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Implementation of the Web based ARV Ordering and Reporting System (WAOS) in ART facilities in Uganda

Amuha Monica Grace
Ministry of Health
Uganda



Background

- Scale up of the ART Program in Uganda in last 20 years;
 - Accelerated accreditation of ART facilities – current no. > 1700 ART facilities
 - Scale up in identification and enrolment of patients – from CD4 200cell/ml to Test and Treat ~ 898,197 patients
 - Increasing need in HIV commodities and supply chain management > 100M USD annually for ARV commodities



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Problem Analysis

- Limited quantification capacity at lower level facilities
- Push – Pull system; only HCIV and above quantify and make orders
- <10% of stock cards correctly filled
- Quantification not systematic nor based on good practices
- Delays in submitting of orders
- long order lead times (> 60 days)



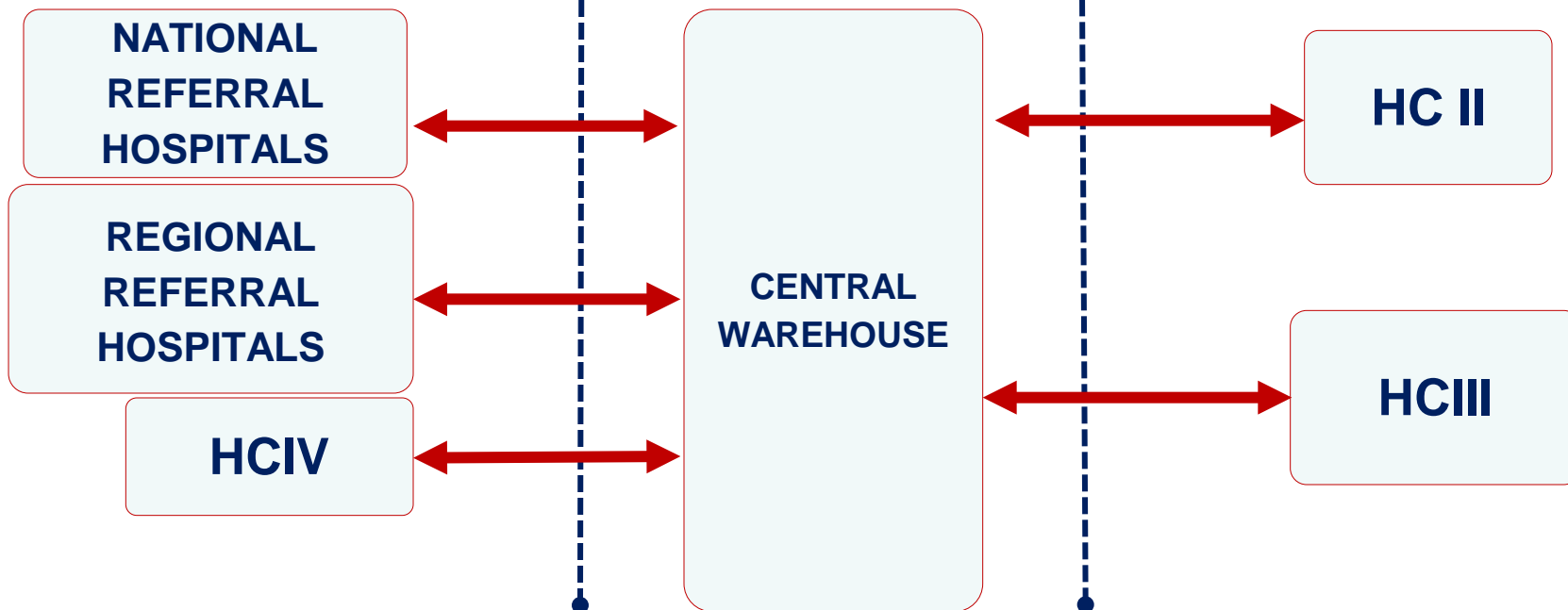
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EHMS FLOW

PULL SYSTEM

MOH

PUSH/ KIT SYSTEM



 Commodity/Information flow



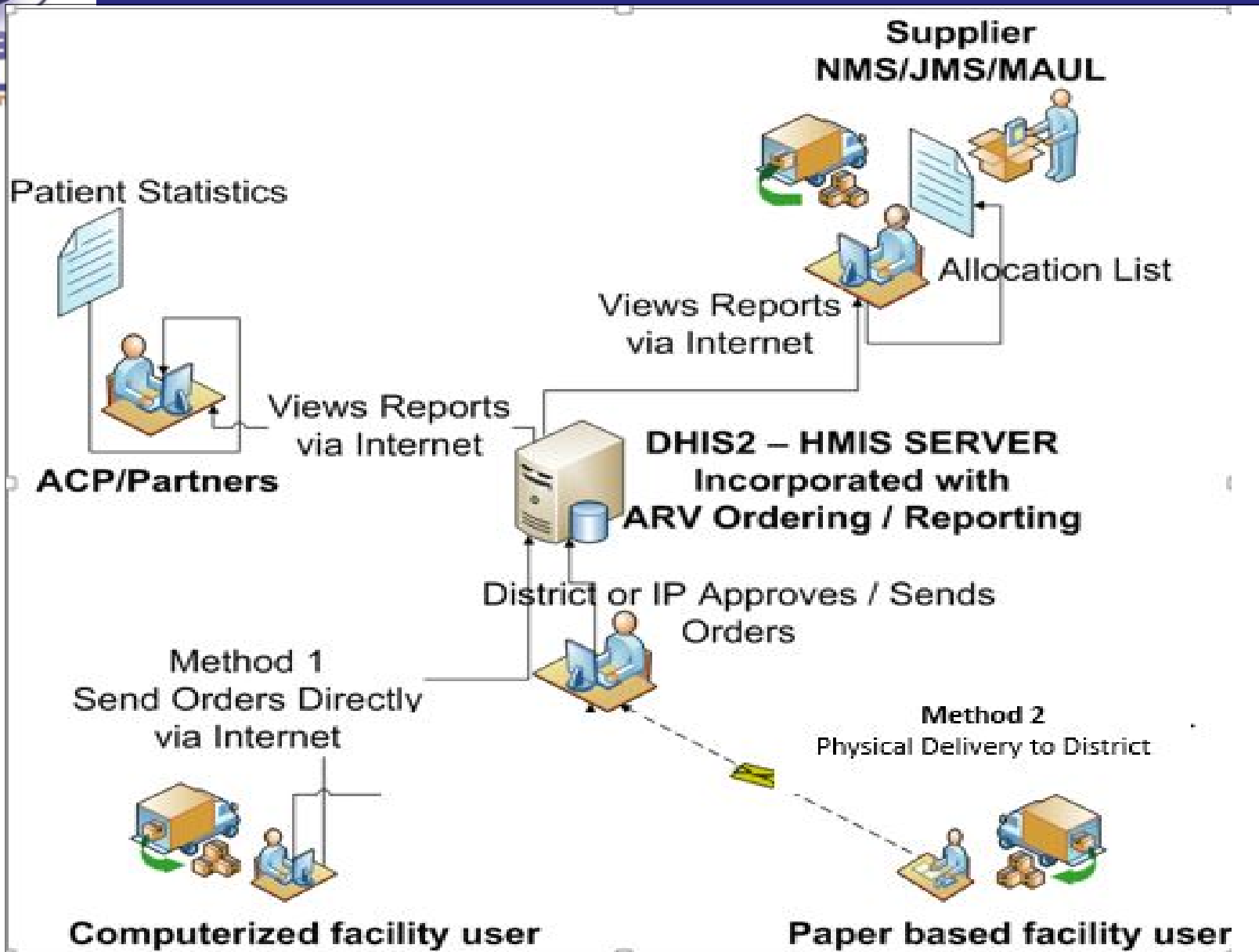
Objectives of WAOS Implementation

1. Assure availability of adequate commodities at facilities
2. Reduce order lead times
3. Increase access and utilization of accurate logistics data
4. Obtain patient information for program decisions



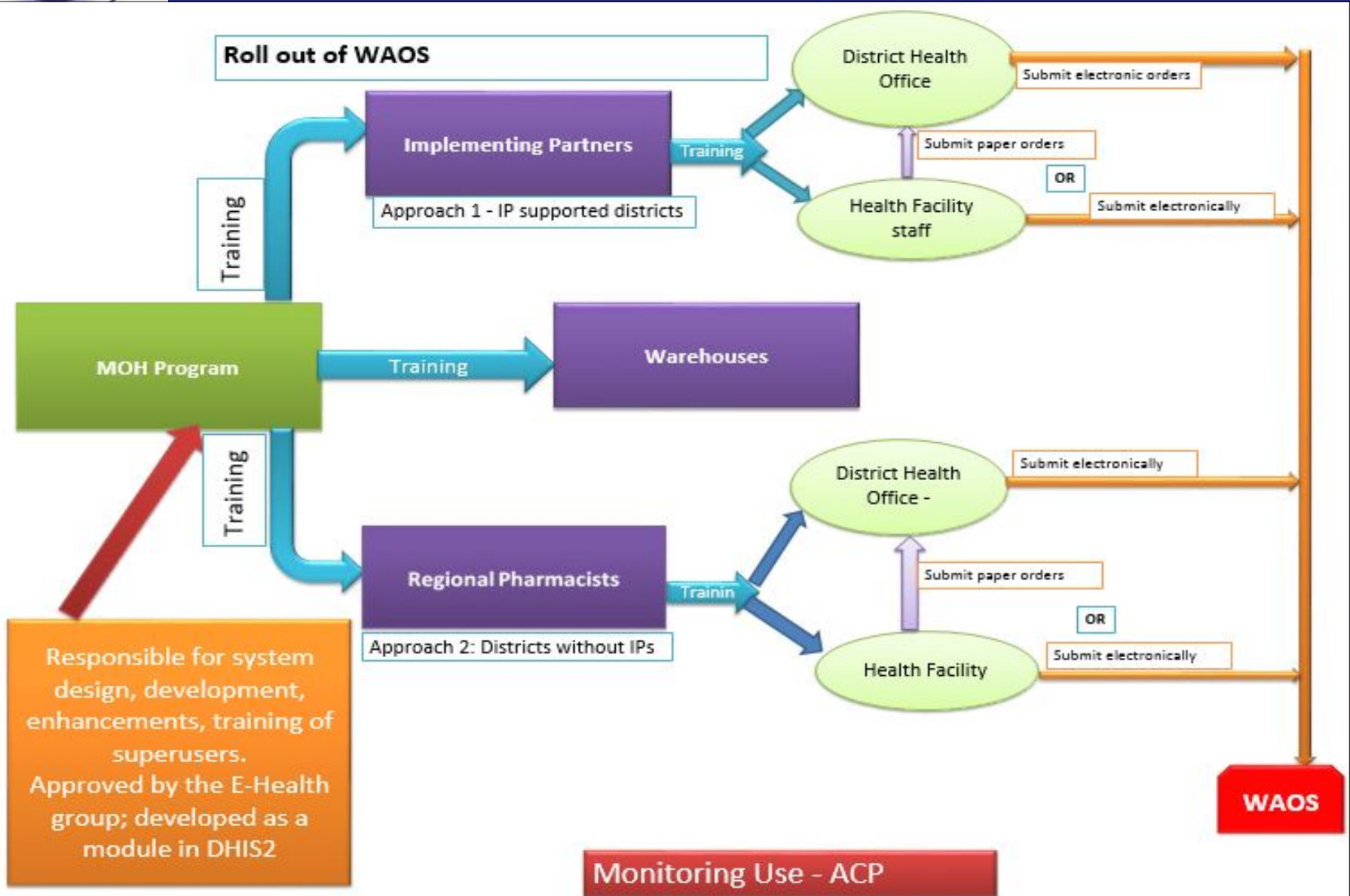
Flow of WAOS Orders

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Implementation Process





Successes

Improved Ordering/Reporting Process

- Increased reporting rates in all facilities >80%
- Harmonized ordering – all levels of care in public & private
- Reduced order lead times
- Eliminated duplicate orders & reports (to MoH & Partners)
- Implemented in computerized & none computerized facilities
- Reduced warehouse work load

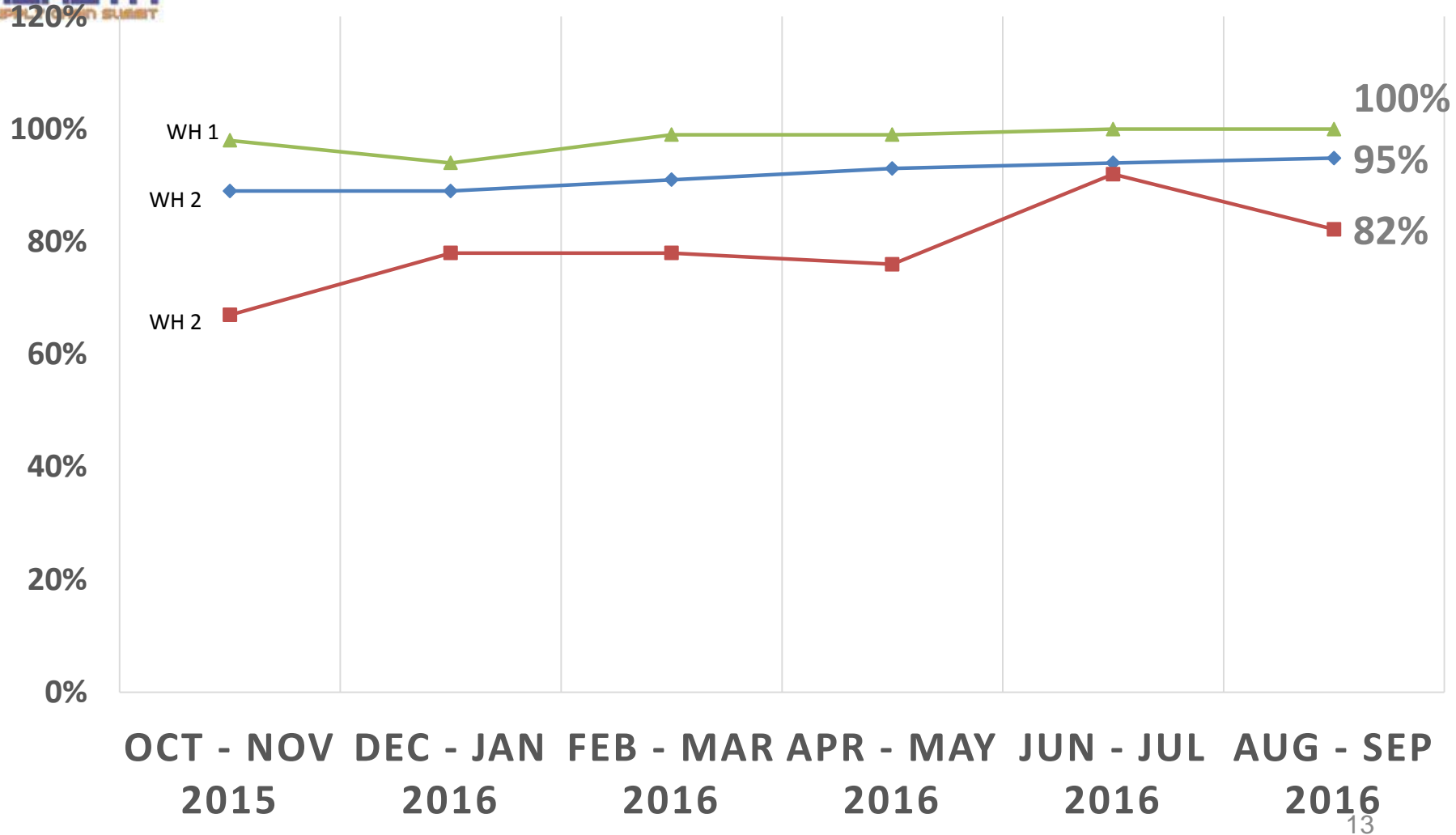
Improved Quantification Process

- Provided critical logistics and Patient data
- Made it easier to quantify national ARV need
- Correlation of morbidity & consumption quantifications



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Warehouse Reporting rates after 2013





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Successes



Web-Based ARV Ordering and Reporting System (WAOS) Report August - September 2016



MINISTRY OF HEALTH

Uganda Ministry of Health | STD/AIDS Control Programme | P.O. Box 7272 | Kampala | Uganda
Phone: +256-414-4257409 | Contact:manuha@msh.org | Website: www.health.org.ug

The Web-Based ARV Ordering and Reporting System (WAOS) is the official Ministry of Health (MoH) ARV ordering and reporting system hosted within the District Health Information Software (DHIS2). Orders are submitted into WAOS at facilities with computers and internet connectivity, at all District Health Offices by the district biostatisticians, and at warehouses/regional offices that receive orders from the facilities. The WAOS bimonthly report highlights facility reporting rates, patient numbers



Hoima REGIONAL REF HOSPITAL

Order date: 17/05/2014

RRH Hoima

+256772950144

machoian2003@yahoo.com

224913	TENOFOVIR/LAMIVUDINE 300MG/300MG TABLETS (Pack 30)	3260
224440	NEVIRAPINE 10MG/ML SUSP 100ML BOTTLE (Pack 100ML)	400
null	ABACAVIR 600MG+LAMIVUDINE 300MG (Pack 30)	80
224336	LOPINAVIR+RITONAVIR 100MG/25MG TABS (Pack 60)	47
224230	EFAVIRENZ 600MG TAB (Pack 30)	1836



Increased Data Utilization

- Monitor adherence to national ART treatment guidelines
- Stock Redistribution – improved commodity security
- Data informs targeted support supervision

Improved Data Quality

- Automated calculation to minimize calculation errors
- Quality checks of ordered quantities compared to patient load
- Order approval level at district



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WAOS Stock Status Reports

1 st October 2014		Amount Needed	Excess stock
Adult Formulations	Abim District		
Abacavir/Lamivudine (ABC)	Abacavir (ABC) 60mg		
Atazanavir/ritonavir (ATV/r)	Abim Hospital	(8)	
Nevirapine (NVP) 200mg	Morulem HC III		38
Tenofovir/Lamivudine (TDF)	Tenofovir/Lamivudine/Efavirenz 300mg/300mg/600mg		
Tenofovir/Lamivudine/Efavirenz	Nyakwae HC III	(148)	
Zidovudine (AZT) 300mg	Orwamuge HC III	(144)	
Zidovudine/Lamivudine (AZ)	Zidovudine/Lamivudine 300mg/150mg		
Zidovudine/Lamivudine/Nevirapine	Abim Hospital		158
Pediatric Formulations	Morulem HC III		8
Abacavir (ABC) 60mg	Nyakwae HC III	(12)	
Abacavir/Lamivudine (ABC)	Orwamuge HC III		14
Efavirenz (EFV) 200mg			
Lopinavir/Ritonavir 80/20mg			
Nevirapine (NVP) 10mg/ml			
Zidovudine/Lamivudine (AZ)			
AMC=Average Monthly Consumption			



Data Quality Assessment

WAOS Desk Review

- Trend analysis of 3 order cycles
- 1540 facilities (Private and Public)

Field Data Quality assessment

- Reported data vs facility data records;
- 2 order cycle
- 20 Public and Private facilities

Findings

- Incomplete retrieval and reporting on logistics data
- Inaccurate recording of consumption and patient data
- Over estimation of patient numbers – over stock
- Facilities that received logistics management support had better quality and accuracy



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DQA - Interventions

- Supporting roll out of electronic patient & logistics management records at facilities– OpenMRS, Rx Solution
- Continuous targeted support supervision through SPARS (Supervision Performance Assessment and Recognition Strategy)
- Reviewed and updated logistics tools and WAOS
- Reviewed and updated Accreditation guidelines
- Annual data quality assessments



Lessons Learnt

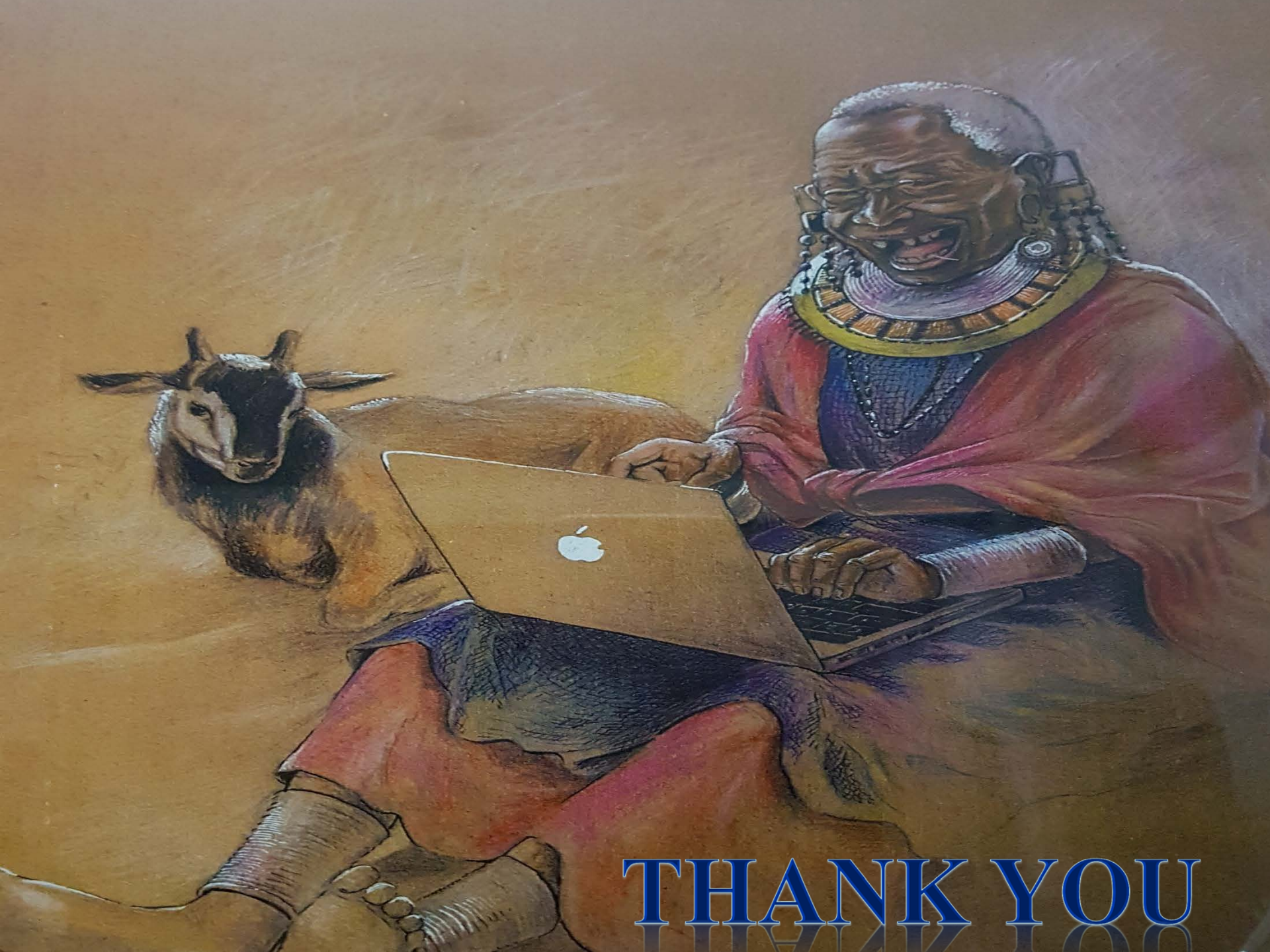
WAOS implementation requires;

- Considerable training, retraining of biostatisticians, facility staff, MMS, warehouses & managers at all levels;
- Continuous follow up with facilities
- Continuous update of system in line with introduction of new treatment regimens
- Integration with existing systems for support and sustainability – WAOS in DHIS2
- Periodic data quality assessments



Lessons Learnt

- SPARS played an important role to improve logistic data quality
- Patient data quality needs to improve; need for electronic patient management records at facilities
- Patient reporting should be synchronized with WAOS reporting; Quarterly vs bimonthly
- It is important to think through the whole system; data collection at facility level to reporting and data use
- Data use requires a lot of training and awareness



THANK YOU