5%)

Removed so no more than one per household = 778 (19.0%)

Final survey sample = 3,215 (78.5%)

Unable to survey = 140 (4.4%)

Completed survey = 3,075 (95.6%)

194 = Stillbirth (6.3%)
754 = Neonates (24.5%)
676 = 1-11 months old (22.0%)
1,451 = 1-4 years old (47.2%)
**VASA SURVEY COMPONENT**

The survey instrument consisted of 15 modules covering verbal and social autopsy topics.

<table>
<thead>
<tr>
<th>Modules for all deaths</th>
<th>Modules specific for neonatal deaths</th>
<th>Modules specific for 1-59 month old deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ General information for all deaths                                                   ▪ Validation of neonatal death versus stillbirth status                  ▪ Health history for 1-59 month old children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ History of injuries/accidents for all deaths                                         ▪ Health history for neonates                                             ▪ Medical history for 1-59 month old children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Care-seeking during the fatal illness for neonates and child deaths                   ▪ Signs and symptoms for neonates                                          ▪ Signs and symptoms for 1-59 month old children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Medical records and mother’s HIV status                                              ▪ Pregnancy, labour and delivery history for neonates and stillbirths     ▪ Routine care for 1-59 month old children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Social capital                                                                        ▪ Newborn routine care</td>
<td></td>
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</tr>
</tbody>
</table>
VERBAL AUTOPSY METHODS USED FOR QUANTITATIVE ANALYSIS

PCVA (Physician coding verbal autopsy)

Two in-country physicians used a standard WHO set of diagnostic criteria to separately ascribe the cause of death (primary, underlying and contributing) for each case. They then compared notes and reached a consensus on the primary cause of death. A third, independent pediatrician further reviewed the submission to ensure the minimum criteria with clinical acumen were used.

EAVA (Expert Algorithm Verbal Autopsy)

Computerized coding of a set of causes of death was based on answers to survey questions in line with ICD 10 principles. Causes with the clearest symptoms are placed high in the hierarchy. Once a death meets the criteria for one diagnosis, those further down the hierarchy are not considered. Diagnoses not on the list are not included and deaths not meeting any criteria are “unspecified”.

Nigeria 2019 Verbal and Social Autopsy Study
QUALITATIVE COMPONENT

Qualitative data gathering was done in 12 states in all six geopolitical zones, choosing the highest mortality areas.

- 69 In-depth Interviews
  - Caregivers
- 24 Key informant interviews
  - Healthcare providers
- 12 Observations
  - Health facilities
- 48 Focus group discussions
  - Community members
QUALITATIVE ANALYSIS

- Pseudonyms used
- NVivo version 12 used to create themes and sub-themes in coding transcripts
RESULTS

Quantitative Component
MAIN NEONATAL CAUSES OF DEATH

Physician-coded and Expert algorithm verbal autopsy for causes of 722 neonatal (0-27 days) deaths in Nigeria, 2013-2018 (weighted data)

**Physician-coded VA – Neonatal**
- Sepsis: 23%
- Pneumonia: 15%
- Meningitis: 6%
- Intrapartum injury: 18%
- Jaundice: 10%
- Preterm: 9%
- Unspecified: 13%
- Diarrhoea: 1%
- Congenital: 1%
- Injury: 0.2%
- Other: 4%
- Neonatal tetanus: 0.2%

**Expert algorithm VA – Neonatal**
- Sepsis: 30%
- Pneumonia: 12%
- Meningitis: 2%
- Intrapartum injury: 27%
- Jaundice: 1%
- Preterm: 1%
- Congenital: 3%
- Diarrhoea: 2%
- Injury: 1%
- Other: 3%
- Neonatal tetanus: 0.3%
- Unspecified: 18%
MAIN NEONATAL CAUSES OF DEATH

Severe bacterial infections
- Sepsis, pneumonia and meningitis can be combined into “Severe bacterial infections” in neonates since they are similar clinically and in management. These are the largest cause of death (44% by both PCVA and EAVA).

Intrapartum injury
- formerly called Birth asphyxia/trauma. It is the second largest cause of death in newborns (18-27%).

These two causes were also major diagnoses in the 2014 VASA and in global models of cause of death for Nigeria (WHO Childhood causes of death and IHME Global Burden of Disease study).
OTHER CAUSES OF NEONATAL DEATH

Pre-term birth

- VASA 2019 shows a 9% contribution with Physician coded VA. Expert Algorithm considers it as an underlying cause so it assigns only 1% to prematurity. Global models also show prematurity as very important cause of all neonatal deaths (about 20-30%).
- On the whole, prematurity is still an important cause of death.

Jaundice

- is a common symptom in newborns. The Expert Algorithm treats it mostly as an underlying cause while the Physicians often decided it was a primary cause of death.

All other neonatal causes of death are relatively small. Many neonates did not have clear symptoms in the VASA and their deaths are “unspecified”.
STILLBIRTHS

- In both the 2019 and 2014 VASA many deaths recorded as neonatal in the Demographic and Health survey were found to be stillbirths on further questioning (24% of cases in 2019 and 18% in 2014).
- In the 2019 VASA, stillbirths show patterns of high rates of maternal complications in pregnancy and delivery, similar to neonates who died in the first week, and might be similar to “intrapartum injury” cases.
- Experience in other countries shows that most stillbirths are preventable.
MAIN CAUSES OF CHILD DEATH 1-59 MONTHS


**Physician-coded VA – 1-59 months child**
- Malaria 22%
- Diarrhoea 17%
- Other infection 13%
- Meningitis 10%
- Pneumonia 10%
- Dysentery 5%
- Other 10%
- Unspecified 3%
- Malnutrition 2%
- Pertussis 2%
- Measles 3%
- AIDS 1%
- Injury 2%

**Expert algorithm VA – 1-59 months child**
- Malaria 35%
- Diarrhoea 24%
- Pneumonia 12%
- Other infection 1%
- Meningitis 4%
- Dysentery 4%
- Measles 4%
- Other 1%
- Unspecified 8%
- Malnutrition 3%
- Pertussis 0.5%
- Injury 2%
- AIDS 2%
- Other 1%
MAIN CAUSES OF CHILD DEATH 1-59 MONTHS

Malaria
- the number one cause of death in this age group (22%-35%) by the two verbal autopsy methods.

Diarrhea
- in second most common cause (17%-22%) and appears to be particularly common in northern Nigeria.

Pneumonia
- the third most common cause (10%-12%) although in the physician coded verbal autopsy it is tied with meningitis.
OTHER CAUSES OF CHILD DEATH 1-59 MONTHS

Vaccine preventable diseases

- Measles (3%-4%) and pertussis (0.5%-2%) are entirely vaccine preventable as are some causes of pneumonia and meningitis. Even part of diarrhea deaths are preventable if rotavirus vaccine is introduced in Nigeria. Together these make up substantial portion of all deaths.

Malnutrition

- is not a common primary cause of death but symptoms are common in the VASA study and WHO estimates 45% of under-five deaths have underlying malnutrition as a factor.

Many other conditions are less common, including both other infections and several non-infectious causes (e.g. injuries, sickle cell disease).
MAIN CAUSES OF 1-59 MONTH DEATHS: ZONAL ANALYSIS

In addition to overall higher mortality in the North West and North East, these zones have a substantially higher proportion of deaths due to diarrhea than other zones in Nigeria.
ANTENATAL CARE AND PREGNANCY COMPLICATIONS

Antenatal care coverage

- Coverage of antenatal care for women with a neonatal death was about the same as for other women in the NDHS.

- 50-60% of women with a perinatal death reported a complication or symptom in pregnancy compared to 37-48% with later deaths.

In summary, symptoms are common in pregnancy, especially for women with a perinatal death. Some women who do not attend ANC seek care due to symptoms, but most do not.
This figure is based on spontaneous reports. Rates increased when specific symptoms were asked.
LABOUR AND DELIVERY COMPLICATIONS AND CARE-SEEKING BY ZONE

In the North Central and South South zones, more than half of women with labour and delivery complications and symptoms seek care, but not as consistently as the other Southern zones, or less than half as in the other Northern zones. This corresponds with overall rates of facility-based delivery.
LABOUR & DELIVERY COMPLICATIONS AND PERINATAL DEATHS

Complications or other symptoms in labour and delivery among women with perinatal deaths (stillbirths or first week of life).

Most perinatal deaths are associated with complications and symptoms in labour and delivery. Interventions to prevent these deaths need to start with the mother and continue with the newborn.
In all age of death groups the rate of complications is higher for women who delivered in a health facility.
In the South South and North Central zones, about half of women go for facility-based deliveries (18%). The risk profile of facility births may be higher than for home births due to many women with complications going from home to facilities as emergencies. Facility births end up with higher neonatal mortality than home births.
WHO DECIDES ON PLACE OF DELIVERY?

Women often do not decide for themselves. Who decides varies greatly by zone.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Mother</th>
<th>Husband</th>
<th>Other family</th>
<th>Other</th>
<th>Cases</th>
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<tbody>
<tr>
<td>NC</td>
<td>33</td>
<td>52</td>
<td>5</td>
<td>10</td>
<td>175</td>
</tr>
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<td>NE</td>
<td>57</td>
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<td>4</td>
<td>4</td>
<td>225</td>
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<td>NW</td>
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<td>8</td>
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<td>SW</td>
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<td>3</td>
<td>6</td>
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</tr>
<tr>
<td>Total</td>
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<td>31</td>
<td>5</td>
<td>7</td>
<td>948</td>
</tr>
</tbody>
</table>
CONCERNS WOMEN HAD RELATED TO LABOUR AND DELIVERY

Distance, costs, transport and going at night were the most common concerns.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Distance</th>
<th>Transport</th>
<th>Costs of care</th>
<th>Need to obtain permission</th>
<th>Going when late at night</th>
<th>Quality of care in facility</th>
<th>Health worker attitudes</th>
<th>Only male providers in facility</th>
<th>Not sick enough</th>
<th>Others</th>
<th>Any concern expressed</th>
<th>Number</th>
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<tbody>
<tr>
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<td>16</td>
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<td>1</td>
<td>4</td>
<td>2</td>
<td>39</td>
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</table>
ESSENTIAL NEWBORN CARE

Care of VASA neonates shows gaps in good care practices.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Immediately placed on chest</th>
<th>Skin to skin contact</th>
<th>Wiped dry within a few minutes</th>
<th>If ever bathed delayed 24 hours</th>
<th>If ever fed, only given breastmilk</th>
<th>Chlorhexidine cord care</th>
<th>Number of cases</th>
</tr>
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<tbody>
<tr>
<td>NC</td>
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<td>61</td>
<td>2</td>
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<td>80</td>
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<td>3</td>
<td>74</td>
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<td>90</td>
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<td>65</td>
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<td>6</td>
<td>78</td>
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WHERE DO NIGERIAN CHILDREN DIE?

Two-thirds of Nigerian neonatal deaths who are sick at home receive no care before death.

Unlike neonates, only 12% of children 1-59 months died without care sought or received for them. 88% of families sought care.

Nigeria 2019 Verbal and Social Autopsy Study
WHERE DO NIGERIAN CHILDREN DIE? (Neonates by Zone)

- **NW (296)**: 43 (11%) at birth facility, 10 (3%) no care, 5 (1%) informal only, 13 (4%) died on route, 19 (6%) at provider, 5 (1%) at home after provider.
- **NE (192)**: 24 (12%) at birth facility, 5 (3%) no care, 4 (2%) informal only, 9 (5%) died on route, 19 (10%) at provider, 1 (0.5%) at home after provider.
- **NC (116)**: 33 (28%) at birth facility, 9 (8%) no care, 4 (4%) informal only, 15 (13%) died on route, 15 (13%) at provider, 2 (2%) at home after provider.
- **SE (60)**: 29 (48%) at birth facility, 5 (8%) no care, 2 (3%) informal only, 15 (25%) died on route, 5 (8%) at provider, 1 (1%) at home after provider.
- **SS (52)**: 17 (33%) at birth facility, 2 (4%) no care, 3 (6%) informal only, 21 (40%) died on route, 4 (8%) at provider, 1 (2%) at home after provider.
- **SW (38)**: 9 (24%) at birth facility, 1 (3%) no care, 4 (11%) informal only, 14 (37%) died on route, 4 (11%) at provider, 1 (3%) at home after provider.

**Total (754)**: 155 (20.6%) at birth facility, 24 (3.2%) no care, 33 (4.4%) informal only, 29 (3.9%) died on route, 100 (13.3%) at provider, 39 (5.2%) at home after provider.

Nigeria 2019 Verbal and Social Autopsy Study
WHERE DO NIGERIAN CHILDREN DIE? (1-59 Month by Zone)
Almost half of neonates who die in Nigeria were born in a facility.

20% of all Nigerian neonatal deaths are in the birth facility near time of birth.

Two-thirds of Nigerian neonatal deaths who are sick at home receive no care before death.
INITIAL CARE FOR 1-59 MONTH DEATHS

Unlike neonates, only 12% of children 1-59 months died without care sought or received for them. 88% of families sought care.

2,127 children 1-59 months in the study (100%)

123 no care given or sought (including 2 DK) (5.8%)

139 suddenly died (6.5%)

1,865 received care or sought care (87.7%)
SEEKING CARE FOR NEONATES WHO DIE

Even when formal care for neonates sick at home is sought, only two thirds ever make it to a health provider. That is, 29% of total cases sought care but only 18% reached a formal health provider.

Others only receive home care or informal care from PMVs or traditional healers.
INFORMAL CARE FOR CHILDREN 1-59 MONTHS WHO DIE

Over half of children 1-59 months with fatal illnesses receive a mix of home care, PMV care or traditional care either before or instead of going to a formal health provider.

Those who go to a formal provider include many in very serious condition (4.5% of the total die on the way).

However, almost two-thirds manage to reach a provider.
HOME CARE

Home care shows a mix of using both what is available at home and from traditional and drug shop providers outside the home.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Homemade treatment</th>
<th>Traditional medicine from outside</th>
<th>Modern treatment available at home</th>
<th>Modern medicine purchased from outside</th>
<th>ORS</th>
<th>Others</th>
<th>Number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
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<td>54</td>
<td>61</td>
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<td>40</td>
<td>60</td>
<td>25</td>
<td>6</td>
<td>611</td>
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</table>
LENGTH OF FINAL ILLNESS

68% of neonatal deaths occur on the day of or day after the illness started so interventions would need to be very fast to be effective.

Only 15% of final illnesses in children 1-59 months were less than two days in length, but half died within one week. There was usually time to seek effective treatment.
DISTANCE TO CARE

Informal providers such as drug shops (PMVs or pharmacies) are highly accessible to most families in the VASA. Formal providers, especially hospitals, require more transport time and motorized transport to access.
DISCONTINUITY OF CARE IN THE FINAL ILLNESS CHILDREN LEAVING THE FIRST HEALTH PROVIDER (N=1,068)

- Received a referral to another provider
- No referral but received home care instructions
- No referral and no instructions

Discontinuity of Care

- 69%
- 19%
- 12%
DISCONTINUITY OF CARE IN THE FINAL ILLNESS CHILDREN LEAVING THE FIRST HEALTH PROVIDER

Zonal analysis

<table>
<thead>
<tr>
<th>Region</th>
<th>Referred to another provider</th>
<th>Home instructions</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW (573)</td>
<td>94 (60%)</td>
<td>43 (20%)</td>
<td>18 (10%)</td>
</tr>
<tr>
<td>NE (168)</td>
<td>168 (100%)</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>NC (116)</td>
<td>73 (60%)</td>
<td>15 (10%)</td>
<td>18 (10%)</td>
</tr>
<tr>
<td>SE (72)</td>
<td>41 (50%)</td>
<td>10 (15%)</td>
<td>12 (15%)</td>
</tr>
<tr>
<td>SS (39)</td>
<td>20 (50%)</td>
<td>9 (23%)</td>
<td>8 (21%)</td>
</tr>
<tr>
<td>SW (37)</td>
<td>17 (46%)</td>
<td>8 (22%)</td>
<td>12 (33%)</td>
</tr>
<tr>
<td>Total (1068)</td>
<td>733 (68%)</td>
<td>204 (19%)</td>
<td>131 (13%)</td>
</tr>
</tbody>
</table>

Nigeria 2019 Verbal and Social Autopsy Study
Most neonates with fatal illnesses who reach care do not stay until death but return home (4% of total die at first provider and 14% leave).

Most are not referred to other facilities and most do not get home care instructions.

Only 5% of the total reach a second facility and again most go home before death (4%).
Most children with fatal illnesses who reach care do not stay until death but return home (20% of total die at first provider and 45% leave).

Most are not referred to other facilities and most do not get home care instructions.

19% reach a second provider but most go home to die (16%).
TYPES OF HEALTH PROVIDERS SEEN BY SICK CHILDREN

Public sector facilities are important everywhere, but the private sector is a large proportion in all but the North West and North East Zones.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Government/Public</th>
<th>Private/NGO</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital</td>
<td>Health Centre</td>
<td>Health Post</td>
</tr>
<tr>
<td>NC</td>
<td>36</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>NE</td>
<td>34</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>NW</td>
<td>42</td>
<td>28</td>
<td>8</td>
</tr>
<tr>
<td>SE</td>
<td>10</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>SS</td>
<td>39</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>SW</td>
<td>35</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>30</td>
<td>5</td>
</tr>
</tbody>
</table>
TRANSPORT USED TO GO TO A HEALTH PROVIDER

26% reported walking to the place of care and the rest used motorized transport, mostly motorcycles.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Transport used to go to provider (more than one allowed)</th>
<th>Number going to a provider</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ambulance</td>
<td>Walking/ carried</td>
</tr>
<tr>
<td>NC</td>
<td>0.6</td>
<td>19</td>
</tr>
<tr>
<td>NE</td>
<td>0.2</td>
<td>30</td>
</tr>
<tr>
<td>NW</td>
<td>0.2</td>
<td>27</td>
</tr>
<tr>
<td>SE</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>SS</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>SW</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>0.2</td>
<td>26</td>
</tr>
</tbody>
</table>
CONCERNS IN GETTING CARE FOR SICK CHILDREN BY ZONE

Distance, costs, transport and going at night were the most common concerns.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Distance</th>
<th>Transport</th>
<th>Costs of care</th>
<th>Permission</th>
<th>Going when late at night</th>
<th>Quality of care in facility</th>
<th>Health worker attitudes</th>
<th>Not sick enough to need care</th>
<th>Need traditional/spiritual care</th>
<th>Others</th>
<th>Any concern expressed</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>21</td>
<td>16</td>
<td>20</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>39</td>
<td>419</td>
</tr>
<tr>
<td>NE</td>
<td>26</td>
<td>13</td>
<td>17</td>
<td>4</td>
<td>17</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>46</td>
<td>671</td>
</tr>
<tr>
<td>NW</td>
<td>21</td>
<td>6</td>
<td>17</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>2</td>
<td>42</td>
<td>1,336</td>
</tr>
<tr>
<td>SE</td>
<td>19</td>
<td>6</td>
<td>17</td>
<td>1</td>
<td>8</td>
<td>11</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>44</td>
<td>198</td>
</tr>
<tr>
<td>SS</td>
<td>14</td>
<td>9</td>
<td>20</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>36</td>
<td>152</td>
</tr>
<tr>
<td>SW</td>
<td>16</td>
<td>9</td>
<td>22</td>
<td>3</td>
<td>18</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>3</td>
<td>54</td>
<td>103</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>10</td>
<td>18</td>
<td>4</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>43</td>
<td>2,879</td>
</tr>
</tbody>
</table>

Nigeria 2019 Verbal and Social Autopsy Study
SOCIAL CAPITAL SURVEY MODULE: DID YOUR COMMUNITY WORK TOGETHER IN PAST THREE YEARS ON ANY OF THESE?

Community joint activities vary greatly by zone and type of activity.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Education/ schools</th>
<th>Health services/ clinics</th>
<th>Paid job opportunities</th>
<th>Credit/ Finance</th>
<th>Roads</th>
<th>Public Transport</th>
<th>Water distribution</th>
<th>Sanitation services</th>
<th>Agriculture</th>
<th>Justice/ conflict resolution</th>
<th>Security/ Police services</th>
<th>Mosque/ church/ temple</th>
<th>Other (specify)</th>
<th>Average of 13 items</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>63</td>
<td>48</td>
<td>25</td>
<td>21</td>
<td>57</td>
<td>35</td>
<td>61</td>
<td>69</td>
<td>72</td>
<td>88</td>
<td>74</td>
<td>94</td>
<td>19</td>
<td>56</td>
<td>478</td>
</tr>
<tr>
<td>NE</td>
<td>26</td>
<td>19</td>
<td>8</td>
<td>10</td>
<td>32</td>
<td>1</td>
<td>21</td>
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<td>48</td>
<td>51</td>
<td>38</td>
<td>58</td>
<td>0</td>
<td>25</td>
<td>704</td>
</tr>
<tr>
<td>NW</td>
<td>44</td>
<td>34</td>
<td>11</td>
<td>15</td>
<td>33</td>
<td>7</td>
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<td>70</td>
<td>50</td>
<td>77</td>
<td>4</td>
<td>38</td>
<td>1,371</td>
</tr>
<tr>
<td>SE</td>
<td>47</td>
<td>36</td>
<td>6</td>
<td>5</td>
<td>30</td>
<td>17</td>
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<td>58</td>
<td>57</td>
<td>34</td>
<td>1</td>
<td>33</td>
<td>219</td>
</tr>
<tr>
<td>SS</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>8</td>
<td>70</td>
<td>26</td>
<td>27</td>
<td>4</td>
<td>0</td>
<td>17</td>
<td>157</td>
</tr>
<tr>
<td>SW</td>
<td>25</td>
<td>30</td>
<td>11</td>
<td>28</td>
<td>17</td>
<td>16</td>
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<td>39</td>
<td>46</td>
<td>1</td>
<td>29</td>
<td>145</td>
</tr>
<tr>
<td>Nigeria</td>
<td>40</td>
<td>31</td>
<td>11</td>
<td>14</td>
<td>34</td>
<td>11</td>
<td>38</td>
<td>44</td>
<td>56</td>
<td>66</td>
<td>50</td>
<td>67</td>
<td>5</td>
<td>36</td>
<td>3,074</td>
</tr>
</tbody>
</table>
RESULTS FROM THE SOUTH SOUTH ZONE
Qualitative Component
QUALITATIVE COMPONENT RESULTS: THEMATIC AREAS

<table>
<thead>
<tr>
<th></th>
<th>Health beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Poverty</td>
</tr>
<tr>
<td>3</td>
<td>Socio-cultural context</td>
</tr>
<tr>
<td>4</td>
<td>Poor infrastructure</td>
</tr>
<tr>
<td>5</td>
<td>Insecurity</td>
</tr>
<tr>
<td>6</td>
<td>Perceived quality of care</td>
</tr>
<tr>
<td>7</td>
<td>Enabling factors</td>
</tr>
</tbody>
</table>
SICKNESSES DEFY ORTHODOX MEDICINE

Belief that only traditional medicine can cure some diseases keeps caregivers from formal care.

‘My baby had okpoh at some point. When it was discovered she had this okpoh sickness, I was advised to take her to one woman [herbal healer] who cures it’.
SPIRITUAL CAUSATION

‘Spiritual attacks’ require spiritual solutions so caregivers may not seek formal care when they suspect spiritual attack.

Common in the South South and South East.

…there are people here who are wicked and who deal with the spirit of darkness called eka satan (mother satan), which they use to ‘charm’ [afflict] children, like that convulsion, there is a way those wicked people use their eka satan to charm children… and the children will have fever

‘Many people who deliver in the church have been prophesied to and told not to give birth at home or in the hospital so that Satan will not kill them, so they run to church’.

Caregiver

Female community member
Sometimes, caregivers cannot afford cost of care and cost of transportation.

"The money we make from our petty trading is not even enough for feeding let alone for medical upkeep'.

The money is not enough, poverty is our problem, we don't earn enough and the little income cannot sustain the family. Even when the woman is pregnant, because of poor feeding, the baby can die in the womb'.

Male community member
HEALTH FACILITY: DRUGS & EQUIPMENT & ATTITUDE OF SERVICE PROVIDERS

Caregivers are discouraged from using health facilities because:

- There are no facilities in some communities
- Some facilities are poorly equipped
- Some healthcare providers have poor attitudes towards caregivers

‘Talking about facilities, we don’t have enough for the large population that we are expected to cater for. For instance, the laboratory is not properly equipped, no chemicals to work with, the labour room too is not equipped, no pharmacy for drugs, no potable water and no functional toilet. For the staff, we have no nurses here, no doctor, what we have here is community health workers which we have three

‘Another kind of problem we have in that health centre is that the people they employed… are not always available there. When they work and it’s around noon, you can’t be sure of seeing them again because they would have gone home. So, that factor discourages pregnant women from going to the health centre’.
INSECURITY

Insecurity reduces access to care:

- Keeps caregivers from accessing facilities
- Keeps healthcare providers from going to facilities
- Reduces household income

‘… for now we are not taking delivery (at night) since we are not residing here, and the reason we are not residing here is because the security issues in this community have been compromised [crime] (kidnapping, armed robbery, and other social vices) is the order of the day … and so … we cannot reside here because we are not sure of our safely.’
PERCEIVED QUALITY OF CARE

Caregivers perceive poor quality of care at facilities.

‘I used to go to the hospital to give birth, there is no special care in the hospital. When I get home soon the child will have very high fever, convulse and die’.

Female community member
ENABLING FACTORS

These include: Immunisation programme by State governments, international and local organizations, community associations.

‘Akwa Ibom State government sends people, especially those that do immunisation and when they come like that, they ask the town crier to announce they’re looking for pregnant women and babies from 0 to 59 months. So they come like that from time to time…’.

Male community member
### Key Contextual Issues in Under-Five Mortality

<table>
<thead>
<tr>
<th>Zone</th>
<th>States</th>
<th>Poverty</th>
<th>Rural life</th>
<th>Health beliefs</th>
<th>Family-level decision-making</th>
<th>Insecurity</th>
<th>Poor access to health facilities</th>
<th>Cultural practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Central</td>
<td>Niger</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Plateau</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
</tr>
<tr>
<td>North East</td>
<td>Bauchi</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
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<tr>
<td></td>
<td>Gombe</td>
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<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>North West</td>
<td>Jigawa</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
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</tr>
<tr>
<td></td>
<td>Kebbi</td>
<td>✔️</td>
<td>✔️</td>
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<td>✔️</td>
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</tr>
<tr>
<td>South East</td>
<td>Ebonyi</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Imo</td>
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<td>✔️</td>
<td>✔️</td>
<td>-</td>
<td>✔️</td>
<td>✔️</td>
<td>-</td>
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<tr>
<td>South South</td>
<td>Akwa Ibom</td>
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<td>-</td>
<td>✔️</td>
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<td>✔️</td>
<td>-</td>
<td>-</td>
<td>✔️</td>
<td>-</td>
</tr>
</tbody>
</table>
LIMITATIONS

- Insecurity prevented the inclusion of some parts of the country in the 2018 NDHS. This explains why insecurity did not come up as a major factor in the North in the 2019 VASA.

- Sufficient data from clinical autopsies is not available to compare with 2019 VASA results.
POLICY IMPLICATIONS
HOME, COMMUNITY AND PREVENTIVE ISSUES

Home and community
- Achieve universal basic education - especially for girls
- Improve economic opportunities for poor families
- Improve local infrastructure - including water, sanitation and roads

Home newborn care and nutrition
- Avoid common harmful practices, such as late breastfeeding and early bathing and improve home feeding behaviors

High priority routine and preventive services
- Universal access to high quality antenatal and labour/delivery care
- High coverage of routine immunizations, micronutrient (Vitamin A), malaria prevention (LLIN), etc.
POLICY IMPLICATIONS
COMMUNITY AND FACILITY ILLNESS MANAGEMENT

Community level
- iCCM allows community management of common diseases
- Community management of young infants with signs of possible severe bacterial infection when referral is not possible.
- Community Management of Acute Malnutrition (CMAM)
- Improve care at pharmacies/PMVs (to at least iCCM level)

Health facility level
- Reduce barriers to accessing health care
  - High and unpredictable costs (truly free care, insurance schemes)
  - Functional Primary Health Care centers with 24 hour service
- Improve clinical practices (IMCI, LSS, ENC, HBB, MPSBI, etc.)
- Improve severe/complicated case management and referral for both mothers and children
POLICY IMPLICATIONS
CONTEXTUAL BARRIERS TO HEALTH CARE

Address health beliefs
- Improve knowledge and correct misconceptions about child health care. Need innovative context-specific interventions
- Legal frameworks for protecting children from harmful practices

Access to health services
- Primary health care needs enough investment and staffing
- Staff need to provide respectful client friendly care
- Health care workers need better support and security

Social-cultural barriers
- Secure women’s rights and ability to access health services when needed
- Improve the security situation
CONCLUSION

Nigeria’s slow progress in child survival has left it behind other countries.

The causes of death and reasons behind these causes are clear for Nigeria in the VASA 2019 study.

It is up to Nigeria’s leaders to take action to accelerate Nigeria’s development as a society.

It is up to Nigeria’s health authorities to strengthen Nigeria’s primary health care system so that children no longer die from preventable causes.

It is up to Nigeria’s people to adopt health promoting practices and move away from beliefs and practices with negative implications for child survival.
APPRECIATION

- National Population Commission
- Federal Ministry of Health
- Steering Committee
- Technical Working Group
- Study participants – Caregivers, healthcare workers, community members
- Field researchers and supervisors
- CIRCLE Team
- USAID
TECHNICAL WORKING GROUP

Family Health Department, FMoH
National Malaria Elimination Prog., FMoH
Child Health Division, FMoH
Planning, Research & Statistics Department
NPHCDA
National Population Commission
National Bureau of Statistics
Federal Ministry of Women Affairs
Paediatrics Assoc. of Nigeria
Nigeria Society of Neonatal Medicine

Obafemi Awolowo University
Ahmadu Bello University
University of Jos
University of Maiduguri
University of Port Harcourt
WHO, Nigeria Country office
USAID, Nigeria Country office
Coordinating Implementation Research to Communicate Learning and Evidence (CIRCLE)
THANK YOU

The 2019 VASA products will be available on the National Population Commission website at: national population.gov.ng