



*Automation and Traceability Pilot
in Public Health System,
Early Results, Regulation and
Next Steps*

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AGENDA

1. Before and After the Pilot
2. National Healthcare Products Catalog
3. Difficulties and main Issues for the project
4. Local Manufacturers and Distributors Working Team Priorities
5. Next Steps and Further developments





Why it's important to begin now
for the public health in chile?

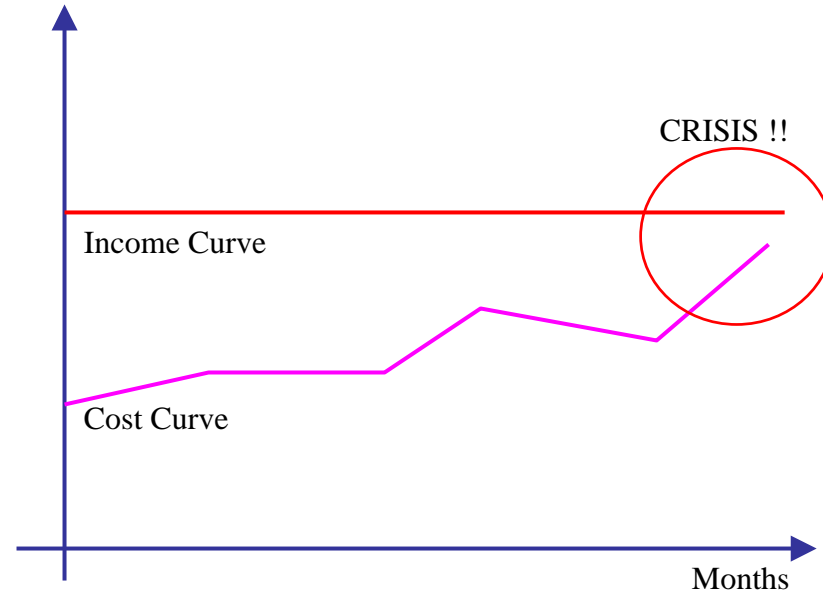
Some Current Numbers

- ↪ The Government Spending Budget and Pharmaceuticals was increased 100%, from 37M US\$ to 74M US\$. 25% of this expenses was recognized to not know where it finish.
- ↪ Common Inventory Visibility in Public Hospitals are around 70% or less (in front of 98% in retail), with annual budget near to 2M US\$ in pharmaceuticals spending.
- ↪ Traceability it's something that don't exist, in a concrete and solid way.
- ↪ Estimates from Cenabast (Public Healthcare Distribution Center) talk about 400.000 US\$ lost annually due product expiration and weak control of it. Public Hospitals also reports big numbers associated with this subject.

Auge Plan

- The system will guarantee some aspects:
 - Average Price for Intervention Predefined
 - Opportunity, maximum time frame to be treated
 - Access, to all the population segments
 - Quality, Type of products, and Controls
 - 25 Diseases Initially and 52 Diseases on 2007
 - Account Transparency for the Patient

- What means this new Plan:
 - Very good process efficiency
 - Strong Cost Control and Tracking is the Key to be Profitable
 - Automation and technology where it's needed
 - Capacity to make comparisons between different Hospitals
 - Increase of 50% un Pharmaceuticals and Devices Budget





Two Working Teams

Standard Classifying Team

- To Define and Implement a Unique Standard Classification Scheme for the Health Public Sector in Chile
- 10 p

Bar Codes Team

- To Implement the Standard EAN.UCC System in the Health Sector, inside the Companies working in the Piloto Effort.
- To standarize the Product Code scheme along the Supply Chain
- 30 p



Companies Involved

Minsal

Health Minister Representative



*Public Health Institute
Regulatory Body*



*Public Social Security
Organization*



*Chilean Buying Portal
Central for all Government Agencies*

Public Health System

- *Hospital San Borja Arriarán (600 beds)*
- *Instituto del Cancer (350 beds)*
- *Hospital San Juan de Dios (650 beds)*
- *Hospital Roberto del Río (540 beds)*
- *Hospital Las Higueras, Talcahuano (410 beds)*

Industry Support

Novofarma Dist Center (21% Market Share)

GRÜNENTHAL., BOEHRINGER INGELHEIM, BAGO S.A. (Argentino), PFIZER, ANDROMACO, ASTRAZENECA, LUMDBEK, NOVONODISK, J&J (Consumables Line)

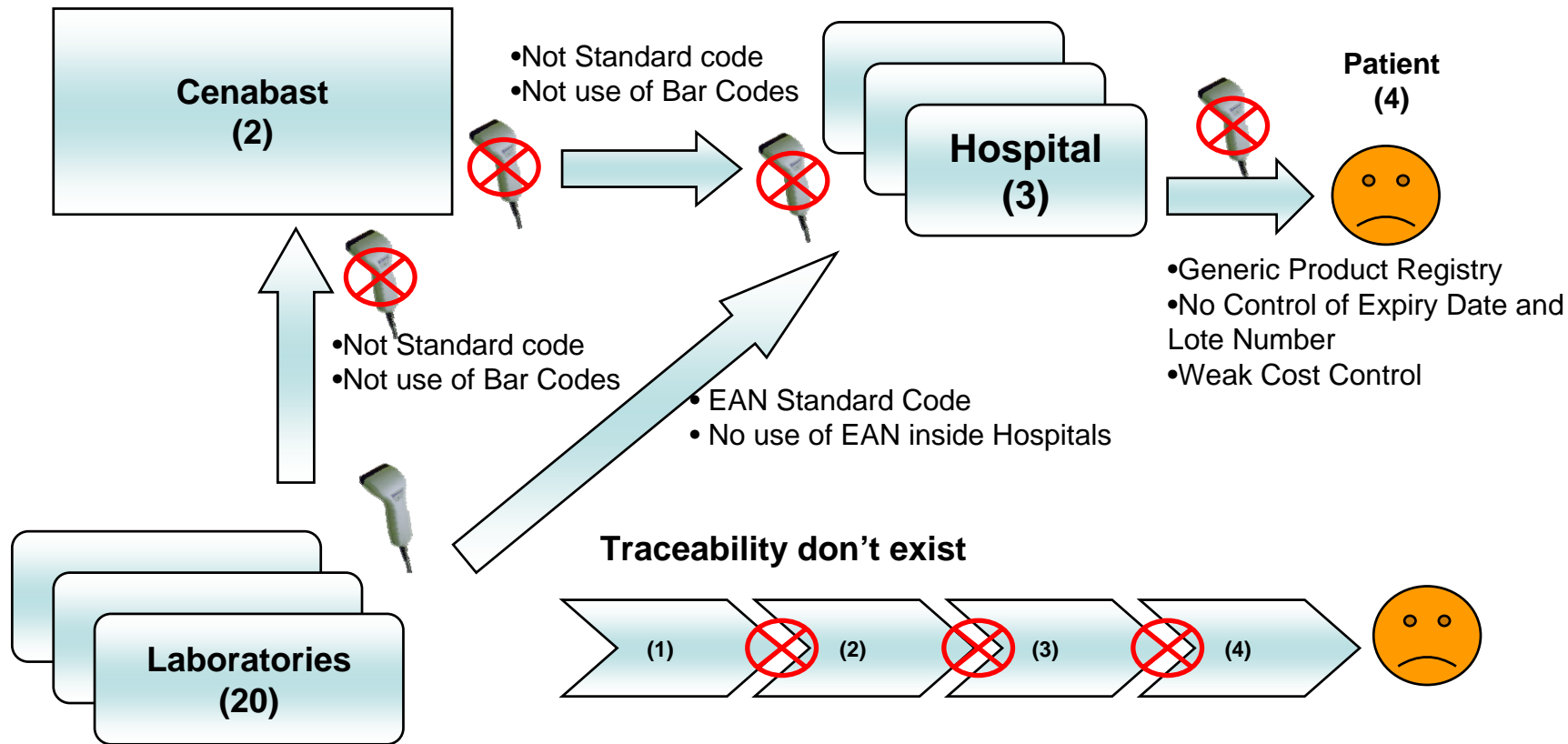
BayService Dist Center

Alcon, Bristol-Myers Squibb, Pentafarma (Fresenius, Alemania), Organon, Schering Plough, Wyeth, Bayer



Before and After the Pilot

Pilot Status, 12 Months Before





Label over EAN-128
Code

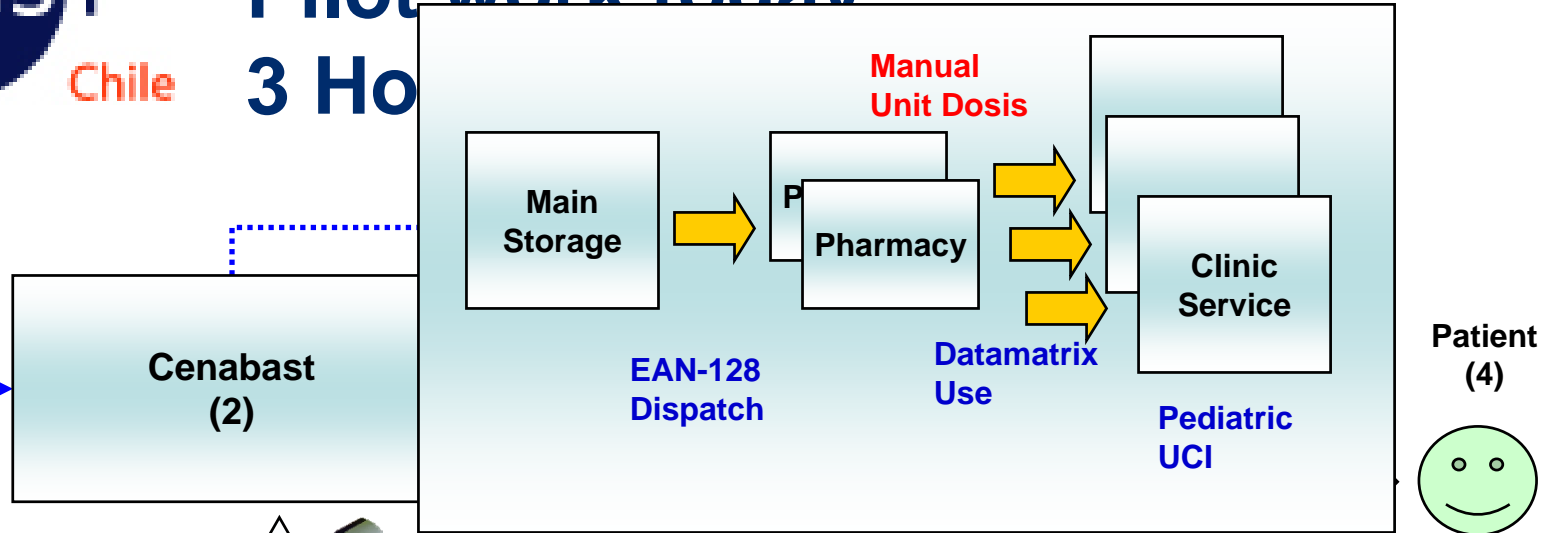
Unit Dose Internal Process





Chile

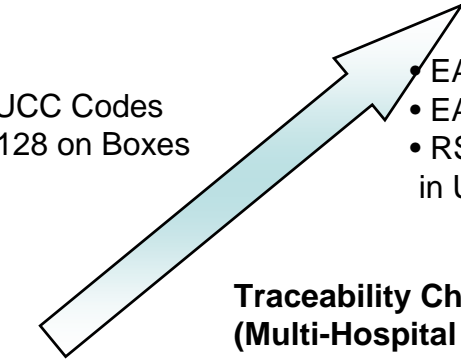
Pilot work today



Cenabast (2)

EDI Dispatch advice

- EAN.UCC Codes
- EAN-128 on Boxes

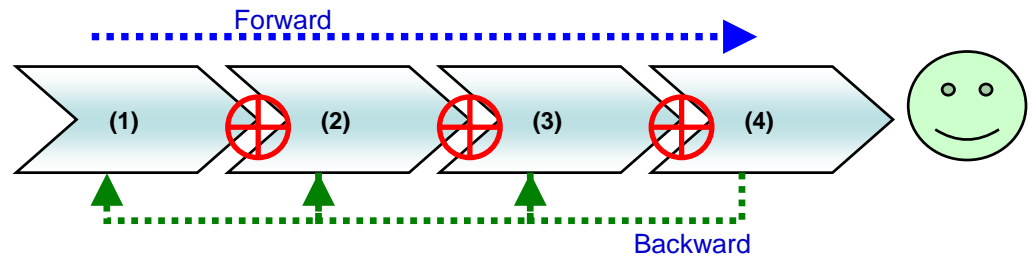


- EAN Standard Code
- EAN-128 on Boxes
- RSS/CS ó Datamatrix in Unit Dose

- Exact Product Registry
- Lote and Expiry Date Control along logistic chain
- Cost Control by unit, not generic

Laboratories (1)

Traceability Chain Integrated (Track and Trace) (Multi-Hospital Model)



EAN-128 Coded Boxes from Cenabast



TRAZA DE PRODUCTO EAN

CODIGO DE PRODUCTO : 7800007268839
 DESCRIPCION DE PRODUCTO : CEFazollina
 LABORATORIO/PROVEEDOR : LAB.CHILE S.A.
 PRESENTACION : CANASTO

MOVIMIENTO TIPO	FECHA	NUMERO	PRODUCTO		ENTRADA	SALIDA		
			LOTE/SERIE	F. VENCIM.	ORIGEN	CANTIDAD	DESTINO	CANTIDAD
Recepcion de Proveedores	21/04/2006	512	CE000001	15/11/2007	BESTPHARMA	100	0	
Salida por Devolucion a Prove	21/04/2006	95	CE000001	15/11/2007		0	100	
Recepcion de Proveedores	21/04/2006	513	CE000001	15/11/2007	CHILE	100	0	
Salida por Transferencia	21/04/2006	587	CE000001	15/11/2007		0	Bodega Farmacia 0	
Recepcion de Proveedores	21/04/2006	514	CE000001	15/11/2007	BESTPHARMA	10	0	
Salida por Devolucion a Prove	21/04/2006	96	CE000001	15/11/2007		0	10	
Recepcion de Proveedores	21/04/2006	515	CE000001	15/11/2007	CHILE	10	0	
Recepcion de Proveedores	21/04/2006	516	CE000001	15/11/2007	LABORATORIO ANDROMF	10	0	
Salida por Transferencia	21/04/2006	589	CE000001	15/11/2007		0	Bodega Farmacia 10	
Recepcion por Transferencia	21/04/2006	251	CE000001	15/11/2007	Bodega Farmacos Hospita	10	0	
Salida por Transferencia	21/04/2006	590	CE000001	15/11/2007		0	Bodega Farmacos Hospita 2	
Recepcion por Transferencia	21/04/2006	252	CE000001	15/11/2007	Bodega U.C.I. Pediatrica	2	0	
Administracion a Paciente	21/04/2006	99,999,120	CE000001	15/11/2007		0	ARANA BENITEZ CLAUDIA 1	
TOTAL ENTRADA						242	TOTAL SALIDA	123

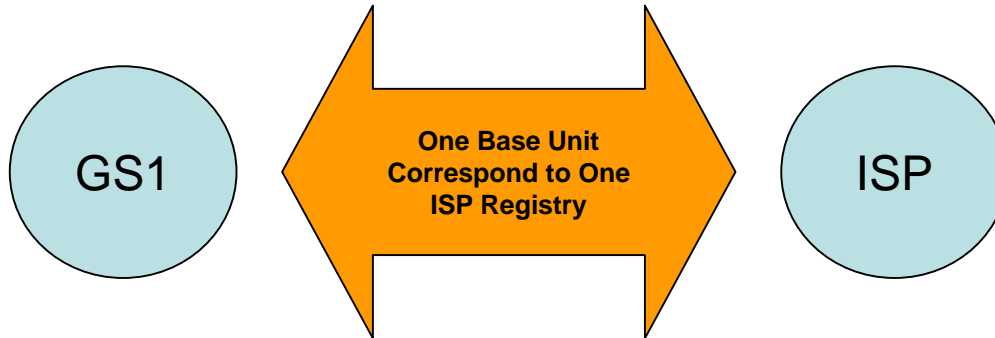
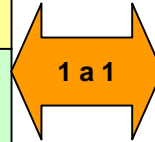
Complete Traceability to the bed !!



Centralized Catalog of Health Products

National Unique Catalog for Health Products

MANY PACKING correspond to one BASEUNIT		ONE ISP REGISTRY it's composed of many Active Ingredients		
EAN.UCC Containers Codes - Boxes and Pallets	EAN.UCC Codes - Base Unit	ISP Registry Code	UNSPCS Classif Chilecompra	ATC Classif Active Ingredients
18.500 Packing Units Catalogued	13.000 Base Units Catalogued	13.000 ISP Registries		22.000 Active Ingredients





Sample of a Finding in the Catalog, EAN > 7800004251247

7800004251247 = Code Find in the Catalog

Clinic Table (ISP Responsibility)

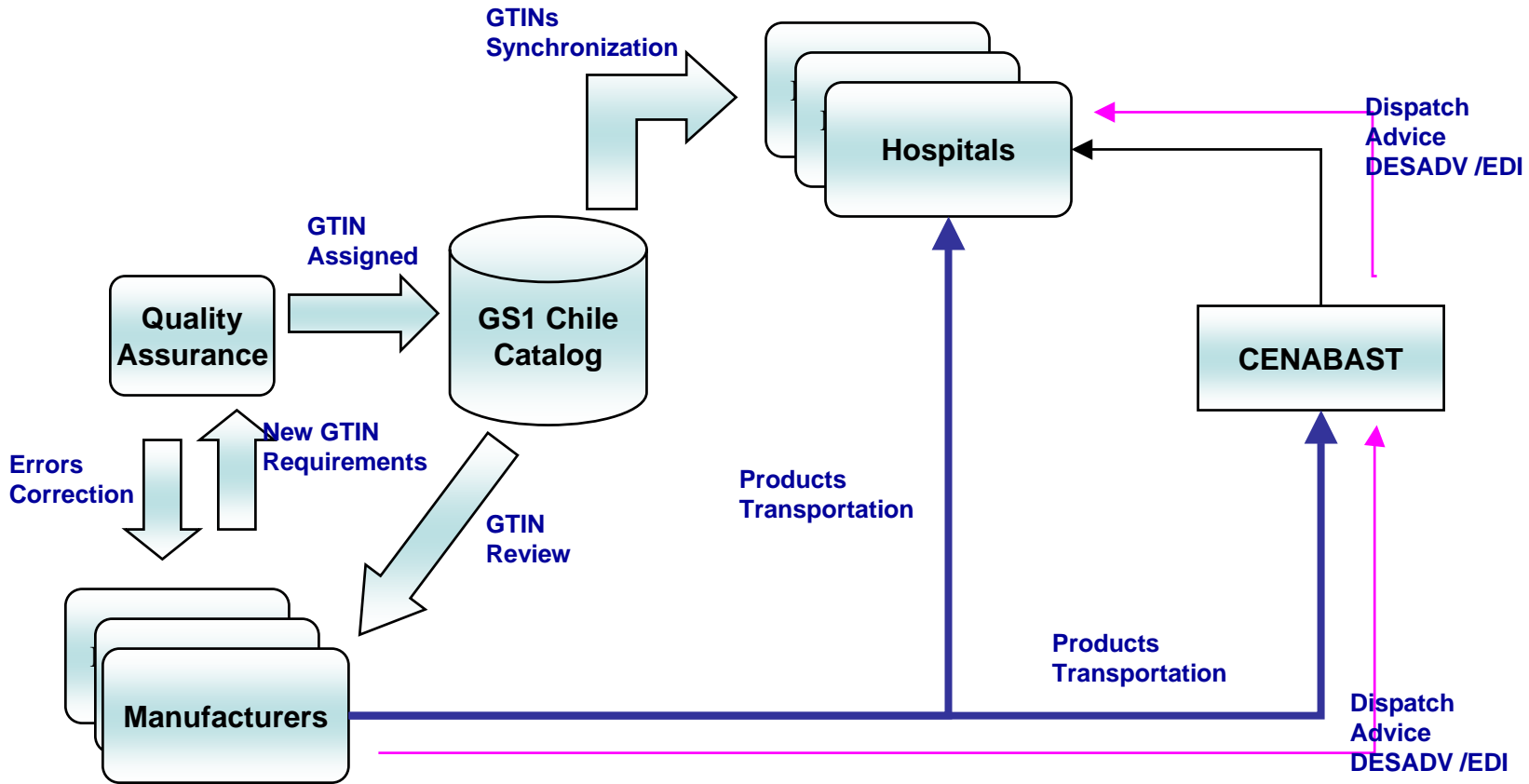
REGISP	CUNIDAD	RUT_TITULA	RAZON_SOC	NOMBRE_PRO	NOMBRE_PRI	INN	ATC	ONU	DDD	Total Attrib
F-10427/01	7800004251247	92.121.000-0	LABORATORIO MAVER LTDA.	DOLORUB CREMA TOPICA 5%	IBUPROFENO	IBUPROFENO	M01AE01	51142100	1,2 G ORAL	15

Logistic Table (GS1 Chile, Responsibility)

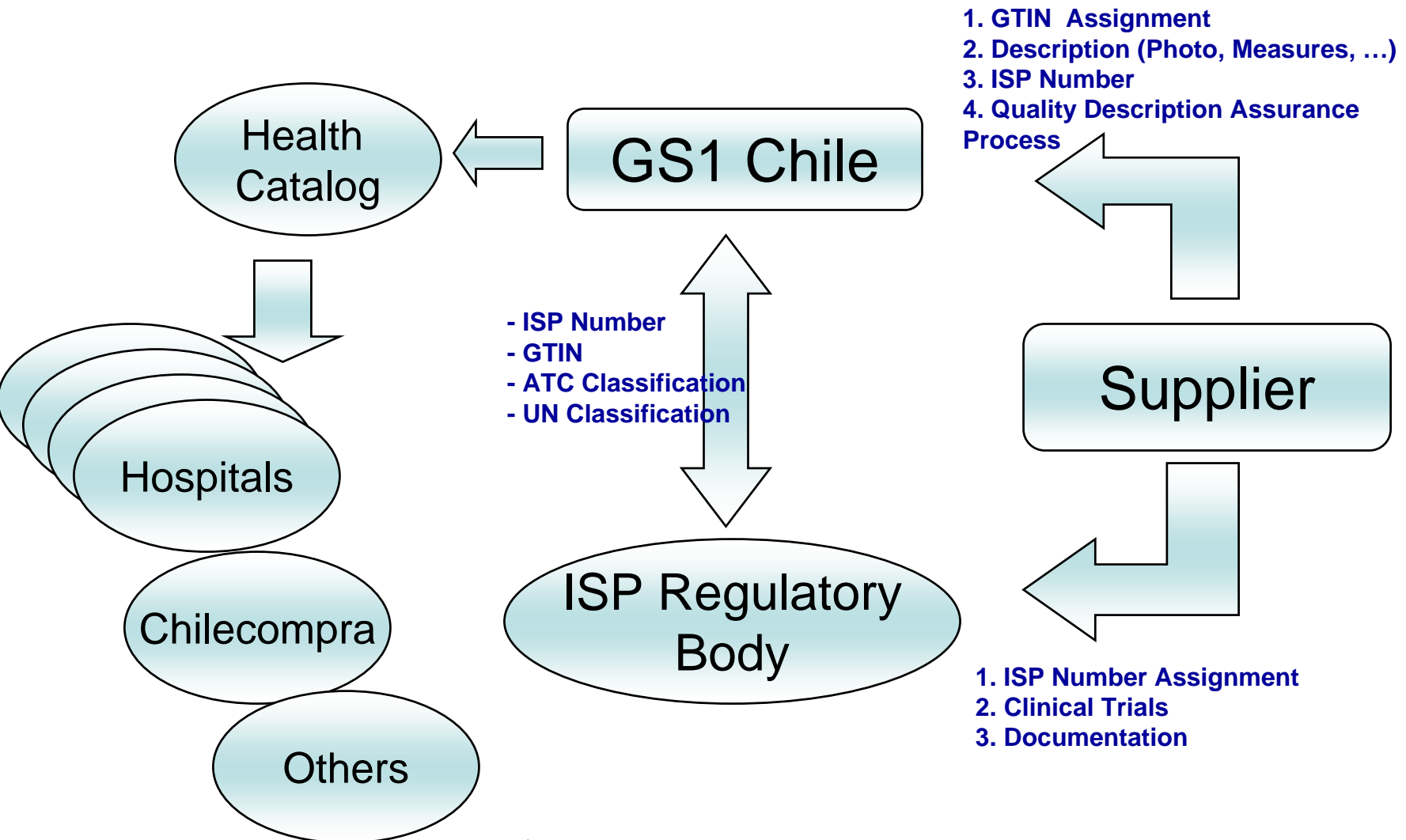
REGISP	CUNIDAD	TIPCOD	CODCONTEN	CANTCONT	DENVASE	DESCRIP	PROMOCIONA	PROCEDE	TIPO_UNI	Total Attrib
F-10427/01	7800004251247	EAN-13			0 ESTUCHE	DOLORUB CREMA IBUPROFENO AL 5% ANTIINFLA	NORMAL	N	B	37
F-10427/01	27800004251241	DUN-14	7800004251247		15 CAJA	DOLORUB CREMA IBUPROFENO AL 5% ANTIINFLA	NORMAL	N	E	
F-10427/01	37800004251248	DUN-14	7800004251247		14 CAJA	DOLORUB CREMA IBUPROFENO AL 5% ANTIINFLA	NORMAL	N	E	



GS1 Chile Support Operation PHASE 1



New Product Introduction Process





Status Summary of the Project

Some KPIs

INVESTMENT TO DATE

- ↪ US\$ 450.000.-, for all the participants

CENABAST DIST CENTER

- ↪ Truck waiting and unload time from 4 hours to 1 hour
- ↪ People involved in reception from 4 persons to 1 person
- ↪ Lote and Expiry Date Coded and Automatic Capture
- ↪ Change of Stocks Management Policie to FEFO, guaranteed

CANCER INSTITUTE HOSPITAL

- ↪ Saving of 30% in woking time for Storage and Pharmacy personel
- ↪ Faster Truck unload time
- ↪ Detection of Early Product Expiration
- ↪ Guaranteed FEFO policie in Patient Prescription (on the Bed Side)

And we are getting more



Summary and Conclusions

PHASE 1:

- Code of Boxes and Units Base
- Code of Number of Lot and Date of Expiration in the packing
- Use of EAN-128, DUN-14, EAN-13 + 2D
- Electronic Message of Dispatch/Reception Advice

NOVEMBER 2005

PHASE 2 (According Industry Working Group)

- Code of Unidosis or dose of administration to the patient
- Use of RSS+ Composite

DECEMBER 2007, IT'S A MUST

*For Health Authorities, Unit Dose solution
it's an Industry Solution, not a Hospital
Process....*



Status at the beginning

- Bad data quality and alignment in laboratories master files
- Not use of expiry date and lote coded, specially from Local Manufacturers.
- Not use in the public health logistic channel of codes coming from manufacturers, and re-labeling of products
- Traceability line broken, in terms of lote and expiry date pass along the distribution channel.
- No logistic EDI electronic messages in use
- Manual registry and process of products in public health distribution center and hospitals
- Different product identification and classification in each public hospital
- Generic Product Cost Control associated with Patient Bill and Registry Controls



After Ten Months of Team Working Starting Pilot Phase

- Data Quality assurance process with 80 Laboratories master files
- Implementation manual sponsored by Public Health Minister recommending EAN-128/RSS on all cases and unit-dosis
- ReLabeling it's out !, all product identification must come directly from manufacturers using GS1 standards
- Use of EAN-128 and RSS/CS to pass Lote and Expire Date across the logistic channel
- Use of EDI Dispatch Advice to automate receptions and information flow
- Barcode Technology Implementation in Three Hospitals and Central Distribution Center, to automate the product information capture and registry.
- Unique Catalog and Classification for the Country sponsored by local regulatory authorities
- Unique Product Cost Control associated with Patient Bill and Registry Controls using EAN codes.



**Local Manufacturers
Working Group
(LHUG ?)**

Participants

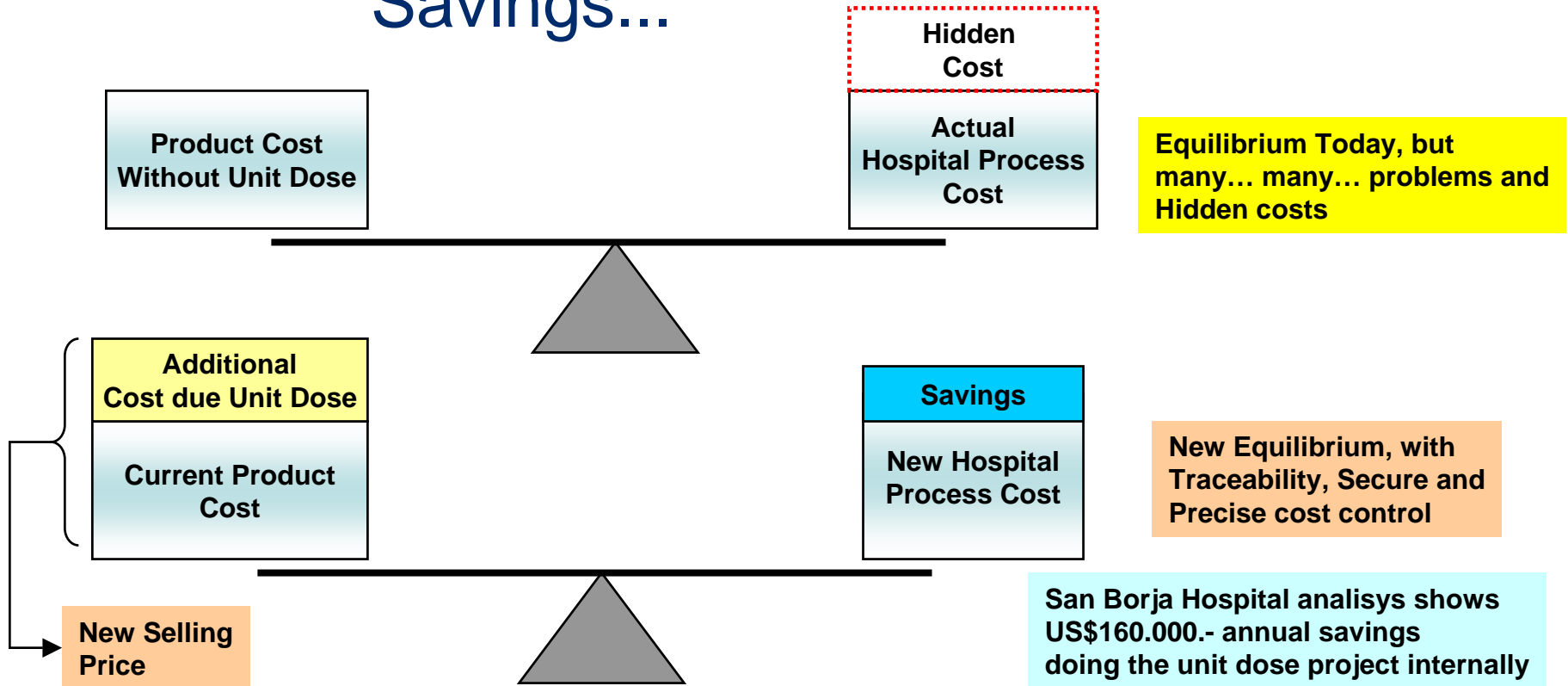
#	Manufacturer	Represented by
1	3M Chile S.A.	Direct
2	Abbot Laboratories de Chile Ltda.	Direct
3	Alcon	BayService
4	ANDROMACO	Novofarma
5	ASTRAZENECA	Novofarma
6	Aventis Pasteur S.A.	Direct
7	BAGO S.A. (Argentino)	Novofarma
8	Bayer	BayService
9	Bayer S.A.	Direct
10	Becton Dickinson de Chile	Direct
11	Bestpharma S.A.	Direct
12	Blumos S.A.	Direct
13	BOEHRINGER INGELHEIM	Novofarma
14	Bristol-Myers Squibb	BayService
15	Comercial Kendall Chile Ltda.	Direct
16	GRÜNENTHAL	Novofarma
17	Hospira Chile Limitada	Direct
18	Instituto Farmaceutico Labomed	Direct
19	J&J (Consumable Line)	Novofarma

#	Manufacturer	Represented by
20	Laboratorio Chile	Direct
21	Laboratorio Merck Sharp & Dohme	Direct
22	Laboratorios Recalcine S.A.	Direct
23	LUMDBEK	Novofarma
24	NOVONODISK	Novofarma
25	Organon	BayService
26	Pentafarma (Fresenius, Alemania)	BayService
27	PFIZER	Novofarma
28	Pharma Investi	Direct
29	Ppd International Holdins Inc. Y Cia. Ltda.	Direct
30	Royal Pharma	Direct
31	Schering Plough	BayService
32	Tecnigen S.A.	Direct
33	Tecnofarma S.A.	Direct
34	Wyeth	BayService

Agreements and Next Steps

- ↪ PHASE-1 Implementation push
 - ↪ Identify GAPS in the Logistic for each player
 - ↪ Formalize Agreement with all the Players
 - ↪ Add the Private Hospitals Sector to the Initiative
- ↪ Evaluate Feasibility to Unit Dose
 - ↪ International Industry Directions (HUG, FDA, etc)
 - ↪ Government Policies and Regulation Needed to support it
 - ↪ Economic Model to explain Hospitals and User about Benefits and Cost (Business Case), and also authorities to bring rationale to discussion
- ↪ Educate the Industry about standards and international agreements about it
- ↪ To form a Working Steering Comitee, to align relevant players

Balance Analysis Between Unit Dose Cost and Health System Savings...

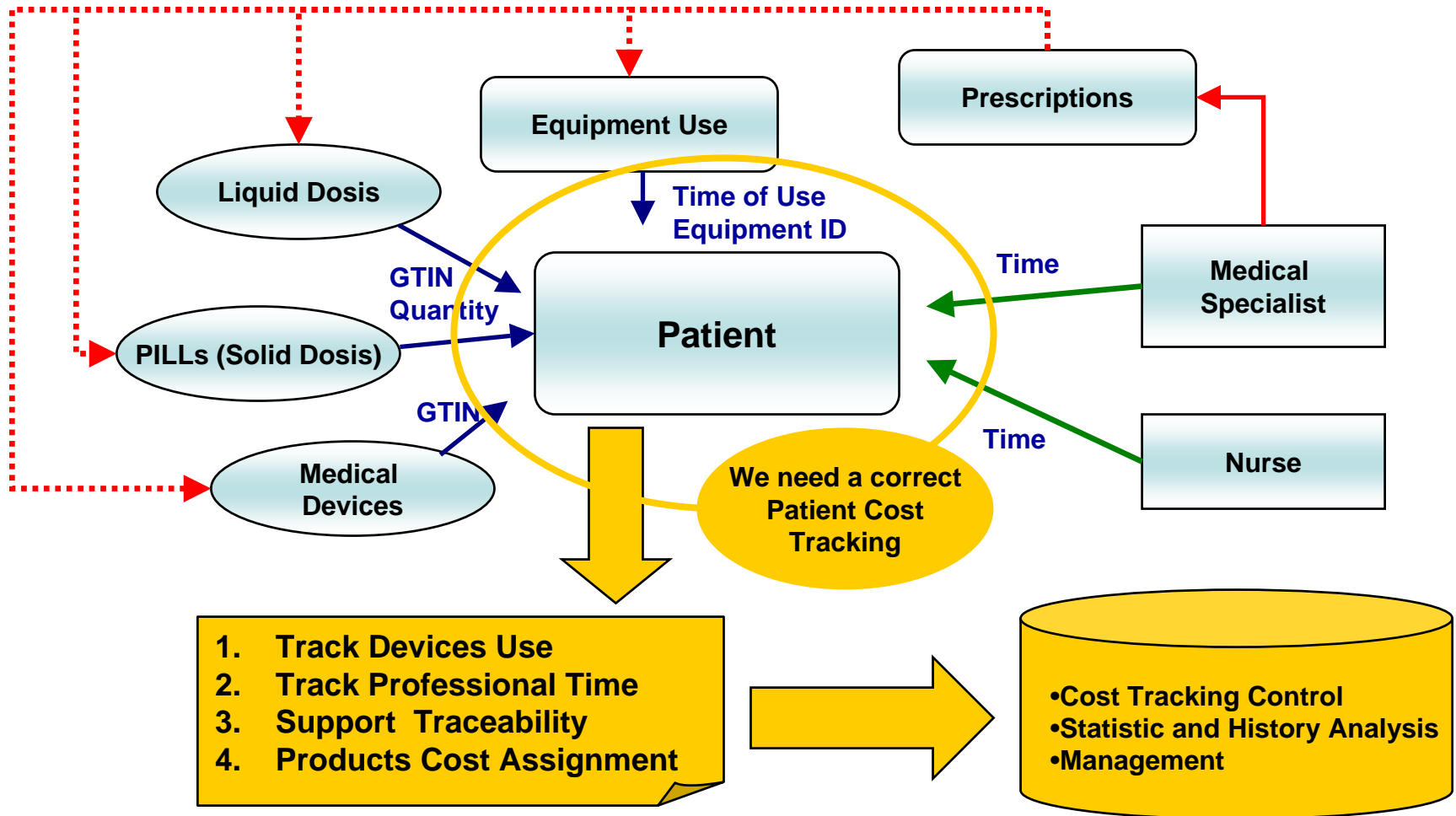


We need to find it !!! (quickly !)



Difficulties and New Innitiatives

It's not enough to have unit dose



New Initiatives

- ↪ HAND HELD, Generic Application to Control the process around the Patient Bed, with generic interfaces to hospital systems
 - ↪ Based on CASE MIX Methodology (Medical)
 - ↪ International Disease and Risk Classification
 - ↪ GS1 Identification Standards
- ↪ Health Consumibles and Devices Products
 - ↪ ISP - GS1 working group to add this area to the national catalog
- ↪ World Bank Fund oriented to Medium and Small Hospital
 - ↪ e.Procurement Platform
 - ↪ Logistic Automation and Traceability
 - ↪ Unit Dosis Pilot Facility

Difficulties....

- In the beginning, no one knows about GS1 Standards. Specially Hospitals and Health Personnel
- Hospitals are not so aware for their own process and cost
- The support in the implementation phases to hospitals need to be closely
- We found many problems in the Master Files of Laboratories, when customers started to use it directly.
- It's a good idea to start Visiting Manufacturers Facilities to Assess the Real Challenge for them, to PHASE 1 and PHASE 2, from the beginning
- *If you don't have an Industry over 90% ready on GS1 standards and a Centralized Catalog Ready, forget about and initiative like this.*



**What we need from the HUG
Participants !!!**



HUG Support

1. Help to Solve PHASE 1 Challenges
 1. Printing Solutions in Production Line
 2. Solutions Suppliers Tested by HUG Participants
2. Directions to Unit Dose
 1. A Clear Path to the Future about Datamatrix use and EPC/RFID tags timing
 2. Find the new equilibrium model
3. Chilean Subsidiaries Support and Direction
 1. Communicate HUG activities and Direction to your Distribution Channels
 2. Push them to support local initiatives aligned with global product strategies

THANK YOU
FOR YOUR ATTENTION !!