A Roadmap for Adoption of Transfusion-Related Adverse Event Reporting using the National Healthcare Safety Network

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Background

The National Healthcare Safety Network (NHSN) is used by US healthcare facilities to report patient safety outcomes. Since 2010, the NHSN Hemovigilance Module (HM) has been available for voluntary reporting of transfusion-related adverse events. On June 1, 2014, Massachusetts Department of Public Health (MDPH) became the first state health department to require all blood banks utilize HM to report monthly adverse event data. We present a roadmap for how successful statewide implementation in Massachusetts (MA) can inform efforts elsewhere. Also, early hemovigilance data from MA blood banks can further demonstrate the utility and value of the HM.

Methods

Assessment/Engagement

- Engage/partner with regulatory counterparts
- Identify all blood banks and foster collaborative relationship
- Strengthen relationships with local hemovigilance champions
- Establish and obtain guidance from a technical advisory group (TAG)
- Survey blood banks to assess knowledge and perceptions

Decision/Pre-Implementation

- Obtain support from key stakeholders
- Mandate statewide reporting through NHSN with regulatory support
- Announce mandate well in advance to allow for adequate training, communication and anticipation of challenges

Enrollment

- Support and communicate with users to assist with compliance
- Respond to user enrollment issues promptly
- Engage facility administrators to assist with enrollment and compliance

Maintenance/Analysis

- Ongoing user support
- Early quality improvement efforts
- Regular communication with users
- Regular meetings of the TAG to obtain guidance for sharing and reporting of statewide aggregate data
- Develop benchmarks to inform transfusion safety initiatives

Results

60 of 69 facilities in MA reported complete Hemovigilance Module data for July 2014 – March 2015.

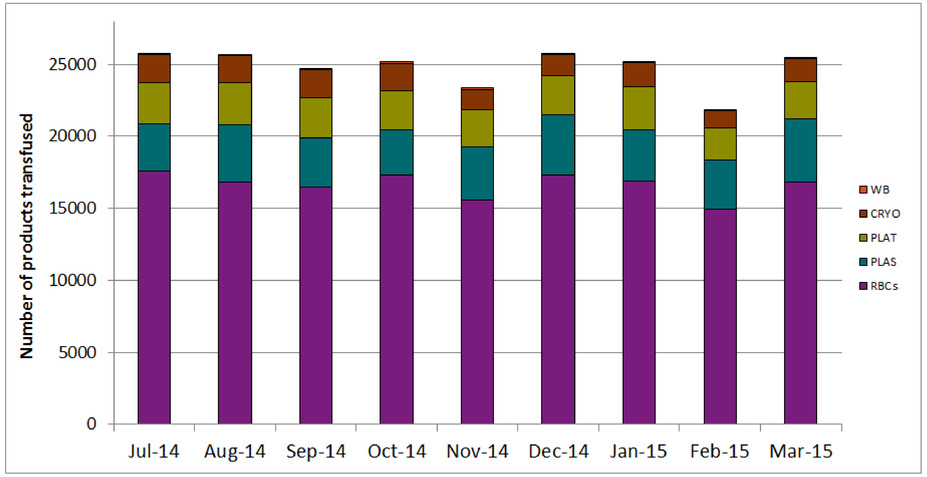

Figure 1 – Blood products transfused by month and product type, Massachusetts 2015. Transfusion volume is defined as red blood cells (RBCs), plasma (PLAS), platelets (PLAT), cryoprecipitate (CRYO) and whole blood (WB) transfused per month.

Blood Components		Total Adverse Reactions		FNHTR*		TACO*		TTI*	
Type	N	N	Rate	N	Rate	N	Rate	N	Rate
All	222,862	298	13.37	183	8.21	50	2.24	6	0.27
RBCs	149,730	220	14.69	138	9.22	35	2.34	5	0.33
PLAT	24,313	43	17.69	30	12.34	4	1.65	1	0.41
PLAS	32,991	15	4.55	5	1.52	2	0.61	0	0.00
Whole Blood	722	1	13.85	1	13.85	0	0.00	0	0.00

Table 1 – Total adverse reactions and rates per 10,000 units transfused. An overall reaction rate of 13.37 reactions per 10,000 units transfused is seen during the first three quarters in MA. Six transfusion transmitted infections were reported, five of which were babesiosis (*FNHTR – Febrile non-hemolytic transfusion reaction; TACO – Transfusion-associated circulatory overload; TTI – Transfusion-transmitted infection).

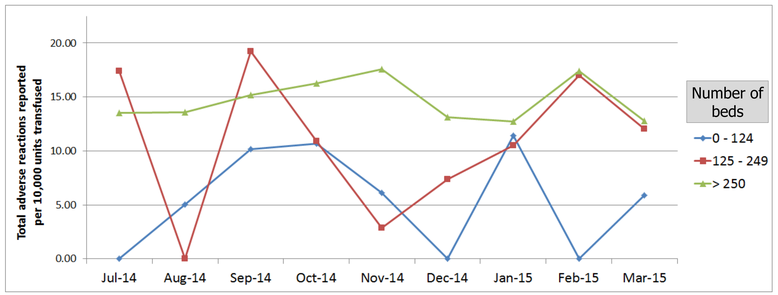

Figure 2 – Total adverse reactions per 10,000 units transfused by facility bed size. Each bed size group was comprised of 20 facilities.

Conclusions

Key Lessons Learned:

- Engage and partner early with regulatory counterparts
- Establish and foster collaborative relationships with blood banks
- Regulatory deadlines promote implementation
- Utilize available support from CDC

The adoption of mandatory hemovigilance reporting will result in valuable data which can be used to improve patient safety and reduce adverse transfusion-related outcomes. In MA, blood banks are now able to compare their adverse event rate(s) to those of other similar facilities, and potential areas for improvement are being identified and investigated further.

More Information

Visit the NHSN website at www.cdc.gov/nhsn to learn more about the NHSN HM.

National Center for Emerging and Zoonotic Infectious Diseases

Division of Healthcare Quality Promotion

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