Towards GS1 based supply chain data exchange and visibility (UNFPA)

Health & Humanitarian Logistics
7-9 Jun 2017
Agenda

• Introduction
• Business Drivers
• End Objective
• Challenges
• GS1 – Global Standard 1
• Towards GS1
• Pilot and POC (proof-of-concept)
• Vision
We are the lead United Nations agency that expands the possibilities for women and young people to lead healthy sexual and reproductive lives. We are on the ground improving the lives of millions of women and young people in more than 150 countries and in humanitarian crises.
World’s largest public procurer of contraceptives

RH commodities procured in 2016 over $146M

- **Contraceptives**: $93.6M
- **Medical equipment**: $34.9M
- **Pharmaceuticals**: $17.5M
Business Drivers

Visibility

• Product identification (authentication, returns, recalls)
• Track and Trace (end-to-end)
• Stock levels in-country
• Last Mile in-country

Analytics

• Demand/Unconstraint/Constraint planning, Trends, etc
End Objective – GS1 based

Vendor System → Flow of Transactional Data → UNFPA System → Flow of Transactional Data → Govt. System

Flow of Stock & Consumption level Data

Master Data → Flow of Goods → End Recipient

Flow of Barcode data Event → Event Data

End-to-end Visibility & Analytics
Challenges: UNFPA Supply Chain system overview

Challenges
1. Manual Data Entry/duplication/validation
2. Product identity, Master & Transaction Data
3. Data Mapping
4. Data Exchange standard

Challenges: overview

Challenges interfacing Vendors
1. Global setting (standards)
2. Unknown IT landscape

Vendor Specific Item ID
Vendor Specific OR Generic Item ID*
Shipment date, Batch/lot, Expiry

Vendor

Challenges interfacing Govt.
1. Global setting (scale, political, standards)
2. Unknown IT landscape
3. Resource

Govt

No Barcode Std.

Challenges interfacing UNFPA

Generic Item ID*
Vendor Specific OR Generic Item ID
Shipment date, Batch/Lot, Expiry

UNFPA

Purchase Order/Shipment
Vendor Specific OR Generic Item ID*
Shipment date, Batch/lot, Expiry

*INN International Non-proprietary Names
Challenges: Building block

Visibility and Analytics

Data Exchange
- Mapping Data
- Data Integration

Dynamic data
- Order Data
- Shipment data
- Batch/Lot & expiry Data
- Tracking Data

Static Data
- Identity/Barcode Carrier
- Master Data
Global Standard 1 (GS1.org)

GS1 Standards for Identification
- Company & Location: (GLN-Location)
- Product: (GTIN-Item, SGTIN-Serial)
- Logistics & Shipping: (SSCC-Container, GSIN-Shipment ID, GINC-Consignment no.)
- Assets: GIAI-Asset ID, GRAI-Returnable Asset
- Service & More: GSRN-Service relation no., GDTI-Document type, GCN-Coupon number

GS1 Standards for Barcode and EPC/RFID
- GS1 Barcode
- RFID

GS1 Standards for Data Exchange
- Master Data: GDSN-Global Data Sync.
- Transaction Data: eCom, EDI (EANCOM, GS1 XML)
- Event Data: EPCIS-Information Services

Courtesy: GS1
Towards GS1 – 2 approaches

**Business**
- USAID/UNFPA/GS1/Vendors, RH GTAG (advisory group)
- Identification recommendations for RH pharma products (Guideline Doc.)
- Hormonal contraceptives
- Barcode/Data submission/Serialization

**Technical**
- Initiate Shipment Data Exchange with Vendors
- Web services for Govt. system
- Data model & system design existing system for GS1 compliance
Towards GS1 – low hanging fruit

Identify
Globally unique identification keys
ID Keys >

Capture
Automatic data capture
Barcodes >
EPC/RIFID >

Share
Exchange of business-critical information

EDI (Transaction Data)
eCom XML >
EANCOM >

Product Data Sharing (Master Data)
Global Data Synchronisation Network (GDSN) >
GS1 Source >
Global Product Classification (GPC) >
GTIN+ on the web >

Visibility Event Data
EPCIS and Core Business Vocabulary (CBV) >

ASN Advance Shipment Notice (X12)
Despatch Advice (GS1)
• Order Number
• Delivery Date
• Batch/Lot Number
• Expiry Date

Courtesy: GS1
Towards GS1 – Order to Cash

1. Synchronise party info
2. Synchronise delivery & payment terms
3. Synchronise trade item info
4. Synchronise Price info
5. Place Order
6. Deliver
7. Issue Invoice
8. Pay Invoice
9. Issue Credit Note

Master Data

Stage 1
- Standard ASN
  - Order no.
  - Batch/Lot
  - Expiry
  - Shipment

Stage 2a
- GS1 Master Data
  - GTIN – Item ID
  - Dimensions
  - Composition, UoM, etc

Stage 2b
- GS1 Despatch Advice
  - GTIN – Item ID
  - SSCC - Logistics

Courtesy: GS1
Ethiopia Pilot - POC (Proof of Concept)

Objective

- Pilot - POC to **gain experience**
- Automate **i) shipment date, ii) Itemized Batch/Lot, iii) expiry date** exchange
- Transfer electronic data exchange between **Supplier, UNFPA & Govt. LMIS** systems

POC1 delivered

- Successful electronic **shipment data** from UNFPA to Ethiopia Govt. using in-house web services technology, no cost

POC2 ongoing

- Ongoing POC activity on receiving **shipment, Batch/Lot & Expiry data** directly from supplier system and transferring it to Ethiopia Govt. system
Existing - Supply Chain dataflow

Supplier System

UNFPA System

Govt. System

Manual data entry & eMail

Lot/expiry

Manual data transfer

Lot/expiry

Manual data entry
POC1 - Supply Chain dataflow

Supplier System → UNFPA System

UNFPA System → Govt. System

Manual data entry & eMail

Semi-Auto data transfer

Manual data entry: Lot/Expiry

Manual data entry: Lot/Expiry

Lot/expiry

Shipment

Shipment (WS)
Data flow for UNFPA PO 31030

UNFPA ERP System

UNFPA Order Tracking System

PO Number: 0000011030

Order Details

Ethiopia Central Warehouse System

<table>
<thead>
<tr>
<th>LN</th>
<th>Item Id</th>
<th>Item Description</th>
<th>Qty</th>
<th>Vendor</th>
<th>Ship</th>
<th>UOM</th>
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<th>ADD</th>
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</table>
POC2 - Supply Chain dataflow

Supplier System → UNFPA System → Govt. System

- Shipment Lot/expiry EDI
- Shipment Lot/expiry - WS

Auto data transfer of Despatch Advice (GS1) OR ASN (X12)
Vision of hybrid GS1

**Benefit**
1. Manual Data Entry/duplication/validation
2. Product identity, Master & Transaction Data
3. Data Mapping
4. Data Exchange standard

**Benefit**
1. Manual Data Entry/duplication/validation
2. Product identity, Master & Transaction Data
3. Data Mapping
4. Data Exchange standard
5. Reduce Cost & Reduce data source

* Electronic Data Interchange, ** Global Data Synchronization Network
Thank you