Challenges Providing Donor Hematopoietic Products Globally During COVID-19

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NMDP/Be The Match
Disclosures

- Full time employee of NMDP/Be The Match
- No other relevant disclosures
More than 33 Years of Global Leadership at NMDP

100,000+
total stem cell transplants facilitated

6,600+
annual stem cell transplants

22 million
donors in the world’s most diverse registry

200+
research studies underway annually

1,000+ $450M
employees strong annual revenue
COVID-19 Impacts

- **Flight Delays and Cancelations**
  - Flights to and from the US reduced by over 80%
  - Unpredictability of flights and high cancellation rates

- **Travel Barriers**
  - Restrictions on foreign nationals entering the U.S.
  - Border closures and other global restrictions

- **Low Courier Availability**
  - 80% drop in courier availability (domestic & international)
  - International couriers unable to bring product into U.S.

- **Donor Concerns and Safety**
  - Experienced lower donor availability rates
  - Donors afraid to travel or enter healthcare settings
Orchestrating cell therapy logistics is complex and susceptible to variability

- Global Network of Transplant and Apheresis Centers
- Collection Slot Unavailable
- Manufacturing Slot Unavailable
- Infusion Postponed Due to Patient Condition
- Customs Complexities for International Shipments
- Catastrophic Events
  - Global Emergency Management Community
  - Commercial Couriers
  - Travel Agencies
  - Flight Delays
- US and International Customs
  - Border Patrol
  - TSA
Maintaining core business during COVID19

- **Leveraged Strong Relationships & Global Partnerships**
  - Obtained CDC waiver
  - Gained access to private aircraft
  - Collaborated with international partners on key decisions
- **Implemented Hub-and-Spoke Logistics Model**
  - Leveraged cargo flights to transport products from EU to US
  - Recruited and trained new couriers
- **Ensured Donor Safety**
  - Limited in-person appointments & provided PPE
  - Reduced donor travel to collection centers
- **Enhanced Services for Transplant Centers & Patients**
  - Reduced workup and collection fees for related donors
  - Facilitated free in-home HLA typing for patients and their related donors
  - Increased financial support for patients
Hitting Record Numbers During COVID-19

11,596 TRANSPORTATION LEGS COMPLETED
7,398 TRANSPORTS COMPLETED
99.9% DELIVERY SUCCESS

March 2020 – March 2021
Partnering to Make the Impossible Possible

7,163 cell therapies facilitated
(March 2020 – March 2021)

No patient went without their life-saving therapy!
NMDP COVID-19 Response
Cryopreservation

Situation

• Demand for transplant remained throughout the pandemic
• Cryopreservation required with limited exceptions from March - Aug 2020
• 95% of cryopreservation occurs at the patient’s transplant center

Be The Match BioBank

• NMDP cryopreservation service to ensure all donor collections can be frozen, if needed for transplant
• Examples: Urgent border lockdowns, cell therapy lab capacity, and Texas winter storms
Our cryopreservation service for delivering high-quality PBSC and marrow products, providing a predictable time to patient transplant and a convenient donation pathway for donors.

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*Q2 transplants representative of future activity, Q1 volumes were low and supported many int’l TCs
Clinical Impact of Cryopreservation

• Still uncertain. Our research program (CIBMTR) has rapidly published 3 papers on the subject
  • Hamadani et al, BBMT, 2020; Eapen et al, BBMT, 2020; Hsu et al, JTCT, 2021
  • Other groups have published showing either no major impact or decreased T-cell chimerism

• May be differential impact based on graft source

• Should try to provide fresh bone marrow for patients with bone marrow failure syndromes if at all feasible

• More data are needed; NMDP/CIBMTR study currently underway to assess impact in patients transplanted during pandemic (N=968)
Related Donor Services Activity

Results:

- Increased lives impacted by 182% year-over-year from FY19 to FY20
- On pace to grow by ~46% in FY21
- Network utilization of RDS has increased by 33% since Q1 FY20

COVID-19
Cord Blood Shipment Counts by Fiscal Quarter
(Last 8 Complete Fiscal Quarters)
Conclusions

• Willingness of volunteer donors to put themselves in harms way during a global crisis to save a life continues to amaze us. They are the true heroes!

• Multiple stories of heroic efforts to deliver donor grafts to patients in need throughout the pandemic abound.

• Donors continue to be willing to donate products solely for research and development purposes during the pandemic.

• Our organization, together with our donors, network of transplant centers, donor centers, other registries, collection/apheresis centers, and industry partners have been willing to do whatever it takes to safely meet the ongoing demand for donor derived cellular products.
Our Be The Match One Forum video tells the story best