

# Safer Services for Patients Innovative Traceability Solutions at Children's Health Ireland at Temple Street

Sinead Moran, Special Feeds Unit Manager  
Jennifer Doyle, Clinical Informatics Manager

Sláinte Leanaí Éireann



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CHI Corporate | Crumlin | Temple Street | Tallaght | Connolly







THE CHILDRENS HOSPITAL

Children's Hospital

No Parking

Blue Badge

# Special Feeds Unit – The Feeds

Based on prescription from Dietitians



A) Ready to pour feeds



B) Prepared feeds - basic to complex feeds



**Essential that each patient is given the right feed**

**Traceability is key to ensure visibility**

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# Special Feeds Unit Paper Based Traceability



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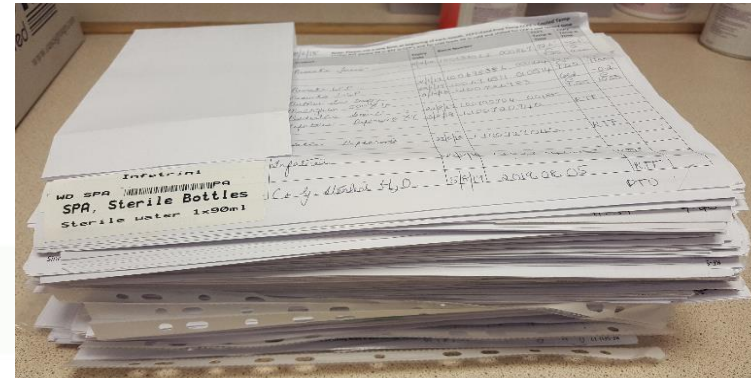
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# Daily Patient Feeds - Paper Based Traceability

- ▶ Multiple Paper Sources
- ▶ Manual Workflows
- ▶ Transcription Errors
- ▶ Lack of Integrated Product Management
- ▶ Duplication of Tasks
- ▶ Visibility of Workload



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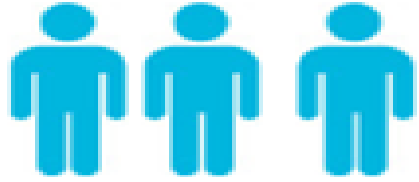
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# Product Recalls- Paper Based Traceability



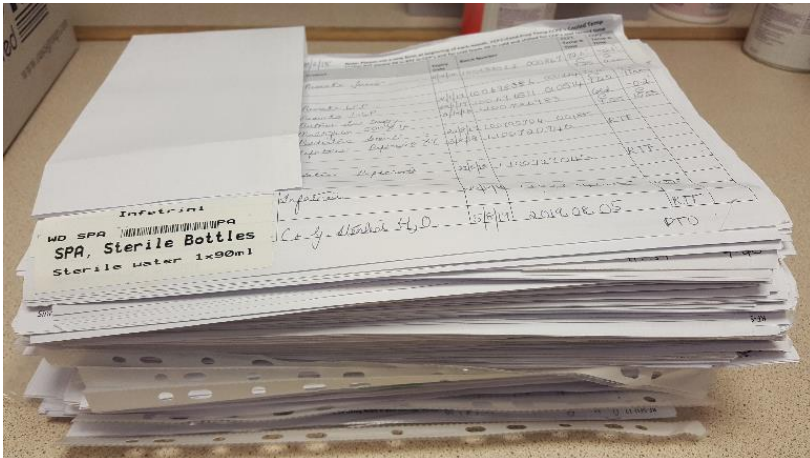
6 months of records  
up to 16 lines per page



= 30 Hours

Batch number recorded manually recorded on 2 forms

- ▶ Feed Preparation Form
- ▶ Delivery Form



Name: Julian Brown Date: 14/9/18 Note: Please use a new form at beginning of each month. CCP1=Feed Prep Temp CCP2 = Cooled Temp  
\*\*\*For RTF please fill in RTF in CCP's and for cold feeds fill in cold and chilled for CCP's and record time

Patient Sticker	Product	Expiry Date	Batch Number	CCP1 Temp & Time	CCP2 Temp & Time
1	Nutrasin 500 ml <sup>x3</sup>	02/05/19	L100766297	15.4	10.4M
	Nutrasin Energy	25/05/19	L100772851	15.4	10.4M
	locasol	18/04/20	0137112518	8.36	10.4M
	locabel	28/03/19	L101076474	4.26	10.4M
	Exphylase	18/02/20	8059.4282.00		
	Renastart	08/19	876113	8.48	10.00
	Simlac	11/18	23386NR		
	child gone home	03/19	87623 NR		
	SMA PRO 1 <sup>st</sup> infant milk	24/05/20	8147080622	9.27M	10.58
				7.17	00

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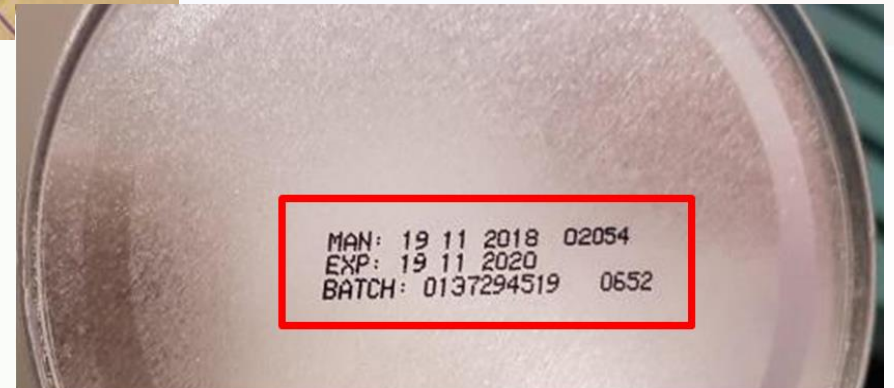
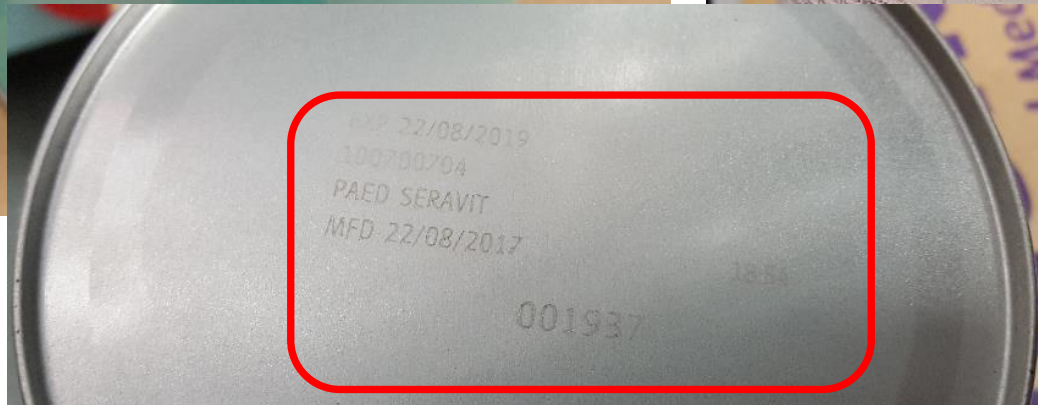
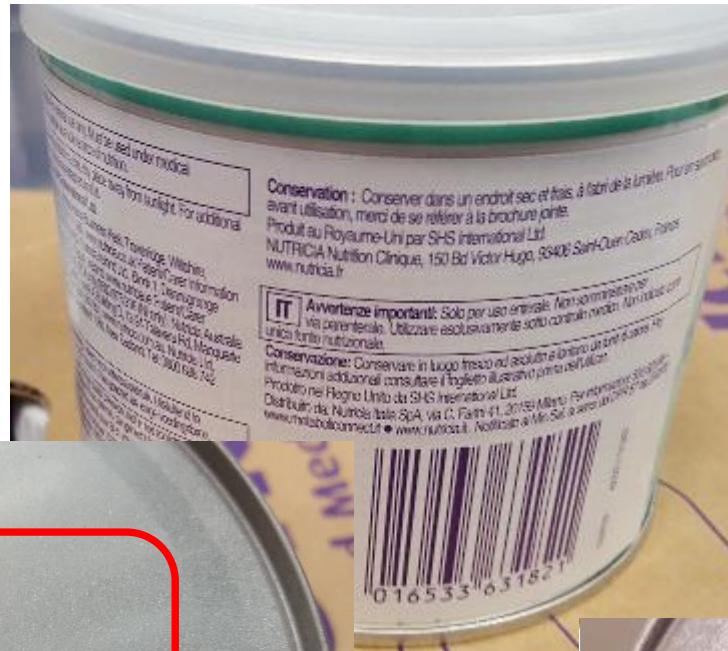
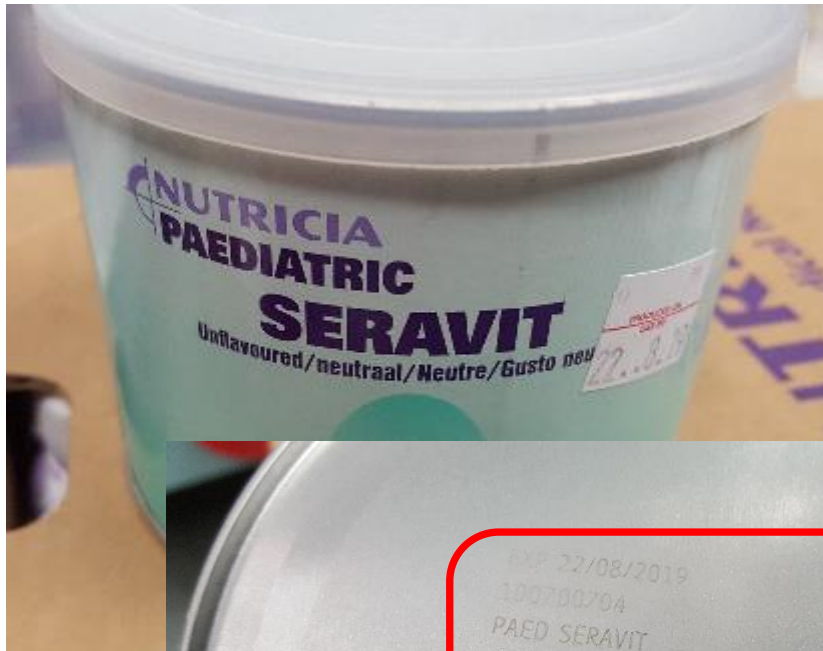
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# Product Recalls- Paper Based Traceability

## Step 2 : Find the products – can you see the batch number?



- ▶ Staff have to guess the batch number
- ▶ No barcode – batch recorded on paper (multiple times)
- ▶ Batch recall - Difficult and time consuming

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# The Challenge Electronic Traceability

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# Aims & Objectives

Patient Centred Care

Reduces Repeat Tasks

Effective Management  
of Product Recalls

Reportable Outputs

Accurate & Timely  
Decision Making

Effective  
Communication

Standards Based

Facilitates Transparency

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# Special Feeds Unit implementing electronic traceability



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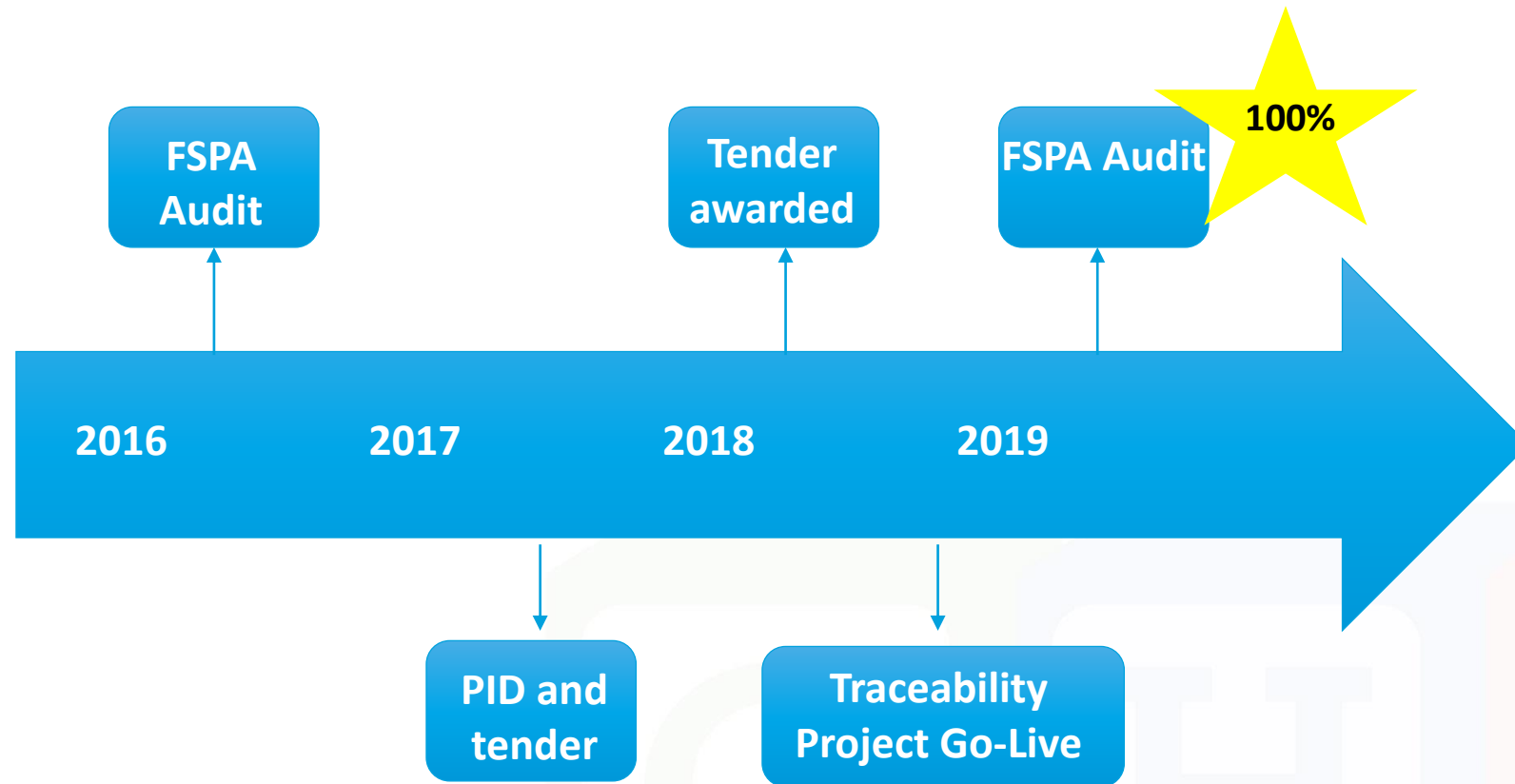
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# Timeline to implement electronic traceability



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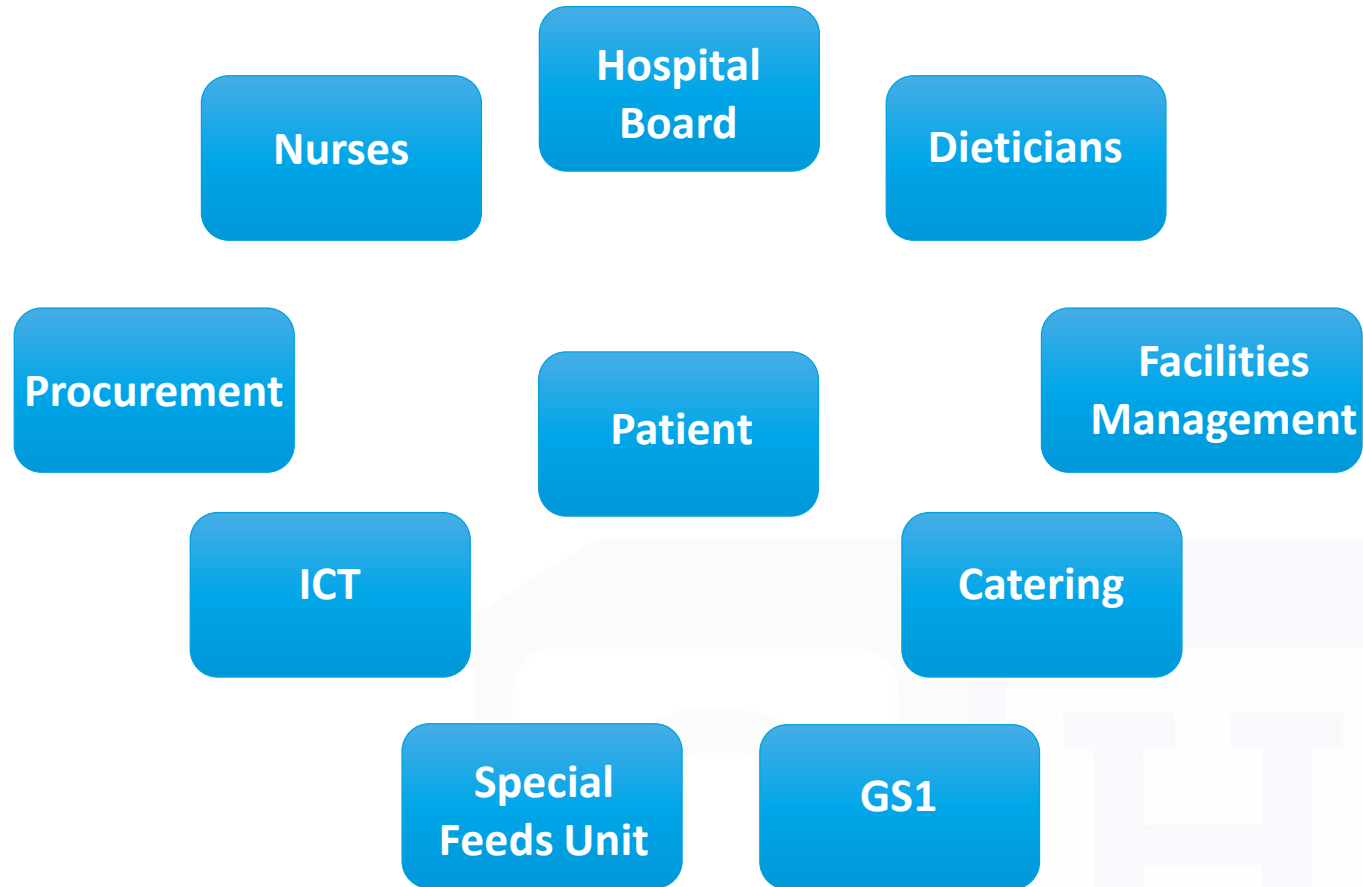
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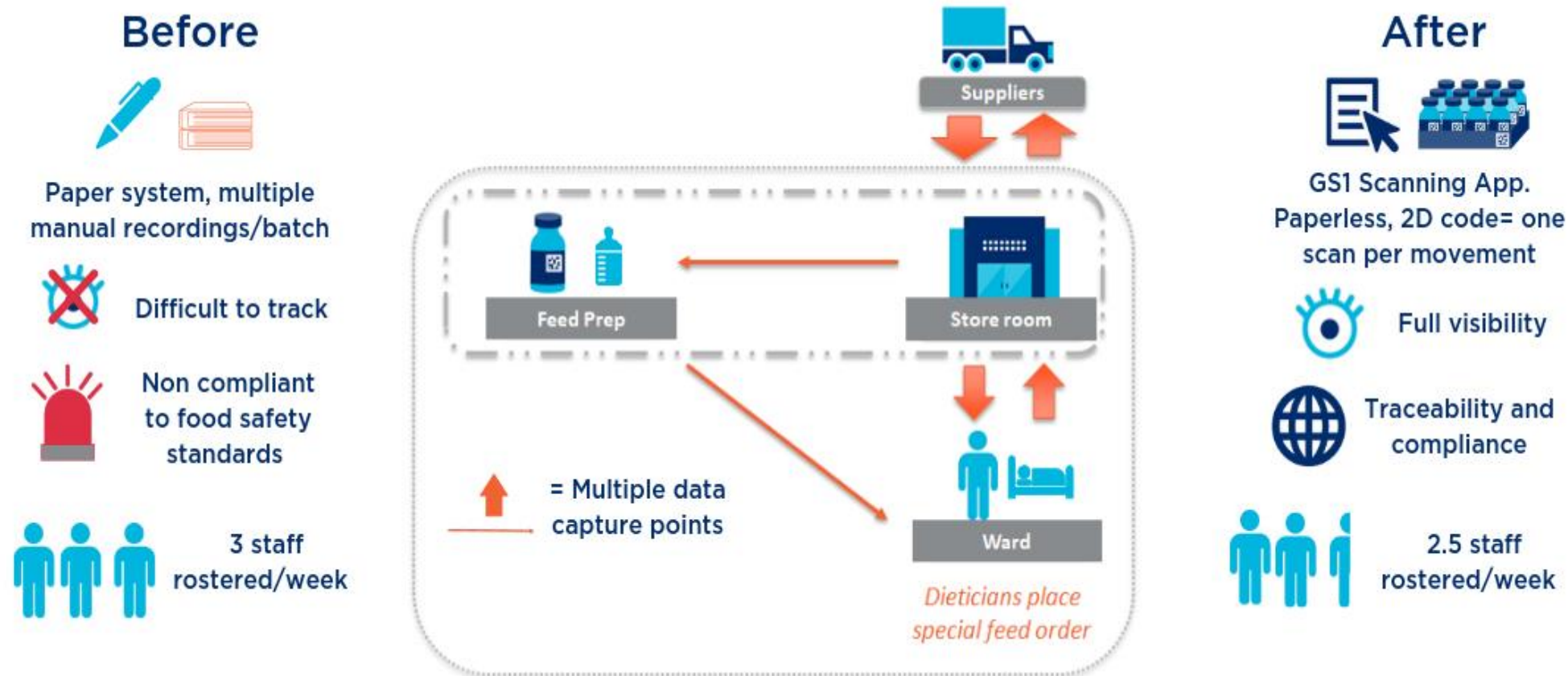
# The key stakeholders for electronic traceability

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# Electronic Traceability – the new process



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# Barcode identification is key to electronic traceability

## Person

GSRN



Staff ID cards with unique barcode number for recording product movements

## Product

GTIN



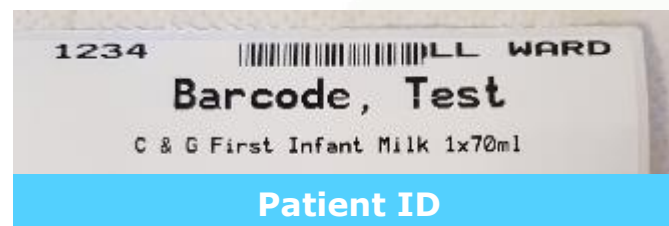
The hospital's standards Compliant serialised traceability labels

## Place

GLN



Standards compliant barcodes for every dispatch location



*Not GS1 compliant yet*

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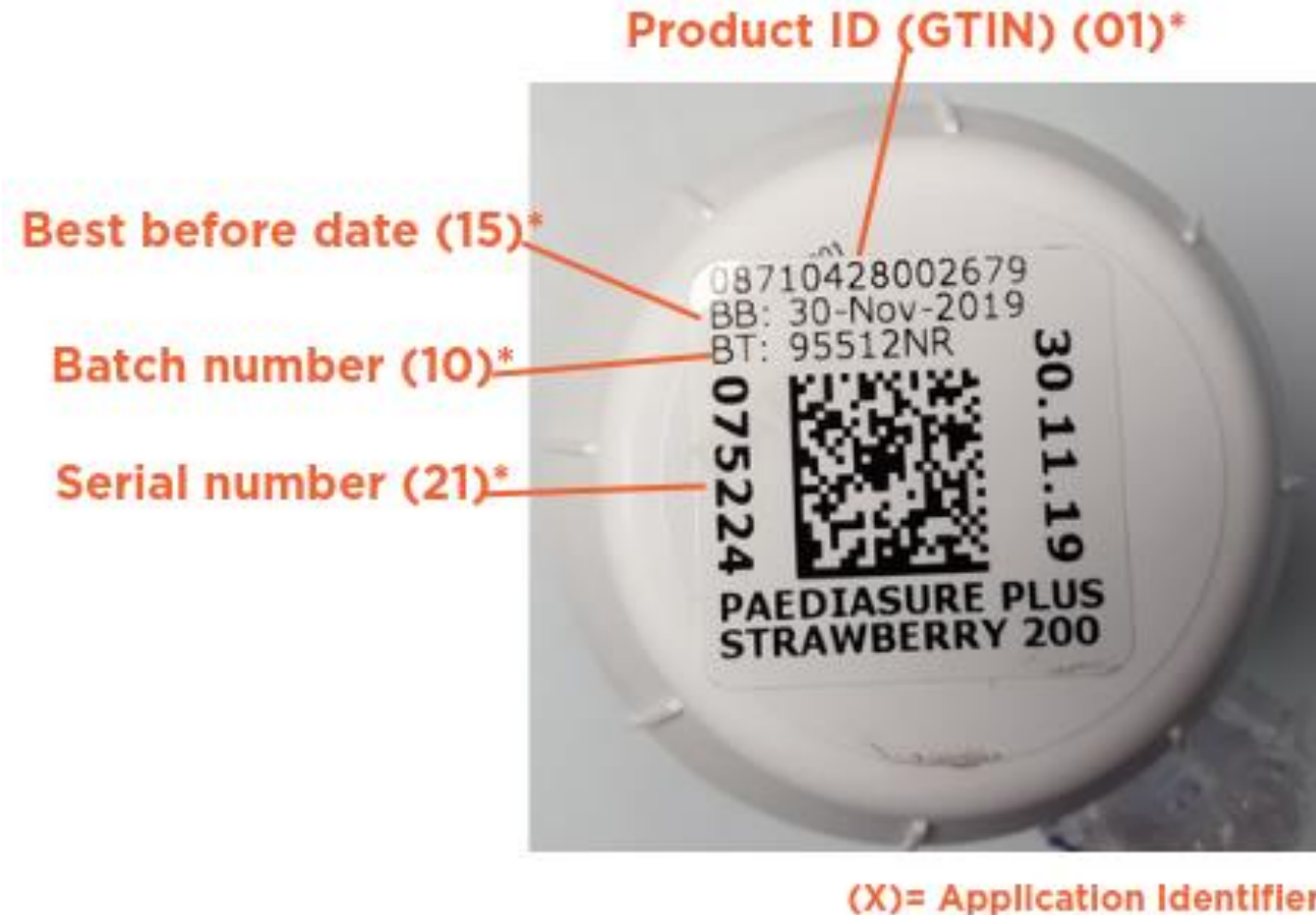
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# All products labelled with Serialised 2D barcode



*\*Titles are abbreviated or missing due to label size being limited and not to obscure any text on original product label*

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# Traceability at Children's Health Ireland at Temple Street

New touch screen PCs and software solution installed in key locations



Electronic product catalogue created of all products managed by the SFU

Barcoded outer cases with traceability data recorded at Goods Inwards



Unique 2D barcode with traceability data and serial number applied to every unit of product



Every unit of feed identified, labelled and traceable.

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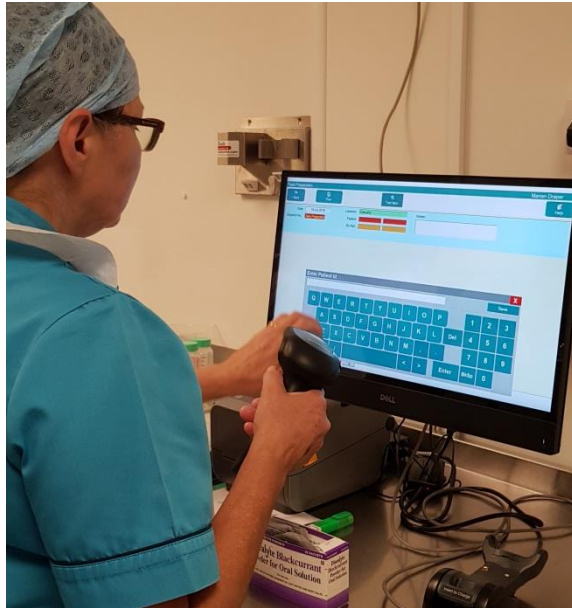


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# Requirements for the project



## Hardware:

- ▶ 6 Touchscreen Pcs
- ▶ 8 Scanners (camera based 2D)
- ▶ 3 Wireless printers
- ▶ Labels (suitable for fridge/freezer)
- ▶ WIFI router to boost Wi-Fi

## Software:

- ▶ GS1 Traceability app

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# Reports

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<b>Traceability . . .</b>												
< Back		Refresh		Print								Help
Dispatched:		<	31-Dec-1899	>	To:	<	17-Nov-2019	>	Status:	<		>
Product:		FR00447 PEPTAMEN JUNIOR ADVANCE    500ML						Batch:				
Supplier:		All Suppliers . . .						Patient:				

By Product		By Location		By Patient		By Item						
GTIN	Code	Description	UoM...	Best Before	Supplier Batch	Status	Goods In...	Goods In Date	P. Order No.	Supplier		
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101125	05-Nov-2019	4036451	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Feb-2020	9050428200	Emptied	101134	12-Nov-2019	4036607	Allphar	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	Emptied	101145	15-Nov-2019	4036695	United Drug	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101145	15-Nov-2019	4036695	United Drug	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101145	15-Nov-2019	4036695	United Drug	
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE	500ML	1	14-Jan-2020	9019428200	In Stock	101145	15-Nov-2019	4036695	United Drug	
		Total:	1,074									

# Report : Short Dated Product

Current Stock Levels . . .

[< Back](#) [Reset Filters](#) [Print](#) [Help](#)

Status:  Location:  P. Order No.:  SSCC:   
Product:  Del Docket:  Shelf Life:   
Supplier:  Supplier Batch:  Ser. No.:

GTIN	Code	Description	Qty
05054267000605	CA0001	LUCOZADE ORIGINAL 1L	2
08717700001009	CA0002	7-UP Lemon Lime	5
08718117106912	FR0443	APTAMIL PEPTI JUNIOR 450GR	8
05011056020985	CAT0002	Avonmore Fresh Milk 500ml	6
05018533649611	FR0446	HCU MAXAMUM 500GR	1
07613033572609	FR00447	PEPTAMEN JUNIOR ADVANCE 500ML	27
08712400156769	FR0447	NUTRISON MCT 1000ML	8
07613035477742	FR0448	SMA PRO FOLLOW ON 800GR	3
08716900574528	FR0449	NUTRINI ENERGY MULTI FIBRE 500ML	25
04008976681229	FR0084	NUTILIS POWDER	3
05060385940587	REP0001	PKU START 400GR	7
05018533635690	REP0002	LOW FAT MODULE 500GR	4
05018533642766	FR0451	COMPLETE AMINO ACID MIX	2
04008976527824	FR0455	APTAMIL 1 PROFUTURA	2
08712045025567	FR0456	NUTRAMIGEN LGG 2 400GR	6
08712045025574	FR0457	NUTRAMIGEN LGG 1 400GR	8
08716900574085	FR0459	NUTRINI ENERGY CB 500ML	19
05018533635331	PHR0001	CARBOHYDRATE FREE MIXTURE NUTRICIA 225GR	2
08716900574764	FR0461	NUTRINI LOW ENERGY MULTI FIBRE CB	23
00000000000000	TE0007	VANILLA ESSENCE	2
05010115902941	TE0008	LYLE,S GOLDEN SYRUP	1
05018533649147	FR0460	NUTILIS CLEAR	41

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# Report : Out of date products

Current Stock Levels . . .

< Back

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Print

Help

Status:

Location:

P. Order No.:

SSCC:

Product:

Del Docket:

Shelf Life: 

Out Of Date

Supplier:

Supplier Batch:

Ser. No.:

By Product

By Date

By Batch

By Supplier

By Location

By Case

By Item

GTIN	Code	Description	Qty
08712400682664	FR0016	C&G NUTRIPREM 2 200ML	3
08712400157513	FR0135	TENTRINI ENERGY PACK 500ML	1
000000000000000	PH0003	STERILE WATER 1L	2
Total:			6

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# Audit Report : Product tracking


Traceability ...

## Item Audit Trail ...

 < Back

 Refresh

 Print

 Help

Serial No.: 00076365

Product: FR0062 Locasol 400GR

Date	Time	Operator	Trans	Trans No.	Status	Description
14-Jan-2019	15:21		GI	100615	In Stock	Supplier: United Drug, P.Order: 4031180, Del Dkt: , Batch: 0137294519, Expiry Date: 19-Nov-2020
27-Jan-2019	12:12		TX	902194		Transferred To: Feed Preparation Area
28-Jan-2019	09:11		FP	704124	Opened	Location: St Gabriels, Patient: 723657, Rx Ref:
Total:			3			

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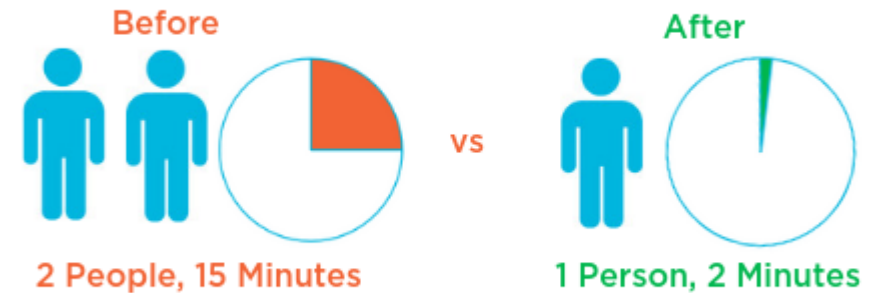


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# Outcomes and Benefits

- ▶ Electronic batch recall now possible
- ▶ Huge paper savings
- ▶ Staff engagement
- ▶ Patient safety benefits
- ▶ Reports/Audits at the touch of a button
- ▶ The estimated time savings are 0.5FTE for Dispatch/Stores & time saving for Daily freezer stock count
- ▶ Additional unexpected benefits (HACCP forms and process improvements)
- ▶ Widespread interest both internally and from other hospitals

## Operational Efficiencies: Daily Freezer Stock Count



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# Next Steps

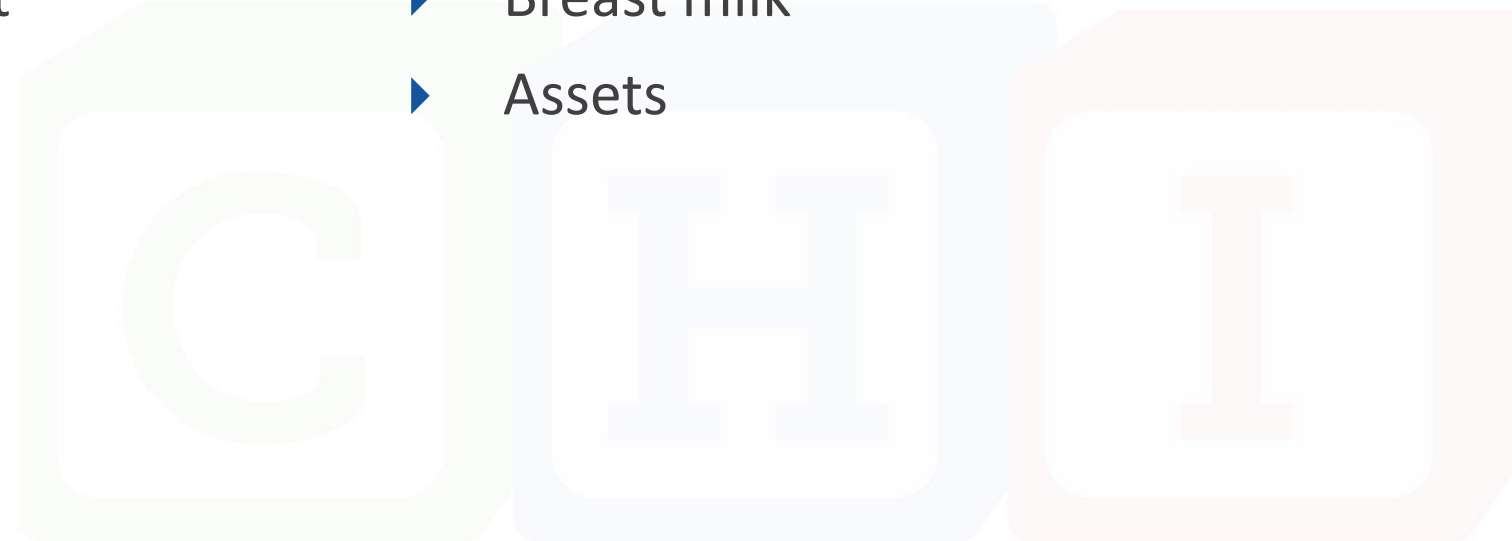
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## Additional modules:

- ▶ Emergency feeds ✓
- ▶ Add incubator module to track temperature ✓
- ▶ Stock taking
- ▶ Scan the feed to Patient at ward level

## Traceability opportunities in other areas of the hospital:

- ▶ Move to New Children's Hospital
- ▶ Catering
- ▶ Procurement
- ▶ Breast milk
- ▶ Assets





# Lessons Learned on Traceability

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- ▶ Technology and barcodes are there to support traceability for any hospital process
- ▶ People within hospitals and industry are not always aware of the opportunity
- ▶ Drivers can come from different areas (patient safety, financial, quality, etc.)
  - Special feeds > requirement to do electronic traceability to the patient in the ward

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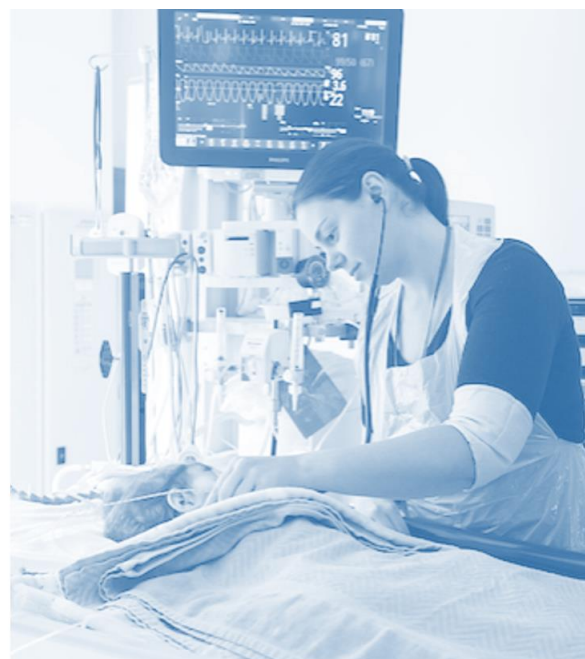
# New Video Launched

Safer services for patients:  
*Traceability of infant feeds*



Children's Health Ireland  
at Temple Street

A case study by the Special Feeds Unit



[https://www.youtube.com/watch?v=PJKaLi1NMI4&feature=emb\\_logo](https://www.youtube.com/watch?v=PJKaLi1NMI4&feature=emb_logo)

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GS1 Healthcare Reference Book 2019-2020

## Ireland

Best practice patient safety and traceability of infant feeds at CHI (Children's Health Ireland) at Temple Street

<b>Challenge</b> In 2016 the hospital was audited by the Food Safety Professionals Association (FSPA). One of the findings of the audit was that the hospital was unable to track feeds to patients. <b>Approach</b> The hospital implemented a standards-based traceability database, barcode labelling and a scanning system that could capture the critical data about each product (expiry date or best before date, batch number, location within the hospital e.g. store or ward, the staff member that delivered or prepared the feed and ultimately the patient that received it).	 Patient safety benefits from the additional controls and full traceability of feeds	 Estimated time savings equate to 0.5 full time staff per week
	 Reports/audits at the touch of a button	 Electronic batch recall now possible (from hours to seconds)

The Special Feeds Unit (SFU) at CHI at Temple Street looks after the storing, preparation and delivery of prescribed feeds to infants with special dietary needs. In 2016 the hospital was audited by the Food Safety Professionals Association (FSPA). One of the findings of the audit was that there was a necessity to track feeds to the patient in the hospital for the purposes of patient safety and in case of product recall. It was agreed, as a matter of urgency, that a modern, time-efficient computerised traceability system based on standards was required by the unit.

## Background

CHI at Temple Street is a 135 bed children's hospital in Dublin. The hospital cares for all types of patients and some require very specific care, such as metabolic patients. These patients need their weight, blood sugar and cholesterol levels monitored carefully to ensure better quality of life and to reduce the risk of a heart attack or stroke. It is vitally important that these patients receive the correct feeds. As a result, the Special Feeds Unit prepares and dispatches up to 400 patient feeds per day. The Special Feeds Unit also hold emergency feeds in a freezer for such patients, even when they are not an in-patient in the hospital, and these feeds must be checked and counted every day.

## The challenge: product recall

Following an audit conducted by the FSPA in 2016 it was recommended that the hospital implement an electronic traceability system for special feeds. The previous process was paper-based and time consuming. If the hospital received a recall notice from a supplier, they had to manually hunt through paper records from the last six months to identify what patients had received that batch as well as to locate the tins of product with that batch number so that no further product could be distributed. This information was often difficult to locate on the product and hard to read. Additionally, staff had to find all the recalled product within the hospital and there were no physical controls in place to automatically ensure that recalled product was not subsequently issued to patients.

Shirad Moran

# Outcomes and Benefits



*“The new system provides us with full visibility of all product in stores, on the ward and dispensed to infants. In the event of a recall it is now possible for us, within a matter of minutes, to locate or account for each unit of the affected product.”*

***Mona Baker CEO at CHI Temple Street***

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# Thank you to my team !

Sinead Moran

Special Feeds Unit Manager

[sinead.moran@cuh.ie](mailto:sinead.moran@cuh.ie)

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