

Pandemia: Blood Collection and Supply



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Definition of a “Disaster”

(M. Erickson, AABB 2008, Canada)



An event that:

- ✓ Suddenly increases the demand for blood
- ✓ Restricts or eliminates the ability to collect, test, process or distribute blood
- ✓ Prevents the local population from donating blood
- ✓ Restricts or prevent the use of the available inventory of blood components (liquid and frozen)
- ✓ Requires immediate replacement or re-supply of blood from another region/country
- Creates a sudden massive influx of donors



Disaster Scenarios

Predicted Disaster	Blood Supply	Blood Demand	Staffing
Seasonal Blood Shortage	Reduced	Normal	Normal
Mass Injuries	Normal	Increased	Normal
Major Storm	Reduced	Normal	Reduced
Influenza Pandemic	Reduced	Increased	Reduced

M. Erickson, Yale, AABB 2008, Canada



Effect of a Pandemia on the Supply & Demand of Blood (A.B Zimrin & J.R. Hess, Transfusion 47:1071-1079, 2007)

- ❖ Increased in demand for blood units and components
- ❖ Loss of donors
- ❖ Loss of workers
- ❖ Loss of critical reagents with short expiration date (RBC)
- ❖ Difficulties in transportation of specimens to central laboratories
- ❖ Degradation in response time from central laboratories
- ❖ Loss of management and senior staff members, who need to find alternative solutions and operate accordingly



The American Blood System

Zimrin & Hess, Transfusion 47:1071-1079, 2007

Subject	Data / year	Pandemia
Whole blood collection	14.5 million units	↓
Platelets Apheresis collection	1 million units	↓
Collection in Mobiles	50-90%	↓
Transfusion recipients	2 million	↑
Number of hospitals visits	3.8 million	↑
Use rate	50 units/1000 population	↑
Blood usage by hospital services	52% for Medical indications (Hem-Onc included) 41% for surgical patients (Trauma included) 6% for OBG	↑ ↓



Minimize the Damage & Maximize the Resources

Protecting personnel	Designated blood system employees Vaccination; priority in chemoprophylaxis; protecting gear Provide transportation / access to rationed gasoline
Recruiting blood donors	Clear message to the public; Safe opportunities to donate blood Timely planned collections; Door-to-door?
Assuring access to supplies	Logistic pre-planning, Stocks of long-lived supplies (tubes, gloves), Verified in-house reagents preparation methods
Preserving the function of equipment and facilities	Keeping good maintenance system and support Having an IT DRP and manual substitutes
Keeping a functioning management system	Ensuring continuity of professional management
Maintaining an adequate blood supply	Exchange programs between nations



Thank you!

