May 10, 2017

Medical Devices for Maternal, Neonatal and Child Care

Paul LaBarre
UNICEF Mission

SURVIVE FROM ARRIVAL

TO THRIVE INTO ADULTHOOD

SUSTAINABLE DEVELOPMENT GOALS
UNICEF Supply Division: The supply chain

Definition of need
Budgeting/Planning
Procurement
Delivery and clearance
Inspection
Warehousing, distribution, re-order
Utilization by end-user
Monitoring and evaluation
UNICEF expenditure by commodity groups – 2016

$3.519 billion of supplies and services procured in 2016

- **Vaccines**
  - $1.643 billion

- **Water & sanitation**
  - $108.2 million

- **Education**
  - $83.8 million

- **Pharmaceuticals**
  - $160.5 million

- **Nutrition**
  - $150.6 million

- **Medical supplies & equipment**
  - $106.0 million

- **Bed nets & insecticides**
  - $90.6 million

- **Services, including international freight and construction**
  - $882 million

- **$1.7 billion** in procurement in 2016 on behalf of governments and partners

- **81% of UNICEF procurement in 2016** was in collaboration with other UN agencies ($2.85 billion)
One Global Supply warehouse

191 additional warehouses in 98 countries

- Largest humanitarian warehouse
- Highly automated
- Hazards & GDP certified

14,387 tons of supplies dispatched

291,052 kits packed

1,420 avg. pallets per week

$120.3 million value of goods

UNICEF Medical Devices for Maternal, Neonatal and Child Care – Paul LaBarre
Kits

• Basic healthcare in emergencies (IEHK)
• Midwifery
• Obstetric surgery
• Diarrheal diseases
• Resuscitation
• Sterilization
• Country specific kits
Maternal health

• We are seeing increasing demand in this area, especially in the area of post-partum hemorrhage.

• Seeing interesting innovations in the pipeline
  • NASG and balloon tamponade for PPH
  • Adipsin and other biomarkers for PE screening and dx

• New products are frequently added to the catalogue but only following a thorough review of the evidence base and global policy.
Complex medical equipment

- Physical Absorptive capacity
- Personnel & Training
- Process
- Organizational behavior:

*Biomedical engineering is seen as an expense center rather than a necessary investment to protect valuable infrastructure.*
Innovation

Fit for purpose and value for money supplies for children in UNICEF’s programme

TPP’s Available online here: https://www.unicef.org/supply/index_91816.html

Examples include:
- VVMs, OPV
- Cold chain equipment

UNICEF Medical Devices for Maternal, Neonatal and Child Care – Paul LaBarre
Acute Respiratory Diagnostic Aid (ARIDA)

**Problem:** Pneumonia accounts for 16% of all deaths of children under 5 years old, killing < 920k children in 2015. Many children die because the symptoms of pneumonia are not recognized.

**Outcome:** An automated device that helps healthcare workers at the community level diagnose pneumonia.

**Status:** The first ARIDA devices have been manufactured. Field trials for accuracy, effectiveness, acceptability are eminent.
Access/utilization: Oxygen therapy

- Recent improvements include WHO/PATH collaboration on specifications/guidance
- UNICEF SD currently provides procurement of SPO2, concentrators, CPAP, splitters
- Increasing demand especially in the context of NICU
- Ad-hoc, not systematic approach
- Planners do not know what is needed

Opportunity for:
- Systems approach
- Information autobahn
- Expand specs/guidance to include a full suite of O2 therapy components
- Decision-making guidance
Thank you!
Good news / bad news

The number of children who died before turning 5 fell by more than 50 per cent worldwide between 1990 and 2015.

Despite this, 16,000 children under age 5 die every day from preventable, treatable diseases.
Welcome to UNICEF Supply Catalogue

The Supply Catalogue contains specifications for over 2,000 commodities that respond to the needs of children and their families. The Catalogue is designed to help you identify the most appropriate supplies for your programmes, assist you in your supply planning, delivery and monitoring, and help maximize your collaboration with UNICEF Supply Division.

To find supply items and descriptions, please click on the specific product category or use the "Search" function. If you cannot find an item, go to "Help".

UNICEF Country Offices, National Committees, and Procurement Services partners can initiate orders for supplies. Please click on "How to Order".

Country Offices can access an order tracking module by logging in at the top-right navigation bar on this page.

NB: Prices that appear in the Catalogue are indicative only. Actual prices may vary, depending on individual suppliers.

https://supply.unicef.org/
Guiding principles

• promotion of UN objectives
• fairness, integrity and transparency through competition
• economy and effectiveness
• best value for money

http://www.unicef.org/supply/index_39627.html
Preventative Maintenance

The issues

• PM not integrated into most health systems

The solution

• Establish culture of PM
• Integrate with HTM
Corrective maintenance

The issues
• CM not integrated into most health systems

The solution
• Establish processes for PM
• Clearly defined KPIs
After sales service

The issues

• Some facilities lack BME/BMET staffing altogether

The solution

• Consider ASS as a means to maintain high level of “in-service” equipment during and after warrantees
Spare parts

The issues

• No spare parts kept on site
• No mechanisms to procure
• No budgets

The solution

• Include sufficient spare parts with every capital expenditure
• Integrate spare purchase into procurement process
Basic BMET tools

The issues
• Most often supplied with a set of screw drivers

The solution
• Defined standard
• Procurement mechanisms established for full set of tools
Warrantees

The issues
• 1 yr standard is often not enough

The solution
• 2 and 3 year options should be considered in context of internal capability to maintain equipment and lifespan KPIs.
Advanced BMET tools: analyzers/calibrators

Photos: UNICEF/Paul LaBarre
Staffing

The issues
• Undertrained, under-motivated staff

The solution
• Training on new equipment
• Clearly defined job descriptions
• Jurisdiction
• Accountability
Readiness

The issues

• Sufficient electrical hook-ups
• Sufficient medical gas hook-ups
• Adequate floor space
• Adequate access

The solution

• Planning checklist co-developed by suppliers
Dirty electricity

The issues
• Fluctuations
• Brownouts
• Blackouts

The solution
• Monitoring electrical levels
• Voltage regulators
• UPS

UNICEF Procurement of complex medical equipment – Paul LaBarre
Equipment disposal plan

Photos: UNICEF/Paul LaBarre
Improper repairs

The issues
• Lack of adequate training
• Unable to validate repairs
• Some repairs make situation worse
• Fear of doing more harm than good

The solution
• Training
• Tools, analyzers
1st Global forum

Director General, 1st Global Heath Forum; 2007:

• 70% of medical equipment in hospitals does not work
• 10—30% donated equip never becomes functional
• Malkin’s paper actually says 38% equip OOS