Blood Utilization Review

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What is Blood Utilization Review?

From the Oxford English Dictionary:

“review 1. *trans.* Law. To subject (a decree, act, judgment, etc.) to examination or revision, esp. by a higher court or authority…”

So...to subject the use of blood to examination or revision (by a higher authority)
What is Blood Utilization Review (BUR)?

- BUR may be
  - Retrospective
  - Concurrent
  - Prospective

- BUR may include
  - Blood inventory management
  - Blood ordering practices
  - Blood administration practices
  - Review of standardized protocols
    - Emergency release
    - Massive transfusion
Blood Inventory Management

- Blood supplier(s) performance
  - Turn-around time
  - Ability to meet needs
  - Customer service

- Blood wastage
  - Expired units
  - Units “spiked-through” or out of bank too long

- Inventory levels
  - Special units (CMV-negative, irradiated)
  - Minimum levels
  - Maximum levels
Blood Ordering Practices

- Appropriateness of the order
  - Based on pre-transfusion laboratory values
  - Number of units ordered
  - Post-transfusion values to evaluate effectiveness
  - Comparison to guidelines (e.g. MSBOS)
  - Use of special units (e.g. irradiated)

- Documentation in the medical record
  - Physician’s order to prepare & transfuse
  - Indication of need
Blood Administration Practices

- Informed consent
- Indication that transfusion was given
  - Clinical response (i.e. symptoms resolved)
  - Patient monitoring during infusion
- Any adverse events
- Compliance with policies for handling blood
  - Transfuse within 30 minutes or return to lab
  - Documentation of correct patient & component ID (2 signatures)
  - Infuse within 4 hours (start & stop times)
Review of Standardized Protocols

- Emergency release / Massive transfusion
  - Protocol appropriateness
  - Appropriate activation
  - Turn-around-time for blood dispensing
  - Documentation in the medical record
  - Number of components used
  - Component wastage
Why do BUR?

- A standardized process translates into improved patient care and more efficient use of a limited resource.
- Minimizing unnecessary transfusions improves the risk : benefit ratio and reduces the cost of the blood budget.
- The chance for peer-review can improve the practice of medicine (e.g. getting outliers back within the norm).
- Regulatory agencies require it.
42CFR482.27: HIV and HCV lookback
(identical to 21CFR610)

42CFR482.30: “The hospital must have in effect a utilization review (UR) plan that provides for review of services furnished by the institution and by members of the medical staff to patients entitled to benefits under the Medicare and Medicaid programs…

(c)(1) The UR plan must provide for review for Medicare and Medicaid patients with respect to the medical necessity of…(iii) professional services furnished, including drugs and biologicals.”
Joint Commission

- **PI.01.01.01, Element of Performance (EP) 7**: “The hospital collects data on the following: …the use of blood and blood components.”

- **EP 8**: “…data on all reported and confirmed transfusion reactions.”

- **LD.04.04.01, EP 2**: Leadership should give high priority to high-volume, high-risk, or problem-prone processes for PI activities.
Joint Commission

- **LD.04.04.05, EP 6**: Leadership must “provide and encourage the use of systems for blame-free internal reporting of a system or process failure, or the results of a proactive risk assessment.”

- **NPSG.01.03.01**: “…eliminate transfusion errors related to patient misidentification.”

- **MS.08.01.03**: mandates ongoing professional practice evaluation be used to decide to continue, limit, or revoke existing privileges; the pattern of blood use is a criterion that may be used in this evaluation.
Joint Commission

PC.05.01.05: “...the organization maintains records on the receipt, testing, and disposition of all blood and components.

1: The hospital retains records, in a manner that permits prompt retrieval, of the source, recipient, and disposition of all blood and blood components for a minimum of 10 years from the date of disposition.

2: The hospital has a fully funded plan to transfer the records on blood and blood components to another organization if the hospital ceases operation for any reason.”
AABB Standards

8.2 Monitoring of Blood Utilization

Transfusing facilities shall have a peer-review program that monitors and addresses transfusion practices for all categories of blood and blood components. The following shall be monitored:

- Ordering practices
- Patient identification
- Sample collection and labeling
- Infectious and noninfectious adverse events
- Near-miss events
- Usage and discard
- Appropriateness of use
- Blood administration policies
- The ability of services to meet patient needs
- Compliance with peer-review recommendations
- Critical laboratory results before and after transfusion

Chapter 9, Process Improvement Through Corrective and Preventive Action, applies.
Phase II deficiency

TRM.40850: Documentation confirming the participation of the medical director of the BBTS in establishing criteria for blood transfusion, reviewing cases not meeting audit criteria, and monitoring transfusion practices
Phase II deficiencies

- TRM.41525: Define the authority, responsibility, and accountability of the perioperative blood recovery and reinfusion program
- TRM.41550: The procedures for blood recovery ensure the safety and efficacy of the recovered blood components.
- TRM.41600: The BBTS medical director is involved in establishing policies and procedures related to intra- and perioperative collection and reinfusion procedures
Phase II deficiencies

- **TRM.41700**: Documented procedures that describe actions to be taken in the event of a transfusion reaction
- **TRM.41750**: Documented policies that require transfusion reactions or incidents to be reported to the laboratory
- **TRM.42000**: The BBTS medical director establishes a protocol indicating under what circumstances additional testing will be performed after a transfusion reaction and the nature of that testing
Phase II deficiencies

- **TRM.42050**: Findings of an adverse reaction investigation are to be interpreted by the medical director or designee and reported in a timely and effective manner.

- **TRM.42150**: The BBTS medical director establishes protocols for the evaluation of adverse effects of transfusion, including follow-up for transfusion-transmitted diseases and delayed transfusion reactions.
Phase I deficiency

TRM.41770 When a transfusion reaction incident investigation indicates a system failure (e.g. misadministration of a blood component), the medical director must be involved in the investigation and resolution of the issue.
Who is responsible for doing BUR?

- Most institutions have a committee designated to perform the BUR function defined in the medical staff bylaws.

- Committee members:
  - Blood bank medical director (preferably not the chair)
  - Nursing representatives
  - Hospital administration
  - Legal / risk management and QA / QI staff
  - Doctors from a variety of services that transfuse a lot (ED, surgeons, anesthesiologists, oncologists, etc.)
How do you perform BUR?

- Standing reports
  - Quality indicators
  - Units transfused
    - By location or service
    - By provider
  - Crossmatch : Transfusion (C:T) ratio
    - By location or service
    - By provider
  - Wasted / Expired blood
    - Track / trend reasons
    - Address the most common problems
- Supplier review
- Perioperative blood salvage
  - Collection statistics
  - QC / Quality indicators
How do you perform BUR?

- **Audits**
  - Of patient records
  - Of transfusion service (and donor center) records
  - Of actual transfusions (follow a unit)

- **Adverse events**
  - Transfusion reactions
    - Must include TRALI, hemolytic, and septic reactions
    - All fatalities related to transfusion
    - Report incidence as % of units transfused
  - Occurrence reports
  - Deviation reports
  - Customer complaints

- **Inspection findings**
  - Internal
  - External
How do you perform BUR?

- Peer reviews
  - Transfusions outside guidelines
    - Prospective: before blood is issued
      - May prevent inappropriate transfusion
      - May cause delay in transfusion
      - Labor-intensive for the laboratory
    - Concurrent: at the time of issue or shortly after
      - Blood is issued, but may be intercepted before transfused
      - Labor-intensive for the laboratory
    - Retrospective: after blood has been issued
      - Educational opportunity, but does not prevent wrong transfusion
      - Details of the clinical situation may be forgotten
  - Pre-determined criteria
    - All massive transfusions
    - All fatalities
Blood utilization review is beneficial for patients and required by many accrediting agencies and the CFR.

Most institutions have committees that perform the utilization review function.

There are many acceptable methods for conducting utilization review.

Current standards and regulations guide what must be reviewed, but not how.
References

- Code of Federal Regulations, Titles 21 and 42