ENSURING SECURE and RELIABLE
SUPPLY and DISTRIBUTION SYSTEMS in DEVELOPING
COUNTRIES, in the CONTEXT OF HIV/AIDS and PMTCT

SESSION VI:
Forecasting,
estimating requirements for
Procurement of HIV related supplies

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OVERVIEW OF PRESENTATION
Challenges in Forecasting supply needs in HIV

- Introduction: defining the context in which the estimate is made
- Key considerations for a reliable forecast at the start of a programme
- Managing supply and demand in scale up
- Conclusion: Group exercise
THE PROCUREMENT CYCLE
Managing Drug Supply; Second Edition

1. Determine Quantities needed
2. Reconcile needs and funds
3. Choose Procurement method
4. Locate and select suppliers
5. Specify contract terms
6. Monitor order status
7. Receive and Check Supplies
8. Make Payments
9. Distribute Supplies
10. Collect Consumption Information
11. Review Product Selection
### QUANTIFICATION
Estimating requirements …

<table>
<thead>
<tr>
<th>VCT</th>
<th>Screening tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing one’s HIV status is a key step in HIV prevention and care</td>
<td>Confirmatory tests</td>
</tr>
<tr>
<td></td>
<td>Tie breakers</td>
</tr>
<tr>
<td></td>
<td>Consumables and waste management</td>
</tr>
<tr>
<td></td>
<td>Quality assurance</td>
</tr>
</tbody>
</table>
### QUANTIFICATION

**Estimating requirements …..**

<table>
<thead>
<tr>
<th>OI’s CPT/IPT</th>
<th>Cotrimoxazole</th>
</tr>
</thead>
<tbody>
<tr>
<td>In high prevalence populations PCP is common, and TB a leading cause of death</td>
<td>Isoniazid</td>
</tr>
<tr>
<td></td>
<td>Diagnosis, treatment of PCP</td>
</tr>
<tr>
<td></td>
<td>Diagnosis, treatment of TB</td>
</tr>
<tr>
<td></td>
<td>Diagnosis, treatment of OI’s</td>
</tr>
</tbody>
</table>
## QUANTIFICATION
Estimating requirements …

<table>
<thead>
<tr>
<th>STI</th>
<th>Diagnostic tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular STI screening, prompt treatment and condom distribution should be part of care of PLWHA</td>
<td>Pharmaceuticals for Syndromic management</td>
</tr>
<tr>
<td></td>
<td>Medical consumables (syringes, needles, waste)</td>
</tr>
<tr>
<td></td>
<td>Condoms</td>
</tr>
<tr>
<td></td>
<td>Information leaflets ?</td>
</tr>
</tbody>
</table>
## QUANTIFICATION
### Estimating requirements …

| OTHER … | Palliative Care  
(relief of pain and distressing symptoms) |
|---------|-------------------------------------------------|
|         | **Nutritional Support**  
(nutritional assessment, dietary guidance, supplementary and therapeutic feeding) |
|         | **Universal precautions**  
(clinical and home setting)  
(Infection control, PEP) |
|         | **More specialised …**  
HAART, diagnosis and treatment of OI’s and HIV related cancers |
ENSURING SECURE and RELIABLE SUPPLY and DISTRIBUTION SYSTEMS in DEVELOPING COUNTRIES, in the CONTEXT OF HIV/AIDS and PMTCT

What are the determinants of a reliable FORECAST?
# ELEMENTS of a COMPREHENSIVE CARE PACKAGE

<table>
<thead>
<tr>
<th>Elements of support</th>
<th>Home Based Care</th>
<th>Community Based Care</th>
<th>Facility Based Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical care</td>
<td>👇</td>
<td>👇</td>
<td>👇</td>
</tr>
<tr>
<td>Psychosocial support</td>
<td>👇</td>
<td>👇</td>
<td>👇</td>
</tr>
<tr>
<td>Socio-economic support</td>
<td>👇</td>
<td>👇</td>
<td>👇</td>
</tr>
<tr>
<td>Human rights, legal support</td>
<td>👇</td>
<td>👇</td>
<td>👇</td>
</tr>
</tbody>
</table>
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ESTIMATING REQUIREMENTS challenges and hints
QUANTIFICATION
Where to start ???

STEP 1: Postulate a patient profile at site(s) of service delivery
- number of adults, pregnant women, children infants
- what are their bodyweight ranges?
- number of patients with TB co-infection
- potential to develop ADRs and/or treatment failure

<table>
<thead>
<tr>
<th>FIRST LINE OPTIONS</th>
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</thead>
<tbody>
<tr>
<td>d4T(30mg) + 3TC + NVP</td>
</tr>
<tr>
<td>d4T(40mg) + 3TC + NVP</td>
</tr>
<tr>
<td>d4T – ADRs ?</td>
</tr>
<tr>
<td>NVP - TB or ADR ?</td>
</tr>
<tr>
<td>ZDV (100-200mg) + 3TC + NVP</td>
</tr>
<tr>
<td>ZDV (300mg) + 3TC + NVP</td>
</tr>
<tr>
<td>d4T(30mg) + 3TC + EFV</td>
</tr>
<tr>
<td>d4T(40mg) + 3TC + EFV</td>
</tr>
</tbody>
</table>
QUANTIFICATION
Where to start ???

STEP 2: Estimate the growth in numbers of patients on treatment

- how many need treatment today?
- what are the enrolment criteria?
- no. of trained health workers in the field to provide care?
- new enrolments, ability to screen and diagnose?

HONESTLY, HOW MUCH MONEY WILL BE AVAILABLE THIS YEAR?
Doctor on holiday

New doctor arrives
(nurse trained to Rx?)
QUANTIFICATION
Where to start ???

STEP 3: Estimate the number of packs/kits needed to start, also to prevent stock outs

- **lead time** for arrival of stocks
- decide on an **ordering interval** that will minimise stock holding
- calculate a **safety stock level**, and a **re-order trigger**
- calculate the number of packs needed per recommended treatment regimen
- **multiply** the cumulative number of patients with the numbers of treatment packs needed per regimen

**MONITOR** stock situation and re-order/redistribute until you have data on stock movement
MANAGING LEAD TIMES

![Graph showing lead times for placing orders and supplies arriving.](image)

- **Place order**: Dates where orders are placed.
- **Supplies arrive**: Dates when supplies are received.

Legend:
- **TOTAL on Rx**
- **Nr enroled**
? A PUBLIC HEALTH APPROACH

Month 5
x 2

PLACE ORDER
SUPPLIES ARRIVE

PLACE ORDER
SUPPLIES ARRIVE

TOTAL ON RX
NR ENROLLED
WHAT ABOUT THE NEXT ORDER?
When to place, how much ???

NEXT STEPS: Monitoring supply and demand

- continuously monitor lead time for arrival of stocks
- continuously revise safety stocks and re-order triggers
- continuously monitor expiry dates
- redistribute as needed to avert disaster

YOU ARE GOING TO RUN OUT OF STOCK,
WHAT ARE YOU GOING TO DO TO MINIMISE THE DAMAGE?

YOU ARE GOING TO HAVE OVERSUPPLY/EXPIRED STOCK,
WHAT ARE YOU GOING TO DO TO MINIMISE THE DAMAGE?
ACCESS TO ARV’s
Procurement, logistics, infrastructure ….

CONCLUSION
Group exercise
Case study

You are the facility manager of a PMTCT site in CamIndiaLao, the capital city of the newly established republic of New NamChin Lanka, an island republic in your region.

You are approached by your HIV/AIDS council, informing you that the management guidelines for PMTCT now also include HIV Care and Support for the HIV positive mother.

Those mothers in need of ART, should be enrolled into a treatment programme. You are asked to make the initial drug estimate to cover the needs for the 1st year of treatment, so that they can reconcile the funding available with your needs.