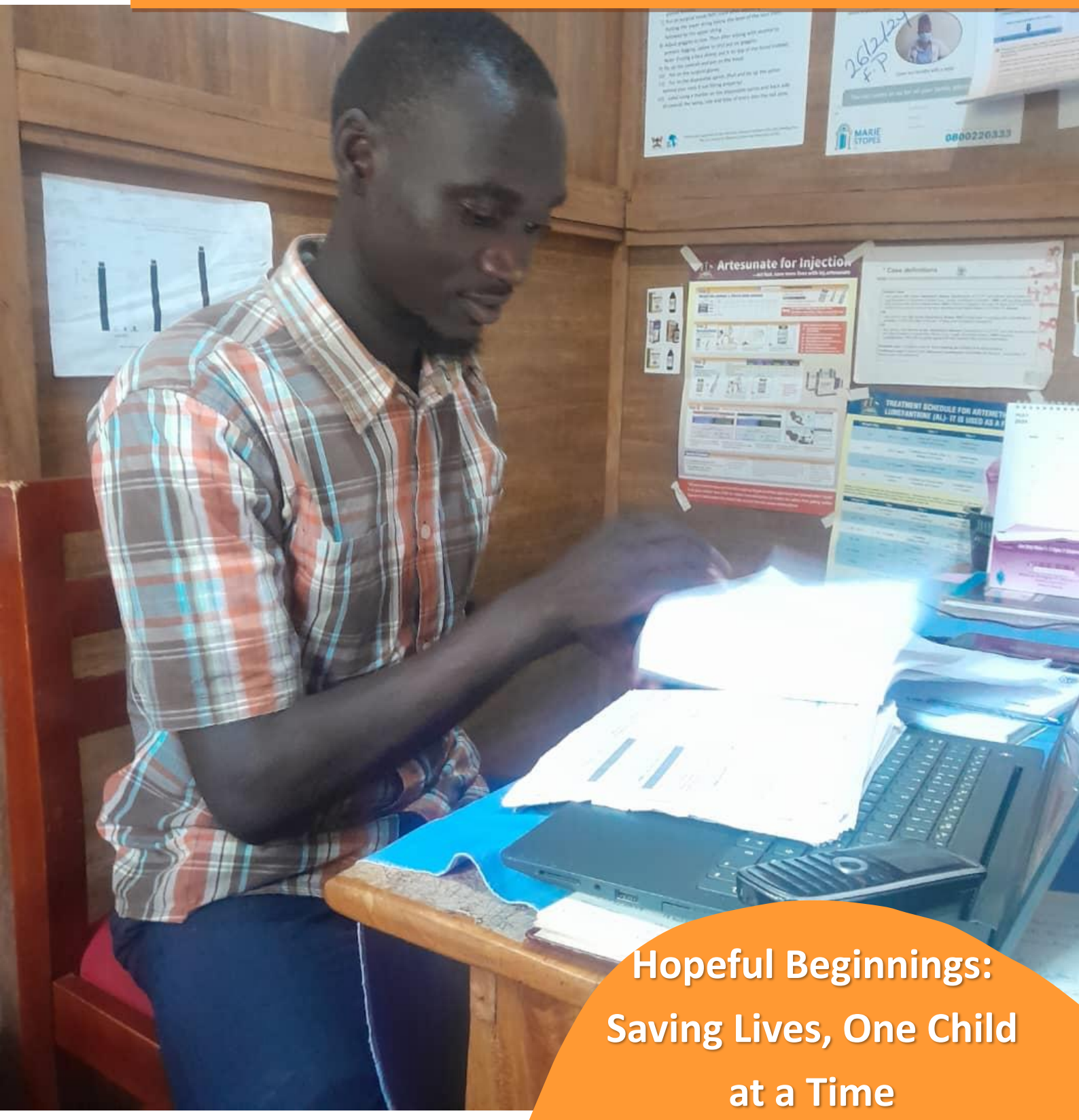
nurtureafrica
Empowering Vulnerable Children

BASELINE SURVEY REPORT

Conducted in

Four government health facilities



Hopeful Beginnings: Saving Lives, One Child at a Time

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Else Kröner Fresenius Stiftung

ABBREVIATIONS

ANC – Antenatal Care

DHIS2 – District Health Information System 2

HC II - Health Center II

HCIII – Health Center III

HCIV – Health Center IV

HMIS – Health Management Information System

MoH – Ministry of Health

NA – Nurture Africa

PAIRS- Paediatric Acute Intervention and Resuscitation Skills

Q1 - Quarter 1

Q2 - Quarter 2

Q3 - Quarter 3

Q4 - Quarter 4

VHTs – Village Health Teams

Executive Summary

The EKFS project aims to enhance the capacity of Wakiso district's health system in neonatal and paediatric service delivery by implementing the Paediatric Acute Intervention and Resuscitation Skills (PAIRS) training approach. This approach focuses on rapid assessment, identification of causes, and stabilisation of neonatal and pediatric patients during emergencies. The project will involve training 600 health workers in PAIRS training, 80,000 neonates and children who will receive treatment, 25 Village Health Teams (VHTs) will receive training in neonatal and paediatric early recognition and referral, 25,000 community members who will receive education from trained VHTs, and 40 identified competent health professionals will receive training to become local faculty members, enabling them to train others in the future.

As part of the project's baseline data collection, a data validation exercise was conducted to assess the quality and accuracy of data reported in the District Health Information System 2 (DHIS2) compared to source registers at 4 government health facilities in Wakiso District-Uganda. The exercise examined several key indicators, including the number of VHTs reporting, the number of children who died under 1 month and 1-11 months, and the number of sick children managed by VHTs and referred.

The analysis found significant discrepancies between the DHIS2 data and the health facility registers across multiple indicators and all the facilities. Key findings include the numbers recorded in the health facility registers, often varying from those in the DHIS2, suggesting potential issues with duplicate or incomplete reporting from registers. Additionally, the number of child deaths under 1 month recorded in the DHIS2 was up to 99.5% higher than the registers, raising concerns about data accuracy. The number of sick children managed by VHTs and referred also differed substantially, with up to 63% fewer referrals recorded in the registers than the DHIS2.

The discrepancies observed could be attributed to several factors, including differences in the interpretation of data indicators among VHTs, health facility coordinators, and data officers, lack of consistent data quality assurance mechanisms, and potential issues with duplicate reporting and incomplete reporting of health facility data into DHIS2.

To address these issues, the following recommendations are proposed: provide training to VHTs and facility staff on aligning data, strengthen VHT supervision on data collection and reporting, improve data collection and reporting processes, enhance data quality assurance through regular validation and feedback, strengthen community engagement in the data collection and validation processes, improve data use and feedback loops to inform decision-making, and conduct regular data validation exercises to monitor and address data quality issues.

By implementing these recommendations, the EKFS project can strengthen VHTs' capacity for data collection and reporting, improve the quality and accuracy of the VHT-HMIS 097b data, and ultimately enhance the ability to make informed decisions and improve health outcomes in the communities served by the four health centres.

Introduction

The EKFS project aims to enhance the capacity of Wakiso district's health system in neonatal and paediatric service delivery by implementing the PAIRS training approach. This approach focuses on rapid assessment, identification of causes, and stabilisation of neonatal and pediatric patients during emergencies. The project will directly benefit a wide range of individuals, including 600 health workers who will receive PAIRS training, 80,000 neonates and children who will receive treatment, 25 VHTs who will receive training in neonatal and paediatric early recognition and referral, 25,000 community members who will receive education from trained VHTs, and 40 identified competent health professionals who will receive training to become local faculty members, enabling them to train others in the future.

Baseline Data Collection

To measure the change in different indicators, Nurture Africa (NA) collected baseline data at the beginning of the project to measure the changes in the key performance indicators.

Data Validation

As part of the project's baseline data collection, a data validation exercise was conducted to ensure the accuracy and reliability of the data. The exercises focused on comparing the extracted VHT data from DHIS2 with the VHT registers, explicitly looking at neonatal and child mortality, their causes, and locations.

Objectives of the Validation Exercise

i. To verify the accuracy and completeness of the VHT data extracted from DHIS2 by comparing it with those recorded in the VHT registers.
ii. To identify discrepancies or inconsistencies between the DHIS2 data and the VHT registers.
iii. To establish a reliable baseline dataset for the project's monitoring and evaluation activities.

Methodology

1. The data validation exercise was conducted over four weeks, with the data collected from the four health centres mentioned above. The following steps were taken:

- Obtained the VHT-HMIS 097b data reported in the DHIS2 system for the four health centres over 2023.
- Reviewed the source document registers used by the VHTs to collect the data.

- Compare the DHIS2 data with the source document registers for each indicator and quarter.
- Identified any discrepancies between the DHIS2 data and the source document registers.
- Analyzed the findings and generated a report with recommendations.

Findings from the validation exercise

This section summarises data validation results, comparing data from the DHIS2 system with source documents (registers) for household visits by VHTs across four health facilities on specific HMIS 097b form indicators. The data is organized by quarters (Q1, Q2, Q3, and Q4), highlighting discrepancies between the recorded data in DHIS2 and the source documents.

Table 1: Summary of Reports from VHTs Attached to Specific Facilities and Villages

	HMIS-97b Indicators																							
	Number of Villages in DHIS2				Number of Villages in Register				VHTs per facility in DHIS2				VHTs per facility in Register				Submitted report in DHIS				Submitted report in Register			
Quarters	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Nabweru HCIII	11	29	22	15	11	6	6	15	19	49	41	30	22	22	22	30	22	41	27	30	15	9	11	15
Nansana HCII	18	18	13	7	12	12	12		32	31	21	12	24	24	24		28	26	22	15	24	18	22	
Wakiso HCIV		9	27	21						17		39						9	50	39				
Ttikalu HCIII	11	11	8	3	8	10	12	12	28	28	23	4	11	11	21		28	28	17	4	11	11	21	

Nabweru HCIII:

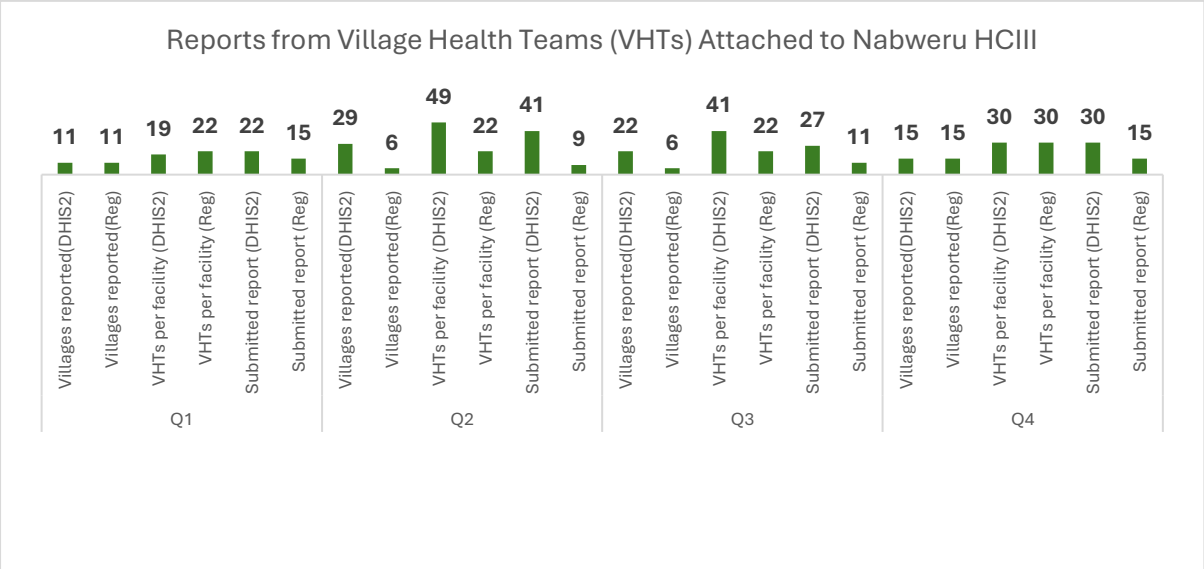

Figure 1: *Summary of Reports from VHTs Attached to Nabweru HCIII*

Villages reporting: The number of villages recorded in DHIS2 is higher than in the register, except in Q1 and Q4, where they match.

VHTs expected to report: The number of VHTs per facility recorded in DHIS2 for Q2 and Q3 is higher than that recorded in the register, except in Q4, where they match, and lower in Q1

VHTs attached to the facility that submitted a report: The number of submitted reports in both the DHIS2 and the register is higher across all quarters.

Number of Villages reporting

Summary	Number
Total Villages (DHIS2)	62
Total Villages (Register)	23

% Difference – **63%**

Expected VHTs reporting to Health Facilities

Summary	Number
Total VHTs (DHIS2)	109
Total VHTs (Register)	66

% Difference – **39%**

VHTs Reported to the Health Facility

Summary	Values
Total in year (DHIS2)	90
Total in year (Register)	35

% Difference – **61%**

Figure 2: Summary of Reports from VHTs Attached to Nansana HCII

Number of Villages in DHIS2: The number of villages recorded in DHIS2 is higher than that recorded in the register, except in Q4, where the data is missing for the register.

VHTs per facility in DHIS2: The number of VHTs per facility recorded in DHIS2 is higher than that recorded in the register for Q1 and Q2, except in Q3, where it is lower. No data were recorded for the register in Q4.

Submitted report in DHIS: The number of submitted reports in DHIS2 is higher than that recorded in the register for Q1 and Q2, except in Q3, where it matches, and no data in Q4 is recorded for the register.

Number of Villages reporting

Summary	Values
Total in year (DHIS2)	49
Total in year (Register)	36

% Difference – **27%**

Expected VHTs reporting to Health Facilities

Summary	Values
Total in year (DHIS2)	84
Total in year (Register)	72

% Difference – **14%**

VHTs Reported to the Health Facility

Summary	Values
Total in year (DHIS2)	76
Total in year (Register)	64

% Difference – **16%**

Ttikalu HCII:

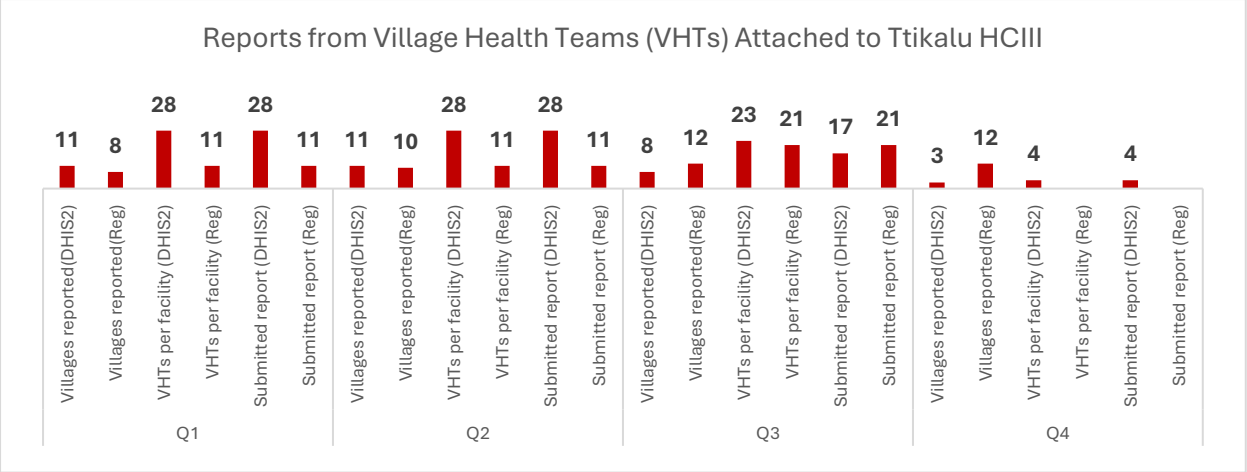

Figure 3: Summary of Reports from VHTs Attached to Ttikalu HCIII

Number of Villages in DHIS2: The number of villages recorded in DHIS2 is higher than that recorded in the register for Q1 and Q2, except in Q3 and Q4, where the data is lower

VHTs per facility in DHIS2: The number of VHTs per facility recorded in DHIS2 is higher than that recorded in the register for Q1- Q3, except in Q4, where the data is missing for the register

Submitted report in DHIS: The number of submitted reports in the DHIS2 is higher than that recorded in the register for Q1 and Q2, except in Q3, where it is lower, and no data in Q4 is recorded for the register.

Number of Villages reporting

Summary	Values
Total in year (DHIS2)	30
Total in year (Register)	30

% Difference – **0%**

Expected VHTs reporting to Health Facilities

Summary	Values
Total in year (DHIS2)	79
Total in year (Register)	43

% Difference – **46%**

VHTs Reported to the Health Facility

Summary	Values
Total in year (DHIS2)	73
Total in year (Register)	43

% Difference – **63%**

Wakiso HCIV

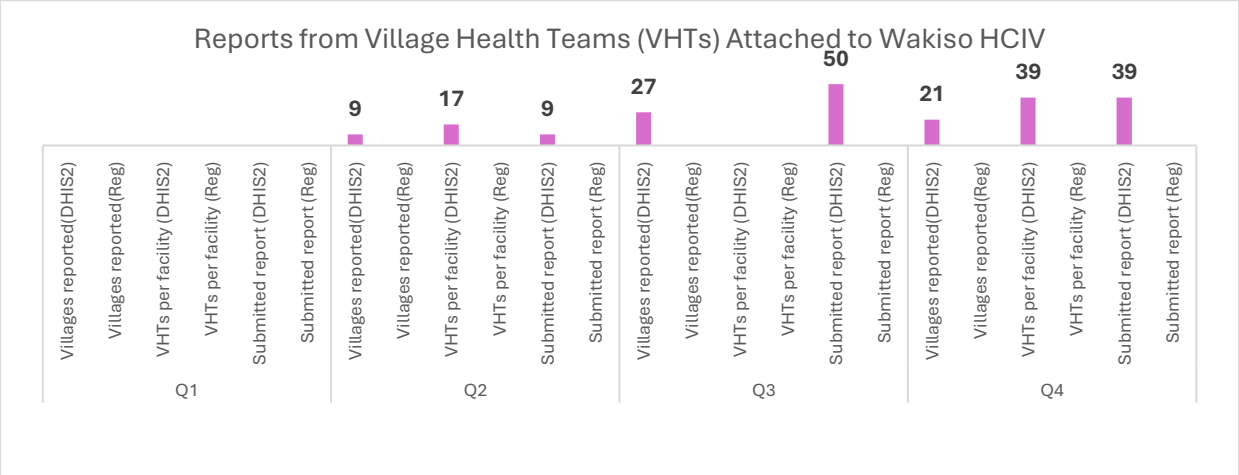

Figure 4: Summary of Reports from VHTs Attached to Wakiso HCIV

Number of Villages in DHIS2: The number of villages is only recorded in DHIS2 but missing in the register for all quarters

VHTs per facility in DHIS2: The number of VHTs per facility is only recorded for DHIS2 in Q2 and Q4 but is missing in the register for all quarters

Submitted report in DHIS: The number of submitted reports is only recorded for DHIS2 in Q2-Q4 but is missing in the register for all quarters

Number of Villages reporting

Summary	Values
Total in year (DHIS2)	36
Total in year (Register)	0

% Difference – **100%**

Expected VHTs reporting to Health Facilities

Summary	Values
Total in year (DHIS2)	17
Total in year (Register)	0

% Difference – **100%**

VHTs Reported to the Health Facility

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	0

% Difference – **0%**

	HMIS-97b Indicators															
	Children died<1 month (DHIS2)				Children died<1 month (Register)				Children died 1<11 months (DHIS2)				Children died 1<11 months (Register)			
Quarters	Q 1	Q 2	Q3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Nabweru HCIII	0	2	848	3	1	2	1	1	1	0	2	1	4	0	1	2
Nansana HCII	5	0	332	0	12	3	1		0	0		0	0	0	1	
Wakiso HCIV		1														
Ttikalu HCIII			0		1	0	0			2			1	0	0	

The table above contains data from a data validation exercise in DHIS2, comparing data from the system against source documents (registers) across four health facilities. The data is organized by quarters (Q1, Q2, Q3, and Q4). The data highlights discrepancies between the data recorded in DHIS2 and the source documents.

Nabweru HCIII

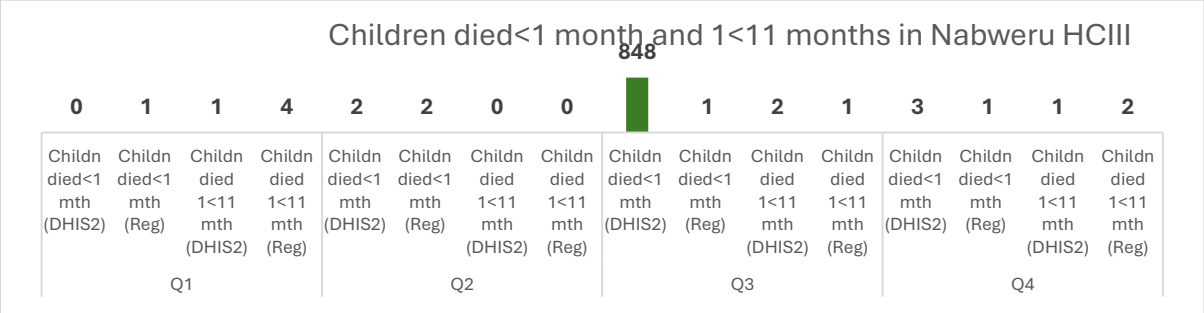

Figure 5: Summary of Children who died<1 month and 1<11 months in Nabweru HCIII

Children died<1 month (DHIS2): The number of children who died within the first month of life, as recorded in DHIS2 for Q2 and Q3, is higher than that recorded in the register, except in Q2, where it matches and is lower in Q1.

Children died 1<11 months (DHIS2): The number of children who died between 1 and 11 months of age, as recorded in DHIS2, is lower than recorded in the register for Q1 and Q4, except in Q2, where it matches and is lower in Q3.

Children died<1 month

Summary	Values
Total in year (DHIS2)	850
Total in year (Register)	4

% Difference – **99.5%**

Children died 1<11 months

Summary	Values
Total in year (DHIS2)	3
Total in year (Register)	5

% Difference – **40%**

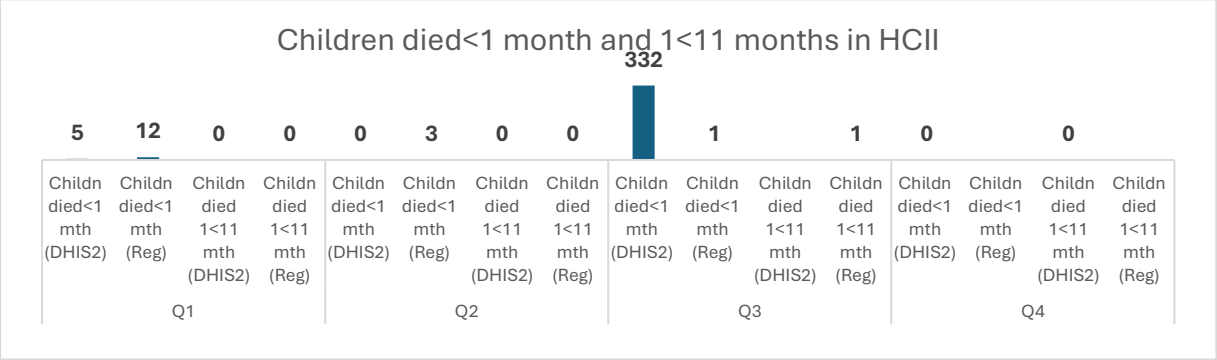

Figure 6: Summary of Children who died<1 month and 1<11 months in Nansana HCII

Children died<1 month (DHIS2): The number of children who died within the first month of life, as recorded in DHIS2 for Q1 and Q2, is lower than that recorded in the register, except in Q3 where it is higher, and data is missing for and Q4 in the register.

Children died 1<11 months (DHIS2): The number of children who died between 1 and 11 months of age was recorded in both the DHIS2 and the register matches, but the data is missing for Q3 in the DHIS2 and Q4 in the register.

Children died<1 month

Summary	Values
Total in year (DHIS2)	337
Total in year (Register)	16

% Difference – **95%**

Children died 1<11 months

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	1

% Difference – **100%**

Ttikalu HCIII

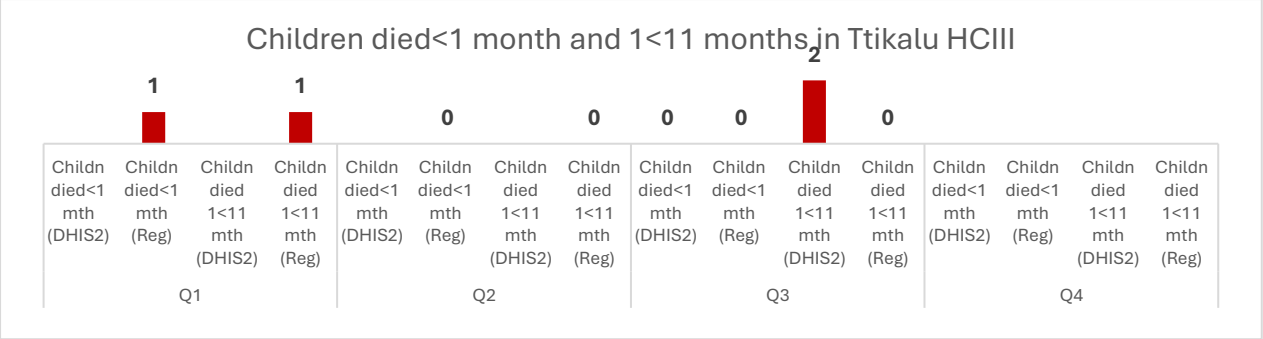

Figure 7: Summary of Children who died<1 month and 1<11 months in Ttikalu HCIII

Children died<1 month (DHIS2): The number of children who died within the first month of life, as recorded in both DHIS2 and the register for Q3 matches. DHIS2 data for Q1, Q2 and Q4 is missing, and register data for Q4 is missing as well

Children died 1<11 months (DHIS2): The number of children who died between 1 and 11 months of age recorded in DHIS2 is higher than that recorded in the register for Q2. DHIS2 data for Q1, Q3, and Q4 is missing, and register data for Q4 is missing as well

Children died<1 month

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	1

% Difference – **100%**

Children died 1<11 months

Summary	Values
Total in year (DHIS2)	2
Total in year (Register)	1

% Difference – **50%**

Wakiso HCIV

Children died<1 month (DHIS2): The number of children who died within the first month of life for both the DHIS2 and register is missing, except for Q2 in the DHIS.

Children died 1<11 months (DHIS2): The number of children who died between 1 and 11 months of age in both the DHIS2 and the register is missing.

Children died<1 month

Summary	Values
Total in year (DHIS2)	1
Total in year (Register)	0

% Difference – **100%**

Children died 1<11 months

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	0

% Difference – **0%**

Table 3: Deliveries at home and Women died during pregnancy

The table provided contains data from a data validation exercise in DHIS2, comparing data from the system against source documents (registers) across four health facilities. Q1, Q2, Q3, and Q4 organise the data. The table highlights discrepancies between the data recorded in DHIS2 and the source documents.

Nabweru HCIII

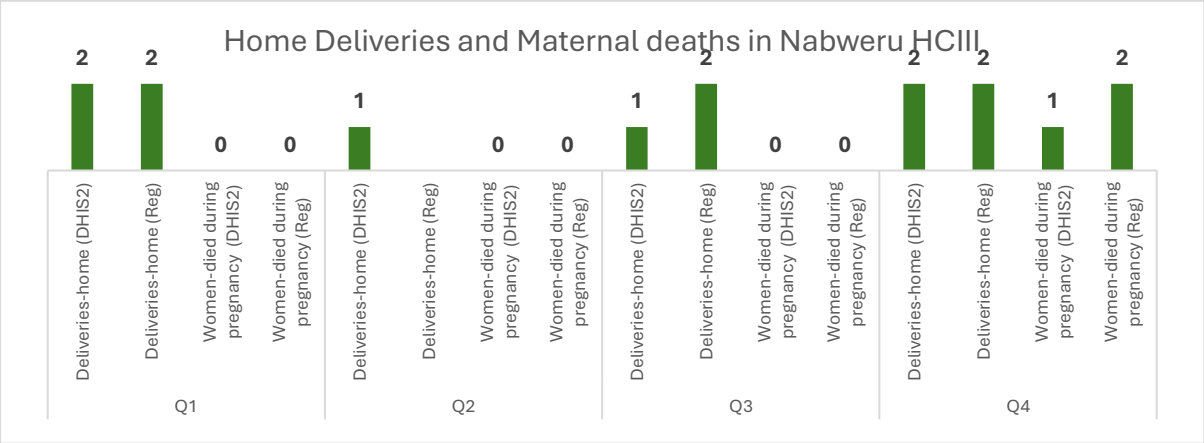

Figure 8: Summary of Home Deliveries and Maternal Deaths in Nabweru HCIII

Deliveries at home (DHIS2): The number of deliveries at home recorded in DHIS2 matches that recorded in the register, except in Q3, where it is lower, and there is no data for Q4 in the register.

Women who died during pregnancy (DHIS2): The number of women who died during pregnancy recorded in DHIS2 matches that recorded in the register for Q1-Q3, except in Q4, where it is low

	HMIS-97b Indicators															
	Deliveries at home (DHIS2)				Deliveries at home (Register)				Women who died during pregnancy (DHIS2)				Women who died during pregnancy (Register)			
Quarters	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Nabweru HCIII	2	1	1	2	2		2	2	0	0	0	1	0	0	0	2
Nansana HCII	11	3	8	0	10	4	7		1			0	0	0	0	
Wakiso HCIV			14	8												
Ttikalu HCIII	1	2	2	0	1	1	5						1	0	2	

Deliveries at home

Summary	Values
Total in year (DHIS2)	4
Total in year (Register)	4

% Difference – **0%**

Women who died during pregnancy

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	0

% Difference – **0%**

Nansana HCII

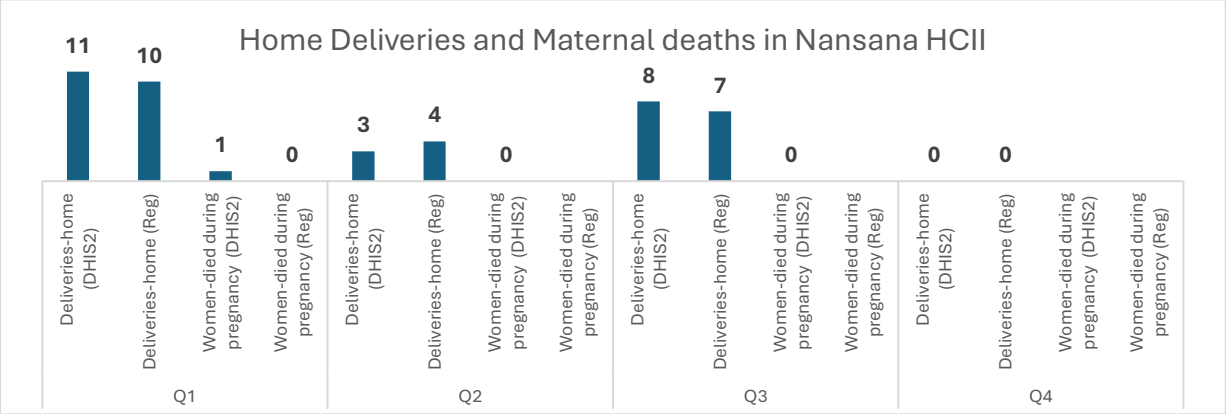

Figure 9: Summary of Home Deliveries and Maternal Deaths in Nansana HCII

Deliveries at home (DHIS2): The number of deliveries at home recorded in DHIS2 is higher than that recorded in the register in Q1 and Q3, except in Q2, where it is lower and no data for Q4 in the register.

Women who died during pregnancy (DHIS2): The number of women who died during pregnancy recorded in DHIS2 is missing in Q2 and Q3, except in Q1, where it is lower, and in Q4, where it matches.

Deliveries at home

Summary	Values
Total in year (DHIS2)	22
Total in year (Register)	21

% Difference – **5%**

Women who died during pregnancy

Summary	Values
Total in year (DHIS2)	1
Total in year (Register)	0

% Difference – **50%**

Ttikalu HCIII

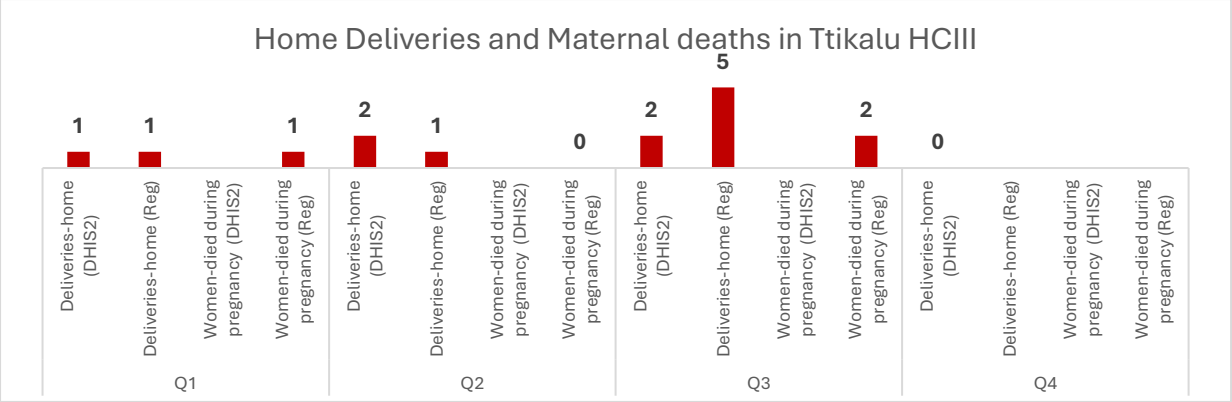

Figure 10: Summary of Home Deliveries and Maternal Deaths in Ttikalu HCIII

Deliveries at home (DHIS2): The number of deliveries at home recorded in DHIS2 is lower than that recorded in the register in Q2 and Q3, except in Q1, where it is lower and no data for Q4 in the register.

Women who died during pregnancy (DHIS2): The number of women who died during pregnancy recorded in DHIS2 is missing in Q1-Q4, including Q4 data for the register.

Deliveries at home

Summary	Values
Total in year (DHIS2)	14
Total in year (Register)	0

% Difference – **100%**

Women who died during pregnancy

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	0

% Difference – **0%**

Wakiso HCIV

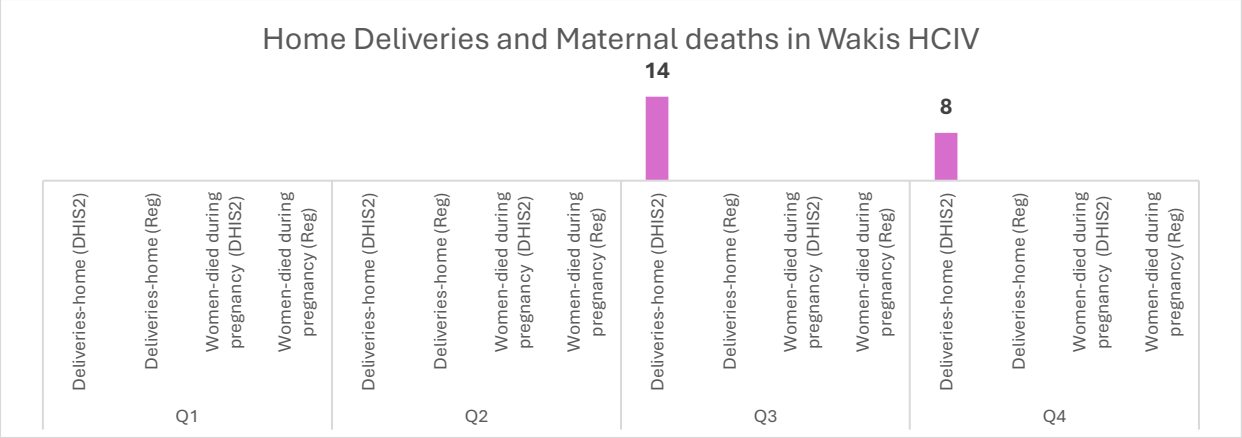

Figure 11: Summary of Home Deliveries and Maternal Deaths in Wakiso HCIV

Deliveries at home (DHIS2): The number of deliveries at home is missing in both the DHIS2 and the register, except Q3 and Q4 in DHIS2, where it is available.

Women who died during pregnancy (DHIS2): The number of women who died during pregnancy is missing in both the DHIS2 and the register.

Deliveries at home

Summary	Values
Total in year (DHIS2)	5
Total in year (Register)	7

% Difference – **29%**

Women who died during pregnancy

Summary	Values
Total in year (DHIS2)	0
Total in year (Register)	3

% Difference – **100%**

Table 4: Sick children attended VHTs, and Sick children managed & recovered -VHTs

	HMIS-97b Indicators															
	Sick children who were managed by VHTs who recovered (DHIS2)				Sick children who were managed by VHTs who recovered (Register)				Sick children that were referred (DHIS2)				Sick children that were referred (Register)			
Quarters	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Nabweru HCIII	388	183	149	529	341	190	126	252	205	253	179	979	185	187	189	236
Nansana HCII	1341	229	611	211	832	148	10		57	213	18	24	111	323	349	
Wakiso HCIV			1563	1132							108	89				
Ttikalu HCIII	518	514	237	9	260	177	413		56	206	234	2	0	0	287	

NABWERU HCIII

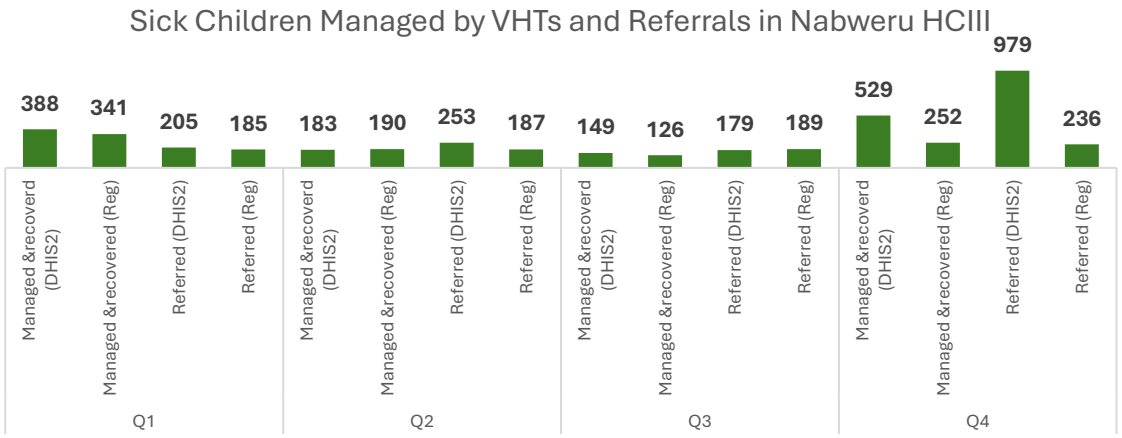

Figure 12: Summary of Sick Children Managed by VHTs and Referrals in Nabweru HCIII

Sick children managed by VHTs who recovered: The number of sick children managed by VHTs and recovered, as recorded in DHIS2, is higher than that recorded in the source document (register) across all quarters, except in Q2, where it is lower. These discrepancies could be due to errors in data entry or inconsistencies in data collection methods.

Sick children who were referred: The number of sick children who were referred, as recorded in DHIS2, is higher than that recorded in the source document (register), except in Q3, when it is lower.

Sick children who were managed by VHTs and recovered

Summary	Values
Total in year (DHIS2)	720
Total in year (Register)	657

% Difference – **9%**

Sick children that were referred

Summary	Values
Total in year (DHIS2)	637
Total in year (Register)	561

% Difference – **12%**

Nansana HCII

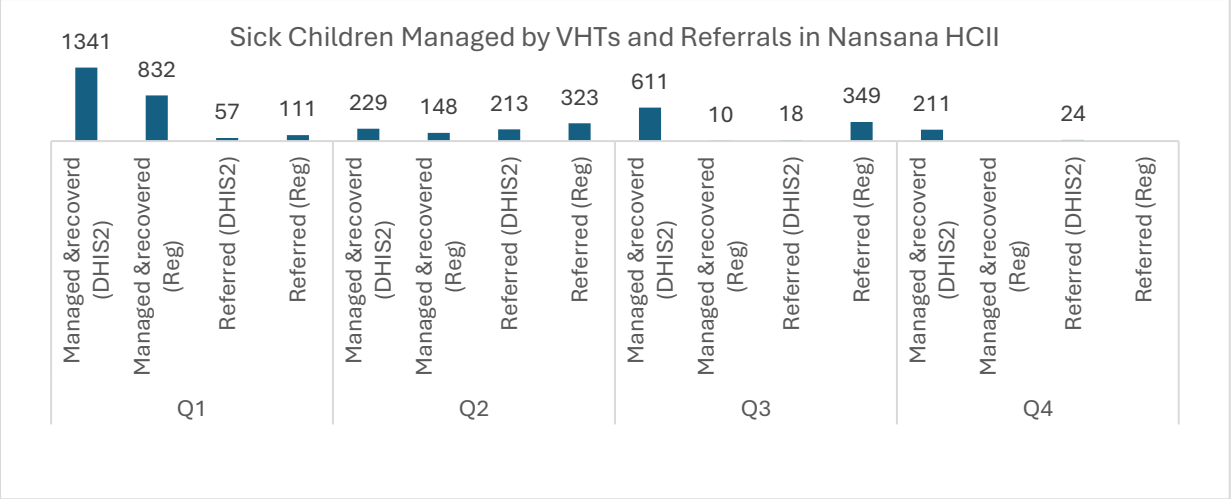

Figure 13: Summary of Sick Children Managed by VHTs and Referrals in Nansana HCII

Sick children who were managed by VHTs who recovered: The number of sick children who were managed by VHTs and recovered, as recorded in DHIS2, is higher than that recorded in the source document (register) across all quarters, except in Q4, where there is no data in the register.

Sick children that were referred: The number of sick children that were referred, as recorded in DHIS2, is lower than that recorded in the source document (register), except in Q4, when there is no data in the register.

Sick children who were managed by VHTs and recovered

Summary	Values
Total in year (DHIS2)	2181
Total in year (Register)	990

% Difference – **55%**

Sick children that were referred

Summary	Values
Total in year (DHIS2)	288
Total in year (Register)	783

% Difference – **63%**

Ttikalu HCIII

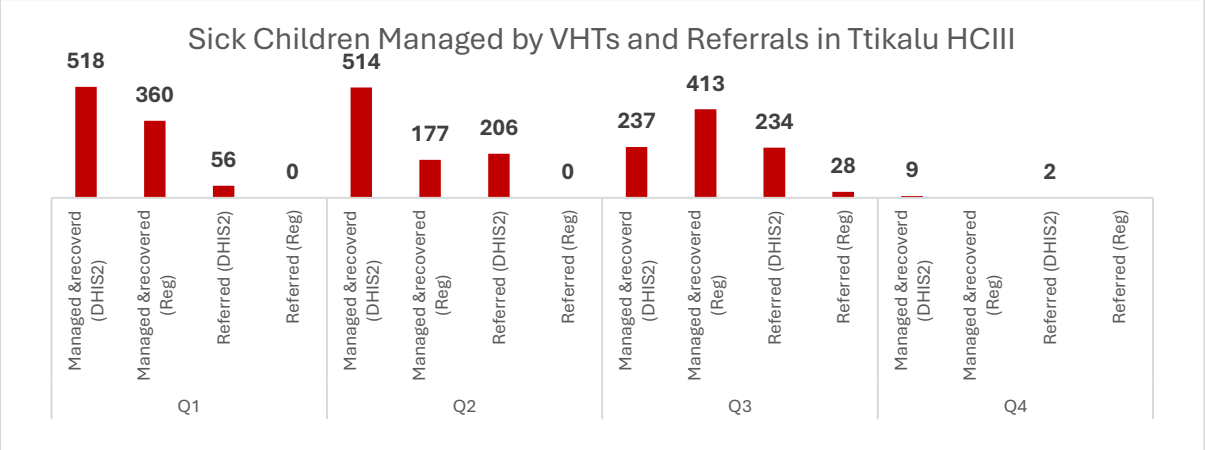

Figure 14: Summary of Sick Children Managed by VHTs and Referrals in Ttikalu HCIII

Sick children who were managed by VHTs who recovered: The number of sick children who were managed by VHTs and recovered, as recorded in DHIS2, is higher than that recorded in the source document (register) across all quarters, except in Q3, where it is lower, and Q4 where there is no data in the register.

Sick children that were referred: The number of sick children that were referred, as recorded in DHIS2, is higher than that recorded in the source document (register), except in Q4, when there is no data in the register.

Sick children who were managed by VHTs and recovered

Summary	Values
Total in year (DHIS2)	1269
Total in year (Register)	850

% Difference – **33%**

Sick children that were referred

Summary	Values
Total in year (DHIS2)	496
Total in year (Register)	287

% Difference – **42%**

Wakiso HCIV

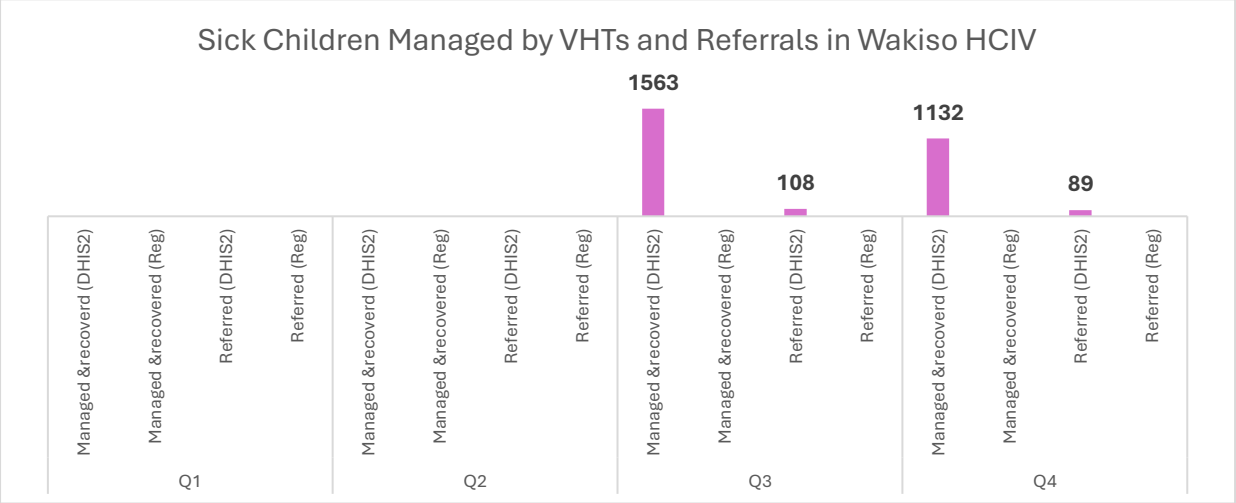

Figure 15: Summary of Sick Children Managed by VHTs and Referrals in Wakiso HCIV

Sick children managed by VHTs who recovered: The number of sick children managed by VHTs and recovered is not available in both the DHIS2 and the register, except in Q3 and Q4 of the DHIS2.

Sick children that were referred: The number of sick children managed by VHTs and recovered is not available in the DHIS2 and the register, except in Q3 and Q4 of the DHIS2.

Sick children who were managed by VHTs and recovered

Summary	Values
Total in year (DHIS2)	1563
Total in year (Register)	0

% Difference – **100%**

Sick children that were referred

Summary	Values
Total in year (DHIS2)	108
Total in year (Register)	0

% Difference – **100%**

Challenges

These discrepancies in the DHIS2 system compared to the source registers suggest potential issues with data quality, referral, or reporting processes—possible reasons for data discrepancies observed.

- **Differences in interpretations of the indicators:** The groups involved (VHTs, health facility coordinators, and Data Officers) had varying interpretations and understandings of the data indicators. These differences in interpretation resulted in inconsistencies and a lack of alignment in the reported data, which raised concerns about the overall quality and reliability of the data.
- **Lack of data quality assurance:** The data quality assurance mechanism, which should have involved regular validation of DHIS2 data against source registers, was not consistently implemented or observed. This led to inaccuracies and inconsistencies between the two data sources, which led to data quality issues.
- **Duplicate reporting:** The numbers in the DHIS2 system were higher than the data in the source documents, indicating potential issues with duplicate reporting. The duplicate reporting may have been caused by the same data entered from different sources, such as the HMIS 097b forms and referral forms. There was also a question of whether the VHTs reported the same data to other health facilities.
- **Incomplete reporting of health facilities into the DHIS2:** Some facilities were not accurately or completely entering all the VHT data into the DHIS2 system. This led to situations where the data recorded in the registers was higher than the data reported in the DHIS2 system for certain indicators, leading to discrepancies between the data sources and undermining the overall quality and reliability of the reported data.

Recommendations

To address these issues, the following recommendations are proposed:

1. **Strengthen VHT training and supervision:** Provide comprehensive training to VHTs on data collection, reporting, and the importance of data quality. Implement regular supervision and mentorship to ensure VHTs understand and follow the correct data collection and reporting procedures.
2. **Improve data collection and reporting processes:** Review and harmonize the data collection tools and reporting mechanisms used by VHTs to identify and address any challenges or bottlenecks. Simplify the reporting process and ensure that VHTs have the resources and support to submit complete and accurate reports.
3. **Enhance data quality assurance:** Implement regular data quality checks and validation processes at the health facility and community levels to identify and address discrepancies between the DHIS2 data and the source document registers. Provide feedback and support to VHTs to improve data quality.
4. **Strengthen community engagement:** Engage with the communities the VHTs serve to raise awareness about the importance of accurate data collection and reporting.

Encourage community members to participate actively in the data collection and validation processes.

5. **Improve data use and feedback loops:** Ensure that the data collected by VHTs is regularly analyzed, interpreted, and used to inform decision-making at the community and health facility levels. Provide timely feedback to VHTs on the performance and utilization of their data.
6. **Conduct regular data validation exercises:** Implement a routine data validation process to periodically assess the quality and accuracy of the VHT-HMIS 097b data reported in the DHIS2 system. Use the findings to inform ongoing data collection and reporting process improvements.

In conclusion, the EKFS project can implement these recommendations to strengthen VHTs' capacity for data collection and reporting, improve the quality and accuracy of the VHT-HMIS 097b data, and ultimately enhance the ability to make informed decisions and improve health outcomes in the communities served by the four health centers.