Balancing ordering of malaria commodities versus actual consumption using DHIS2 routine malaria treatment data

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Introduction

- In Tanzania, Routine service data are captured using DHIS2 platform (HMIS-DHIS2 system). The HMIS-DHIS2 system serves as the MoH Tanzania Data Warehouse. Some years back we moved into DHIS2 ecosystem where by we have this HMIS-DHIS2 as a Warehouse, eTL as a TB and Leprosy tracker with aggregate indicators linked to the HMIS-DHIS2, eIDSR implementations also whose indicators are linked to HMIS DHIS2

- Logistics information management for commodities used by the public health facilities are managed using eLMIS (Logistics Management Information System) developed using OpenLMIS. After every 2 months (60 days) HF's order commodities by submitting their consumption, which in turn use to determine amount to be ordered for next 60 days.

- The eLMIS is linked to the Health Facility Registry System (HFRS) and Medical Store Department (MSD) System through Health Information Mediator (HIM).

- Presence of HFRS (under MoH ICT and MoH-DCS) has created a foundation of systems communication/integration.
Problem

• Data triangulation and supervisions activities done by Ministry of Health - National Malaria Control Programme (NMCP) revealed that, by 2022, consumption of malaria commodities (ALu) reported on eLMIS almost tripled compared to positive Malaria cases reported via HMIS-DHIS2.

• eLMIS commodities requests from public HFs were not linked to service data captured from HMIS-DHIS2. ALu (ALu1x4, ALu2x4, ALu3x4, and ALu4x4) was among them.

• Tablets vs Strips reporting i.e some HFs were reporting dispensed ALu by tablets while others by strips causing mis-match.
...Problem

- MoH introduced a guideline to help HFs to report ALu commodity dispensing by tablets. This was not enough to address the more than 3 ratio between ALu dispensed and positive malaria cases on HMIS-DHIS2.
- An alternative approach had to be devised.
Approach

- The Malaria commodities dispensing tool was improved to capture tables only for HF dispensed ALu.
- A number of meeting that involved relevant stakeholders [MoH-NMCP, MoH-CMO, MSD, eLMIS team, MoH-M&E/HMIS, MoH-ICT, UDSM DHIS2 Lab, ] were done.
- Development of control measures i.e using service data to determine quantity of ALu commodity by their categories i.e (ALu1x4, ALu2x4, ALu3x4, and ALu4x4).
- These control measures (based on confirmed Malaria cases IPD & OPD) were categories by MoH-NMCP as shown on table 1

<table>
<thead>
<tr>
<th>ALu category</th>
<th>Division Ratio to total +ve Malaria cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALu 1x4</td>
<td>0.23</td>
</tr>
<tr>
<td>ALu 2x4</td>
<td>0.22</td>
</tr>
<tr>
<td>ALu 3x4</td>
<td>0.19</td>
</tr>
<tr>
<td>ALu 4x4</td>
<td>0.36</td>
</tr>
</tbody>
</table>

<p>| JUMLA YA VIDONGE VYA DAWA MSEO YA MALARIA (ALU) VILIVYOTOLEWA |</p>
<table>
<thead>
<tr>
<th>---------------------------------</th>
<th>-----------------</th>
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<th>-----------------</th>
<th>-----------------</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alu 1*6</td>
<td>Vidonge</td>
<td>1a.</td>
<td>1b.</td>
<td>1c.</td>
<td>1d.</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Alu 2*6</td>
<td>Vidonge</td>
<td>2a.</td>
<td>2b.</td>
<td>2c.</td>
<td>2d.</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Alu 3*6</td>
<td>Vidonge</td>
<td>3a.</td>
<td>3b.</td>
<td>3c.</td>
<td>3d.</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Alu 4*6</td>
<td>Vidonge</td>
<td>4a.</td>
<td>4b.</td>
<td>4c.</td>
<td>4d.</td>
<td>0</td>
</tr>
</tbody>
</table>
...Approach (Integration)

- Mapping between eLMIS variables and control measures as per ALu categories ratio contribution from HMIS-DHIS2.
- Development of service for generating control measures using HMIS-DHIS2 service data.
- These control measures data are generated monthly for the last two months at 25th of the of existing reporting month.
- The control measures are then send to eLMIS.
- Notification to relevant stakeholders was implemented. The DHIS2 messages/feedback module (connected with mailing service) was used. An attachment of data sent is part of the notification.
Achievement

ALu dispensed to Confirmed Malaria cases ratio improved from 3.6 in 2022 to around 1 in 2023 and this year (2024). Progress shows positive results of the intervention (Integration).
Opportunities

1. Development of control measures for other Malaria commodities in the country (Artesunate Injection, etc)
2. Family planning also are facing kind of the similar problem we had with ALu. There are initiatives from MoH-FP to mobilize resource for the control measures implementation for FP commodities.
Acknowledgment
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