

Options for Improved Supply Chain Performance

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Current Uganda Health Supplies System

- Significant increase in Government of Uganda and donors funding on medicines and health supplies is probably limited
- Need for greater efficiency in supply system
- Multiple funding sources and supply chains
 - Public sector supply system based on traditional Central Medical Store model, operating in a decentralized context, with room for improvement
 - Multiple parallel supply chains addressing multiple, sometimes overlapping, disease program needs



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Strategies for Improving Efficiencies

- Coordination of supply chains
 - Tracking funding for essential medicines and health supplies
 - Quantifying demand and stock requirements
- Increasing efficiency of supply chains
 - National Medical Stores financial viability and operational efficiency



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Strategies for Improving Efficiencies

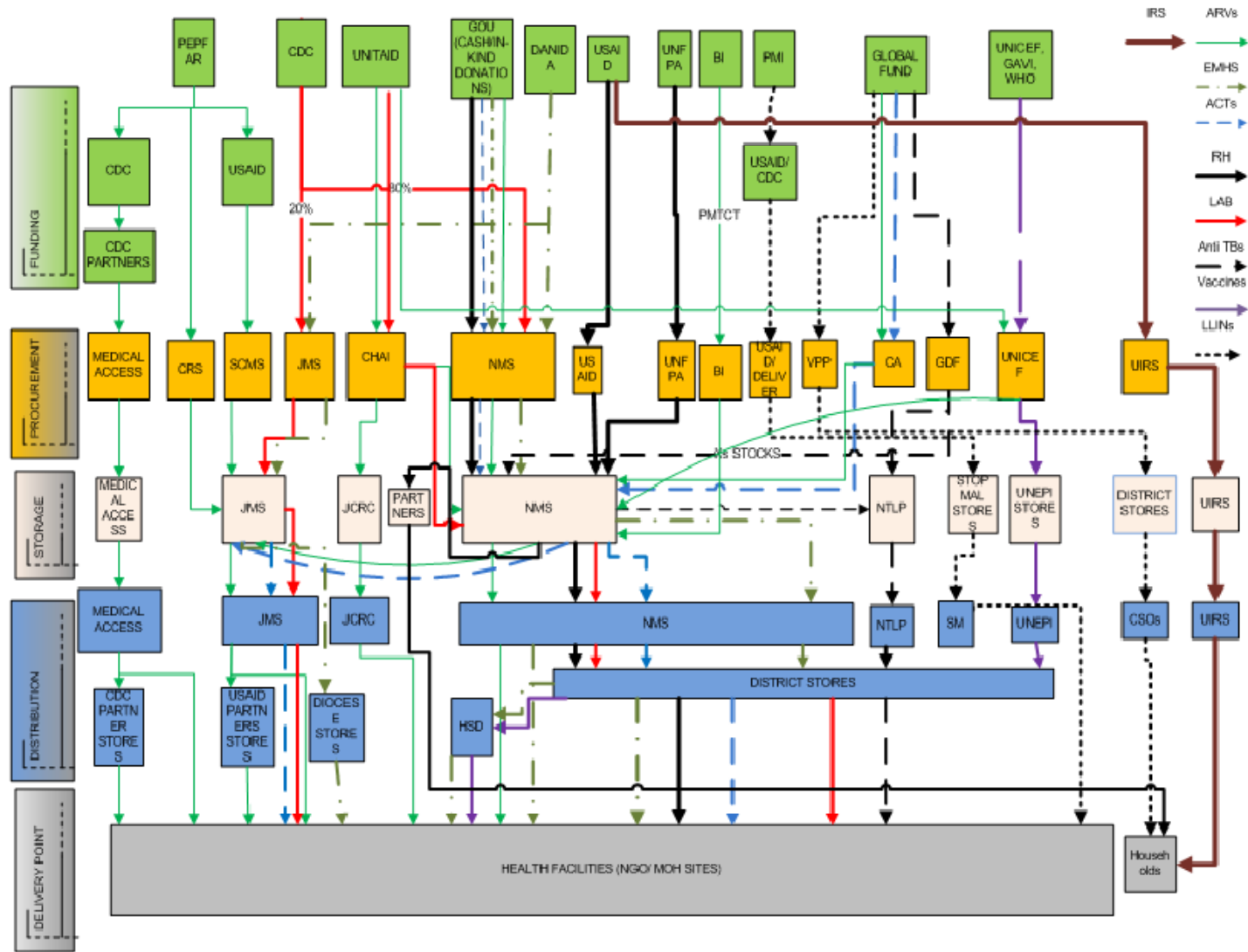
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The System and Flows for EMHS in Uganda



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Multi-system Coordination or Joint Procurement and Distribution System?

- Not always feasible and/or advisable to have a centralized unique system
- Not always possible to integrate coexisting mechanisms already in place
- But, it is possible to coordinate existing mechanisms for a common objective
- Coordination is effective when it is flexible and not challenging to particular interests



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How Would Coordination Help?

- Formal mechanism for planning and information exchange
- Donors and local institutions plan procurement together
- Procurement addressing needs rather than being based on available resources at a given moment
- Takes into account other procurement sources and stocks on hand
- May address disconnect between procurement and use of medicines
- May provide access to a more multidisciplinary technical staff to define appropriate technical specifications and solutions



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Efficient Coordination and Quantification Requirements

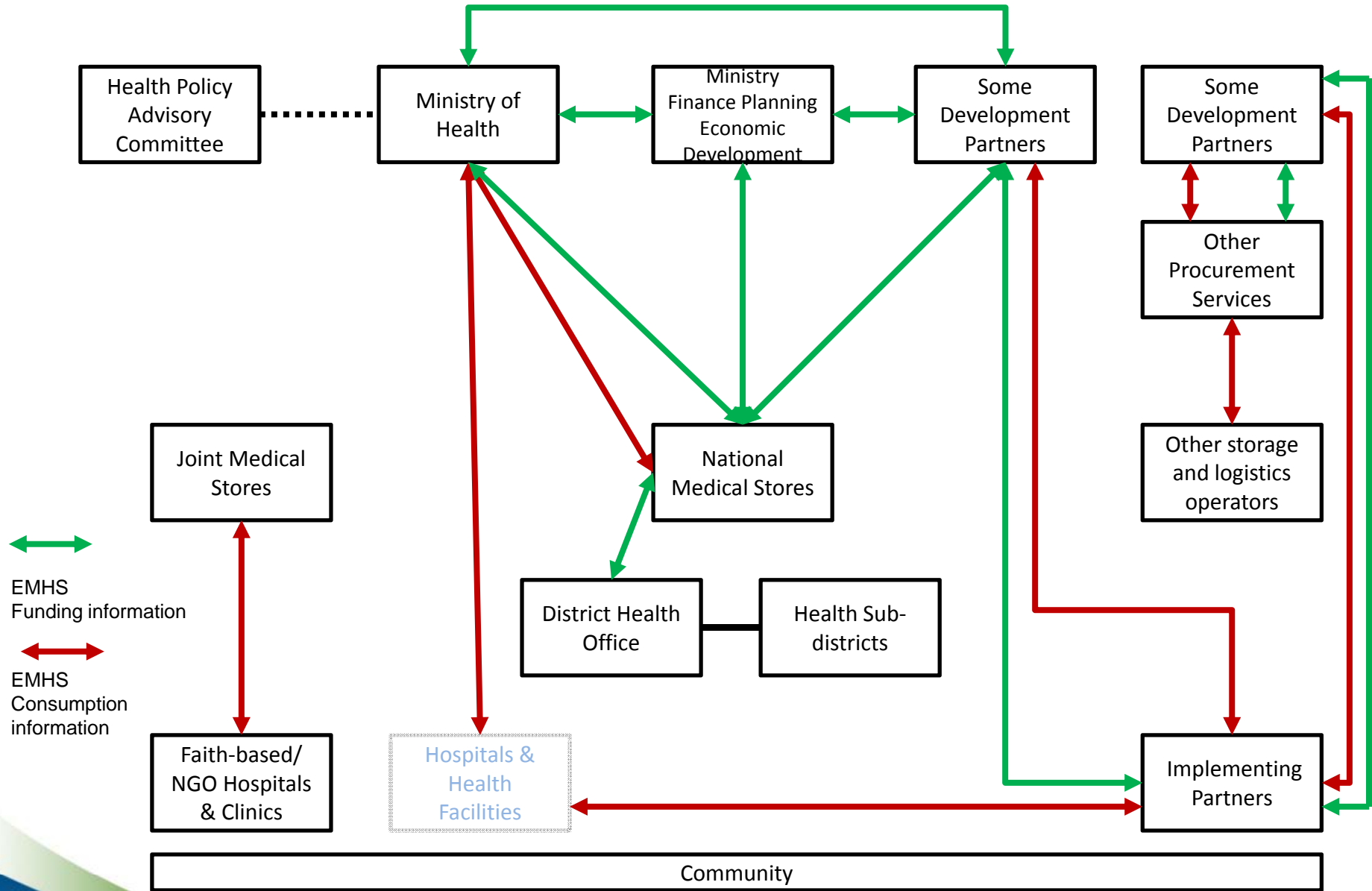
- Leadership owned by a local institution or individual
- Coordination needs clearly identified and articulated
 - Clear reasons for coordination
 - Stakeholders agree with purpose of coordination
- All stakeholders participate in defining the coordinating mechanism
- Clear distinction between technical and political coordination
- Coordinating mechanisms are based on existing structures and responsibilities



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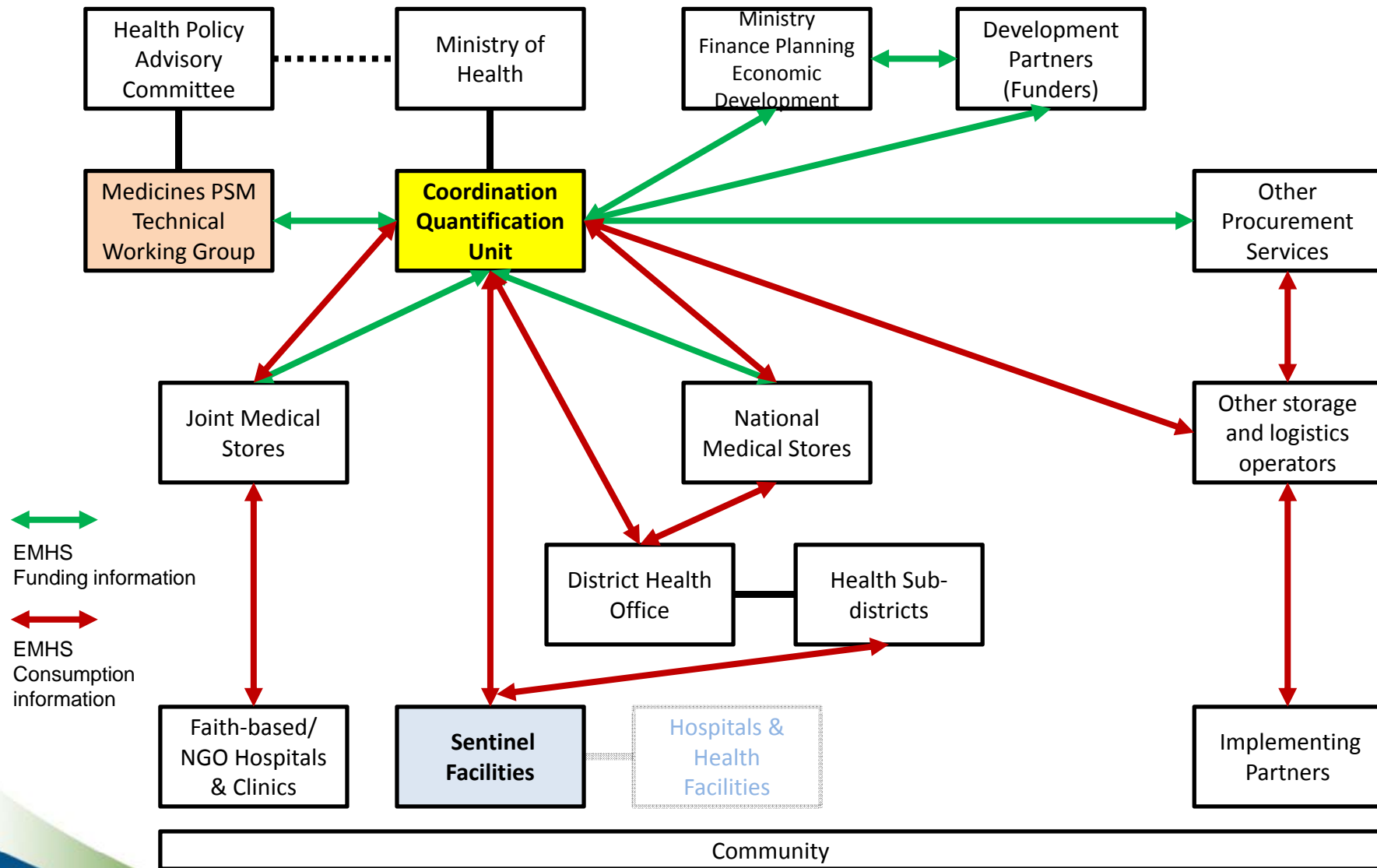
Current EMHS Funding and Consumption Information Flow



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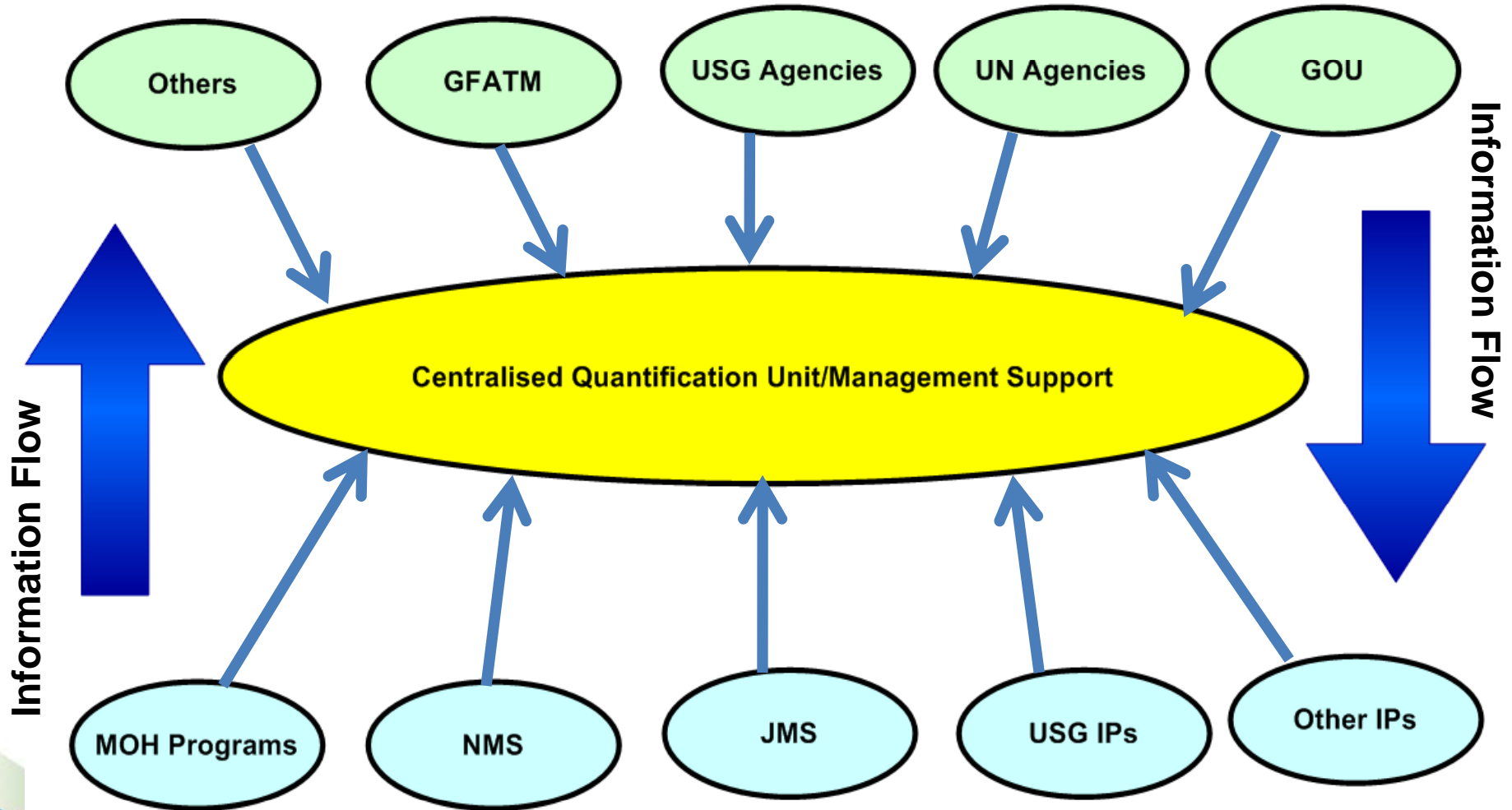
EMHS Funding and Consumption Information for Coordination



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Centralized Quantification Unit



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Benefits of a Common Centralized Quantification Unit

- Donor commitment which aids tracking of products and medicines funding flows
- Helps identify essential medicines and health supplies funding gaps
- More efficient reprioritization of needs and coordination with funding agencies
- Easier supply scheduling and space planning by warehousing agencies
- More efficient linkages to the rolling procurement plan and the Pharmaceutical Management Information System (PMIS)



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Coordination: Lessons from Rwanda (1)

- The context
 - Multiple donor initiatives for scaling up antiretroviral therapy (ART)
- Problems:
 - Different products used for same regimen due to different donor procurement regulations
 - Price of medicines varied significantly depending on the funder
 - USD 55 /month for single-drug formulations
 - USD 15 /month for fixed-dose-combination products
 - CAMERWA (Rwanda Central Medical Stores) required to keep an individual stock of ARVs by donor
 - Difficult to standardize pharmaceutical management and reports at ART sites



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Coordination: Lessons from Rwanda (2)

- Solutions
 - Commitment to common basket of ARVs:
 - maximize purchasing power
 - standardize regimens and products
 - standardize pharmaceutical procedures at central and site levels
 - Coordinated Procurement and Distribution System (CPDS) established in 2005
 - Formal governance framework (roles, procedures, responsibilities) adopted



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Coordination: Lessons from Rwanda (3)

- Operating principles
 - Centralized quantification twice a year
 - Centralized procurement (CAMERWA) twice a year
 - Pooled donations of medicines for distribution
 - Technical assistance focused on capacity transfer to technical leaders and members
- Results
 - Only one (common) stock of ARVs
 - No stock outs or expiries
 - Range of ARVs item decreased to less than half

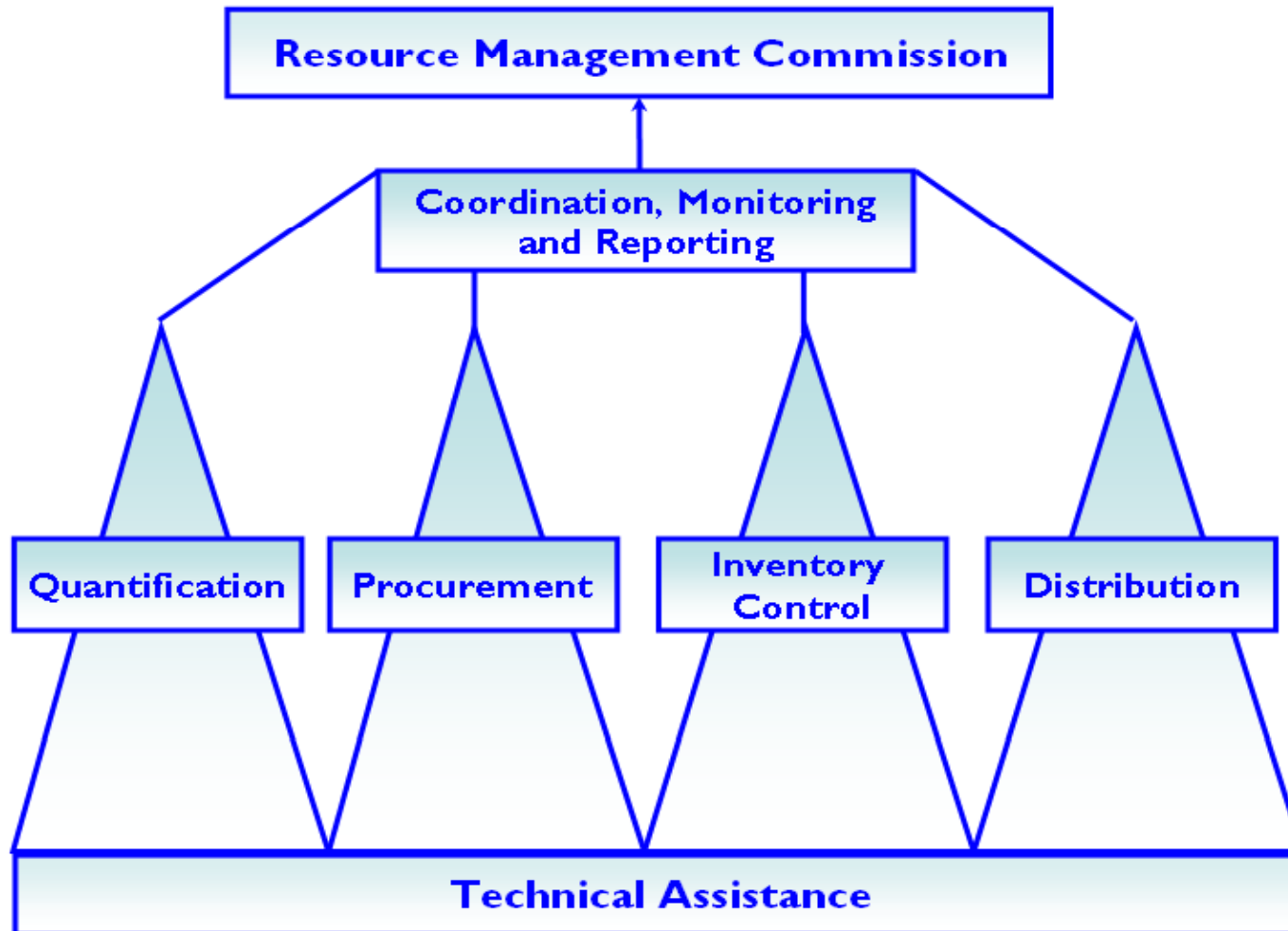


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Lessons from Rwanda (4):

Empowering Local Systems and Institutionalization



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Lessons from Rwanda (5):

Empowering Local Institutions

- Coordination role for ARV supply system lies with Coordinated Procurement and Distribution System BUT WITH consensus among national and international partners
- Local institutions own all aspects related to ARV management
- Technical assistance to the system is for capacity building and sustainability
- CPDS coordinator position is institutionalized at the Ministry of Health advising the Permanent Secretary on procurement and supply management



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The “Three ones” Principle

Endorse the principle:

- One quantification unit
- One coordinating mechanism
- One reporting framework

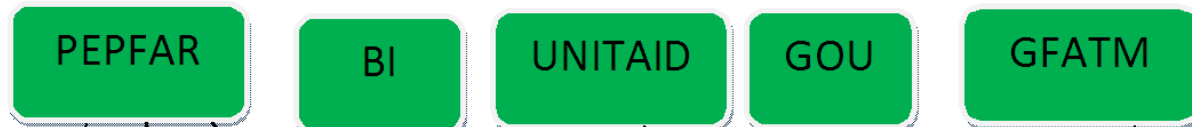


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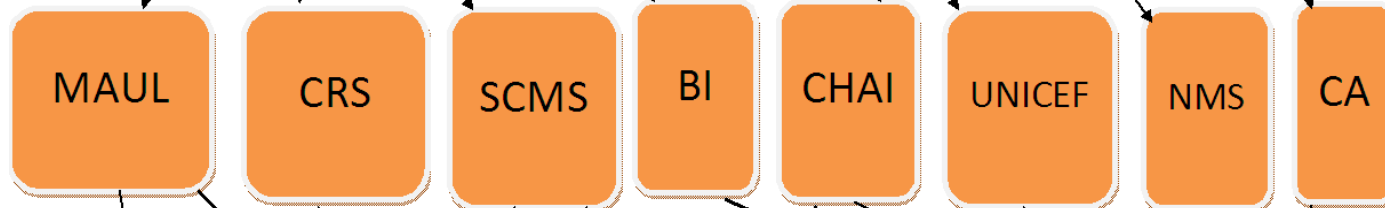


What Could Work for Uganda's Antiretroviral (ARV) Supply System?

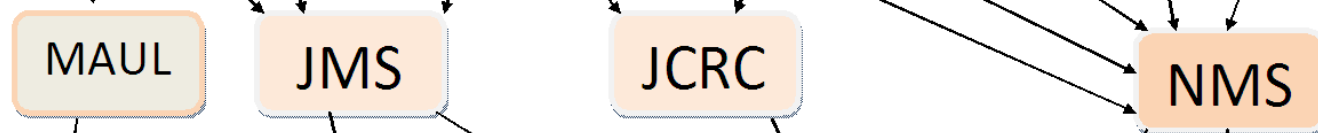
Funders



Procurement Agents



Storage



Distribution

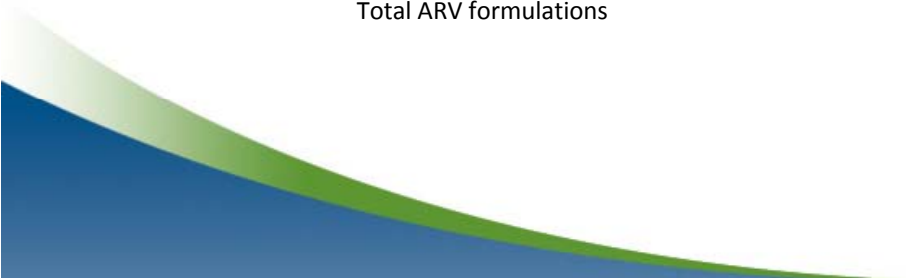
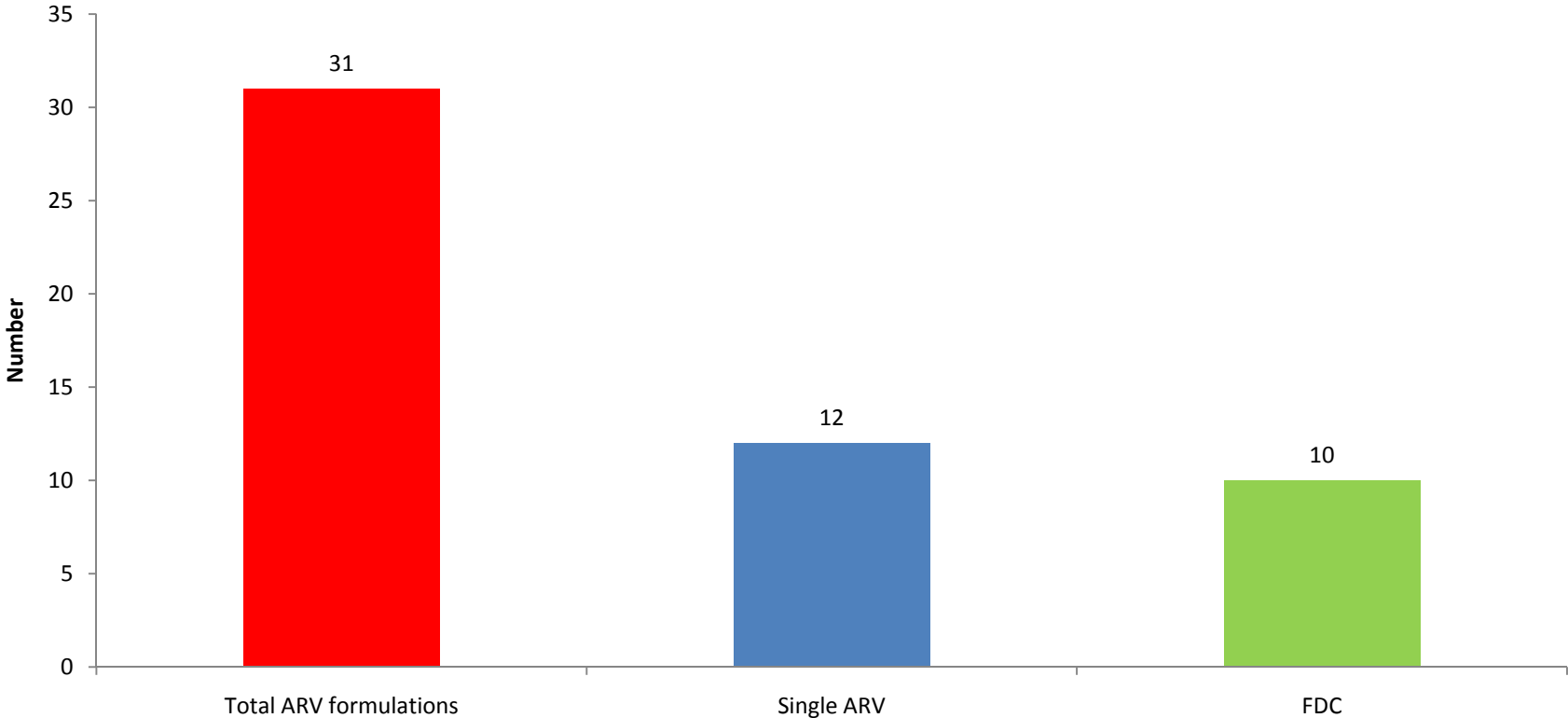


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Product Standardization?

Number of Antiviral Medicines Supported by Donors and Government of Uganda



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Coordinating or Joint Procurement?

	MOH (Quality Chemicals)	PEPFAR (USAID)	PEPFAR (CDC)	GFATM	CHAI
Efavirenz 600 mg		X	X	X	
Lamivudine-Stauvine- Nevirapine 150/30/200mg		X	X	X	
Lamivudine-Zidovudine 150/300 mg	X	X	X	X	X
Lamivudine-Zidovudine- Nevirapine 150/300/200mg	X	X	X	X	X
Nevirapine 200mg		X	X		X
Tenofovir 300mg			X		X
Tenofovir-Lamivudine 300/300mg		X	X		



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Supply Systems Improvement

- Financial Viability
- Operational Efficiency
 - Procurement
 - Storage
 - Distribution



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Financial Viability

- Increase revenues
 - Revise handling fee percentages
 - Become a supplier to MFPED
- Decrease costs
 - Reducing operational costs
 - Increasing operational efficiencies
 - Outsourcing operations



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NMS Net Profit/(Loss) sensitivities due to handling fee %

	CDC Fee % Profit or (Loss)	MOH Fee % Profit or (Loss)	3rd Party Fee % Profit or (Loss)	Total profit/(Loss) (UGX million)
Current Fee Contribution	15% 20%	18% (23%)	7.5% (23%)	(1,367)
Increase Third party	15% 20%	18% (23%)	10% 8%	10
Increase MOH	15% 20%	23% 4%	7.5% (23%)	(533)
Decrease CDC Increase MOH Increase Third Party	11.9% 0%	22.2% 0%	9.2% 0%	0



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Revise handling fee percentages

- Considerations
 - Will Third parties be willing to renegotiate handling charges?
 - What is the real percentage fee that would be charged ?
 - Would the new handling fees be competitive compared to the private sector?



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Become a supplier to MFPED

- Issue
 - With the onset of Vote 116 NMS had UGX 11.3 billion of stock that could not be sold to facilities
- Options
 - To become a supplier to MFPED to allow NMS to get full price for stock being held
- Considerations
 - Will MFPED allow NMS to become a supplier
 - What price would they pay?
 - Do NMS have the products that the facilities need?



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Procurement Options

- Objective
 - **Increase flexibility in procurement methods to improve effectiveness and efficiency**
- Procurement approaches
 - Improved framework agreements
 - Increase thresholds for different procurement methods
 - Split Awards



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Improved framework agreements

- Is NMS taking full advantage of the framework agreement approach.

Attribute	NMS	Recommended
Contract period	12 months	> 24 months
Delivery Schedule	Monthly and Quarterly	Monthly or Quarterly
Quantity adjustments	Included in contract	Over 10%
Management of price increases	Not doing	Basis for increase in bid documents
Reduced costs of tendering	Being executed	Fewer tenders will cover larger requirement



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NMS Procurement:

- Modify thresholds for conducting procurement modalities

	Existing Threshold	Proposed Threshold
Restricted Domestic or international bidding	> UGX 30 million	> UGX 200 million
Quotations or proposals	< UGX 30 million	< UGX 200 million
Micro Procurement	Up to UGX 2 million	Up to UGX 10 million



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Increased Thresholds

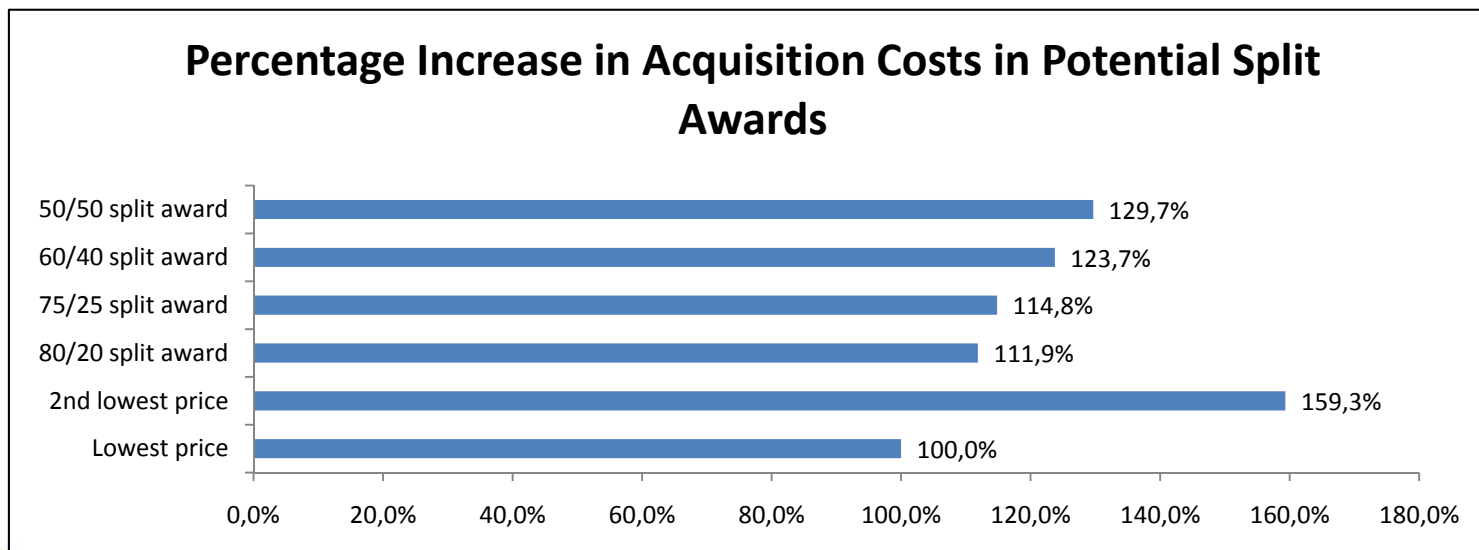
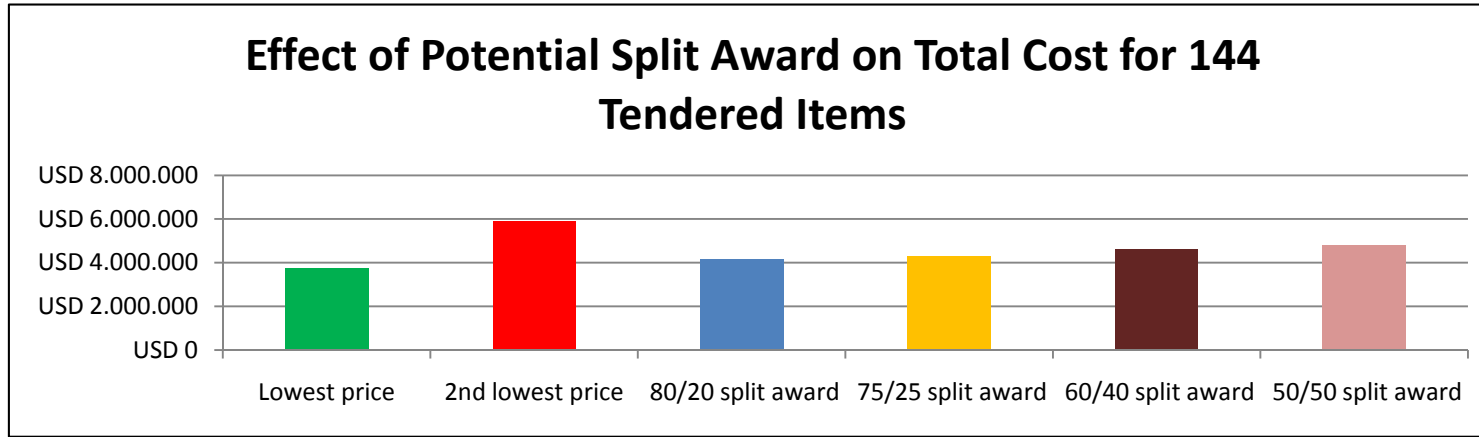
- Benefits
 - For low volume or low cost items a faster procurement process can be adopted
 - Reduces the costs associated with restricted and open bidding
 - Allows greater flexibility to cover repurchases
- Issues
 - Increased workloads of doing procurements for lower values



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NMS Tenders: Splitting Awards?



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NMS Procurement: Split Awards

■ Advantages

- May reduce stock outs
- Ensures that an alternative supplier may be available when primary (choice) supplier does not perform
- Reduces the need for another labor-intensive and time-consuming tender process

■ Limitations

- Increase in product acquisition costs
- May require modification of procurement regulations or PPDA authorization
- Only addresses items for which several suppliers are available and interested



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NMS Storage

- Support to NMS to improve
 - Processes
 - Carton management/Order picking/Order Processing
 - Product management
 - Temperature monitoring and control
 - Reporting
 - Improved use of the MACS warehouse management system



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NMS Storage: New Facility

- Advantages
 - Reduced transportation time and costs from Entebbe (UGX 145 Million per year in lost transportation costs) (SURE Assessment 2010)
 - Distribution will start on a major trunk road
 - Designing a purpose built facility that will support process flow and maximise operational efficiencies
- Limitations
 - Costly (land –UGX 2 billion, buildings-UGX 10 billion, material handling equipment, additional racking)
 - Disruption to operations (down time for relocation)
 - Staff may no be willing to relocate
 - Projected space may now not be required



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NMS Storage: Direct Delivery of bulky items

- Advantages
 - Reduce need for storage space
 - Reduces associated inventory holding costs
 - Reduces lead times from supplier to end user
 - Supplier does not have to drive 64 empty kms to deliver
- Limitations
 - Requires sufficient storage capacity at delivery sites (hospitals)
 - Requires adequate scheduling of deliveries to suit end user storage capacity
 - Increase in product cost (added direct delivery costs)



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Direct Delivery - Saline Infusions

- Product cost 4.6 months = UGX 242 million
- 7% of space saved

Impact	Cost assumption	Annualized Cost
Additional product costs	10% of product cost	UGX 63 million
Warehouse cost savings	7% of personnel, rent consumables, maintenance	UGX 70 million
Distribution saving costs	5% of product cost	UGX 31 million
Potential net savings		UGX 38 million



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Direct Delivery – Of All Infusions

- Product cost 12 months = UGX 872 million
- 15% of space saved

Impact	Cost assumption	Annualized Cost
Additional product costs	15% of product cost	UGX 131 million
Warehouse cost savings	15% of personnel, rent consumables, maintenance	UGX 150 million
Distribution saving costs	5% of product cost	UGX 44 million
Potential net savings		UGX 63 million



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Direct Delivery

- Implications
 - Reduction in personnel costs
 - Reduction in storage space requirement
 - Reduction in overhead utilisation
 - Electricity, rent, consumables, maintenance
 - Increase in product costs
 - Reduced distribution cost
 - Sum of all of the reductions could offset the increase in product costs
 - Would need to target local suppliers first



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Distribution Options

- Outsourcing vs. National Medical Stores
- District Distribution to Health Sub District or facility
- Streamlining Distribution for other organizations



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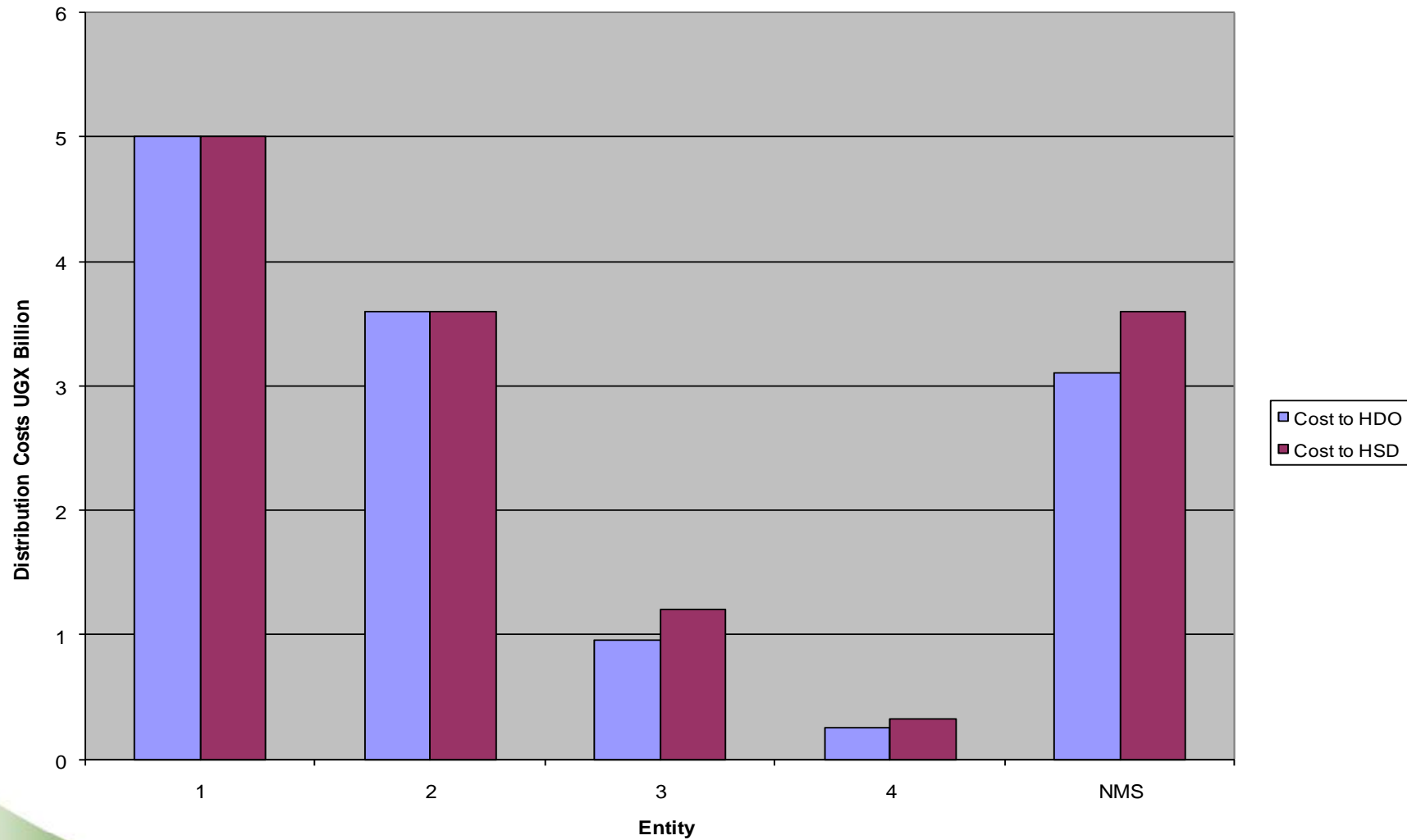
	Company A	Company B	Company C
Type of Business	Private distribution company	Private distribution company	Private distribution company
Years of operation in Uganda	13 years	15 years	20 years
Vehicle profile	Own transport no outsourcing	14 trucks, 15 motorbikes no outsourcing	7 trucks no outsourcing
Has insurance to cover transported goods?	Yes	Yes	Yes
Regional Coverage	Kenya, Tanzania, Burundi, Rwanda	Kenya, Tanzania, Burundi, Rwanda	No
Cold chain experience	No	Yes	Yes
Willingness to contract with NMS for supply chain services?	Yes	Yes	Yes
Geographic coverage for delivery sites	40 Districts	All Districts	All Districts
Information system	Proof Of Delivery Manual	Proof Of Delivery and Web-based tracking	Proof Of Delivery Manual



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NMS-Private Sector Cost Comparison



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Distribution Option Costs

	Option 1		Option 2	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2
Option Description	NMS to DHO	NMS to Outsource to DHO	NMS to HSD	NMS to Outsource to HSD
NMS Cost (UGX billion)	3.1	1.3	3.6	1.3
Outsource cost (UGX billion)	0	0.3	0	0.4
Total	3.1	1.6	3.6	1.7



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Implication of Distribution Savings on NMS bottom line

	Scenario 1	Scenario 2
UGX Million	Total	Total
Stock Value	80,252	80,252
Income	8,407	8,407
Personnel	296	296
Distribution	3,127	1,327
Storage	4,794	4,794
Procurement	1,557	1,557
Total Costs	9,774	7,974
Net Profit/(Loss)	(1,367)	433
%	-16%	5%



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District Distribution Challenge

- What do we know?
 - Districts distribute to some health facilities (20%)
 - Health Sub Districts distribute to some health facilities (50%)
 - Some facilities collect their items from either the District Health Office or the Health Sub District (25% of HCII and HCIII) Copeland, Swagudde & Bieze 2006
- What is unknown?
 - Costs



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District Distribution Challenge

- District perception of distribution problems
 - Lack of funds for fuel
 - No or little maintenance to existing vehicles
 - Lack of a viable vehicle for distribution (SURE Survey 2010)
- BUT
 - Districts do have a budget for fuel, vehicle maintenance and tyres
 - UGX 9 million per district (SURE Survey 2010)
- ALSO
 - Facilities are paying UGX 30,000 per trip to collect their medicines, primarily on public transport (SURE Survey 2010)



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A Last Mile Solution?

- A District or Health Sub District distribution system be established?
 - Delivering to DHO and HSD can be achieved either by NMS or via an outsourcing option.
- DHO or HSD delivers to facilities by using own transport?
- Or DHO or HSD delivers through outsourced service?
- The associated costs with options need to be investigated and costed against NMS or an outsource option delivering directly



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Vehicles for the Districts (1)

- Vehicle cost UGX 80 million
 - 4 tonne truck with a 6 pallet capacity

	Cost
District Transport budget	UGX 9 million
Yearly running costs	UGX 9 million



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Vehicles for Districts (2)

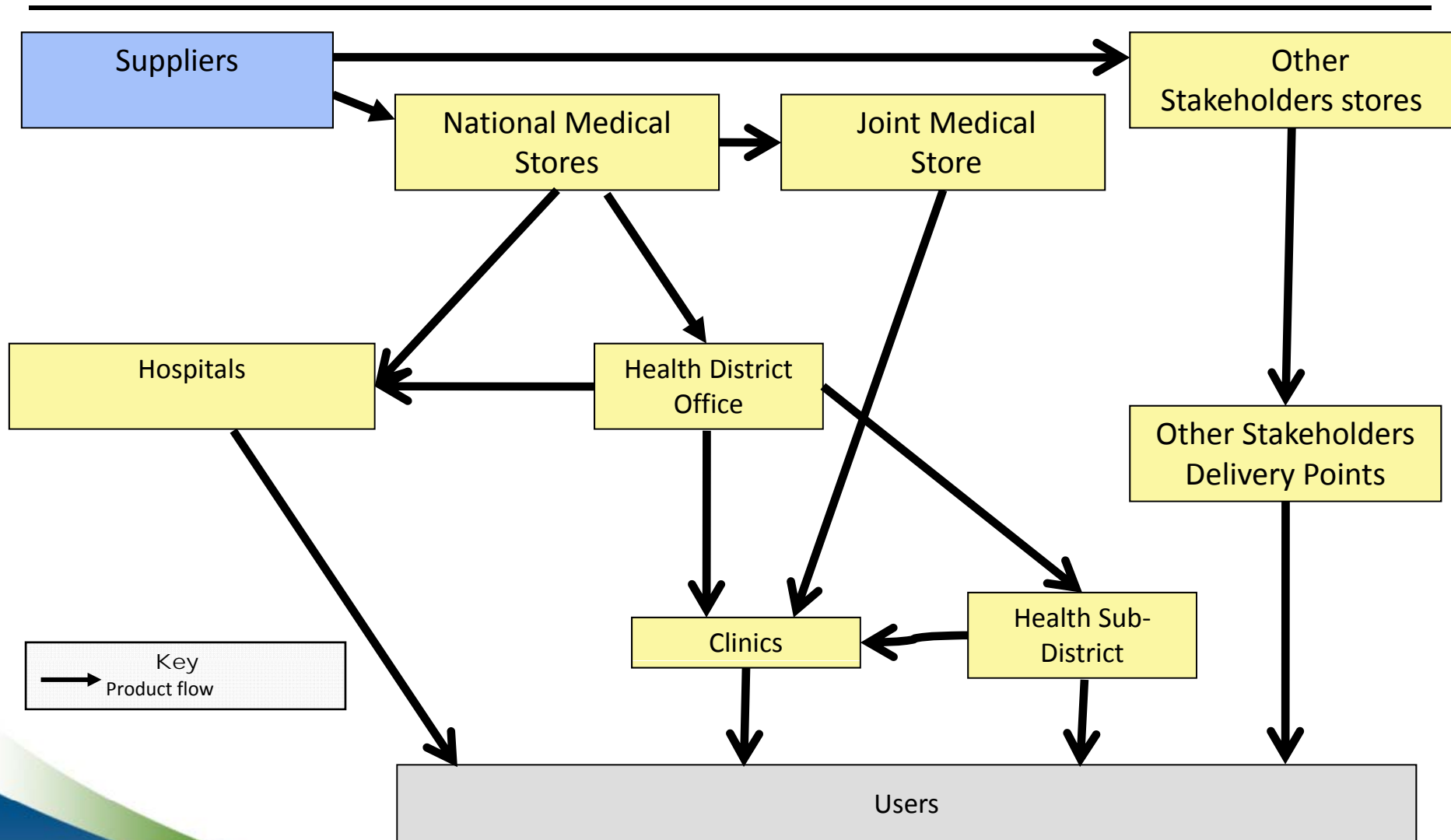
- Implications
 - Who buys the vehicles?
 - Are there distribution management skills available at Districts?
 - Are there suitable budget management skills available at Districts?



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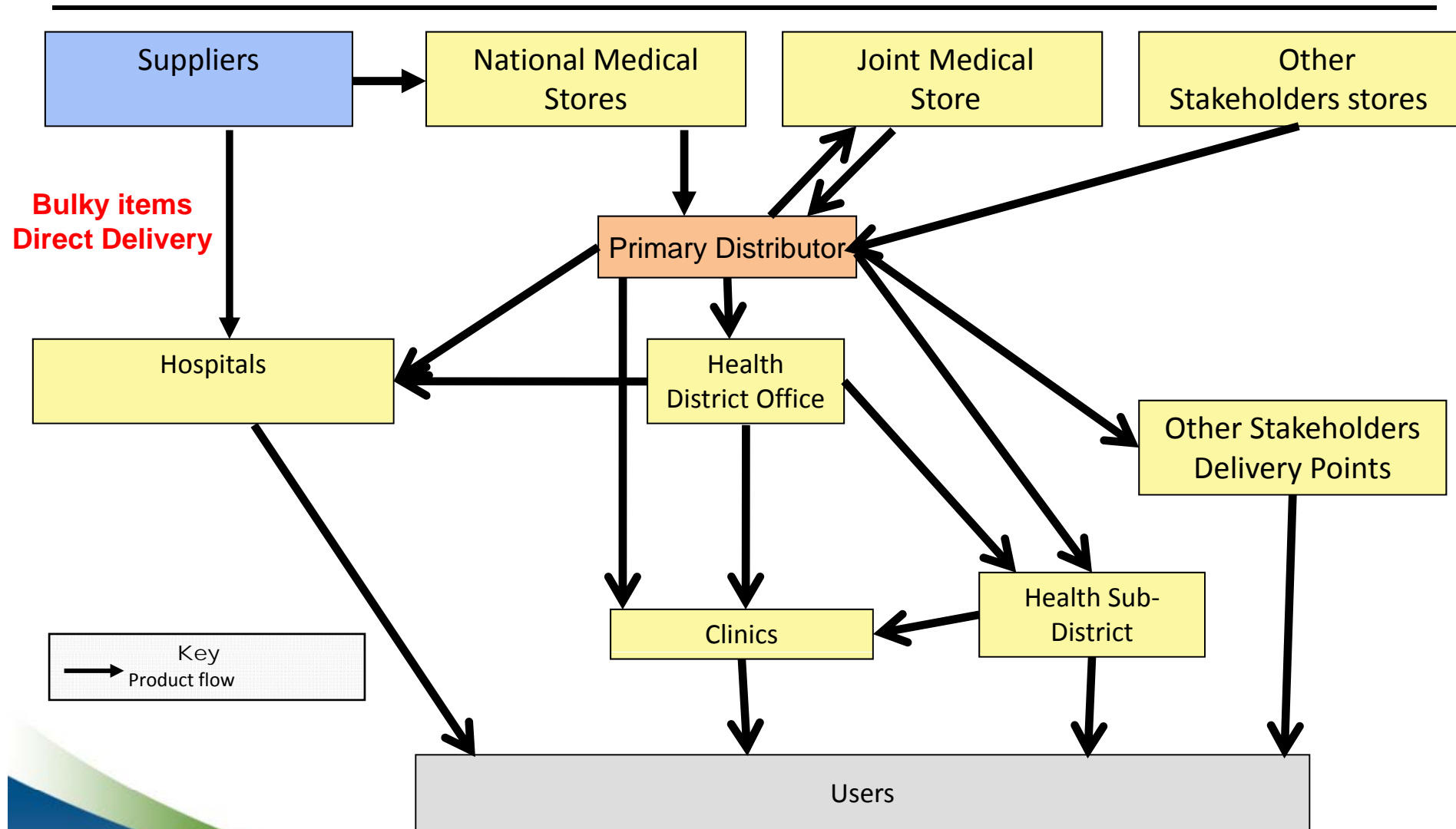
Uganda NMS-based Supply System



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Ugandan Primary Distributor-based Supply System



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