

# Antibody Registry Use at Stormont Vail Health

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## OBJECTIVES

- Discuss Antibody Registry use at Stormont Vail Health.
- Review case where the Registry was beneficial to patient care.
- Review patient case when the Registry may have prevented harm.



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### About SVH

- 586-bed acute care referral center
- Busy Hematology/Oncology Service
- The only verified trauma center in Northeast Kansas
- 21% of our patients are transferred in from outside facilities.

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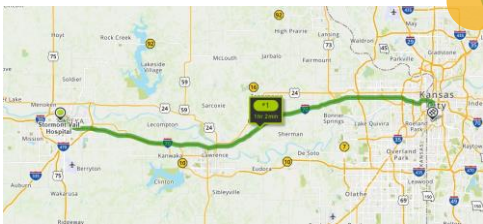
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### Challenges of Our Physical Location



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### Transfusion Service Policy Regarding the Registry

- o The Antibody Registry will be checked for all patients with an antibody screen order.
- o Any relevant history will be added to the blood bank information system by the laboratory scientist.
- o A canned comment is added to the history check stating that the Registry was reviewed.
- o Verification that the comment was added is included in the quality assurance testing review the following day.
- o All new antibodies identified are added to the Registry by Laboratory Manager of Transfusion Safety.



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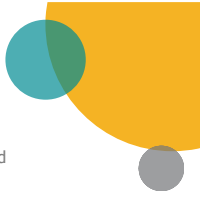
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### THANK GOODNESS FOR THE REGISTRY

- o Single-unit packed cell request for 30-year old female due to hemoglobin of 6.4 g/dL and hematocrit of 19.1%.
- o No special transfusion requirements relayed to the Blood Bank.
- o It was noted that the patient only weighed about 31 kg, so the Blood Bank requested a weight-based pediatric order




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### Current Testing

- o B Positive
- o Negative antibody screen

So, this should be easy, right!?




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### Current Testing

- o B Positive
- o Negative antibody screen

TEST DATE	TEST NAME	REFERENCE RANGE	RESULTS	LAB/REF	REPORT DATE
09.28.2022	ABO Blood Group	B	B	Stanford Health	10.04.2022 10:00 AM PT
09.28.2022	Rh Blood Group	Positive	Positive	Stanford Health	10.04.2022 10:00 AM PT
09.28.2022	Direct Antiglobulin Test (DAT)	None	None	Stanford Health	10.04.2022 10:00 AM PT
09.28.2022	Indirect Antiglobulin Test (IAT)	None	None	Stanford Health	10.04.2022 10:00 AM PT
09.28.2022	Panel Reactive Screen (PRS)	None	None	Stanford Health	10.04.2022 10:00 AM PT

TEST DATE	TEST NAME	REFERENCE RANGE	RESULTS	LAB/REF	REPORT DATE
09.28.2022	Current antibody screen negative; patient is routinely provided Fya negative units per PRS.			Stanford Health	10.04.2022 10:00 AM PT
09.28.2022	In Rh/D CBC patient may have a hybrid D/Cc-D gene encoding partial C or may have partial C antigen. Until the antigen status of this patient is determined, it is recommended this patient receive D-negative donor units.			Stanford Health	10.04.2022 10:00 AM PT




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### Benefits

- Informed of previously identified antibodies that are no longer detectable.
- Instant access to special transfusion requirements (HGB-S negative).
- Awareness of other facilities that provide care, and any preferential antigen matching.
- In this case we were even able to notify the other facility that she wouldn't be there for her scheduled exchange transfusion the next day because she was an inpatient with us.



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### • If Only this Patient Had Been in the Registry...

- 43-year old woman directly admitted from outside facility for discitis (infection of intervertebral disc space).
- No previous transfusion service history at our facility.
- Type and screen with one unit of packed red cells ordered on hospital day #5 due to hemoglobin of 7.6 g/dL.
- A blood type verification from another phlebotomy collection was also performed.
- A POS X 2 with negative antibody screen
- Single unit of packed cells electronically crossmatched, issued, & transfused.



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### • If Only this Patient Had Been in the Registry...

- A second type & screen with two unit crossmatch was ordered on hospital day #10 due to hemoglobin of 6.9 g/dL.
- Results unchanged : A POS with negative antibody screen
- Two units of packed cells electronically crossmatched, issued, & transfused.
- Post-transfusion hemoglobin= 8.8 g/dL, but subsequently dropped to 6.9 g/dL two days later with no obvious source of blood loss

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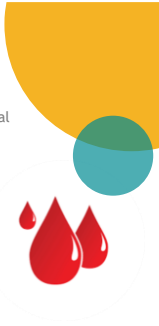
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• If Only this Patient Had Been in the Registry....

- Two additional units of packed cells requested on hospital day #10. The previous antibody screen was still in-date, so the units were electronically crossmatched, issued, & transfused.
- RN reported a temperature spike and potential transfusion reaction after the 2<sup>nd</sup> unit had finished transfusing.
- Hematology was consulted for the unexplained drop in hemoglobin and reported transfusion reaction.




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• If Only this Patient Had Been in the Registry....

Post-transfusion testing:

- Icteric plasma
- Anti-IgG DAT= 3+ in gel
- Anti-C3b, d= microscopically +
- LDH= 946  $\mu$ /L (reference range= 128-212)
- Total bilirubin= 5.7 mg/dL (reference range= 0.0-1.2)
- Noted increase in retics on peripheral smear
- Antibody screen + with anti-Jk<sup>b</sup> identified in plasma
- Negative eluate
- Retrospective testing showed 5/5 units transfused were Jk<sup>b</sup> positive, and incompatible with the current specimen




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• If Only this Patient Had Been in the Registry....

And the very next day....

The patient presented a wallet card from 2018 to the RN stating that she had previously identified anti-E and anti-Jk<sup>b</sup>.




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• If Only this Patient Had Been in the Registry...

- Information system updated to include the anti-E.
- 2/5 previously transfused units were also E+.
- Clinical Pathologist, Hematologist, and Hospitalist updated.
- Risk Management notified of adverse event.



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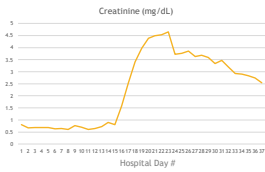
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• If Only this Patient Had Been in the Registry...

- Creatinine continued to rise, and the patient was started on hemodialysis hospital day #22 when creatinine= 4.65 mg/dL (reference range= 0.40-1.10).



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• If Only this Patient Had Been in the Registry...

- Received two additional transfusions during admission.
- Discharged to skilled nursing facility on hospital day #37.
- We received a call from a blood center in the Ozarks about two months later stating that a new anti-S was identified. We updated our information system & the Community Blood Center Antibody Registry.



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THANK YOU



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Questions?



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