

Blood derivate (CFC) supply chain in the hospital

How to maximise full traceability

Teaching Hospital (CHU) Rouen

- Multi-site Hospital : 5 sites
 - 2500 beds and places
 - 300 wards
 - 11 Operation rooms
- Yearly Budget of the Pharmacy: 75 M €
 - 22M € for pharmaceuticals
 - > + Direct sales to patients (for drugs not in the retail pharmacies) : 17 M €
 - 23M € for sterile Medical Devices

Departement of Pharmacy

- Pharmaceuticals
 - Blood Derivates
- Sterile Medical Devices
 - Implants
- Production
 - Manufacturing
 - > Parenteral Nutrition
 - > Chemotherapy
 - Sterilisation
- Quality Assurance

Departement of Pharmacy

- Clinical Support
- Purchasing
- Logistics

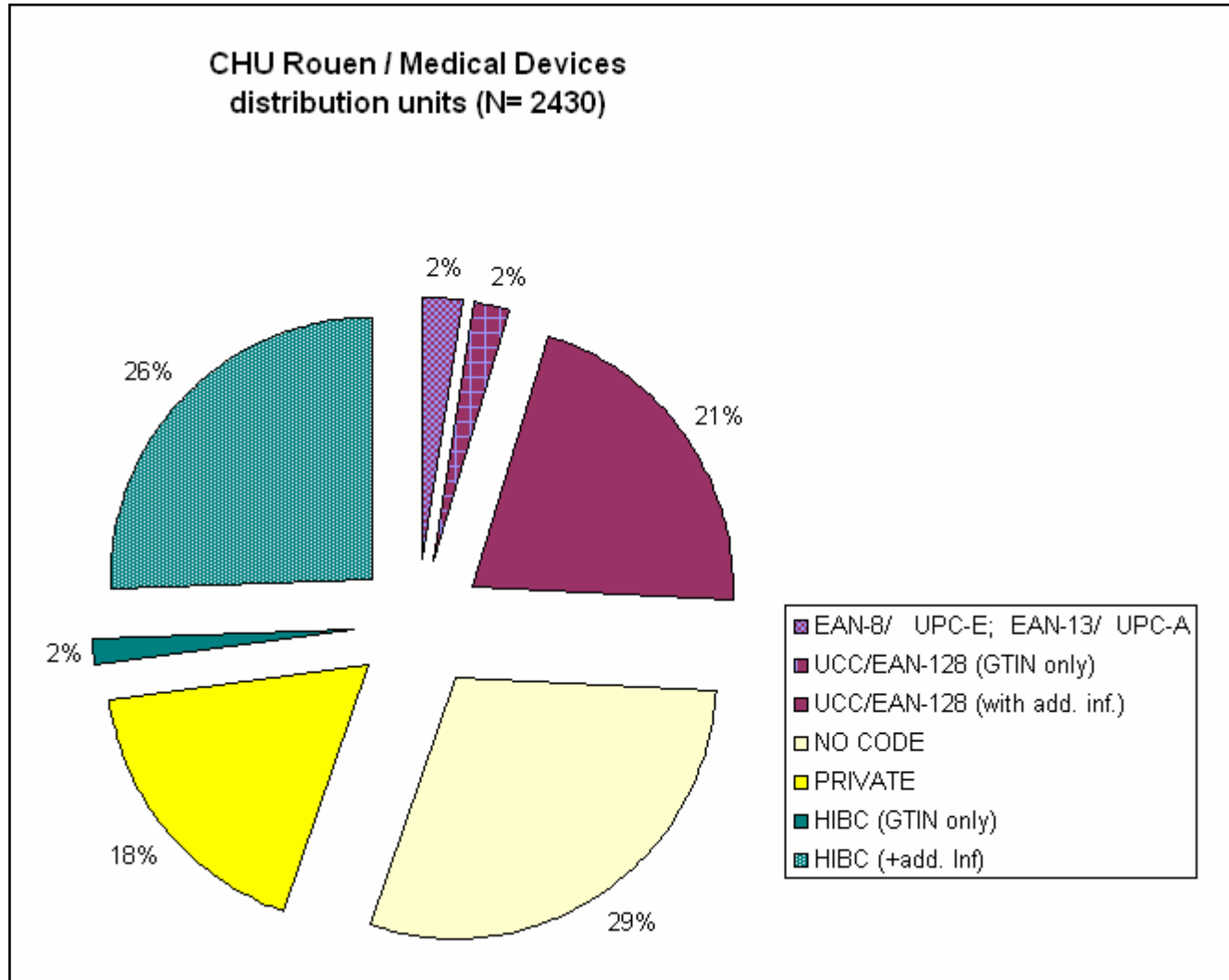
Logistics

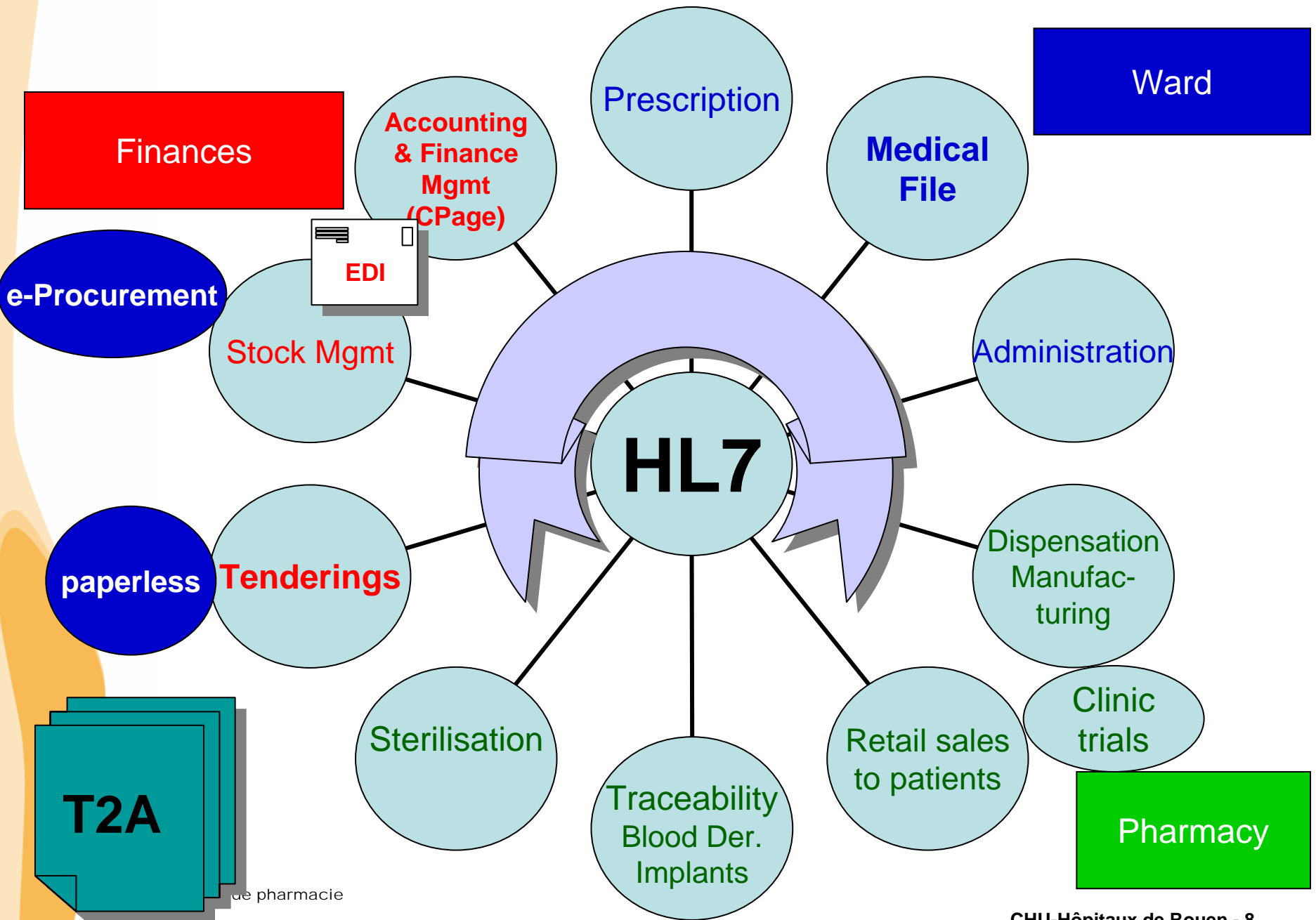
- One main platform
- Direct to user deliveries : Aexxdis
 - Baxter, BBraun, Cardinal, Hartmann, Hydrex
- Externalisation

Environment

- Economic constraints
- Tariff per act (T2A \cong DRG)
- Vigilances
- Quality of care
- Accreditation - certification
- (shared) e-Patient File

Coding systems





de pharmacie

Traceability at CHU Rouen

- Volumes
 - Blood derivatives : 17000 units
(50 000 mvts/year)
 - Pharmaceuticals T2A
>25 000 units
 - Chemotherapies
>100 pouches / day

Traceability at CHU Rouen

- Volumes
 - Implants : 6000 to 8000 products
 - Surgical Instruments :
+ 70 000 instruments (60% individually marked)

Traceability at CHU Rouen

- Vision
 - Traceability at unit level = serialisation
 - Common IT architecture

IT ARCHITECTURE

1

Send dispensing message to e-Patient file



E-Patient file (CDP2)

2

Register administration at ward into CDP2, check serial number and patient ID and send administration message to Traceability Software

Pharmacy Software



3

Dispensations **Administrations**



Check discrepancies dispensation - administration

Product Alert



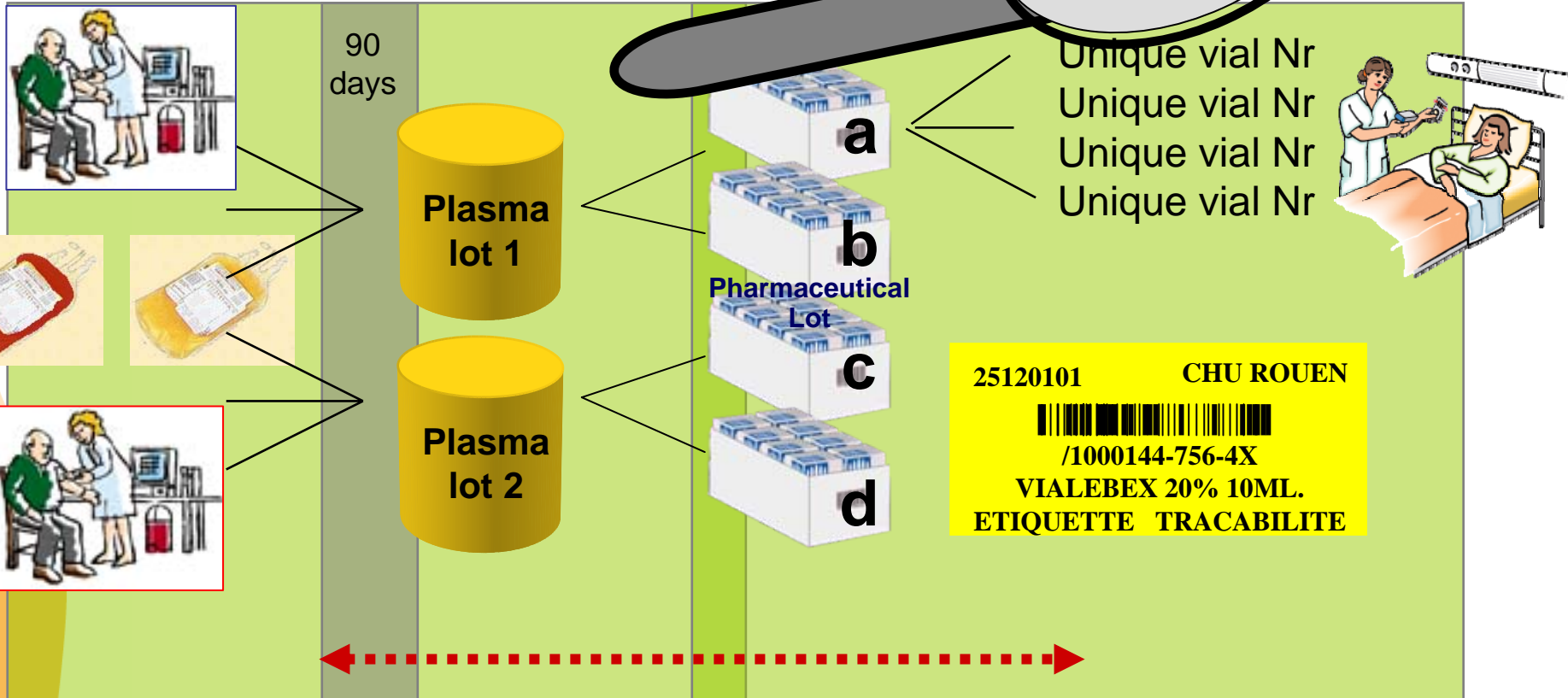
Patients

$n \text{ products} = n \text{ products dispensed to } x \text{ patient(s)}$

Traceability Blood Derivates

Traceability Collect. - Manufacturing

Traceability
Rouen



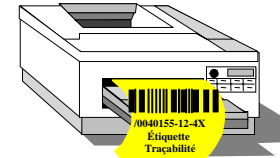
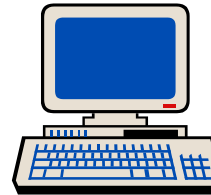
Full traceability

From donor to patient and from patient to donor

Traceability at unit level



**Products with same lot
Nr from manufacturer**



**Receipt / re-labelling
traceability software**



**Every single item
identified with unique Nr**

Gest 'Trace DMI = software for implants



Pharmacy : receipt and labelling

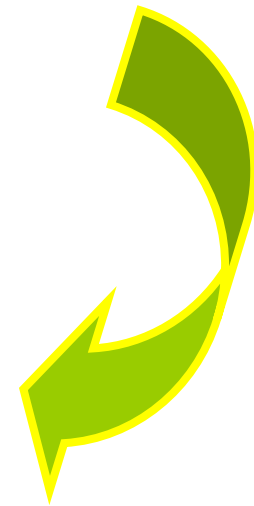
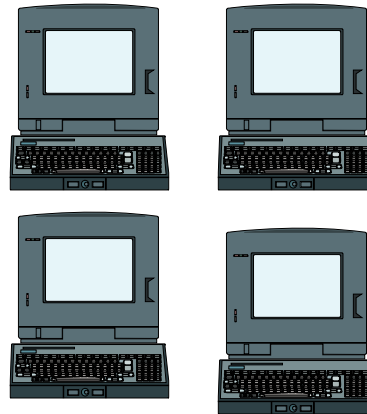
Gest 'Trace DMI



CDP2



Theatre :



T-Doc Sterilisation software

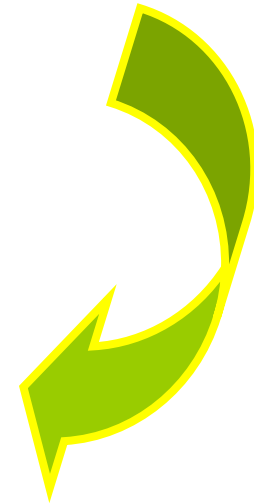
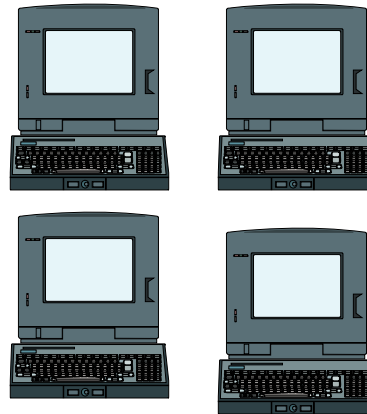
Sterilisation : Receipt & sterilisation traceability at instrument level



T-Doc

CDP2

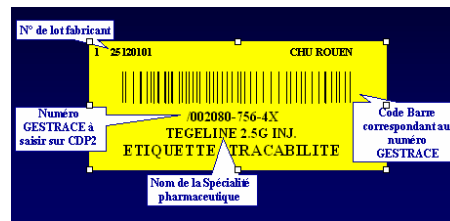
Theatre:



Traceability at unit level

- **Media**

- **Blood derivatives/ Implants**



- **Surgical tools :**

Tools



Surgical boxes



Supply Chain Optimisation Pilot Study

- Scope of study
 - Blood derivatives
- “tool box”
 - Products labelled with GS1 standard (GTIN, SSCC), staff identified with GS1 standard (GLN, GSRN), as well as location (GLN)
 - E-procurement (scheduled October 2006) → EDI
 - E-prescribing (scheduled 2008)
 - Stock management software

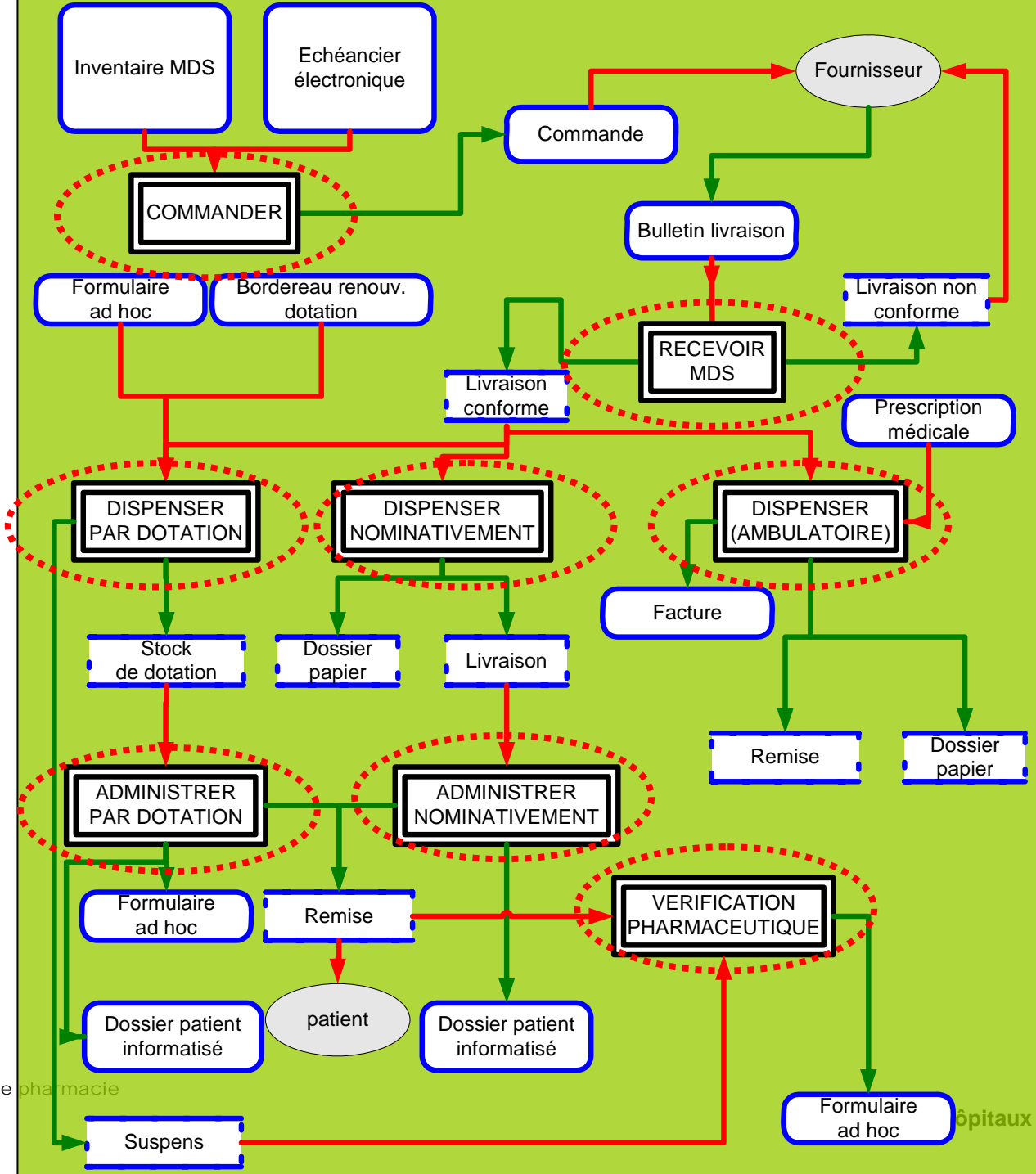
Supply Chain Optimisation Pilot Study

- First Step of the study

Modelisation of current Supply Chain

- > Description of procedures used in the distribution of blood derivatives
 - > Identification actors, actors linked to events, within the supply chain
 - > Measurement of frequencies for each operation and event
 - > Measurement of duration for each operation
- => Simulation to calculate workload for each actor in the supply chain of blood derivatives**

PROCEDURES



Supply Chain Optimisation

Pilot Study

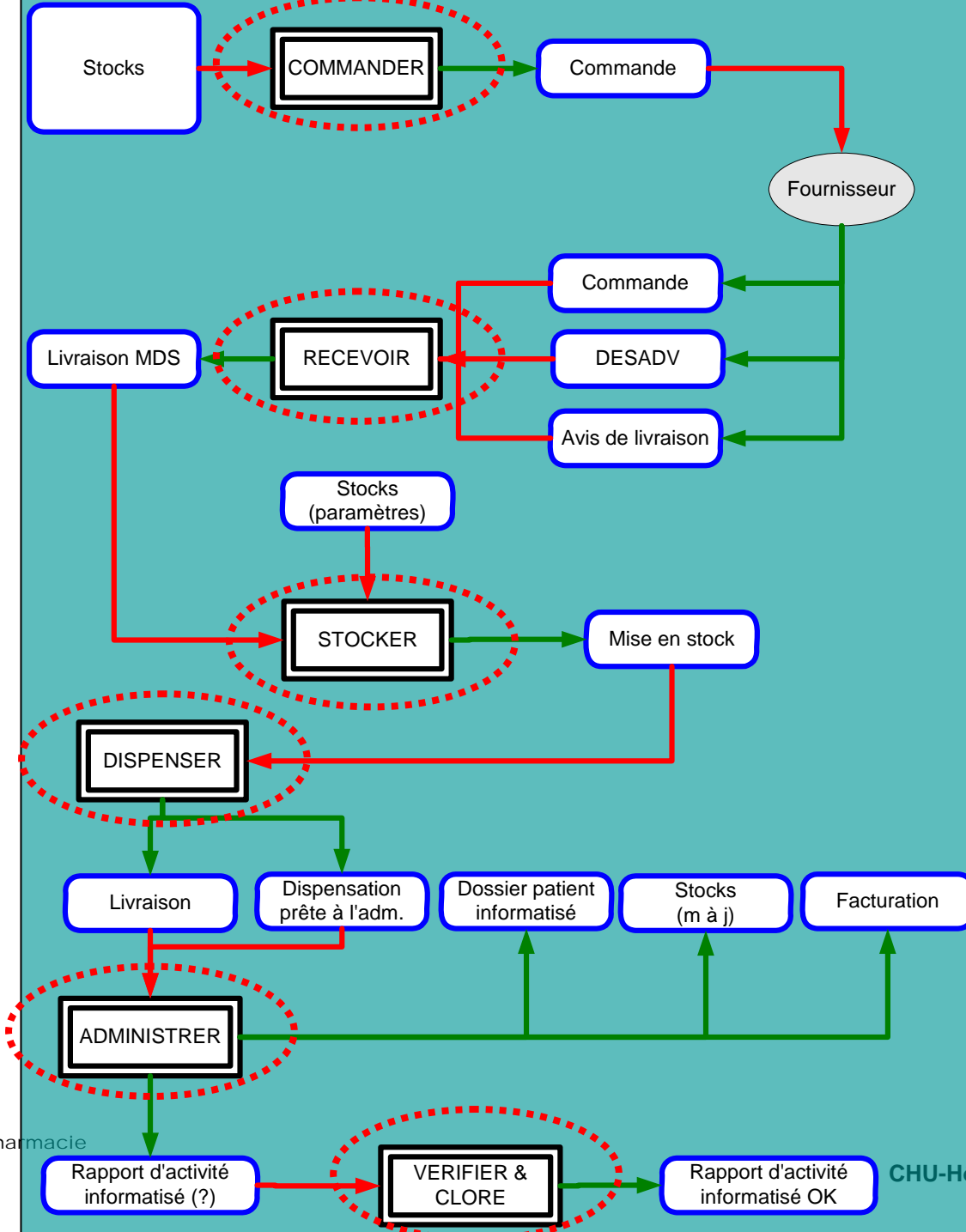
- Second Step of the study

Modelisation of targeted Supply Chain including :

- > Serialisation processed by the Hospital
- > “tool box” as listed before

=> New measurements and simulation

PROCEDURES



Supply Chain Optimisation Pilot Study

- **Qualitative Results**

- > Security Enhancement of SC, to eliminate errors (manual data capture) ($\approx 1\%$ a year)
- > Enhancement of stock management and procurement (accuracy, automatic replenishment)
- > Automatic processes for traceability (recalls !)
- > Human resources optimisation (for the benefit of the patient !)

Supply Chain Optimisation Pilot Study

- Quantitative Results

	Today's SC (tasks/year)	Today's (hours/ week)	Future's SC (tasks/year)	Future's (hours/ week)
All Technicians	43661	68 ½	9217	17 ½
Nurses	7687	22 ¾	8580	14
Pharmacists	3386	9 ¼	2460	4 ¼

Conclusion

- Use of logistics tools
 - Re-engineering (processes made simpler)
 - New allocation of tasks (benefit +++ for nurses and doctors)
- Analysis of a limited domain
 - Extrapolation to other product groups
 - Enabling real traceability (paperless)
 - Impact of serialisation by manufacturer
- Costs and feasibility ?

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