Tag, Track & Go!

The Emergency Blood Tracking Game

Cindy Ingold, MLS(ASCP)SBB, CQA(ASQ)

Barnes Jewish Hospital – St. Louis, MO

Today's Discussion Points

- The need for emergency blood
- The old version of the game
- Finding a new way to play
- The new version of the game
- Playing & Winning the game

The Need for Emergency Blood

- Traumas, ORs, Labor & Delivery, Post-Op, ICUs and more!
- Getting to the point of need – QUICKLY!
- Pneumatic Tube Systems and Couriers/Runners
- Logistical challenges on a large academic campus
- It's never fast enough!

The Old Version of the Game (@BJH)

The Manual Game (2020)

- Three remote refrigerators: ED, Trauma OR, Labor and Delivery
- Each stocked for their specific needs
- Refrigerator Door Alarms that sounded in the Blood Bank
- Direct phone lines to the Blood Bank
- Shift to Shift rounding on the refrigerators to take inventory – Tech Time
- Discrepancies required investigation that took an extensive amount of time.
- Lost units were a problem

We needed a new game!

- Haemonetics Project on HOLD @ BJC
- The Cold Call – Biolog-Id
- The pitch was for full inventory tracking
- BJH uses WellSky Transfusion – did not need full inventory tracking
- OTBT - Resulted in a different approach to meet our needs
- RFID tracking of remote storage units
- Eliminates the tech time out of the BB
- Customized for our use – efficient and cost effective!

The Game Changer: RFID Tracking

- Converted existing remote refrigerators with Biolog-Id Shelves
- Biolog-Id Encoding Station in the Blood Bank
- IT Security needed for remote access to Biolog-Id System
- RFID tagging of each remote blood product
- Retained doors alarms and direct phone lines
- Retained 24/7 Remote Temperature Monitoring (Rees)
- Added 52" wall monitor in the Blood Bank for Analytics Dashboard to monitor activity.

The New Game: RFID Version

- Technologists stay in the Blood Bank where they are needed
- Realtime visibility on emergency blood use via the dashboard monitor
- Remote inventory reconciliation performed electronically comparing WellSky Inventory to Biolog-ID Dashboard Reports
- Refrigerator Rounding only to replace products due to outdating or use.
- Two additional refrigerators placed on campus:
  - Trauma 44ICU (5 minutes from BB)
  - North Tower PACU (7 minutes from BB)

Let's Review

The Parts of the Game

The Biolog-Id Process

- HF RFID tag (13.56 MHz)
- 2048 bits memory
- **Typical data:**
  - **DIN**
  - **Product code**
  - **Blood type**
  - **Expiration date**

  - Other

Barnes Jewish Hospital, St. Louis Missouri

RFID tag placement is important

Optimal Read Location of RFID Tag

Place tag as center as possible

BJH places on the center back of the product.

Barnes Jewish Hospital, St. Louis Missouri

Workstation Station with Biolog-id Table-Top Encoder

What does it do ???

Purpose of BDS Encoding: Uses barcode scanner and TableTop to read and write RFID tags

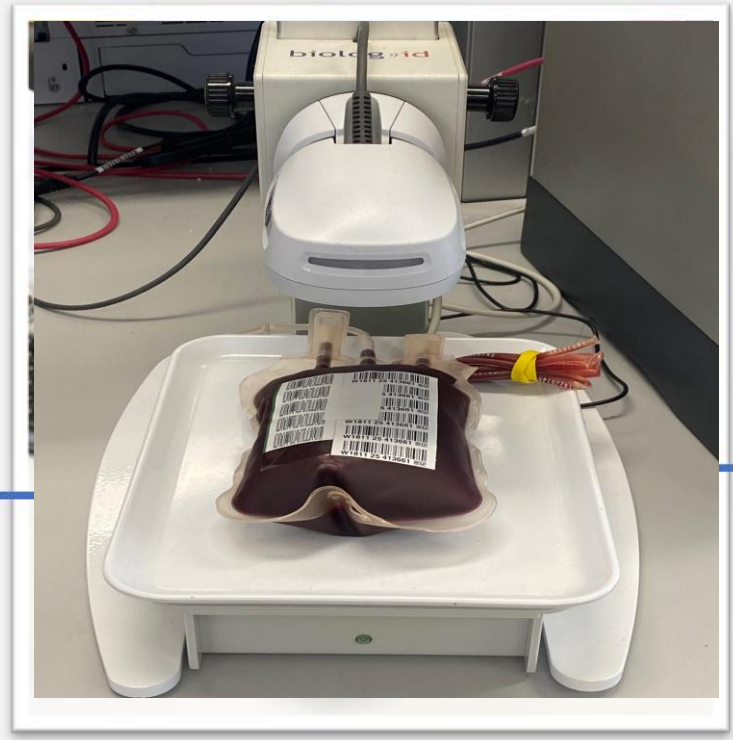
Purpose of Barcode Scanner: Scans product data into BDS Encoding Web Service

Purpose of TableTop reader: Reads and writes product data into RFID Tag

Three Steps
Tag – Track (Encode) – GO (Store)

RFID Tag placed on product

Encoded with TableTop



Place product on SST shelf

Barnes Jewish Hospital, St. Louis Missouri

Biolog-id SST-R

- Open drawer
- Insert product into available pocket
- Close drawer
- Observer LED flash to confirm closure
- Only open and close 1 drawer at a time

Barnes Jewish Hospital, St. Louis Missouri

REMOTE Refrigerator

Rees Temperature Monitoring

Phone

Biolog-Id Control Unit

Helmer Access Control

Door Alarm

Barnes Jewish Hospital, St. Louis Missouri

Biolog-Id Dashboard

BJC HealthCare

Emergency Refrigerator Inventory Dashboard

Storage	Total # of Units	Units in Storage	Units Out of Storage
ICU 44	12	12	
PVT	7	7	
ED	20	18	2
OR	6	6	
PACU	12	12	
Total	57	55	2

Current Date: **09/07/2025**

Current Time: **14:26**

Units Outside of Storage

Location	DIN	Product Code	Blood Type	Expiration Date	Time of Removal	Time OOS
ED	W181125401016	E0033V00	O+	18 Sep 25	09/07/2025 08:21	6h 5m
ED	W181125383935	E0033V00	O-	20 Sep 25	09/07/2025 08:25	6h 1m

Units Inside of Storage - Do Not Use (These units were OOS over 10 min.)

Location	DIN	Product Code	Blood Type	Expiration Date	Storage	Drawer

Barnes Jewish Hospital, St. Louis Missouri

Inventory Comparison

WELLSKY

18 Records

– Search

Exact Search (Filter) | Context Search (Highlight) | Find | Range | Sort | Clear | Undo

Product Group	PC	Unit Number	Fac UID	BLD Products Batch ID	Status	ABO/Rh	Exp D/T
FFT	E7750	W181125852966-Z	W181125852966-Z	261933	IN	A POS	09-Sep-2025 23:59
FFT	E2701	W183825180672-W	W183825180672-W	261933	IN	A POS	09-Sep-2025 23:59
WB	E0033	W183225320491-X	W183225320491-X	262342	IN	O NEG	19-Sep-2025 23:59
WB	E0033	W181125397534-A	W181125397534-A	262331	IN	O NEG	20-Sep-2025 23:59
WB	E0033	W181125392310-B	W181125392310-B	262379	IN	O POS	23-Sep-2025 23:59
WB	E0033	W181125392315-1	W181125392315-1	262379	IN	O POS	23-Sep-2025 23:59
RBC	E0685	W181125359593-A	W181125359593-A	262261	IN	O NEG	24-Sep-2025 23:59
RBL	E0336	W181125392644-4	W181125392644-4	262359	IN	O NEG	29-Sep-2025 23:59
RBC	E0686	W181125397016-H	W181125397016-H	262311	IN	O NEG	30-Sep-2025 23:59
RBC	E0686	W184025273924-J	W184025273924-J	262311	IN	O NEG	30-Sep-2025 23:59
RBC	E0686	W181125380327-K	W181125380327-K	262359	IN	O NEG	30-Sep-2025 23:59
RBC	E0686	W182425147843-6	W182425147843-6	262039	IN	O NEG	01-Oct-2025 23:59
RBL	E0336	W180725160551-Z	W180725160551-Z	262078	IN	O POS	06-Oct-2025 23:59
RBC	E0686	W181125399020-U	W181125399020-U	262316	IN	O POS	06-Oct-2025 23:59
RBL	E0336	W181125377834-D	W181125377834-D	262412	IN	O POS	09-Oct-2025 23:59
RBL	E0336	W181125373549-D	W181125373549-D	262412	IN	O POS	09-Oct-2025 23:59
RBC	E0686	W183825297232-K	W183825297232-K	262368	IN	O POS	09-Oct-2025 23:59
RBC	E0686	W184025275270-V	W184025275270-V	262368	IN	O POS	09-Oct-2025 23:59

BIOLOG

BJC HealthCare

ED General Inventory Report

Remove Location: BJH ED

Number of Units: 18

DIN	Product Code	Blood Type	Expiration Date	Days to Expiration	Location	Drawer	Position
W183825180672	E2701V00	A-	09 Sep 2025	2 days	BJH ED	1	1.2
W181125852966	E7750V00	A-	09 Sep 2025	2 days	BJH ED	1	1.3
W183225320491	E0033V00	O-	19 Sep 2025	12 days	BJH ED	1	1.1
W181125397534	E0033V00	O-	20 Sep 2025	13 days	BJH ED	1	2.1
W181125392315	E0033V00	O-	23 Sep 2025	16 days	BJH ED	1	2.2
W181125392310	E0033V00	O-	23 Sep 2025	16 days	BJH ED	1	2.3
W181125359593	E0685V00	O-	24 Sep 2025	17 days	BJH ED	3	1.2
W181125392644	E0336V00	O-	29 Sep 2025	22 days	BJH ED	3	1.1
W181125380327	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	1.3
W184025273924	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	2.2
W181125397016	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	2.3
W182425147843	E0686V00	O-	01 Oct 2025	24 days	BJH ED	3	2.1
W180725160551	E0336V00	O-	06 Oct 2025	29 days	BJH ED	2	1.1
W181125399020	E0685V00	O-	06 Oct 2025	29 days	BJH ED	2	1.2
W183825297232	E0686V00	O-	09 Oct 2025	32 days	BJH ED	2	1.3
W184025275270	E0686V00	O-	09 Oct 2025	32 days	BJH ED	2	2.1
W181125377834	E0336V00	O-	09 Oct 2025	32 days	BJH ED	2	2.2
W181125373549	E0336V00	O-	09 Oct 2025	32 days	BJH ED	2	2.3

Barnes Jewish Hospital, St. Louis Missouri

Biolog-Id ED Inventory Report

BJC HealthCare

ED General Inventory Report

Remove Location: BJH ED

Number of Units: **18**

DIN	Product Code	Blood Type	Expiration Date	Days to Expiration	Location	Drawer	Position
W138825180672	E2701V00	A+	09 Sep 2025	2 days	BJH ED	1	1.2
W181125852966	E7750V00	A+	09 Sep 2025	2 days	BJH ED	1	1.3
W183225320491	E0033V00	O-	19 Sep 2025	12 days	BJH ED	1	1.1
W181125397534	E0033V00	O-	20 Sep 2025	13 days	BJH ED	1	2.1
W181125392315	E0033V00	O+	23 Sep 2025	16 days	BJH ED	1	2.2
W181125392310	E0033V00	O+	23 Sep 2025	16 days	BJH ED	1	2.3
W181125359593	E0685V00	O-	24 Sep 2025	17 days	BJH ED	3	1.2
W181125392644	E0336V00	O-	29 Sep 2025	22 days	BJH ED	3	1.1
W181125380327	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	1.3
W184025273924	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	2.2
W181125397016	E0686V00	O-	30 Sep 2025	23 days	BJH ED	3	2.3
W182425147843	E0686V00	O-	01 Oct 2025	24 days	BJH ED	3	2.1
W180725160551	E0336V00	O+	06 Oct 2025	29 days	BJH ED	2	1.1
W181125399020	E0685V00	O+	06 Oct 2025	29 days	BJH ED	2	1.2
W183825297232	E0686V00	O+	09 Oct 2025	32 days	BJH ED	2	1.3
W184025275270	E0686V00	O+	09 Oct 2025	32 days	BJH ED	2	2.1
W181125377834	E0336V00	O+	09 Oct 2025	32 days	BJH ED	2	2.2
W181125373549	E0336V00	O+	09 Oct 2025	32 days	BJH ED	2	2.3

Units Outside of Storage

BJC HealthCare

Emergency Refrigerator Inventory Dashboard

Storage	Total # of Units	Units in Storage	Units Out of Storage
ICU 44	12	12	
PVT	7	7	
ED	20	18	2
OR	6	6	
PACU	12	12	
Total	57	55	2

Current Date: **09/07/2025**

Current Time: **14:26**

Units Outside of Storage

Location	DIN	Product Code	Blood Type	Expiration Date	Time of Removal	Time OOS
ED	W181125401016	E0033V00	O+	18 Sep 25	09/07/2025 08:21	6h 5m
ED	W181125383935	E0033V00	O-	20 Sep 25	09/07/2025 08:25	6h 1m

Units Inside of Storage - Do Not Use (These units were OOS over 10 min.)

Location	DIN	Product Code	Blood Type	Expiration Date	Storage	Drawer

Barnes Jewish Hospital, St. Louis Missouri

Unit History Report

Unit Info

Donation Number:	W181125383935	Created at:	St. Louis, MO
Product Code:	E0033	Last Location:	St. Louis, MO
Blood Type:	O-	Last Storage:	BJH ED
Expiration Date:	09/20/2025 23:59	Last Drawer:	1

** represents data elements coming from the extract

RFID Info

UID:	E00401086882DB92	# of encoding events:	1
State:	Encoded	# of SSTs attended:	1
Encoding Status:	Full	# of sites attended:	1
Mapping Type:	Universal	Print-Friendly Version:	Click Here

Unit Encoding History

Encoding #	Site	Event Date	DIN	Product Code	Blood Type	Expiration Date	Encoding Status
1	St. Louis, MO	09/06/2025 19:12	W181125383935	E 0033	O-	09/20/2025 23:59	Full

Unit Storage History

Storage Name	Event Date	DIN	Product Code	Blood Type	Expiration Date		
⊟SST-R_18_BJC_04	09/06/2025 18:50	W181125383935	E0033	O-			
	Entry Date	**Time Inside**	**Exit Date**	**Time Outside**	**Storage Name**	**Drawer**	**Position**
	09/06/2025 18:50	13h 35m			SST-R_18_BJC_04	1	2.1
			09/07/2025 08:25		SST-R_18_BJC_04	1	.

Maintaining the Game

Biolog-Id Monthly Service Fee for the BDS Encoding Web Service

- **Old Game:**
  - Tech rounding on refrigerators each shift (3 hours per day)
  - Midpoint MLS salary $35.00/hr
  - Cost to play the Old Game per day: 3 hr x $35/hr = $105 x 30 days = $3150/day
- **New Game:**
  - Monthly fees paid for through tech time saved
  - Having the technologists in the lab where you need them – ***Priceless!***

Playing & Winning the Game!

- Providers know they have blood where it is needed should the situation arise
- Technologists are in the Blood Bank where they are needed to maintain and manage the blood supply
- Immediate visibility on what is happening in the remote refrigerators
- Remote Temperature control ensured
- No more lost units from remote locations

In Summary…….

Play the Game for a WIN!

Thank you!

References:

- Biolog-Id End User Process A-Z
- Biolog-Id Analytics Dashboard - BJC