

Investing in evidence-based health programme planning in northern Nigeria: The Nahuche HDSS pilot census

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Introduction

- ✓ HDSS collaboration between the PRRINN-MNCH Programme and Zamfara SMOH
- ✓ PRRINN-MNCH overall goal to reduce maternal and child health mortality
 - Through health systems strengthening in order to generate demand
- ✓ Nahuche HDSS based on Navrongo experience
- ✓ Pilot census (May 25-June 2, 2010): testing data collection instruments, data systems, management and logistical processes



Location of Nahuche HDSS



Study area in brief

- ✓ Zamfara has high mortality rates:
IMR=100; U5MR=150; CMR=56
- ✓ Situated in Bungudu Local Govt Area
- ✓ Site 32 km from state capital, Gusau
- ✓ Comprises of 6 districts
- ✓ Hausa predominant ethnic group
- ✓ Est. population: 95,000 (2006 census)
- ✓ 1 PHC located adjacent to HDSS office
- ✓ After neonatal COD, others are: HIV/AIDS
malaria, pneumonia, diarrhoea, measles



Content of pilot census forms

- ✓ Comparable to questions from other sites
- ✓ Tailored to local setting and project needs
- ✓ Covered core demographic information:
 - sex; age; ethnicity; marital status; education; *etc*
- ✓ Add-on modules: birth history, ANC, and IZ
 - Target: women (15-49) whose most recent birth occurred 5 years preceding the pilot



Target pilot census population

- ✓ Households in 4 clusters in Nahuche Keku (NK) District
- ✓ NK is 1 of 6 districts of Nahuche DSA
- ✓ Estimated surveillance population: 95,000
- ✓ NK demarcated into 20 clusters
- ✓ Estimated total pilot population: 1,500 in approx. 250 households
 - Based on 2006 census; mean of 7.1 individuals/household



Pilot data and way forward

- ✓ 1,440 individuals enumerated in 194 households
 - ✓ 131 women were aged 15-49
- ✓ HRS2 software used for data processing
- ✓ Received technical support from INDEPTH
- ✓ Many lessons learnt from the pilot census
- ✓ Full baseline census started 20 Sept 2010 and expected to end mid-Dec 2010
- ✓ Plan is to collect 3 rounds of data per year



Preliminary results

| individid | gender | birth_date |
|--------------|--------|------------|
| NKA001001001 | M | 1-Jan-72 |
| NKA001001002 | F | 3-Mar-89 |
| NKA001001003 | M | 22-May-10 |
| NKA001001004 | F | 15-Jun-50 |
| NKA001001005 | F | 15-Jun-74 |
| NKA004002001 | M | 15-Jun-85 |
| NKB002001002 | F | 13-Feb-82 |



Table 1. Selected socio-demographic characteristics, Nahuche HDSS pilot census, 2010

| Characteristics | Number |
|--------------------------------------|---------------|
| De jure population size ^a | 1,440 |
| Male | 764 |
| Female | 676 |
| Ratio male to female | 1.1 |
| Number of households | 194 |
| Mean household size ^b | 7.4 |
| % under five years | 17.0 |
| % under 15 years | 50.2 |
| % over 65 years | 3.1 |
| Mean age (years) ^c | 20.0 |
| Median age (years) | 14.0 |
| % of maternal orphans (<18 years) | 3.4 |
| % of paternal orphans (<18 years) | 3.9 |
| % of double orphans (<18 years) | 0.6 |

Notes: ^aDe jure population: the permanent population plus temporary migrants. These are people who usually stay in the household for three or more months each year. ^bBased on de jure population. ^cMinimum age in years is 0 and maximum is 90.



Population pyramid , Nahuche HDSS pilot census, 2010

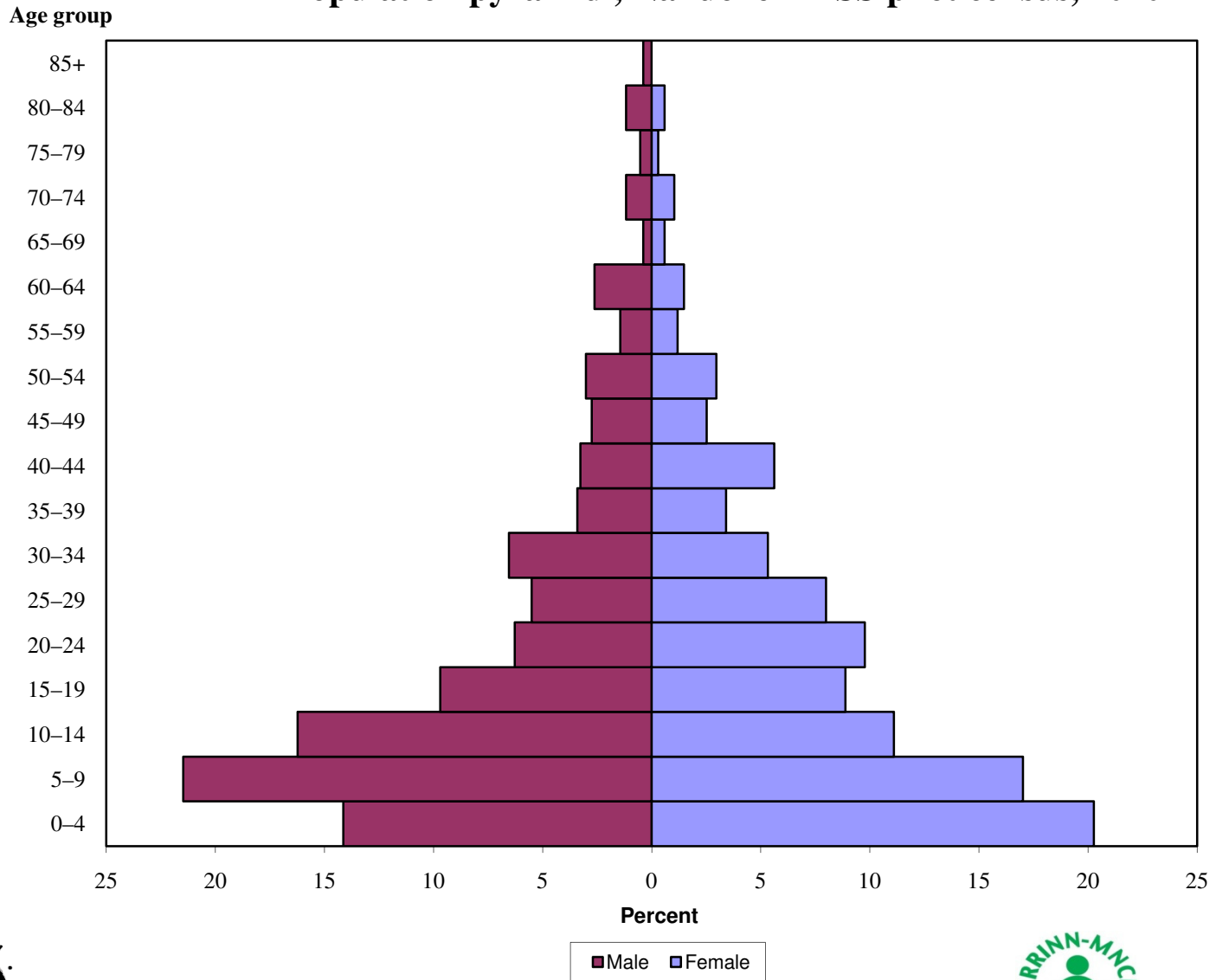


Figure 3. Relationship to head of household, Nahuche HDSS pilot census, 2010

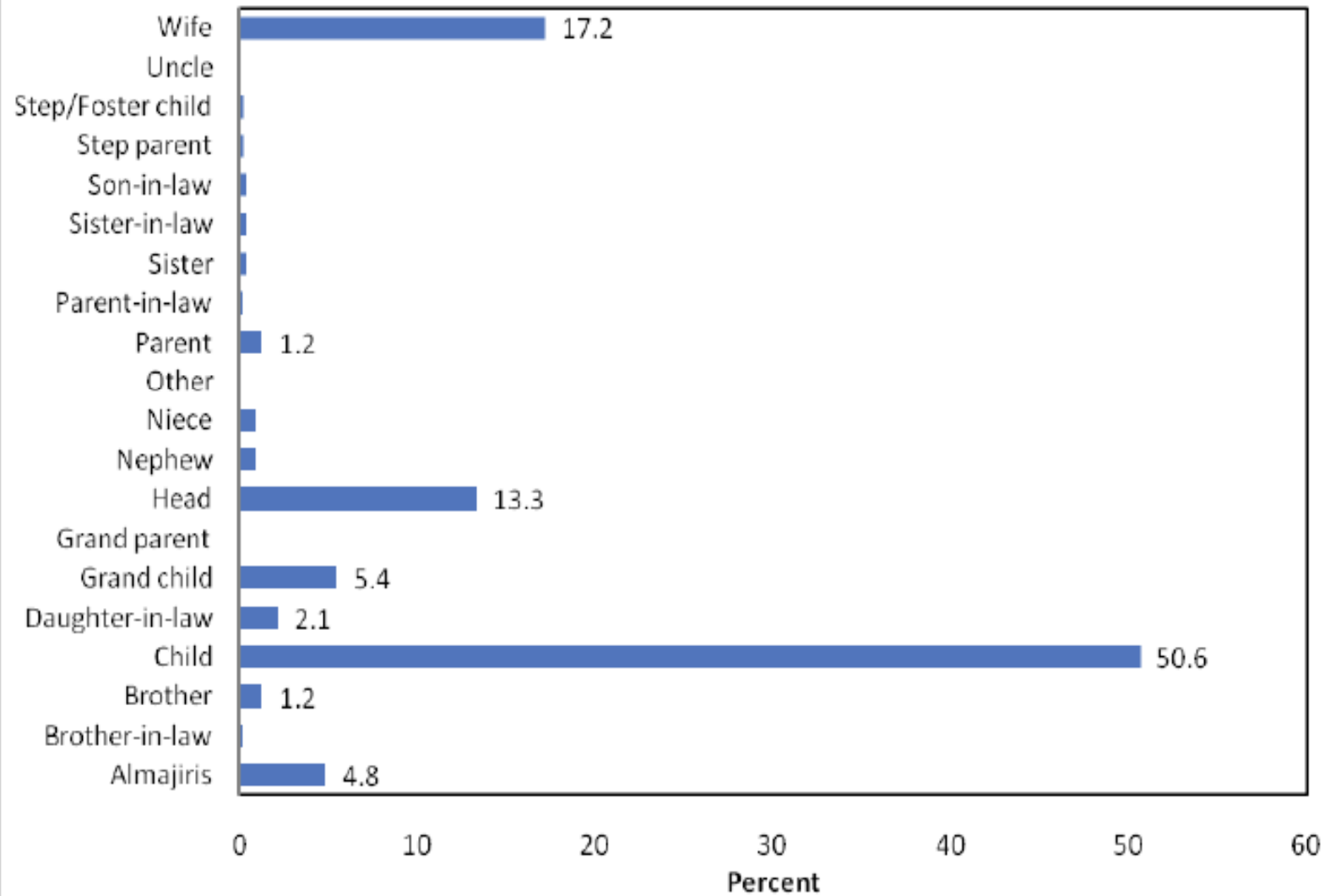


Figure 5. Percent distribution of households by type of cooking fuel, Nahuche HDSS, 2010

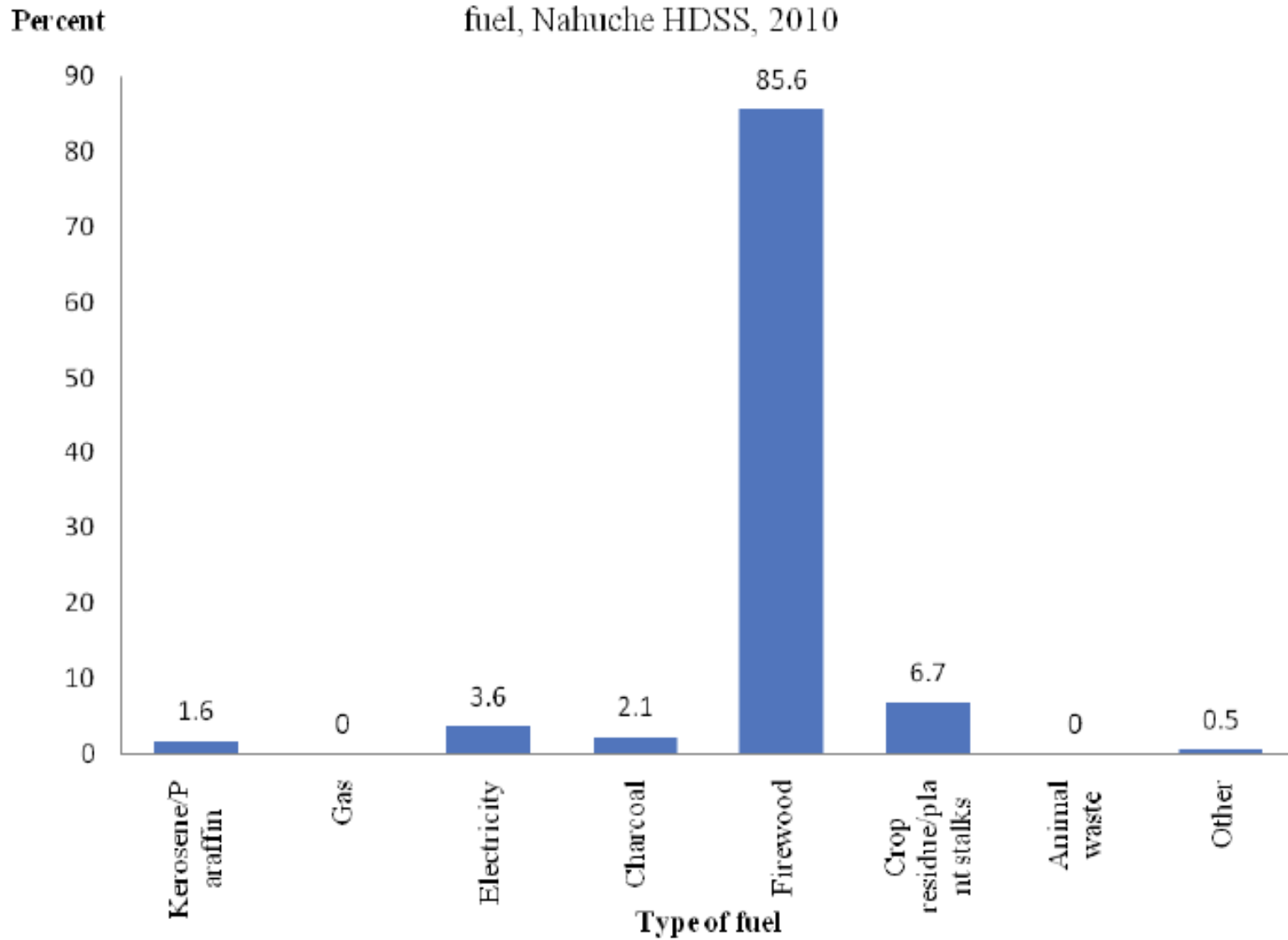


Table 5. Percent distribution of households by ownership of livestock and other characteristics, Nahuche HDSS pilot census, 2010

| Characteristics | Percent | Mean | Median | [Min, Max] |
|-----------------------------|---------|------|--------|------------|
| Cattle | 20.6 | 9.2 | 2 | [1, 100] |
| Sheep | 78.4 | 6.2 | 4 | [1, 50] |
| Donkey | 26.8 | 1.3 | 1 | [1, 10] |
| Goats | 51.6 | 4.4 | 3 | [1, 20] |
| Camel | 5.2 | 1.8 | 1 | [1, 4] |
| Horse | 0.0 | - | - | - |
| Poultry | 60.3 | 10.9 | 10 | [1, 50] |
| Other livestock | 5.2 | 3.4 | 1 | [1, 10] |
| Mosquito nets | 52.1 | 2.3 | 2 | [1, 14] |
| Rooms occupied by household | - | 4.6 | 4 | [1, 24] |
| Rooms used for sleeping | - | 2.7 | 2 | [1, 9] |



Table 6. Percent distribution of individuals age six and over by marital status, Nahuche HDSS pilot census, 2010

| Background characteristics | Never married | Married | Separated | Divorced | Widowed | Total | Number |
|-----------------------------------|----------------------|----------------|------------------|-----------------|----------------|--------------|---------------|
| <i>Age group</i> | | | | | | | |
| 6-9 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 222 |
| 10-14 | 97.0 | 3.0 | 0.0 | 0.0 | 0.0 | 100.0 | 199 |
| 15-19 | 75.4 | 23.1 | 0.8 | 0.8 | 0.0 | 100.0 | 134 |
| 20-24 | 36.0 | 64.0 | 0.0 | 0.0 | 0.0 | 100.0 | 114 |
| 25-29 | 24.0 | 74.0 | 1.0 | 1.0 | 0.0 | 100.0 | 96 |
| 30-34 | 9.3 | 88.4 | 0.0 | 0.0 | 2.3 | 100.0 | 86 |
| 35-39 | 8.2 | 89.8 | 0.0 | 2.0 | 0.0 | 100.0 | 49 |
| 40-44 | 3.2 | 95.2 | 0.0 | 1.6 | 0.0 | 100.0 | 63 |
| 45-49 | 2.6 | 92.1 | 0.0 | 0.0 | 5.3 | 100.0 | 38 |
| 50-54 | 0.0 | 90.7 | 0.0 | 4.7 | 4.7 | 100.0 | 43 |
| 55-59 | 0.0 | 89.5 | 0.0 | 0.0 | 10.5 | 100.0 | 19 |
| 60-64 | 0.0 | 86.7 | 0.0 | 0.0 | 13.3 | 100.0 | 30 |
| 65+ | 6.7 | 80.0 | 0.0 | 4.4 | 8.9 | 100.0 | 45 |
| <i>Sex</i> | | | | | | | |
| Male | 39.7 | 55.6 | 0.4 | 1.6 | 2.7 | 100.0 | 514 |
| Female | 63.1 | 36.5 | 0.0 | 0.0 | 0.3 | 100.0 | 624 |
| Total | 52.6 | 45.2 | 0.2 | 0.7 | 1.4 | 100.0 | 1,138 |

Note: Differences are significant ($p < 0.001$); Some percentages may not add up to 100 due to rounding off numbers.



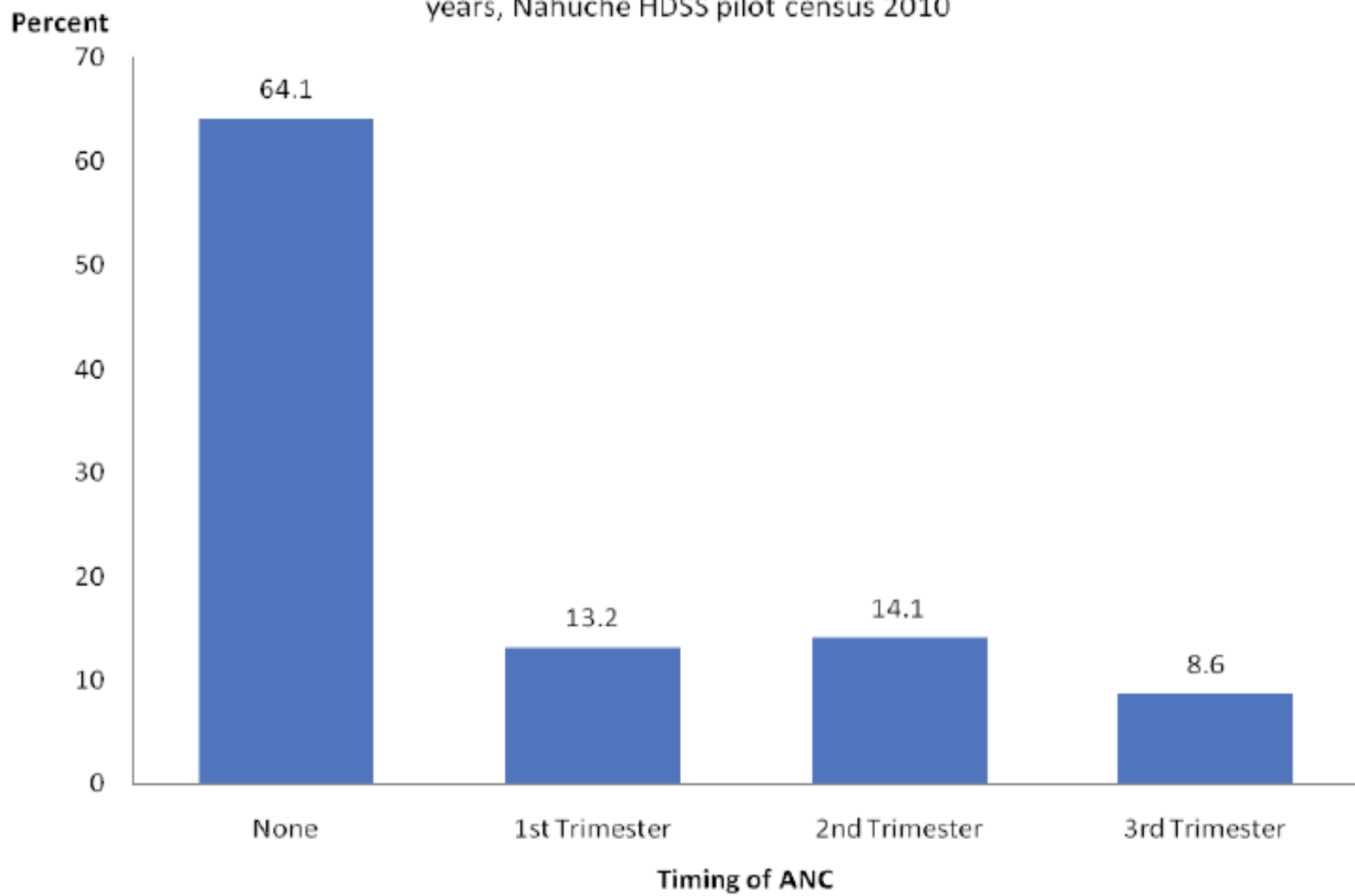
Table 8: Percent distribution of source of ANC during recent pregnancy in the past 5 years by mother's age and education, Nahuche HDSS pilot census, 2010

| Background characteristic | None | Doctor | Nurse/Midwife | Community | Other | Traditional | Trained TBA | Other person | Total | Number |
|---------------------------|-------------|------------|---------------|-------------------------|---------------|-----------------------|-------------|--------------|--------------|------------|
| | | | | health extension worker | health worker | birth attendant (TBA) | | | | |
| <i>Mother's age</i> | | | | | | | | | | |
| <20 | 60.5 | 7.0 | 16.3 | 14.0 | 0.0 | 0.0 | 2.3 | 0.0 | 100.0 | 43 |
| 20-34 | 73.8 | 4.8 | 16.7 | 2.4 | 0.0 | 2.4 | 0.0 | 0.0 | 100.0 | 42 |
| 35+ | 58.7 | 6.5 | 8.7 | 17.4 | 0.0 | 4.4 | 2.2 | 2.2 | 100.0 | 46 |
| <i>Education</i> | | | | | | | | | | |
| None | 66.7 | 0.0 | 33.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 3 |
| Primary | 66.7 | 5.6 | 11.1 | 5.6 | 0.0 | 0.0 | 11.1 | 0.0 | 100.0 | 18 |
| Secondary | 57.1 | 9.5 | 14.3 | 14.3 | 0.0 | 4.8 | 0.0 | 0.0 | 100.0 | 21 |
| Higher | 71.4 | 7.1 | 14.3 | 7.1 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 14 |
| Quranic | 65.7 | 6.0 | 11.9 | 11.9 | 0.0 | 3.0 | 0.0 | 1.5 | 100.0 | 67 |
| Total | 64.1 | 6.1 | 13.7 | 11.5 | 0.0 | 2.3 | 1.5 | 0.8 | 100.0 | 131 |

Notes: For women with two or more live births in the five-year period, data refer to the most recent birth; Some numbers for sub-categories may not add up to the total due to reference to specific categories.



Figure 7. Timing of first ANC visit during most recent pregnancy in previous 5 years, Nahuche HDSS pilot census 2010



Immunization...challenges

- ✓ 73 households had children ≤ 23 months
- ✓ 30 out of 73 completed questionnaires were useable
 - Comprehension challenges with the vaccination form
 - One child was fully vaccinated
- ✓ Irrespective of children completing their vaccinations, 46% of mothers (n=131) knew correct vaccination schedule



Birth history form: Mortality

- ✓ Out of 225 children born anytime during the 5 years prior to the pilot, only 1 infant death was observed
- ✓ This is not surprising since the sample of eligible women was small
- ✓ Further, the pilot area was relatively better off (i.e., socioeconomic status) than the rest of the communities



Some challenges/experiences and ‘solutions’

- ✓ **Community mobilization:** Some communities took long to understand the objective of the HDSS
 - ✓ Social mobilization committees have been established in all communities
- ✓ **Field operations:** Male FWs not allowed to interview married women
- ✓ **Questionnaire:** Very long with add-on modules
 - ✓ Full baseline census to focus on establishing baseline population only
 - ✓ Round 1: administer all add-on modules



Conclusions

- ✓ The Nahuche HDSS will monitor longitudinal health and demographic dynamics under exceedingly complex circumstances:
 - Cultural factors restrain married women from being interviewed by men
 - Low levels of educational attainment result in largely dominated male fieldworker teams, age distortions, and other biases occur in the recall of information.
- ✓ INDEPTH technical support during pilot census provides credibility of the results



Nahuiche HDSS staff



Connecting Nahuche to the world



Data entry room



Office building



Management (Consortium)



Key Funders

