



A Call to Action: Our Public Health Crisis and the Blood Supply Shortage

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Introduction

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Session Objectives

By the end of this session, attendees should be able to:

- Discuss the impact of the COVID-19 pandemic on the blood supply in the United States.
- Describe the intersectionality between public health and the national blood supply.
- Explore strategies to mitigate the national blood supply shortage across communities.

Disclosures


Relevant Financial Relationships:

- Salaried manager in the Training and Workforce Development program area at the Association of Public Health Laboratories (APHL).
- Adjunct faculty in the Department of Clinical Laboratory Sciences at the University of Kansas Medical Center.

Disclosures

Relevant Nonfinancial Relationships:

- Serves on the Council of Laboratory Professionals and the Commission for Continuing Professional Development for the American Society of Clinical Pathology (ASCP)
- Serves as chair for the Emerging Laboratory Managers Collaborative Conference (ELMC²) Education Steering Committee for the American Society of Clinical Laboratory Science (ASCLS)
- Serves as a volunteer with the Professional Engagement Program (PEP) for the Association for the Advancement of Blood & Biotherapies (AABB)
- No conflicts of interest with the content presented in this session.



“The current situation...is the most concerning I have seen in my career.”
– Dr. Claudia Cohn, Chief Medical Officer (AABB)

...and so it begins

- In March 2020, there were several accounts of hospitals experiencing critically low blood inventory levels across the country
 - Thus, creating another critical issue in addition to the emerging pandemic
- Blood centers throughout the nation experienced a decline in the number of blood donations resulting in historical low donation rates

“We’re used to living at a one- to two-week blood inventory. Now a lot of the country is living at one- to two-day inventory, and it’s challenging to look at what our future holds.”

-- Dr. Justin Kreuter (March 2020)
Mayo Clinic Blood Donor Center

WARNING: BLOOD CRISIS

American Red Cross

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American Red Cross @RedCross

We now face a severe blood shortage due to an unprecedented number of blood drive cancellations during this #coronavirus outbreak. Make an appointment to help patients counting on lifesaving blood: rdcss.org/2weMYZI

COVID-19 Blood Supply Impact

2,700 Blood Drives Canceled	86,000 Fewer Blood Donations
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NATIONWIDE BLOOD SHORTAGE
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- Blood Supplies at Dangerously Low Levels Nationwide
- Surging COVID-19 Cases, Severe Weather, Canceled Drives, Staffing Issues
- Online: RedCrossBlood.org
Call: 1-877-486-9414


ON YOUR SIDE
4:23 5:22

Critical Blood Shortage and Ethical Decisions



One year later...

- **June 2021:** The AABB Interorganizational Task Force on Domestic Disasters and Acts of Terrorism reports the blood supply dropped to “red” level
 - Dangerously low supply nationwide
 - Blood products reserved for the sickest and most critical patients
- Blood has always been in high demand but the COVID-19 pandemic and rise in violent crime added additional strain to the blood supply
- In a comparison between 2019 and 2021, **the demand for blood increased by 10%** in hospitals with trauma centers and more than five times in other healthcare facilities



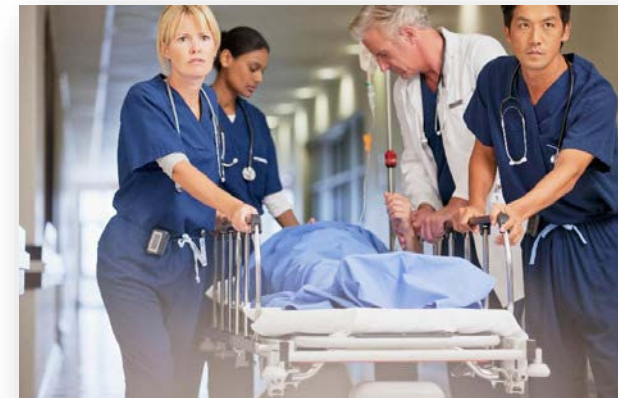
“The types of traumas that require transfusions are persistently remaining up.”

--Dr. Babek Sarani

(Georgia Washington University Hospital)

National Blood Shortage and Public Health

- **American Journal of Public Health:** Riley et. al (2021) stated that *“the COVID-19 pandemic has precipitated an acute blood shortage...contributing to the public health crisis, and raising deeper questions regarding emergency preparedness planning for ensuring blood availability.”*
 - The decline in blood donations impacted the decreased supply of blood
 - Public health implications as the shortage persists leading to a potentially catastrophic situation for our healthcare system



The Facts About Blood Donation

Every 2 seconds someone in the U.S. is in need of a blood and/or platelet transfusion.

Nearly 16 million blood components are transfused in the U.S. every year.

On average, a red blood cell (RBC) transfusion for a patient may require up to 3 full units.

A single car accident victim may need as many as 100 RBC units.

Prior to the pandemic, approximately 6.8 million people donated blood in the U.S. (13.6 million units of blood donated).

Although nearly 38% of the U.S. population meets the eligibility requirements to donate blood, only about 3% of eligible persons donate annually.

Blood Donation is Essential

- According to blood centers, transfusions are needed in a variety of patient cases including:
 - Serious injuries (e.g., motor vehicle accidents)
 - Surgeries
 - Childbirth
 - Anemia and other blood disorders
 - Cancer treatments
- When supply does not meet demand, healthcare facilities are not able to effectively meet patient needs.
 - Cancelled or postponed medical procedures
 - Seeking alternative interventions and therapies



Severe Blood Shortage in Alabama

- **Nov 2021:** According to the Alabama Hospital Association, "this is a crisis."
- Major blood suppliers had less than a 2-day blood supply available throughout the state
- Due to severe blood shortage, hospitals and medical centers had to postpone surgeries
- Media reports "only one trauma patient away" from critically low supply



A Call to Action: Give Blood



- Patients were encouraged to have a conversation with their clinicians about care plan during blood shortage
 - Consider asking family and friends to donate
- Evidence based messaging is key
- Public pleas made via local news outlets, newspapers and social media to increase awareness about the need for blood donors
- Businesses, schools, churches and other organizations encouraged to host blood drives

A New Campaign: Giving = Living

- **August 2022:** The U.S. Department of Health and Human Services (HHS) announced the launch of a new campaign to address the severe blood shortage.
- The campaign aimed to increase the number of blood and plasma donations in the U.S. in promoting awareness of the importance of donating blood.
- Healthy persons encouraged to give blood and give regularly
- Funded through the Coronavirus Aid, Relief and Economic Security (CARES) Act
- Featured stories of people sharing their personal experience in how they benefitted from blood donations.

Assistant Secretary for Health (ASH). (2022, August 4). *HHS Announces New Campaign to Increase U.S. Blood and Plasma Donations*. HHS.gov. <https://www.hhs.gov/about/news/2022/08/04/hhs-announces-new-campaign-increase-us-blood-plasma-donations.html>

Crystal (Birmingham, AL)

- A wife and mom of two boys who was diagnosed with two neuromuscular autoimmune conditions
- From independent → unable to feed, bathe, or dress herself
- No cure for her condition
- Plasma-based therapies and a healthier lifestyle are helping her regain her mobility

Assistant Secretary for Health (ASH). (2022, August 4). *HHS Announces New Campaign to Increase U.S. Blood and Plasma Donations*. HHS.gov.

<https://www.hhs.gov/about/news/2022/08/04/hhs-announces-new-campaign-increase-us-blood-plasma-donations.html>



Who is Donating Blood?



- 60% of blood donations are from people who are 40 years of age and older
 - AABB reported that the average blood donor is a white male between 30-50 years of age.
- The average blood donor is changing with an increased number of female donors as well as donors from diverse racial and ethnic backgrounds.

Diversity in the Blood Supply

- We need donors from diverse racial and ethnic backgrounds
 - Certain blood types are unique to specific groups (some patients have rare blood types as well)
 - Blood transfusions from a donor of similar racial or ethnic background is less likely to be rejected by the recipient
 - Often results in fewer post-transfusion complications
- By having a diverse blood donor pool, this will ensure that patients will have the blood they need in the blood bank
- It was estimated that less than 20% of all blood donations currently come from underrepresented communities.
- Promotion and outreach to increase a large, diverse donor pool should be inclusive of culturally sensitive messaging that is non-discriminatory



Who Can Donate?

- To be eligible to donate blood, donors must:
 - Be in good health and feeling well
 - 17 years old or older (or 16 years old with parental permission) in most states*
 - Weigh at least 110 pounds*
 - Show valid photo identification
- To learn more, encourage donors to review donor education materials provided by blood donation centers.
 - [Blood Donation Eligibility Requirements | Red Cross Blood Services](#)
 - [What You Need to Know - LifeSouth Community Blood Centers](#)

**Eligibility requirements for age and weight may vary based on donation type.*

The Impact of the COVID-19 Pandemic on Donor Eligibility

- Due to the severe blood shortage exacerbated by the COVID-19 pandemic, the Food and Drug Administration (FDA) revised their guidelines to increase the number of eligible blood donors.
- The deferral time was changed from 12 months to 3 months for the following populations:
 - Males who have had sex with males
 - Females who have had sex with males who have had sex with other males
 - People who have had recent tattoos and body piercings



Individual Risk Assessment for Blood Donations

- **Jan 2023:** The U.S. Food and Drug Administration (FDA) announced its proposal to change from time-based deferrals to assessing blood donor eligibility using gender-inclusive, individual risk-based questions to reduce the risk of transfusion-transmitted HIV.
- This proposal is similar to policies already implemented in other countries like Canada and the United Kingdom.



Donor Eligibility and COVID-19 Vaccine

- If the donor received a COVID-19 vaccine, the donor may be asked to provide the manufacturer name at the time of donation.
 - If the manufacturer name is unknown, then there is two-week deferral period.
- In most cases, there is no deferral period for those who have received a COVID-19 vaccine.
 - In good health and feeling well
- Eligibility guidelines apply to COVID-19 boosters as well.

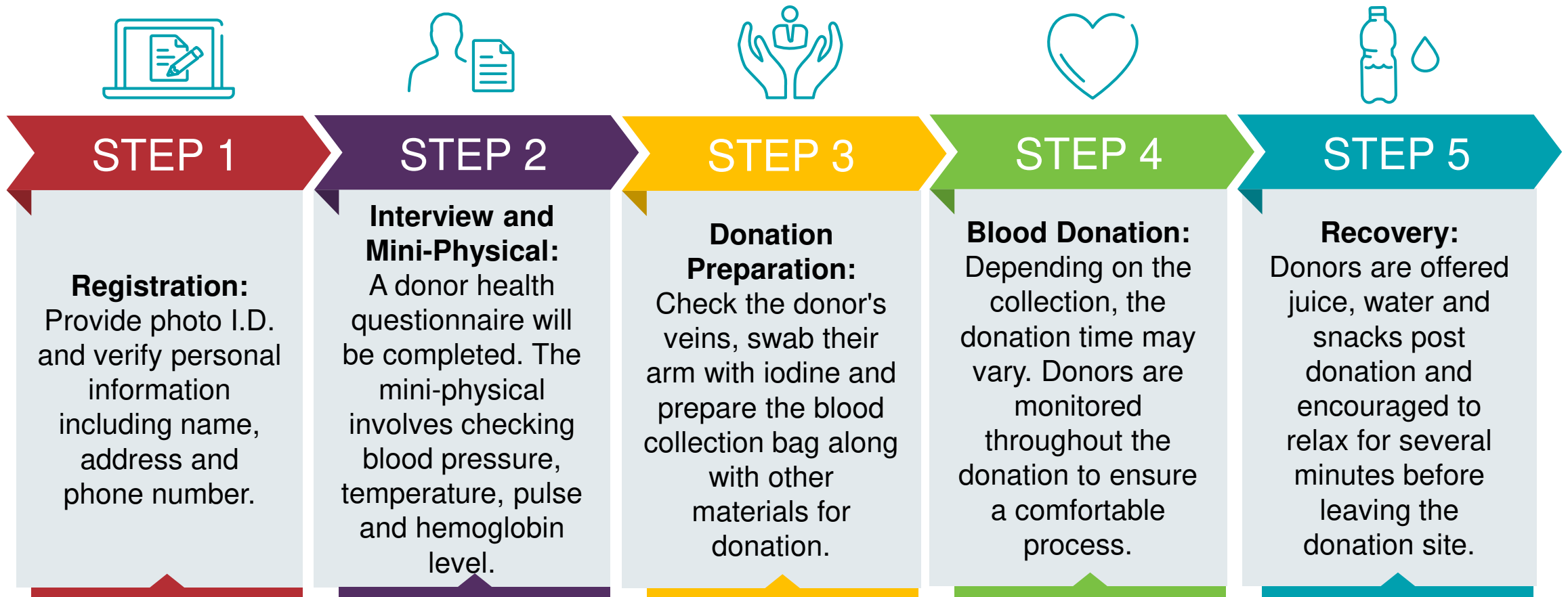




Donor Education

The Blood Donation Process

Blood Donation Process



LifeSouth Community Blood Centers. (2022, September 27). *What You Need to Know - LifeSouth Community Blood Centers*. LifeSouth Community Blood Centers. <https://www.lifesouth.org/what-you-need-to-know/>

Blood Donation: Safety Protocols

- Encourage only those individuals who are healthy and feeling well to attempt blood donation
- Blood donation facilities adhere to regulations and policies
- Questionnaires and mini-physicals are performed on every donor to ensure their safety as well as the blood supply
- Wearing appropriate PPE (e.g., gloves)
- Equipment is wiped down after every blood collection (enhanced disinfection of surfaces)
- Sterile blood collection sets are used for every donation
- Preparation for blood donation includes the use of an aseptic scrub on the donor's arm
- Extensive testing is conducted on every donation to ensure a safe blood supply for patients in need

A photograph of a person donating blood. The person's arm is extended, with a needle inserted into their vein. They are holding a red stress ball in their other hand. In the background, another person is sitting in a similar chair, also donating blood. The setting appears to be a blood donation center.

What if I cannot donate blood?

- Become a volunteer at a local blood center
- Increase awareness about the importance of blood donation in your communities
- Host a blood drive at your school, college, church, business or organization
- Monetary donations support operational efforts



Professional Organizations

Addressing the Severe Blood Shortage

American Society of Hematology (ASH) Statement

- Proposed the following policy goals to support a strong blood supply:
 - Clinical Management: Identify best practices for more efficient blood utilization, and clinical management protocols to minimize the need for transfusion.
 - Research and Surveillance: Encourage additional research to better inform donor policies and assure a safe and robust blood supply.
 - Donor Eligibility Criteria: Safely maximize eligibility criteria and eliminate unwarranted biased exclusion of marginalized populations.
 - Public Education and Awareness: Increase interest in donating blood and minimize barriers to blood donation.
 - Adequacy of Supply: Ensure that recipients of blood products have confidence in safety of the blood supply and are well informed about the benefits and risks of blood transfusion.

American Society of Hematology. (2022, September 13). *Statement on a strong blood supply*. Hematology.org. <https://www.hematology.org/advocacy/policy-news-statements-testimony-and-correspondence/policy-statements/2021/statement-on-a-strong-blood-supply#:~:text=As%20noted%20above%2C%20the%20COVID-19%20public%20health%20emergency,available%20data%20on%20the%20national%20blood%20supply%20chain>

Choosing Wisely®

- Choosing Wisely is an initiative of the American Board of Internal Medicine (ABIM) Foundation that promotes improved utilization of medical tests, treatments and procedures by medical providers.
- Supporting organizations, such as ASCP, ASCLS and ASH have published recommendations on the website
 - Example: Don't transfuse more than the minimum number of red blood cell (RBC) units necessary to relieve symptoms of anemia or to return a patient to a safe hemoglobin range (7 to 8 g/dL in stable, non-cardiac, in-patients).
 - Example: Do not transfuse red blood cells as the sole intervention for expansion of circulatory volume unless deemed necessary for patients experiencing severe hemorrhage.

ABIM Foundation. (n.d.). *Choosing wisely*. Choosing Wisely. <https://www.choosingwisely.org/>

Patient Blood Management (PBM) Strategies

- PBM practices are vital in the optimization of the blood supply in hospitals
- AABB and the Society for the Advancement of Patient Blood Management (SABM) provides resources for how to manage anemia, minimize blood loss, and optimize hemostasis in patients

Patient Blood Management (PBM) Strategies

Preoperative

- Postponement of elective surgeries



Intraoperative

- Use of autologous blood salvage
- Broader use of factor concentrates in patients during high bleeding risk procedures

Postoperative

- Eliminate (or reduce) phlebotomy for non-essential laboratory tests
- Transfuse one RBC unit at a time and reassess patient

Critical Blood Shortages: A Call for Patient Blood Management. (2022, January 24). <https://csahq.org/news/blog/detail/csa-online-first/2022/01/24/critical-blood-shortages-a-call-for-patient-blood-management>

Preparation for Future Blood Supply Emergencies

According to Riley et. Al (2021), these are proposed recommendations to improve the blood supply:

- Create national policies for capacity building and establish national system for inventory management.
- Change operating structure of blood supply organizations to improve ability to react to emergencies.
- Make structural changes to improve supply chain.
- Integrate blood supply organizations into emergency planning activities.
- Include blood-related scenarios in emergency drill and exercise programs.

Riley, W. J., Love, K., & McCullough, J. (2021). Public Policy Impact of the COVID-19 Pandemic on Blood Supply in the United States. *American Journal of Public Health, 111*(5), 860–866. <https://doi.org/10.2105/ajph.2021.306157>

Preparation for Future Blood Supply Emergencies

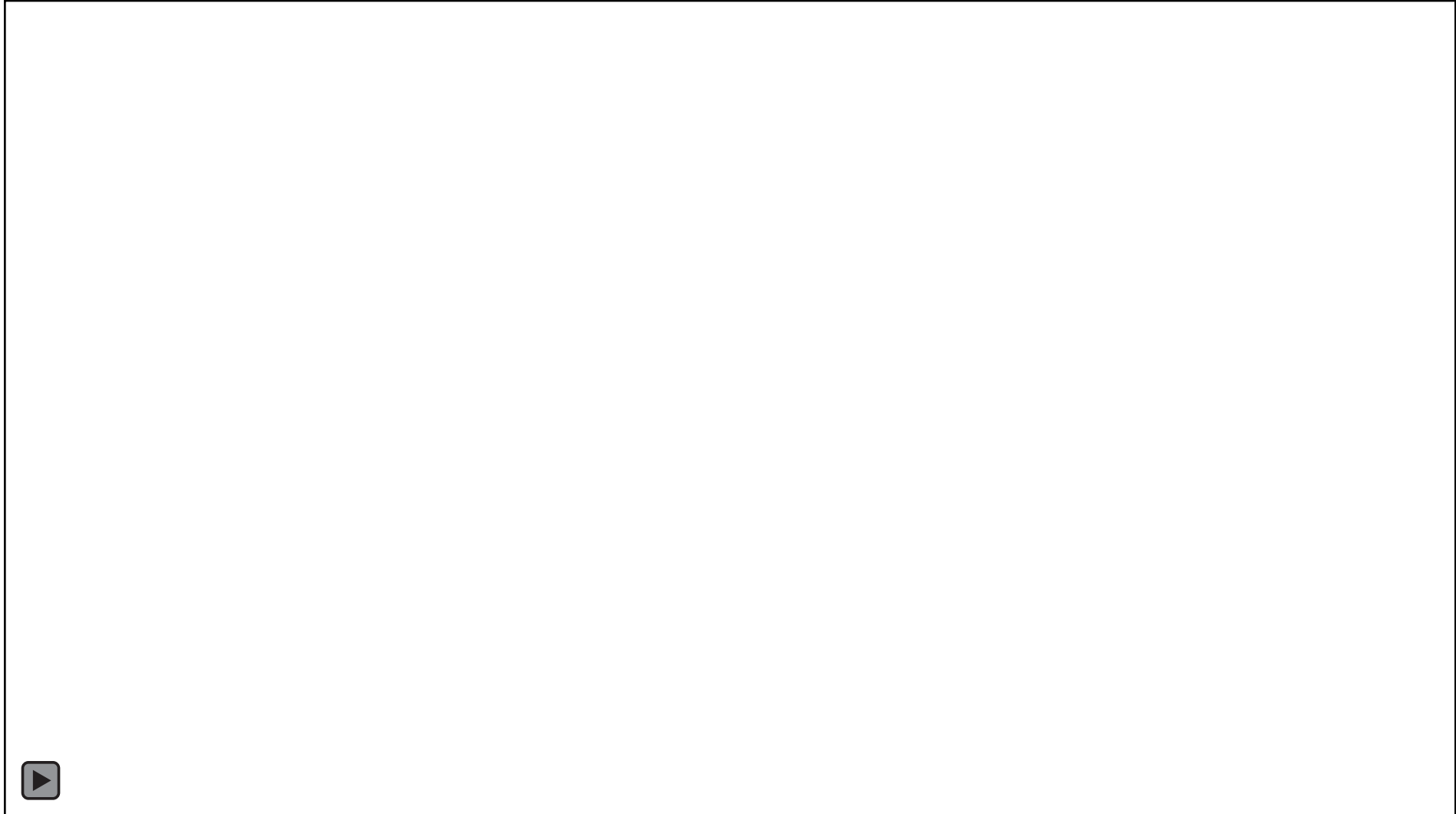
According to Riley et. al (2021), these are proposed recommendations to improve the blood supply [continued]:

- Ensure blood suppliers have appropriate priority within emergency communications, transportation and utility restoration.
- Define structure for comprehensive unified crisis management related to blood supply.
- Ensure that blood centers are considered essential services during emergencies.
- Create national stockpile of key supplies, equipment, and reagents to support continued blood supply organization function during emergency.

Short-term and long-term solutions are needed to address the call to action to ensure the sustainability of an adequate and safe blood supply (Riley et. al, 2021).

Riley, W. J., Love, K., & McCullough, J. (2021). Public Policy Impact of the COVID-19 Pandemic on Blood Supply in the United States. *American Journal of Public Health*, 111(5), 860–866. <https://doi.org/10.2105/ajph.2021.306157>

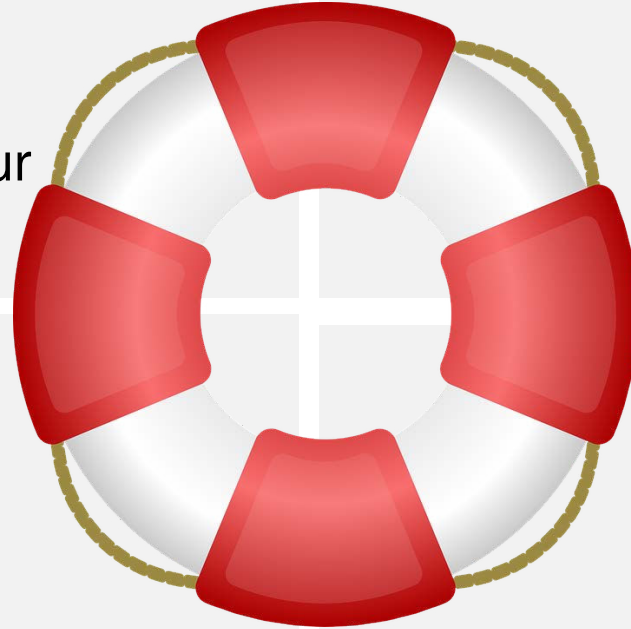
An Inspirational Message



Summary

We are in a national blood supply crisis

- Donor levels are lower now than prior to the pandemic.
- The COVID-19 pandemic has exacerbated the shortage in our blood supply.



Donors are needed

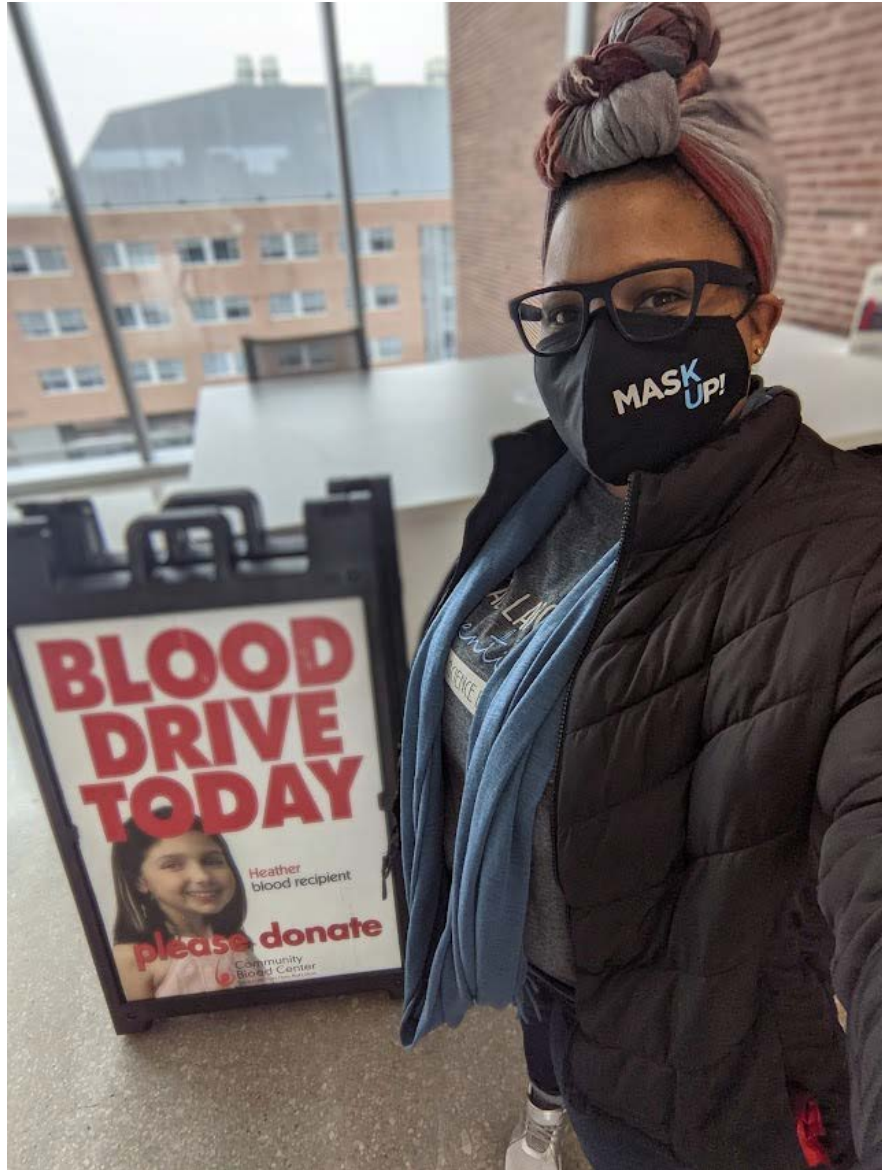
- Return and first-time donors are needed on a repeat basis.
- Need to increase awareness of blood shortage and promote donation.

Historically low supply

- For the first-time ever, the American Red Cross declared a blood crisis following a 10% decline in the number of people donating blood in the U.S.

Changes to eligibility criteria

- Proposed changes to donor restrictions are helping to increase the number of eligible donors across the country.
- Involvement of professional organizations to help assess for scientific basis of policies.





Thank you!

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