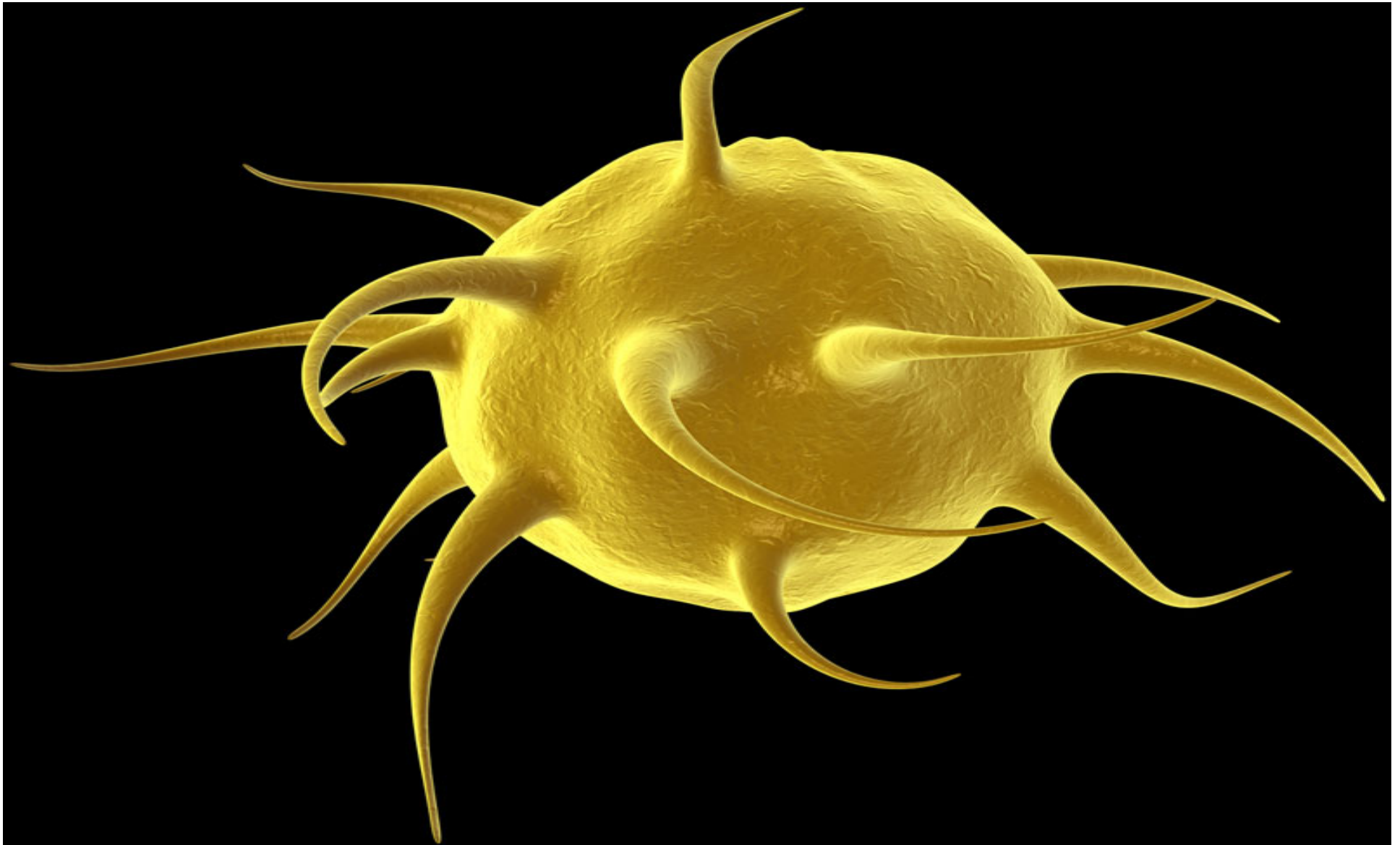


YOU COULD SAVE
A LIFE LIKE LILY'S



Stretching the Supply: Platelet Inventory Management at CBS Winnipeg

Blood Day November 3, 2010



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Objective

- Background
- Changes Implemented
- Successes and Limitations
- Future Plans



Who is Canadian Blood Services Crossmatch Laboratory

- Unique centralized crossmatch laboratory serving the majority of hospitals in Manitoba.
- Largest Transfusion Medicine Laboratory in Canadian Blood Services Prairie Region.
- Provides crossmatching service and platelets to 63 hospitals in Manitoba.
- Transfusion Medicine Reference Laboratory for all Manitoba hospitals and 13 North West Ontario hospitals.
- Received 37,062 units of rbc's or 68% of all RBCs issued by CBS WI Blood Product Management in 2009/10.
- Issued 78,776 Red Cell (Crossmatched / Emergency Uncrossmatched).
- Received 5,227 doses of Pooled and Apheresis Platelets or 81% Pooled and Apheresis Platelets issued by CBS WI Blood Product Management in 2009/10.

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Background

- July 2009 CBS Crossmatch Lab and CBS Production senior staff met to discuss platelet inventory shortages.
- Crossmatch lab outdated approximately 35% of received platelets between Jan 2009 – June 2009 yet experienced periods of shortage.



Background

- Post Long Weekend platelet shortages were especially difficult to manage.
- Formed a team with representatives from Crossmatch Lab, Product and Hospital Services and Medical.
- Reviewed collections, platelet production, ordering patterns, transfused & outdate data and communication concerns.
- Developed a Service Plan with action points to improve platelet availability.



Issues Identified

- Daily standing orders to Crossmatch Lab did not align with hospital demand and contributed to increased outdating of platelets.
- Production plan did not align to hospital demand i.e. ABO, CMV neg or collection day of week.
- Donor Clinic dates/times did not align with hospital demand.
- Crossmatch received a significant portion of platelets with less than 1 day of shelf life remaining.



Issues Identified

- High CMV neg demand resulted in fresher platelets issued to hospitals rather than older CMV unknown inventory.
- Difficult for Crossmatch Lab to obtain patients CMV test results.
- Crossmatch platelet stock inventory levels contributed to high outdate rate. i.e. Groups O, A and B
- Lack of communication between Production and Crossmatch Lab.



Changes Implemented

- Scheduled pre-long weekend planning meetings -included Product and Hospital Services, Medical, Clinic and Donor Services and Crossmatch Lab staff.
- Replaced platelet standing order with platelet ordering on demand.
- Decreased platelet stock inventory levels over 6 month period.



Changes Implemented

- Dr Lane screened all requests for CMV negative platelets in the month of October.
- Approximately 45% of patients receiving CMV negative platelets did not require CMV negative product.
- Blood Product Management implemented communication plan to notify Crossmatch Lab if orders could not be filled, were delayed and provided an estimated time for delivery.



Changes Implemented

- Blood Product Management and Crossmatch Lab developed spreadsheets to share inventory levels twice daily.
- Inventory spreadsheets are emailed to Transfusion Medicine physicians on-call for Crossmatch Laboratory.



Changes Implemented

- Crossmatch Lab implemented anti A and anti B titring on Group O platelets and then extended the titring to Group A and B platelets.
- Changed order and delivery times to Crossmatch Lab.
- Production discontinued practise of issuing platelets with same day expiry to Crossmatch Lab in the afternoons.

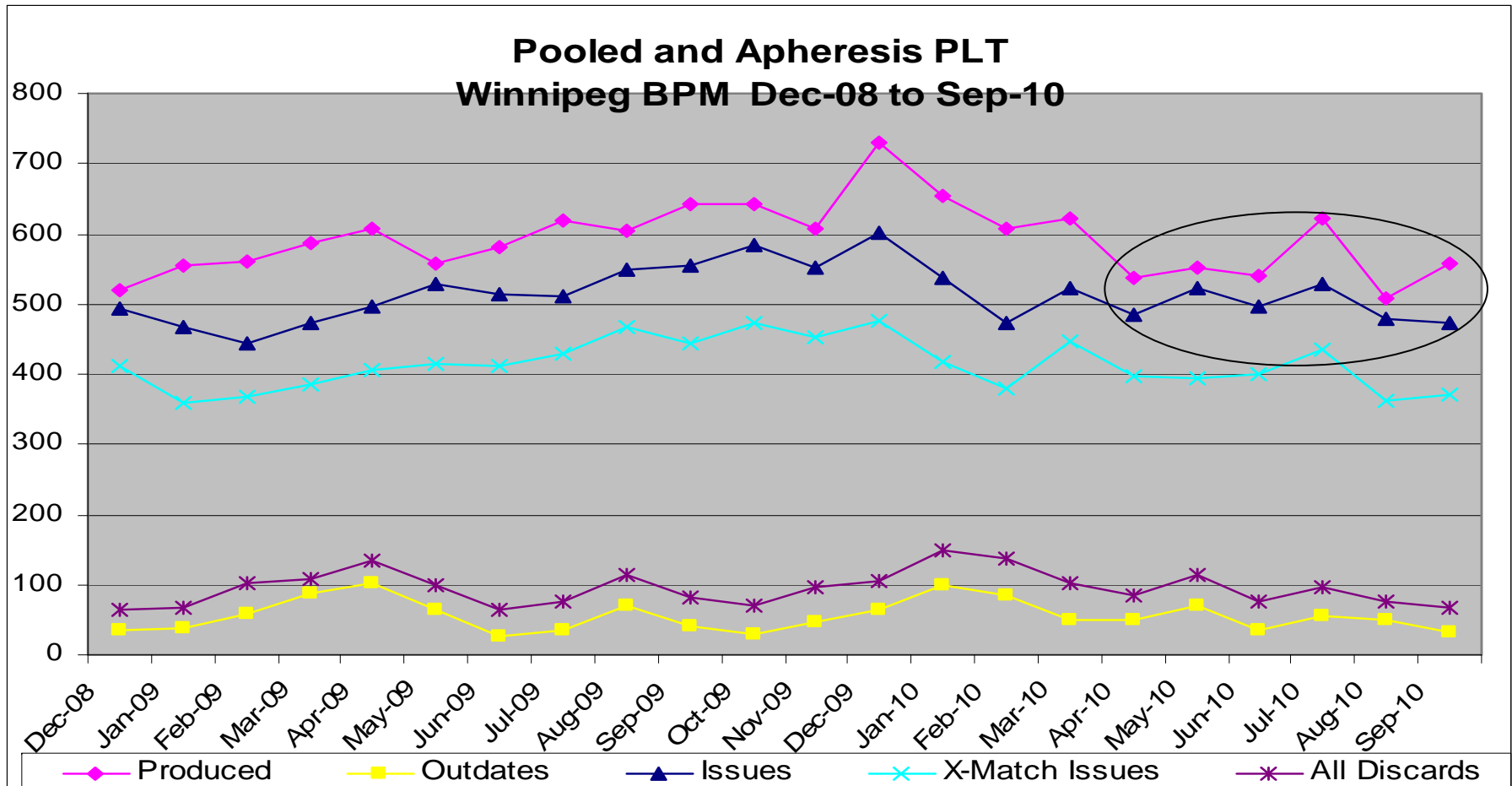


Changes Implemented

- Crossmatch Lab's Weekend/Stat Holiday Inventory levels were reduced to match decreased weekend demand.
- Adjusted Pooled Platelet production to better align with Apheresis Platelet Planned Collections.
- Dr Lane met with Pediatric Hematologists/Oncologists to discuss CMV negative requirements.



Blood Product Management (BPM) Platelet Issues to Crossmatch Lab

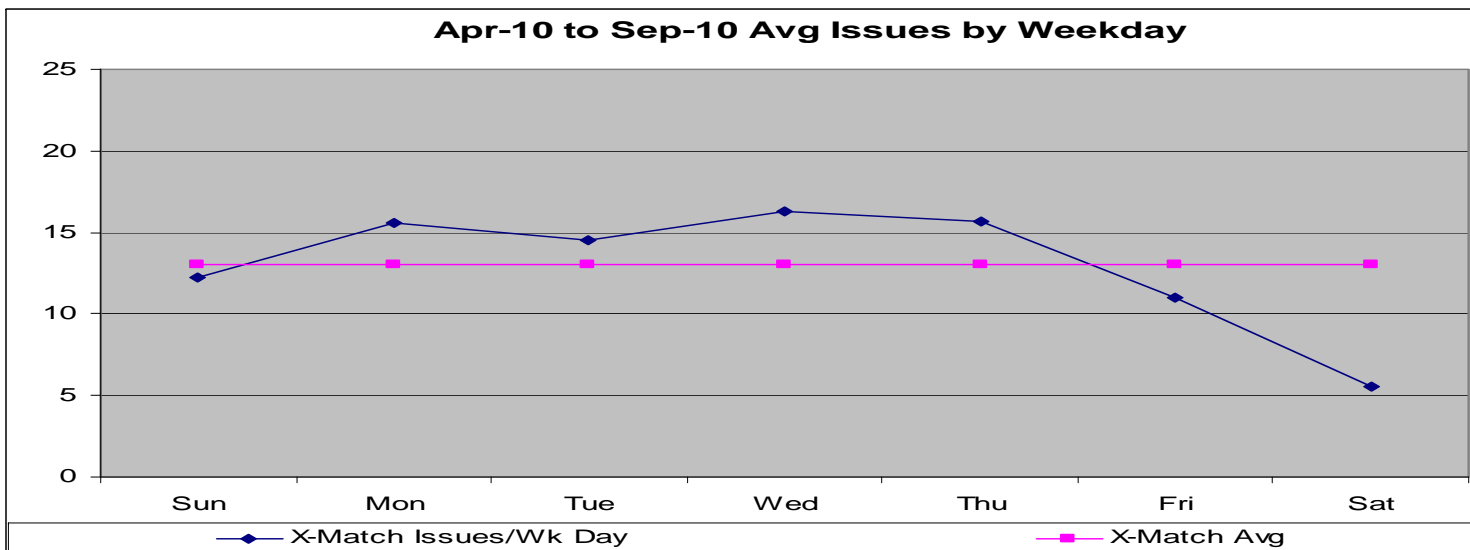
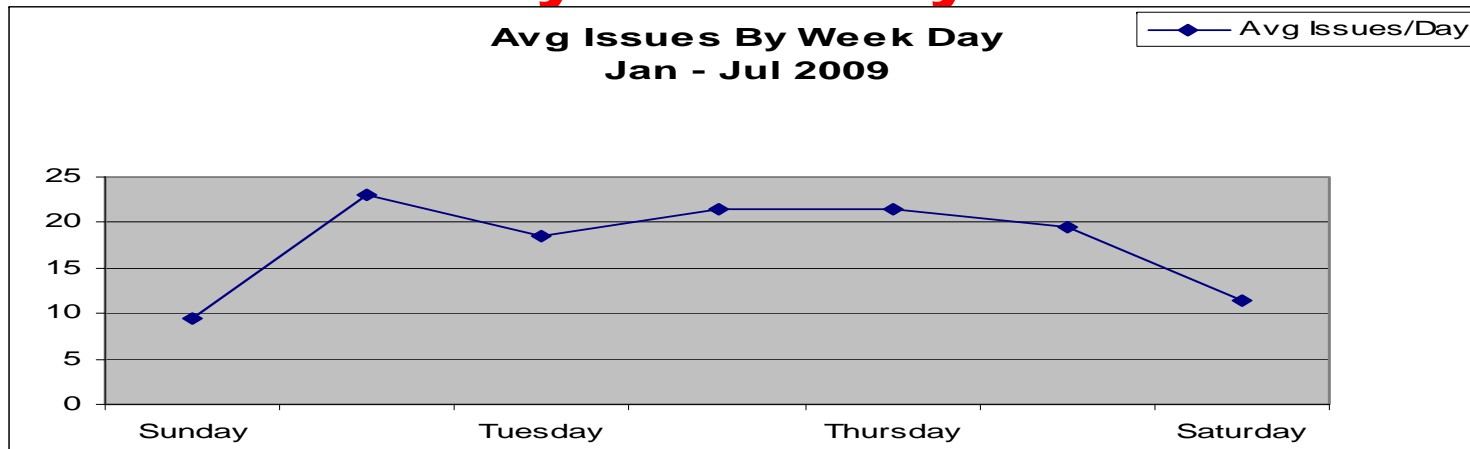


The gap between produced and issues is less from Apr – Aug except Jul.

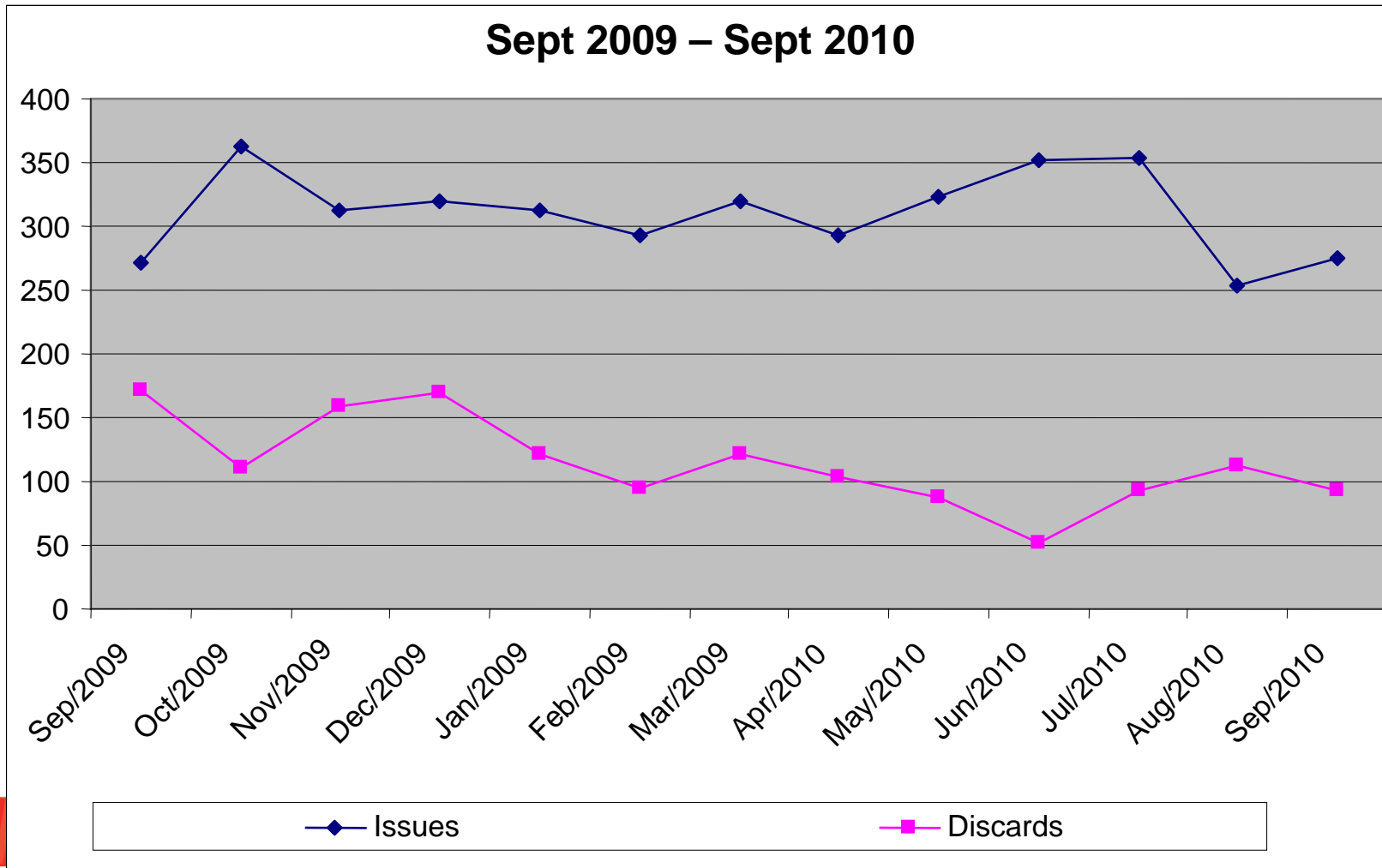
This highlights that WPG production # are closer to the demand.



BPM Average Daily Issues to Crossmatch by Weekday

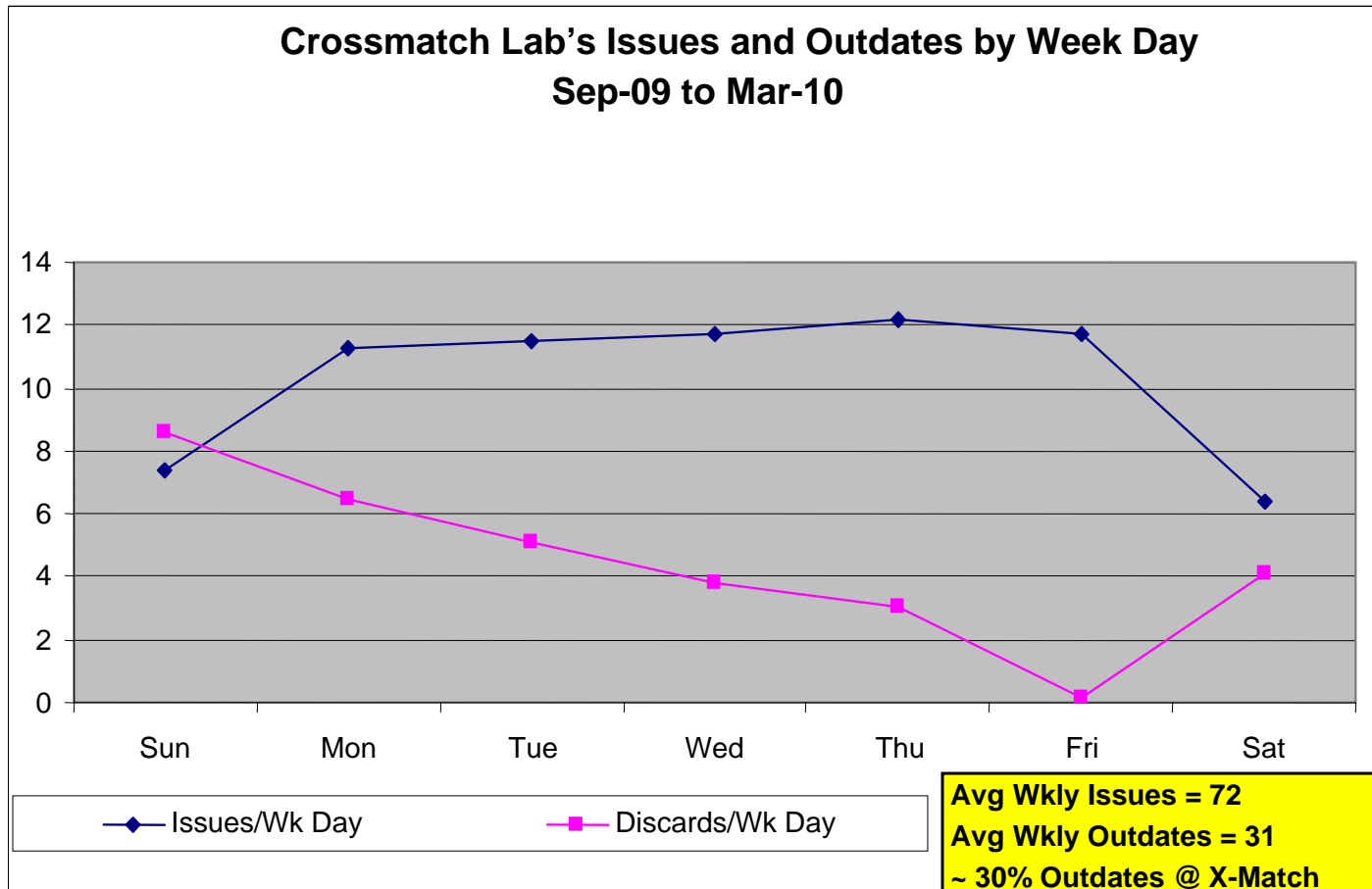


Crossmatch Lab's Monthly Issues to Hospitals & Outdates

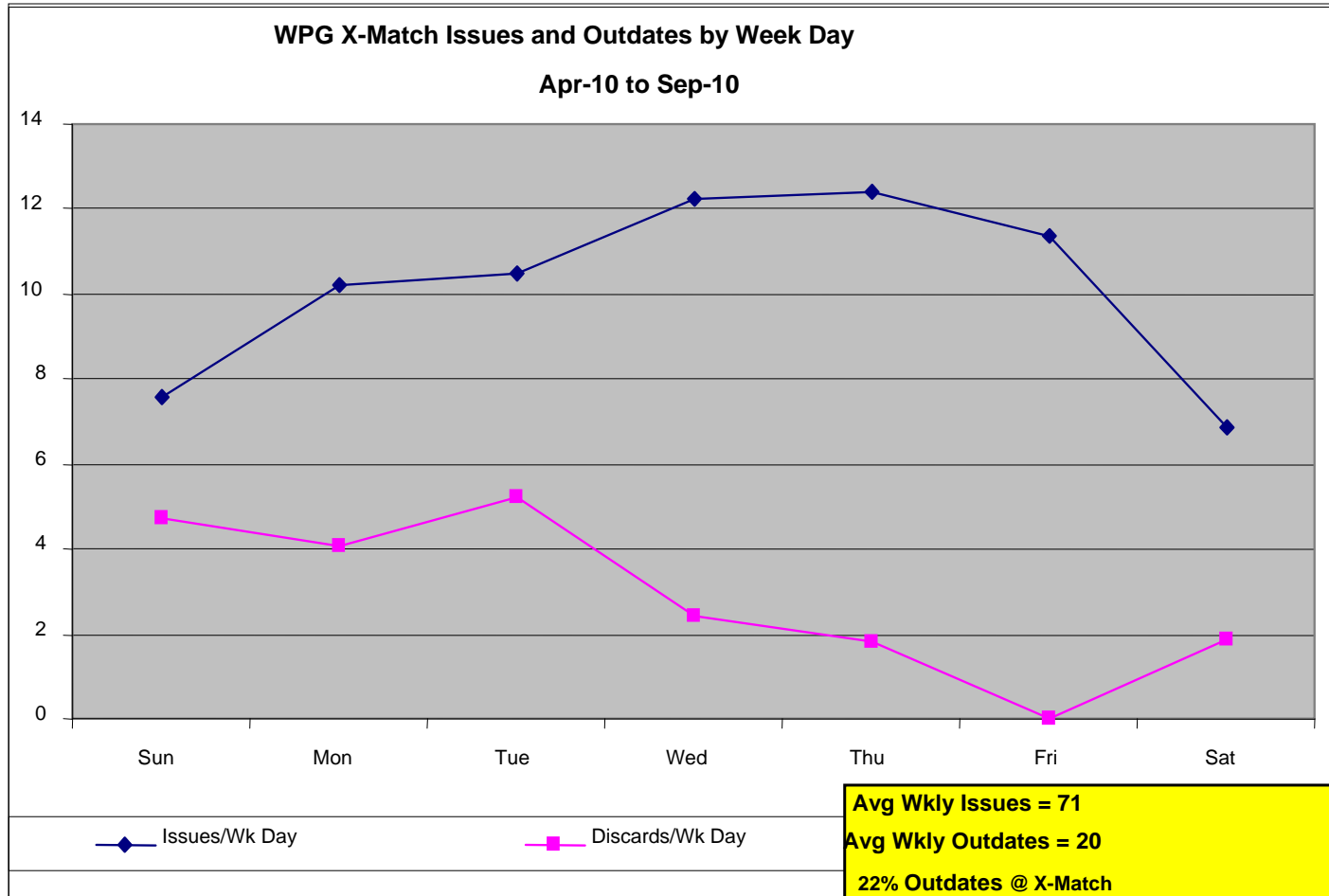


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Crossmatch Lab



Crossmatch Lab



Month	Outdate Rate
Apr	26%
May	21%
Jun	13%
Jul	20%
Aug	30%
Sep	24%

Jun -> High Issues
Aug -> Low Issues

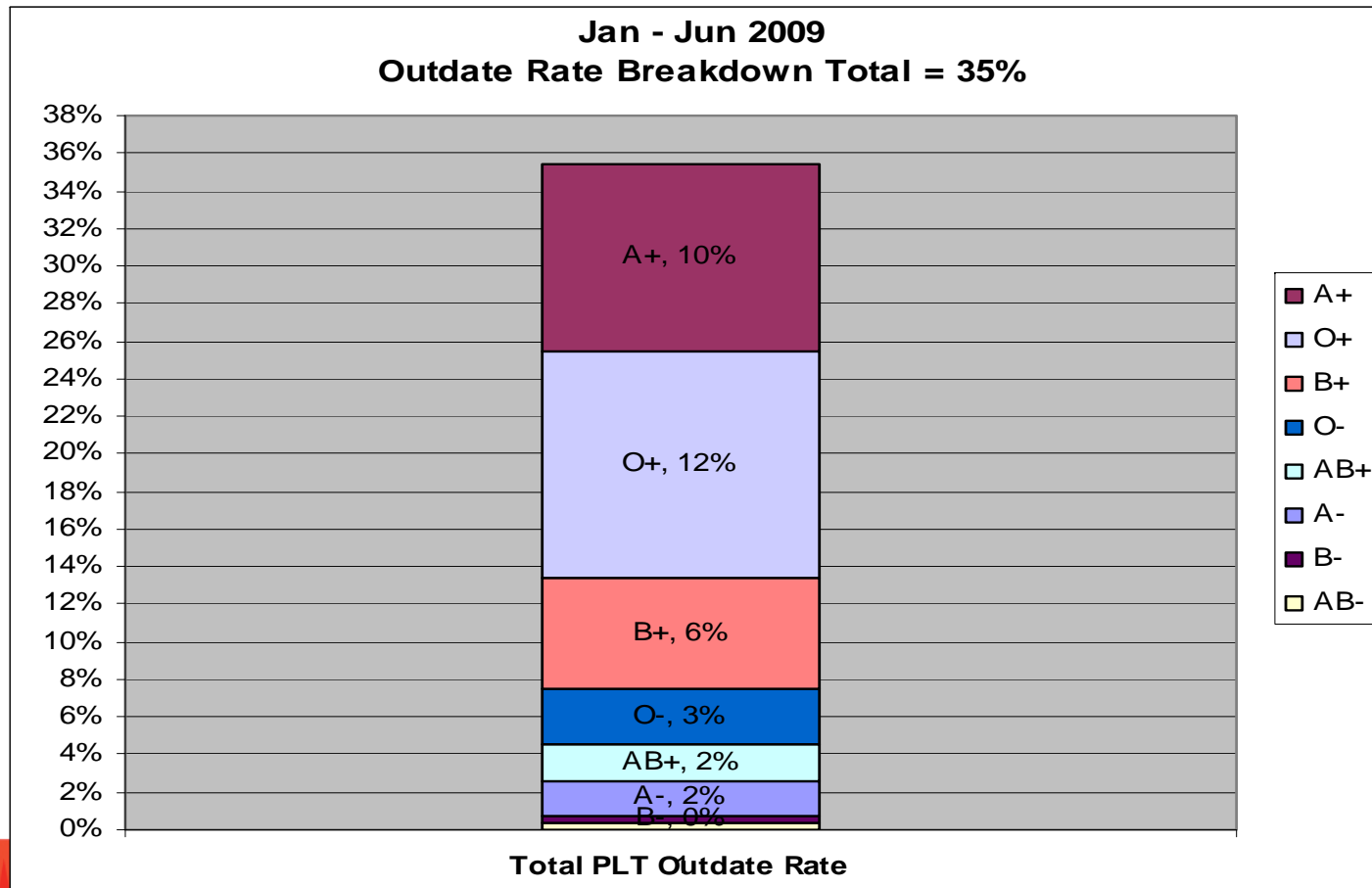
This indicates that there is still some opportunity to replenish inventory based on usage and minimise safety buffers.



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Jan 09– Jun 09 Data



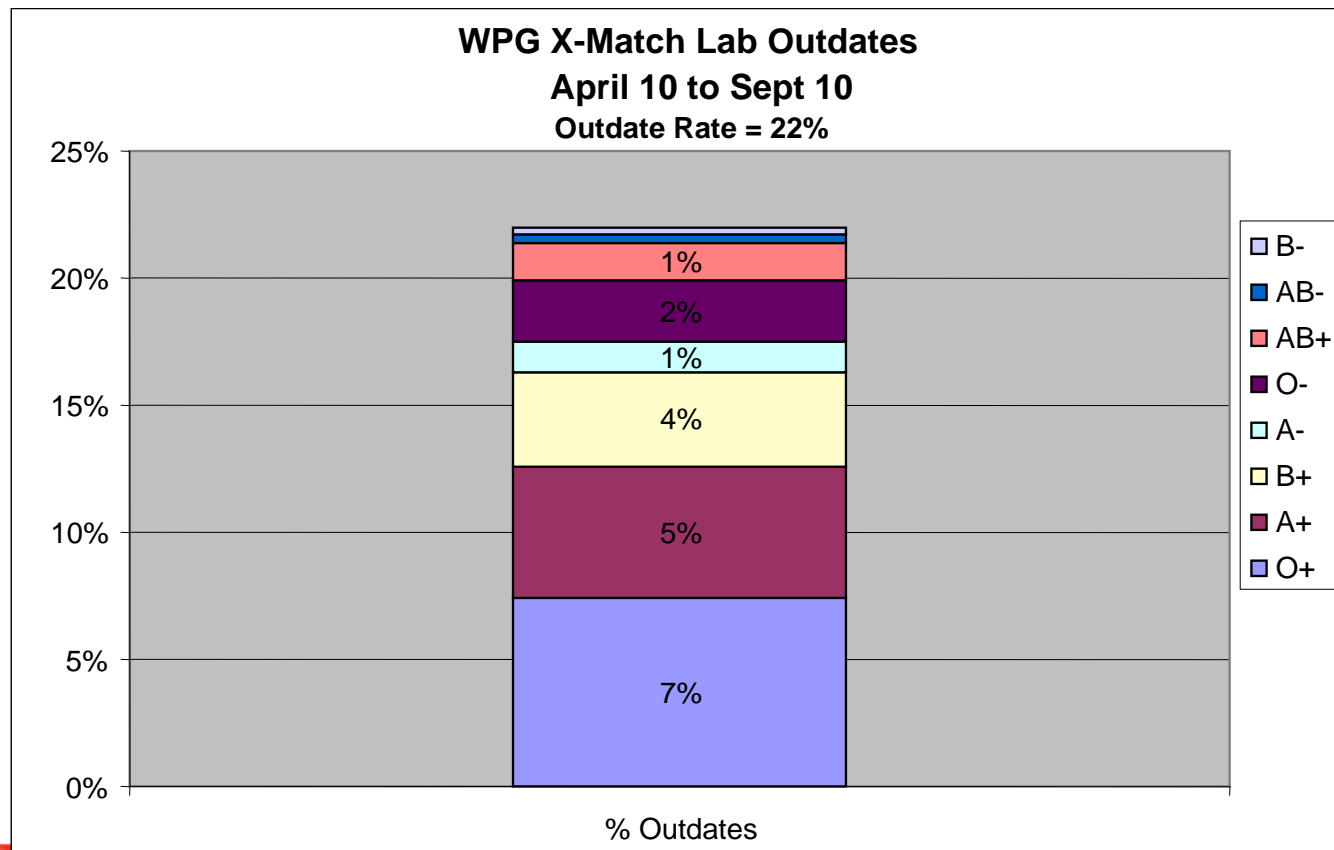
Total PLT Outdate Rate

services

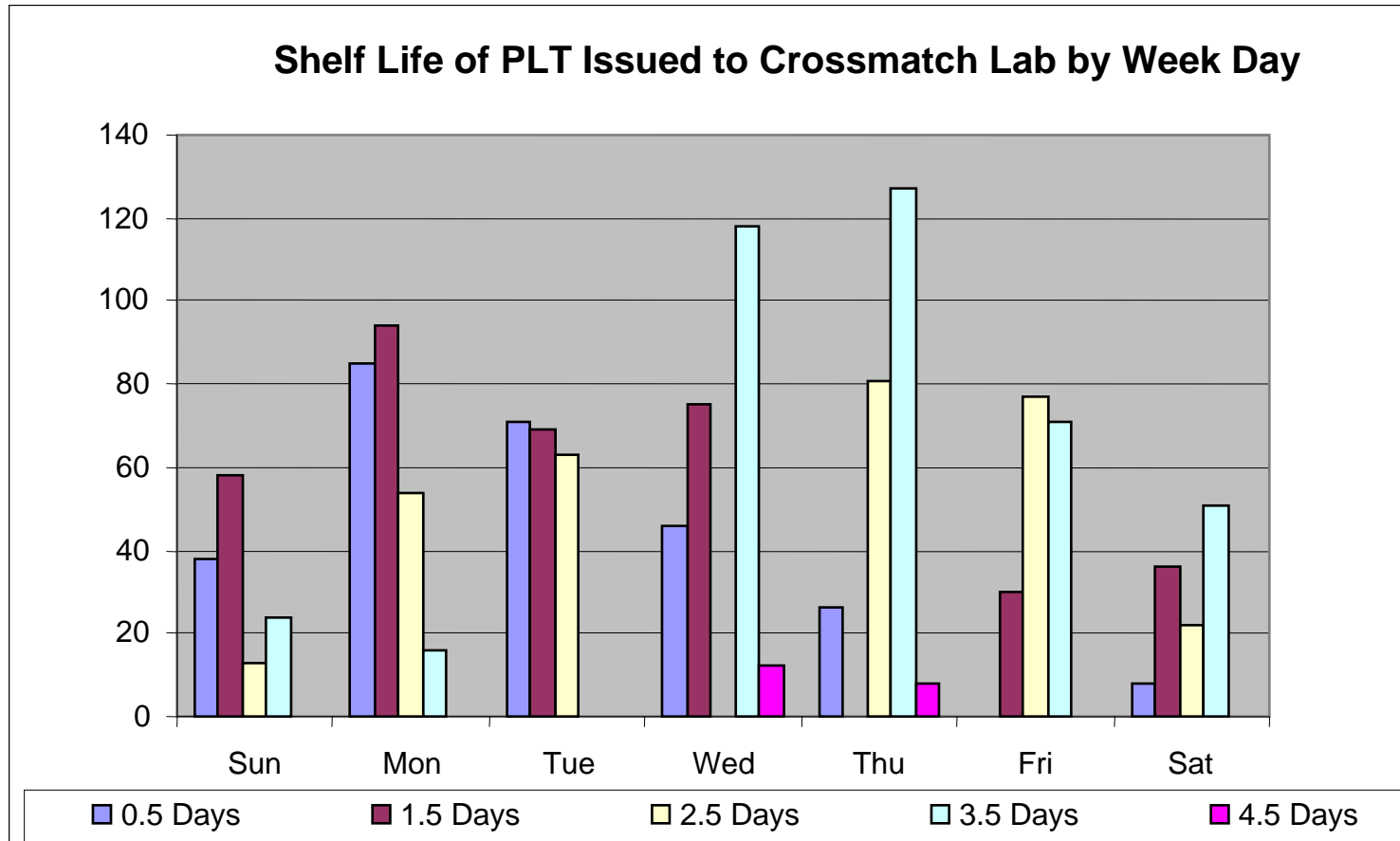
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Crossmatch Lab

April 1 – Sept 30 2010

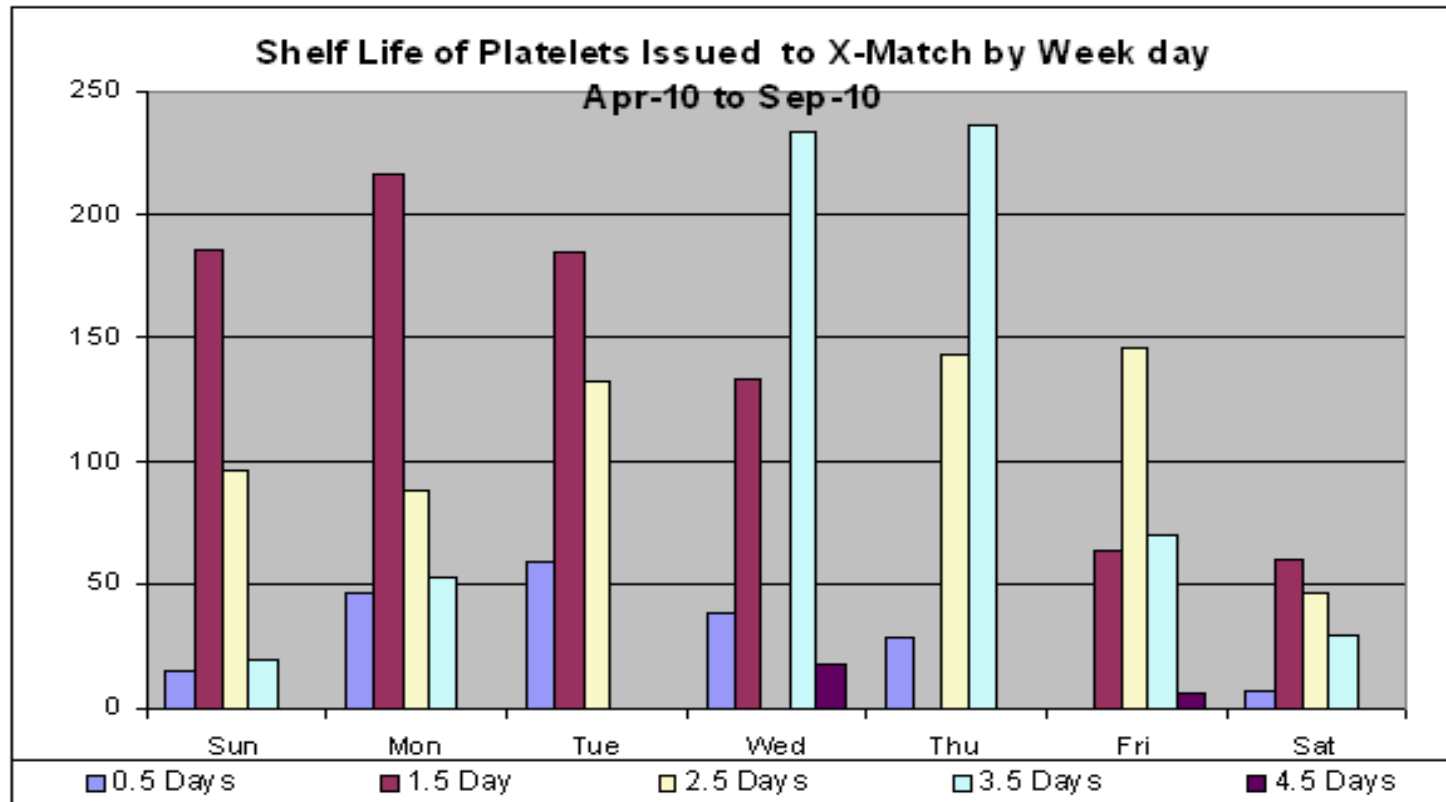


Shelf Life of Platelets Sept 1 – Nov 30, 2009

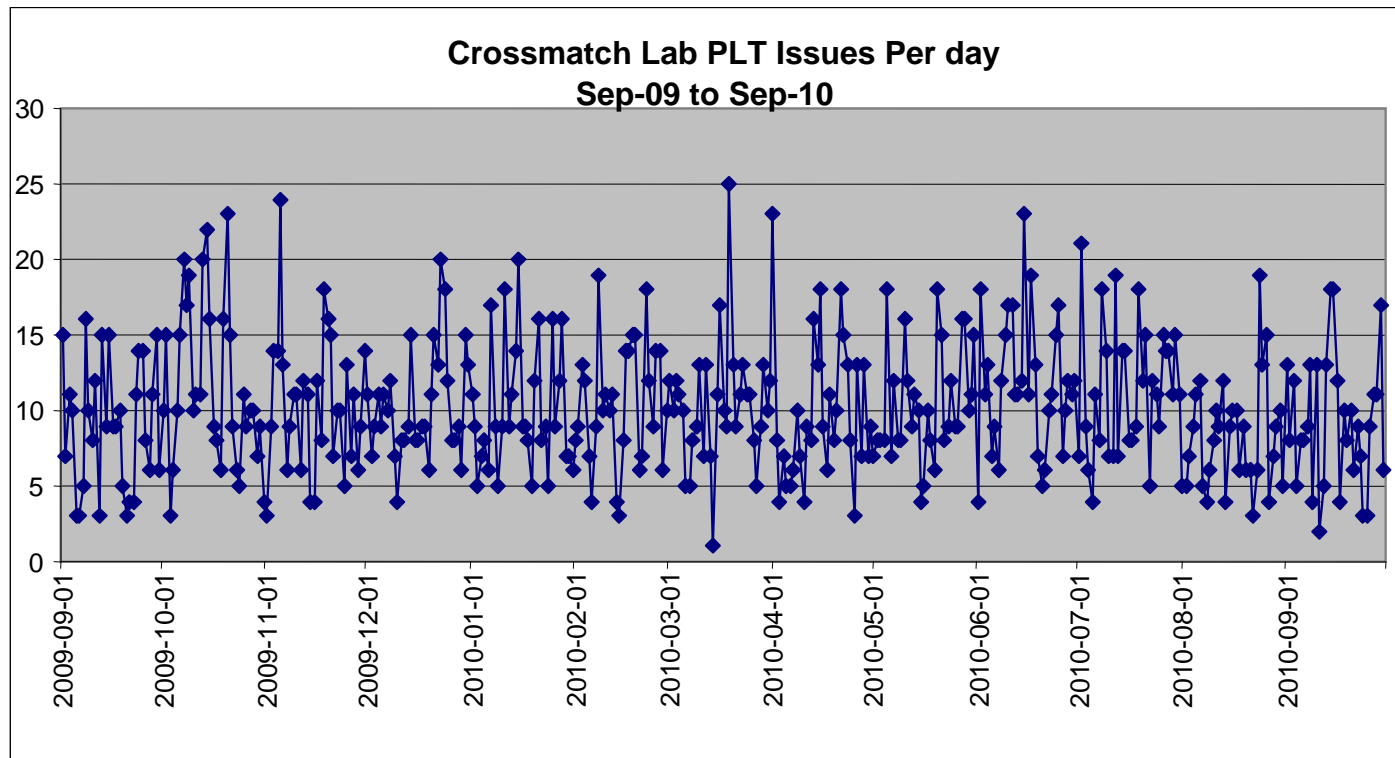


Shelf Life of Platelets

April 1 – Sept 30, 2010



Crossmatch Lab Issues to Hospitals



Doses Issued to Hospitals per Day

Jan – June & Sept –
Nov 2009

Issues/Day	# of Days
24	1
23	1
22	1
20	3
19	2
18	1
17	1
16	5
15	11
14	11
13	13
12	13
11	28
10	26
9	34
8	25
7	17
6	23
5	22
4	15
3	14
2	4
1	1

80% Issues
Fall in between 3 - 12 Units

April – Sept 2010

Qty	# of Days
23	2
21	1
19	3
18	9
17	4
16	4
15	9
14	5
13	11
12	13
11	16
10	13
9	19
8	19
7	16
6	13
5	11
4	10
3	4
2	1

80% of issues fall between 4 to 16 units issued per day

50% of issues fall between 6 to 12 units issued per day



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Successes

- Improved communication between BPM and Crossmatch Lab.
- Fewer platelet inventory shortages including post long weekends.
- Improved availability of platelets including CMV negative.
- Decreased outdateding of platelets – 35% to 22% in Crossmatch Lab. Representing a savings of approx. \$4,150 per week.



Limitations

- Aligning collections to hospital demand.
- Anticipating changes in hospital demand.
- Over collection/production on Mondays, Tuesdays and Wednesdays still contributes to distribution of platelets with a shorter shelf life than desired.
- Difficulty obtaining patients CMV test results.



Next Steps

- Continue work on aligning platelet apheresis collections and pooled platelet production to demand by day of week.
- Crossmatch Lab to review and monitor daily ordering practises.
- Improve communications with hospitals to understand changing demands for platelets.
- Improve CBS staff ability to access patients CMV test results to ensure appropriate products are transfused.



Hospital Service Plan Team

- Debra Lane - Medical Director
- Sharon Flood - Medical Office Coordinator
- Lee Grabner – Crossmatch Lab Manager
- Dora Lopes-Carvalho – Crossmatch Lab Charge Technologist
- Henri Beaubien, Mariska McGuire, Nancy Walkey - Senior Crossmatch Lab Technologists
- Susan Shimla – Western Director Production and Hospital Services
- Tracey Pronyk - Ward, Production Manager
- Lynne Christie - Production Charge Technologist BPM
- Ted Baker - Senior BPM Technologist
- Raj Maripalli - HO Industrial Engineer
- Val Paulson - HLS





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