

# NASA

Network of Antiretroviral drug and HIV related tests  
Stock Administration

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### Special Characteristics of ARV Drugs and HIV-Related Tests

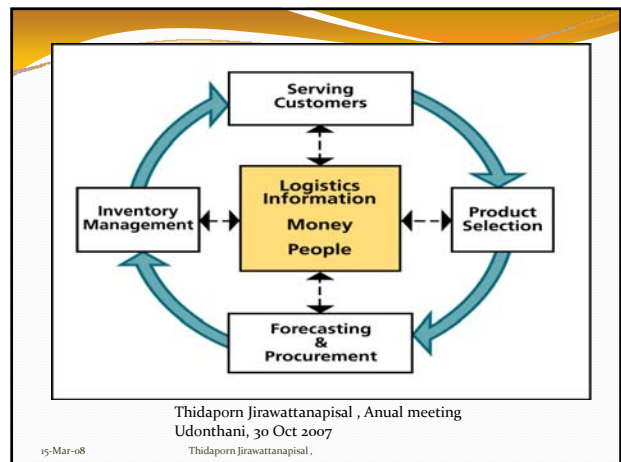
- **Short shelf life** that can range from six to 36 months
- **High price**, including a significant jump in price when moving from first line antiretroviral therapy (ART) to alternate treatment regimens
- **Cool storage required** for some products
- Treatment and testing protocols that require **multiple products** from **multiple sources** to be available simultaneously to provide a service
- **Dynamic technology** for products leading to constantly evolving treatment and testing protocols

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### Special Characteristics of ARV Drugs and HIV Tests

- **Higher levels of accountability**, including special reporting or other documentation requirements from either donors or manufacturers
- Greater **potential for redistribution** of products from one facility to another
- **Limited number of sites** authorized to use the products
- **Limited possibility for substitution** in the case of stock outs.
- **Accountability** from suppliers is required

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### Concept of Logistics

- **The right goods** – Standard Treatment Guidelines, Certified level; FDA, WHO GMP, CE Marks, suppliers' accountability, originals & generics
- **In the right quantities** – forecasting, re-forecasting, and adjusting of the forecast
- **In the right condition** - storage and handling
- **Delivered to the right place**
- **At the right time** – procurement cycle, lead time, review period
- **For the right cost** - reasonable prices

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### The Right Goods

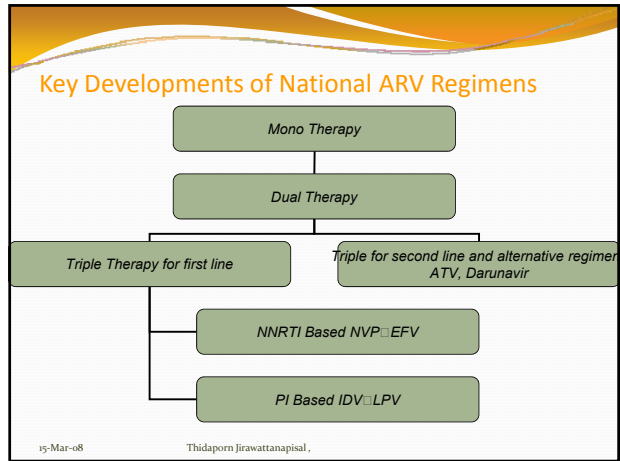
- Factors involved in making selection of ARVs
  - National treatment guidelines/ standard/recommendation
  - International guidelines
  - Safety of products
  - Prices
  - Product's standard: US-FDA, WHO's GMP
- **Availability of original products—FDA's approved**
- **Availability of generic products**
- **FDA's approval HIV testing**

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**ARV Therapeutic Options in National Access to Antiretroviral Program for PHA Extension (NAPHA Extension) 2007**

- Opened Criteria for naive, alternative drugs for managing S/E, FDC experienced
- No quota but Target
- CD4 testing 2 times a year

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**ARV Therapeutic Options in National Access to Antiretroviral Program for PHA Extension (NAPHA Extension) 2007**

- Opened Criteria for naive, alternative drugs for managing S/E, FDC experienced
- No quota but Target 10,000 cases
- CD4, VL testing 2 times a year
- Genotype as necessary

Regimen 1 AZT + 3TC + NVP

Regimen 2

2.1	AZT + 3TC + EFV
2.2	d4T + 3TC + EFV
2.3	d4T + 3TC + NVP
2.4	AZT + 3TC + LPV/r
2.5	d4T + 3TC + LPV/r
2.6	AZT + 3TC + IDV/r
2.7	d4T + 3TC + IDV/r

Regimen 3

3.1	AZT + 3TC + LPV/r
3.2	d4T + 3TC + LPV/r
3.3	AZT + 3TC + ATV/r
3.4	AZT + 3TC + ATV/r
3.5	d4T + 3TC + ATV/r

Regimen 4

4.1	TDF + 3TC + LPV/r
4.2	TDF + 3TC + ATV/r

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**In the Right Quantities**

- Prerequisites to quantification
- Forecasting methodology

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**Forecasting**

	Regimens	Proportion	No.pts	Drug A	Drug B	Drug C	Drug D
120000	1	0.8	96000	96000	96000	96000	
120000	2	0.1	12000	12000	12000		12000
120000	3	0.05	6000		6000		6000
120000	4	0.03	3600			3600	3600
120000	5	0.01	1200		1200	1200	1200
120000	6	0.01	1200	1200			1200

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**In the Right Condition**

- Standard warehousing
  - Lights
  - Humidity
  - Temperature
  - Security
  - SOP
- Most of HIV tests
- Drugs: LPV/r, SQV, Vaccines
- Whole chain integrity

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### Deliver to the Right Place

- Supplier to implementing site
- Supplier to regional hub
- Supplier to central unit

*At the Right Time*

- Stock Review Period
- Procurement Cycle

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### Inventory Control Systems

- In any version of the max-min system, the designer must also decide where the decision-making power lies for determining reorder quantities:
- Pull - personnel receiving the supplies make the decision
- Push - personnel issuing the supplies make the decision.

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### Procurement

- *standard procurement procedures or alternative procurement methods :*
  - offer quality drugs at lower prices, such as international, regional, or other pooled procurement mechanisms.
- *procurement contracts:*
  - should be flexible and should allow for multiple shipments and modifications of order quantities to respond to uncertainties and fluctuations in demand during initial program expansion
- *A medium- to long-term procurement plan:*
  - to coordinate drug inputs among donors, to identify clear resource mobilization needs, and to leverage competitive strengths in drug purchases.

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### Logistics Management Information System

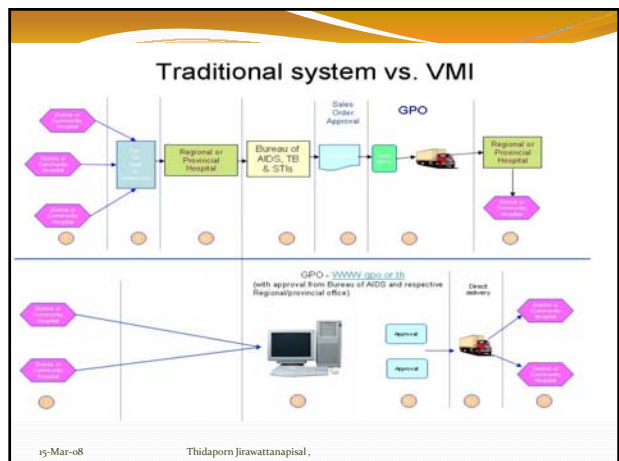
- *Essential data items*
  - Dispensed to user
  - On hand stock
  - Losses and adjustments
- *LIMS record* - stock keeping , transaction, consumption
- *LIMS report* - aggregated data, feedback
- *Electronic versus manual*

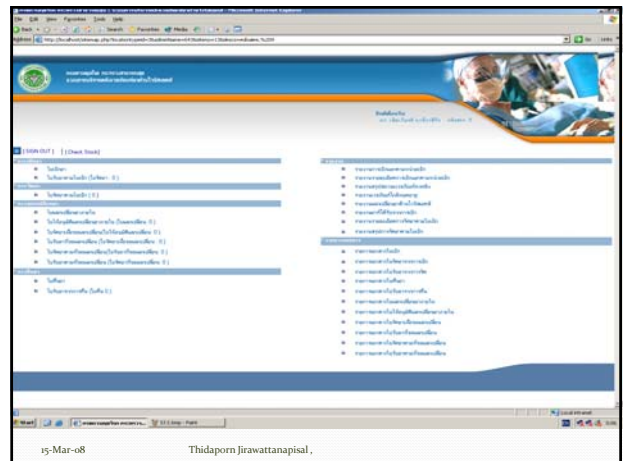
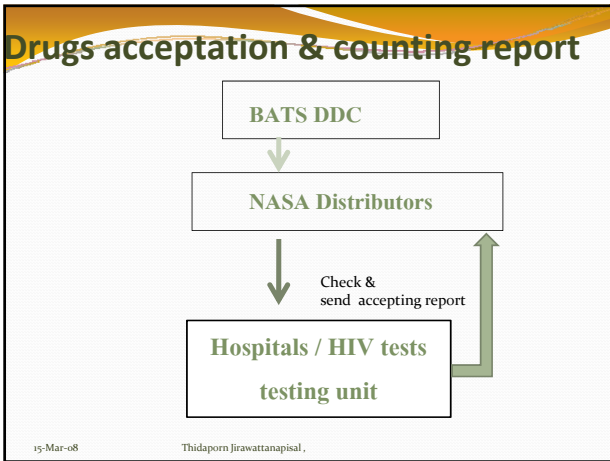
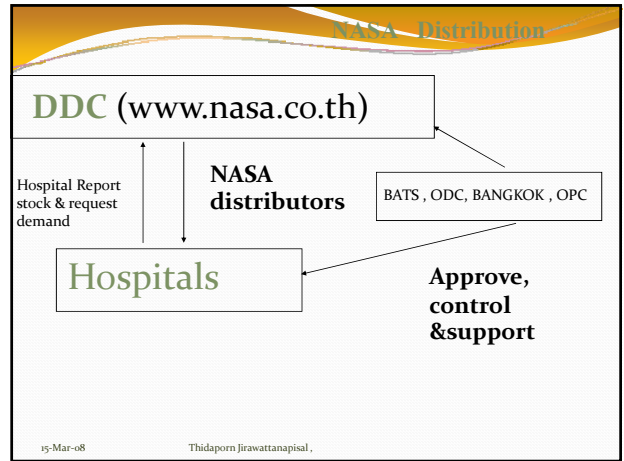
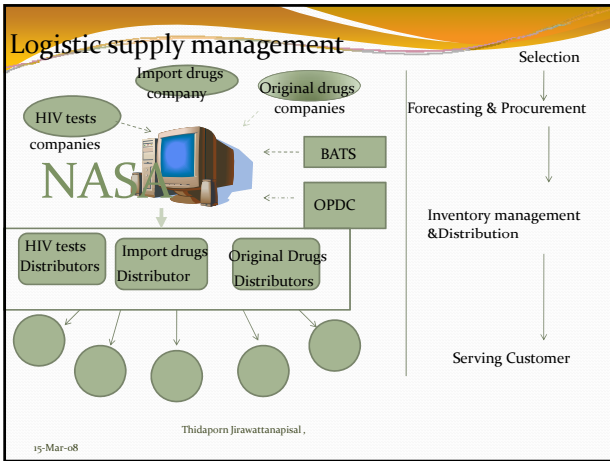
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### Recommendations for ARV Drug and HIV-test Inventory Control System Design and Implementation

- *Reduce the length of the supply pipeline*
  - Eliminate an entire level or levels from the supply chain.
  - Shorten the order interval at one or more levels
  - Reduce the lead time
  - Maintain lower levels of safety stock.
- *Use the forced ordering system*
- *Implement a monthly reporting period and ordering cycle*
- *Phase in* the inventory control for *second line drugs*
- *Implement a mechanism* for returning product for redistribution

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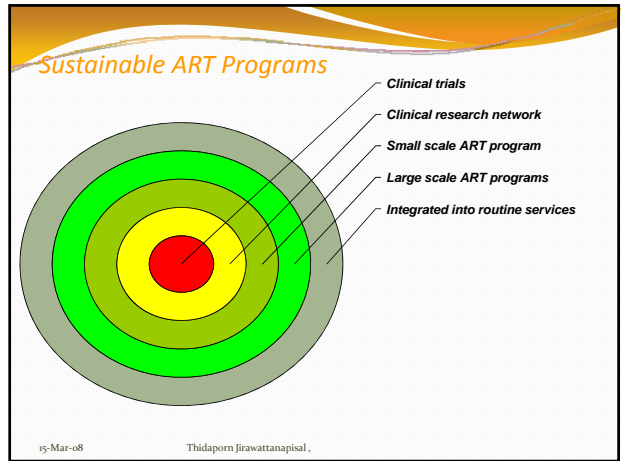




id	name	description	url	status	date
1	2TC 200 mg	2TC 200 mg	http://www.who.int	1	15/03/2008
2	2TC 200 mg	2TC 200 mg	http://www.who.int	2	15/03/2008
3	421 100 mg	421 100 mg	http://www.who.int	3	15/03/2008

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