



Managing Surge Needs for Injuries: Blood Bank Response



PURPOSE

Within four hours of an event, provide blood products for up to 300 injured patients and sustain support for up to 72 hours.

BACKGROUND

The Madrid terrorist bombings were used as a model to help develop solutions for managing rapid surge problems during a mass casualty event.

On March 11, 2004, 10 terrorist explosions occurred almost simultaneously on commuter trains in Madrid killing 177 people instantly and injuring more than 2,000. That day, 966 patients were taken to 15 public community hospitals. More than 270 patients arrived at the closest facility between 0800 and 1030 hours.

Federal resources should not be expected to arrive sooner than 72 hours from the time of explosion. Resources can be delayed by the time taken to deploy them and by responding to multiple communities.

Emergency Medical Service Response

Emergency Department Response

Surgical and Intensive Care Unit Response

Radiology Response

Blood Bank Response

Hospitalists' Response

Administration Response

Drugs and Pharmaceutical Supplies

Nursing Care

GOAL

During the first four hours of a disaster, ensure that that appropriate blood products can be located, processed, and administered in a timely manner to at least 300 patients requiring transfusions. Identify additional needs so that blood products can be collected, processed, and administered for up to 72 hours.

RESOURCES REQUIRED

- AABB documents
- Disaster response plans for hospital and blood collection centers
- Laboratory personnel to collect, process, and distribute products
- Transportation resources, diesel and unleaded fuel, and storage equipment (e.g., dry ice)
- Transfusion supplies

This document is a resource guide. Local needs, preferences, and capabilities of the affected communities may vary.

ASSUMPTIONS

- The most difficult problems involve disruption or interference of the blood supply system
 - Historically, blood supply needs during disaster response have been met with the quantity of blood products available at that time.
 - Facilities currently maintain about a three-day supply of blood products—which may need to be expanded to a seven-day supply.
 - Typically, fewer casualties require blood products than the total number of victims.
 - Local communities have limited sources of blood products.
 - If faced with a surge increase in demand, blood products will likely be transported from blood centers outside the local area.
- After a disaster, the public usually responds by volunteering to donate larger quantities of blood products than are needed.
 - An influx of blood donors could tax collecting and processing efforts.

- When resources (personnel, equipment, and supplies) are unnecessarily applied to collecting and processing unneeded products, the resources cannot process and distribute available and urgently needed products to those in urgent need.
- The media must continuously provide the community with reliable information about need and supply of blood products.
- There are limited personnel with the training, education, and skills to process and administer blood products within treating facilities.
 - Additional qualified laboratory personnel may be needed to process request for blood products.
 - Additional nursing personnel may be needed to administer blood products.
- There may be limited methods of transporting or transferring blood products from the supplier to destination during a disaster.
 - Commercial transport (air and ground) may be limited.
 - Blood needs are considered by federal, state, and local governments to be a critical element of the public health infrastructure in times of emergency.
- The AABB Interorganizational Task Force on Domestic Disasters and Acts of Terrorism, formed in January 2002, has developed a process to educate the community about donations and how to collect, process, and move blood products at the time of a disaster.
 - This multi-organizational task force includes federal and national organizations.
 - Published references include a Disaster Operations Handbook and a hospital supplement that addresses these issues. They include a flow chart outlining the process for involving the AABB and appropriate national and federal organizations that provide blood products during a disaster.

ACTION STEPS

- Work with AABB to distribute documents to hospitals and blood collection organizations/facilities.
- Identify resources (personnel, equipment, supplies) to meet local needs for collection, processing, distribution, and transfusion of blood products. This effort must include local media to provide consistent messages to the community about blood products, supply, and needs. (Note: Individual hospitals and collection organizations incorporate the AABB process into their local disaster response plans.)
- Work with other organizations and government agencies (local, regional, state, federal) to make sure blood products are considered critical elements of the public health infrastructure in the event of a disaster/emergency.

EVALUATION

- Ensure that survey hospitals and collection organizations incorporate AABB processes into local disaster response plans after 4 to 6 months.
- Request that hospitals and collection organizations participate in a local or regional exercise requiring administration of blood products within four hours of an event for up to 72 hours.
 - Include activation and response of the AABB system, and local, regional, and state resources in the exercise.