



Global Health
Supply Chain Summit

[ABSTRACT #145]

[TRACK 18]

[November 16th , 2023]

2023

Nairobi, Kenya



Utilisation of Data for Decision Making and Performance of Health Supply Chain Management Systems in Vihiga and Kisumu Counties, Kenya

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Background

- No evidence known to the researchers as to the extent data was being used at the various levels
- No evidence previously published on demonstrable risk planning and management best practices
- Scanty information on allocation of resources to supply chain vs. costed quantification
- Thus, there was need to assess performance of the health supply chain systems



Specific Objectives

1. To assess data availability and accessibility
2. To examine the quality of supply chain data
3. To examine the level of utilization of data for decision making
4. To explore best practices, challenges and recommendations



Conceptual Framework

Independent Variables (IV)

- Data availability
- Data quality
- Data utilization
- Approaches in HPT management



Dependent Variable (DV)

- Performance of the health supply chain systems



Study Methods

a) Study design

- A cross sectional descriptive mixed method comparative survey (Study period 2020-2022)

b) Study Location.

- Kisumu and Vihiga Counties.

c) Sampling and Sample Size

- Sampling method- randomized and systematic for quantitative data and purposive sampling for nested qualitative study
- Sampling frame-Number of health facilities in Vihiga -75 vs Kisumu 146. Total 221.
- Final sample size - 95 public health facilities, 62 (65%) in Kisumu & 33 (35%) in Vihiga



Data Collection Tools and Sources

Data Collection Tools

- Structured questionnaires
- Data abstraction forms
- Key informant interview guides

Data Sources

- Primary data through interviews with health commodity managers
- Facility records (delivery notes, bin cards, daily activity registers, monthly summary forms)
- Kenya Health Information System (KHIS)
- Commodity orders
- Policy documents - budgets, annual work plans and Medium-Term Expenditure Framework Report.

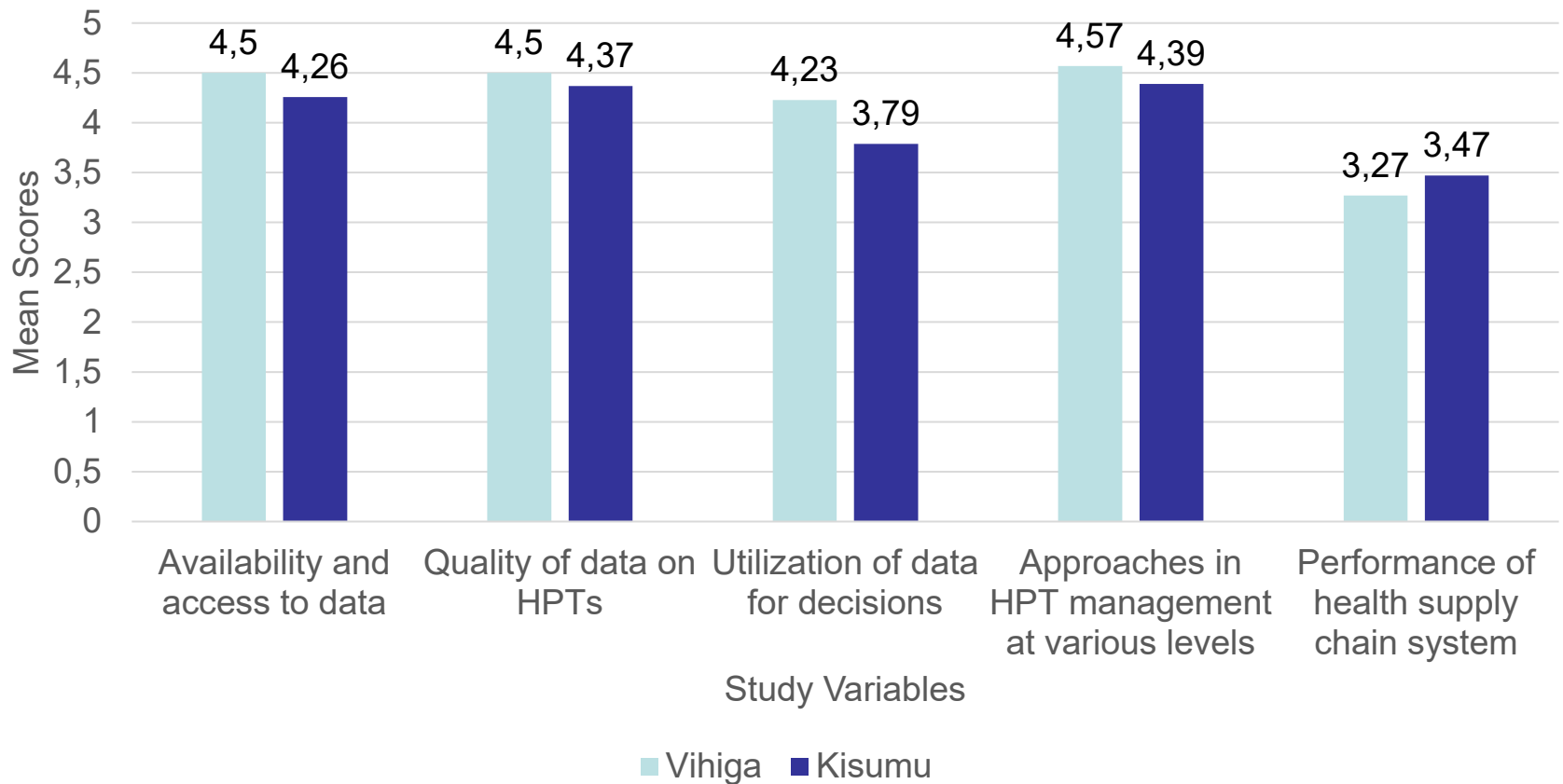
Respondents' Sociodemographic Characteristics

Characteristic	Kisumu (n=76)	Vihiga (n=44)
Gender	Female 61.1% Male 38.2%	Female 61.4% Male 38.6%
Commonest age group	35-39 years (28%)	35-39 years (32%)
Commonest cadres	Nursing officers (53.9%) Pharmaceutical technologists (25.0%)	Nursing officers (40.9%) Pharmaceutical technologists (27.0%)
Work experience	1-5 years (43%)	6-10 years (41%)
Commonest level of education	Diploma (75%)	Diploma (75%)



Perspectives on Study Variables

Mean scores on study variables using a 5-point Likert scale (1=Strongly disagree - 5=Strongly agree)





Analysis of turnaround time on specific commodities

Lead time from order to receipt of all commodity categories (Malaria, HIV, TB, FP, EMMS)

Kisumu (n=253 records)	Median	26 days
Vihiga (n=157 records)	Median	20 days

- **Vihiga County**

- The overall regression was statistically significant.
 - ($R^2=0.24$, $F(3, 40)=4.216$, $p<0.05$).

*Independent variables could explain 24% of positive variation in dependent variable

- **Kisumu County**

- The overall regression was statistically significant.
 - ($R^2=0.249$, $F(3, 72)=7.968$, $p<0.05$).

*Independent variables could explain 24.9% of positive variation in dependent variable

- Conclusion: We rejected the null hypothesis and concluded that there was statistically significant relationship between the independent variables and the dependent variable in the two Counties.

Through thematic analysis we derived 5 key themes from the qualitative data namely:

1. Knowledge on the health supply chain
2. Data availability and utilization
3. Best practices being implemented
4. Challenges/barriers in performance of the health supply chain system
5. Recommendations on how to improve health supply chain systems

1. Feedback mechanisms-prompt response
2. Data sharing and review meetings
3. Regular integrated commodity supportive supervision using an automated checklist
4. Application of technologies-End to End stock visibility system in Vihiga/ Dispensing tool in Kisumu County
5. Staff recognition and awards- Vihiga County
6. Commodity redistribution to save possible expiries

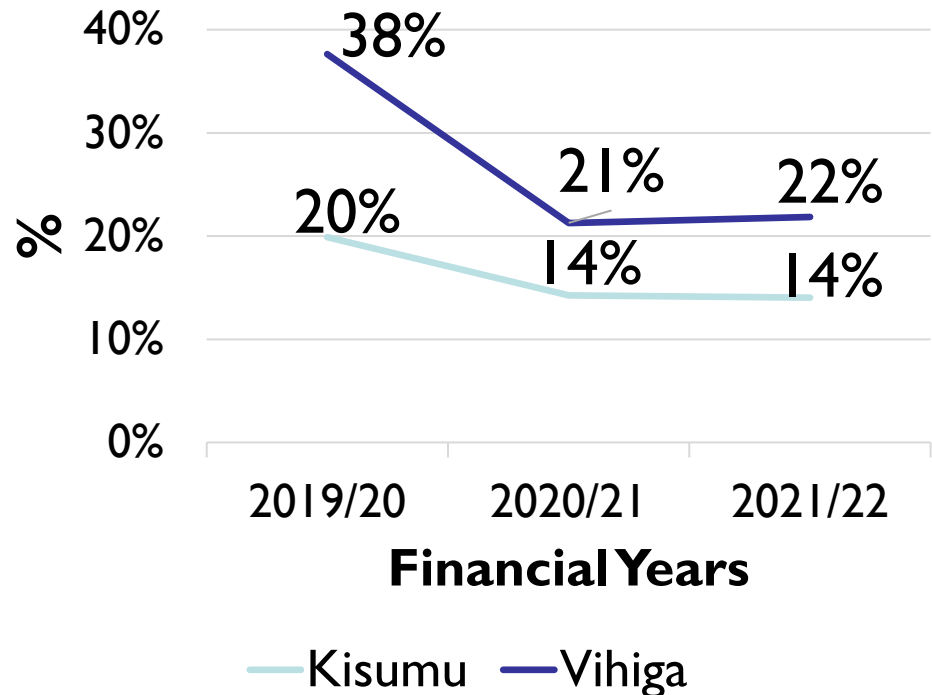


Qualitative Findings - Challenges

Challenges

1. Staffing- shortage of commodity managers
2. Prolonged lead times
3. Poor infrastructure in terms of storage space for HPTs
4. Lack of logistical support to conduct HPT system strengthening activities
5. Limited budget allocations at county levels and at facility levels

Proportion of Annual budget allocation to HPTs compared to the amounts in the quantification reports for Vihiga and Kisumu



1. Availability, access, and utilization of quality data for decision making are significant predictors of performance of health supply chain systems.
2. Regular integrated commodity supportive supervision, data review meetings, prompt feedback and staff motivation through recognition and award could be high impact best practices for the health supply chain systems
3. Limited budgetary allocations, prolonged lead times, limited storage infrastructure, inadequate staffing and lack of logistical support for system strengthening activities could negatively affect the performance of the health supply chain systems.



Recommendations

1. Increase budgetary allocations based on the quantification reports.
2. Capacity building and recruitment of additional staff for management of health commodities
3. There is need to improve infrastructure for storage of health commodities
4. Institutionalize feedback mechanisms including opinions from clients
5. Support to be provided for health supply chain system strengthening activities
6. Allocate funds for operational research in health



Dissemination of Findings

1. Held data validation and dissemination meetings with departmental leadership from the two counties. Issues discussed include:

- Frequent stockouts especially essential medicines
- Prolonged lead times for delivery of commodities
- Suppliers to improve on the fill rates to improve availability of commodities
- Emphasis on data utilization for decision making at all levels
- Budget increase for HPTs based on quantification reports
- Funding for operational research.

2. Conference presentation

3. Publication



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