ADVISORY COUNCIL ON

BLOOD STEM CELL TRANSPLANTATION (ACBSCT)

US Department of Health and Human Services

October 26, 2023

2:00–6:00 p.m.

MEETING MINUTES

Voting Members Present: Navneet Majhail, M.D., M.S., M.B.B.S., Chair; Juliet Barker, M.B.B.S.; Ann Richardson Berkey; Marcie Finney, M.S., M.B.A.; Eapen K. Jacob, M.D.; John Levine, M.D., M.S.; Richard Maziarz, M.D.; and Filippo Milano, M.D., Ph.D.

Nonvoting Members Present: Nancy L. DiFronzo, Ph.D., National Heart, Lung, and Blood Institute, National Institutes of Health; and Frank Holloman, Health Resources and Services Administration (HRSA)

Presenters: Jeffery Auletta, M.D., Center for International Blood and Marrow Transplant Research (CIBMTR) and National Marrow Donor Program (NMDP); Ericka Jensen, NMDP; Ephraim Fuchs, M.D., John Hopkins University; Kevin Caldwell, J.D., Ossium Health, Inc.; Sumithira (Sumi) Vasu, M.D., M.B.B.S., Ohio State University Comprehensive Cancer Center

Designated Federal Officer (DFO): Shelley Tims Grant, Executive Secretary, ACBSCT

WELCOME AND OPENING REMARKS

Navneet Majhail, M.D., M.S., M.B.B.S.; ACBSCT Chair

Shelley Tims Grant, DFO; ACBSCT Executive Secretary

Ms. Grant called the meeting to order at 2:01 p.m. (The meeting was held virtually and open to the public.) Dr. Majhail welcomed the participants and reminded them that the ACBSCT provides advice and recommendations to the Secretary of the Department of Health and Human Services via the HRSA Administrator on the activities of the C.W. Bill Young Cell Transplantation Program (CWBYCTP) and the National Cord Blood Inventory (NCBI). The main focus of the ACBSCT is to advise HRSA on improving access and outcomes for people who need blood stem cell transplants and cellular therapies, particularly for the medically underserved.

Dr. Majhail summarized the proceedings of the September 28, 2023, ACBSCT meeting. That meeting began with an overview of the new ACBSCT Subcommittee on Cord Blood, which will provide input to HRSA on possible specifications for banks about what constitutes a "high-quality" cord blood unit (CBU), strategies to increase cord blood utilization, and potential changes to the NCBI. Related presentations covered current NCBI requirements for contracting among cord blood banks, an NMDP's analysis on how CBUs are used relative to the size of units and donor race or ethnicity, and MD Anderson Cancer Center's Cord Blood Bank data illustrating the potential impact of possible rule changes on patients, banks, and collections. The

NMDP outlined the ACCESS Initiative to reduce barriers to therapy and to increase and sustain equal outcomes for all transplant recipients. The Council heard about the May 2023 report to Congress mandated by the Timely Reauthorization of Necessary Stem-Cell Programs Lends Access to Needed Therapies (TRANSPLANT) Act of 2021. The report found that, despite scientific and technologic progress in the field, the present situation with stem cell and birthing tissue products available for clinical use is largely unchanged since the last report in 2019, so no recommendations for additional use were made. (Minutes of past ACBSCT meetings are available online.) Dr. Majhail then gave an overview of the agenda for the day, which included time for public comment.

INCREASING ACCESS TO BLOOD STEM CELL TRANSPLANTATION

Overview of Transplant Need and Transplants Facilitated by CWBYCTP, 2018–2013

Jeffery Auletta, M.D., Senior Vice President, NMDP; Chief Scientific Director, CIBMTR, Minneapolis, MN

The number of hematopoietic stem cell transplantations (HSCTs) has been increasing steadily since the beginning of this century, in part because of the increasing use of alternative donor sources (i.e., from a haploidentical donor, umbilical cord blood, or mismatched unrelated donor [MMUD]). Transplantations from a matched unrelated donor (MUD) remain the primary type of transplantation. In pediatric patients, transplantations are more likely to use CBUs, MMUD, or a matched related donor. The largest increase in MUD transplants is among people age 65 and older, primarily because of advances in supportive care that contribute to transplantation safety and survival.

From 2018 to 2022, three diseases accounted for 70% of transplantations: acute myeloid leukemia (AML), myelodysplastic syndrome and myeloproliferative neoplasms (MDS/MPNs), and acute lymphocytic leukemia (ALL). Allogeneic transplantation is the definitive cure for these diseases. As transplantation technology and approaches evolve, the success rates improve.

Dr. Auletta explained the methodology for determining the unmet need for transplantation. Researchers used data from the U.S. Census Bureau and the National Cancer Institute to calculate the proportion of the population that would be diagnosed with a transplant-eligible disease per year. Dr. Auletta cautioned that the estimates are imprecise because they cannot account for all the variables that affect whether an individual receives a transplant. However, it was ultimately determined that over the past 3 years, about 53,000 patients per year who would benefit from a transplant did not receive one. Of those, about 33,000 are White, 7,800 are Black or African American, and 7,000 are Hispanic.

White, non-Hispanic people are most likely to receive a transplantation from an MUD, mostly because the national registry is dominated by White, non-Hispanic donors, increasing the likelihood of matches. Most transplants for AML, ALL, and MDS occur in White people. Non-White people are more likely to receive transplants for aplastic anemia and nonmalignant hematologic diseases such as sickle cell disease. Dr. Auletta underscored that alternative donor sources facilitate transplants in non-White people.

According to data from transplant centers, the top reasons for not receiving a transplantation are comorbidities, low Karnofsky performance status scores, and progression of disease. One transplant center reported that only three patients did not receive a transplant because no suitable

donor source could be found—which Dr. Auletta pointed to as a clear success. However, these data also showed that in 16% of cases, transplantation was stymied by social determinants of health, such as a lack of access to transportation or caregivers. A multicenter study found that the type of donor (haploidentical vs. MUD) did not contribute significantly to time delays; patient factors had a much higher impact on delays. In conclusion, Dr. Auletta called for prioritizing health care research on social determinants of health as a vital step toward leveling the playing field so all people can benefit from HSCT.

Discussion

Dr. Majhail said that with current alternatives, it appears that there is a potential donor source for all recipients. Dr. Auletta agreed, reiterating that alternatives are key to providing transplants for racially and ethnically diverse patients. However, a significant gap remains, and the field can work to close that gap with a multipronged approach that includes raising awareness among health care providers and others. The ACCESS Initiative's Awareness Committee aims to ensure that providers have up-to-date education, tools, and guidelines on HSCT, said Dr. Auletta.

Juliet Barker, M.B.B.S., pointed out that the number of potential candidates for a transplant may be underestimated. Delays in diagnosis might translate into missed opportunities for transplantation earlier in the course of disease, when more alternatives are available. Ms. Barker emphasized the need to speed up the triage and decision-making processes around transplantation, especially for people with high-risk diagnoses.

Adult Donor Recruitment and Retention: Challenges and Opportunities

Ericka Jensen, Senior Vice President, Member Engagement, Enrollment, and Experience, NMDP, Minneapolis, MN

As noted, White people are much more likely than those of any other race or ethnicity to find a match for transplantation. On top of that, Ms. Jensen observed, the availability of cellular therapies is decreasing around the world. Since the COVID-19 pandemic, people are less willing to volunteer and donate to the NMDP. The registry needs more young and racially and ethnically diverse donors to fill the gap described by Dr. Auletta.

NMDP is focused on increasing awareness about cellular therapies, engaging and educating potential donors, and keeping volunteers informed and inspired so that they will agree to donate when needed. Through modeling, NMDP has identified the types of donors needed and analyzed the barriers to donation. Ms. Jensen emphasized that young adults (ages 18–35 years) are accustomed to technology and convenience, so every step of the enrollment and donation process must be seamless, supported by technology, and as easy as possible.

The journey to donation begins with basic awareness and education—for example, about the difference between stem cell and organ donation—followed by deeper understanding of the entire process. NMDP is striving to make registration a positive experience with minimal friction that incorporates different types of technology (e.g., video and text messaging). The organization recognizes the need to keep volunteers engaged, inspired, and fully equipped to donate as needed. Ms. Jensen emphasized that NMDP is not building a list but rather creating a movement, and it needs committed people to join, connect with, and participate in that movement.

Lack of awareness about cellular therapy and the need for donors poses the most significant challenge. Organizations like NMDP have limited resources for outreach. Racially and ethnically diverse communities in particular have high levels of mistrust in medical institutions; reaching those communities requires more than traditional paid and social media. Building trust and partnerships means establishing a presence in the community, with culturally sensitive and bilingual staff.

NMDP has reimagined its approach to communicating with members to ensure that it plays a strong role in their lives. It launched a renewed recruitment hub in February 2023 that addresses the top barriers to donation and speaks to young, racially and ethnically diverse populations. NMDP is developing a customer relationship management strategy to understand member preferences and tailor communication accordingly. Ms. Jensen pointed out that new regulations around data privacy make it harder for organizations to identify and reach potential recruits, and she anticipated that upcoming changes to further protect individuals' digital privacy will exacerbate the impact in the coming year. A number of barriers affect the likelihood that a volunteer will commit to donate when asked. Notably, since the beginning of the COVID-19 pandemic, most people—especially young people—are less likely to commit to volunteer efforts to benefit strangers, said Ms. Jensen.

NMDP is taking steps to counter these challenges. Ms. Jensen pointed out that more young adults are becoming eligible every day. NMDP is improving its media profile through popular podcasts and social media influencers. Recognizing that young donors want opportunities that feel meaningful and purposeful, NMDP messaging is focusing on the potential to impact an individual's life through donation. The organization made a substantial investment in nonprofit programs and public service announcements. It is bolstering partnerships with universities, because campus recruitment is among its most effective tools. Anticipating major disruptions in paid marketing, NMDP is working on data development to navigate that disruption. It is using every available tool to educate potential donors.

Overall, NMDP recognizes that it must adapt to reach young, diverse populations through convenient technology, donor-centered messaging, and a wide range of channels for communication and education. Ms. Jensen said that fewer than 1% of volunteers make it through the donation process, which underscores the need to keep members engaged and interested over time. She stressed that NMDP needs more people to join the movement and become active advocates.

Discussion

Filippo Milano, M.D., Ph.D., said the issues raised by Dr. Auletta and Ms. Jensen highlight the need to fight for more cord blood donation, because it can fill the gaps, especially for racially and ethnically diverse people, and does not face challenges around recruitment and retention. He emphasized that cord blood donation tends to be overlooked. For example, the title of Ms. Jensen's presentation specifies "adult donors." Ms. Jensen and Dr. Majhail both agreed that cord blood plays an important role and must be part of the solution.

Marcie Finney, M.B.A., said that beginning with the COVID-19 outbreak, her organization has faced more outright refusals for CBU collection than ever before, because pregnant people feel overwhelmed and do not even want to discuss it. Moreover, CBU donors never get to meet or

learn about recipients, and recipients do not have someone to thank; there is no way to close that loop. Ms. Finney added that cord blood banks are doing great work and increasing the diversity of the registry, but it appears that the use of CBUs is declining.

Ms. Barker reiterated the need to improve the triage process. She also called for greater transparency about the likelihood of finding a successful match, especially for Black patients. The mechanisms for searching for CBUs are "terrible," said Ms. Barker, and the process should not facilitate shipping CBUs that are not effective. Ms. Jensen pointed to progress toward equity, noting that over the past 5 years, transplantations among racially and ethnically diverse patients have grown by 60%. Dr. Auletta agreed that getting patients to the transplantation process faster is a key issue that the field must address. Dr. Milano added that the use of haploidentical donors increases access for many patients.

INNOVATIVE APPROACHES TO USING ADULT DONORS FOR TRANSPLANTATION

MMUD Study: Donor for All

Jeffery Auletta, M.D., Senior Vice President, NMDP; Chief Scientific Director, CIBMTR, Minneapolis, MN

Dr. Auletta explained the basics of human leukocyte antigen (HLA) matching. As technology has advanced to allow transplantation with an imperfect match, the availability of donor sources has expanded substantially, especially for non-White recipients. Data from the past 15 years show an increasing number of diverse patients receiving transplants. However, MMUD transplantations have historically resulted in lower overall survival rates and lower rates of graft-versus-host disease (GvHD)-free, relapse-free survival (GFRS) than matched transplantations.

NMDP sponsored a trial to assess MMUD for bone marrow transplantation with post-transplantation cyclophosphamide (PTCy) to prevent GvHD and found rates of survival and GFRS comparable to that of MUD recipients. The ACCESS Initiative is supporting a multicenter trial of MMUD transplantation involving adult and pediatric populations, one arm of which is looking at reduced-intensity conditioning. Both studies have a substantial number of racially and ethnically diverse participants. Together, they are providing proof of the principle that with prophylaxis, MMUD can be as effective as matched donor sources for transplantation. Use of MMUD sources dramatically increases the pool of sources available to racially and ethnically diverse people through the NMDP registry.

Dr. Auletta said research continues to look for ways to improve patients' survival and quality of life by decreasing acute and long-term toxicities associated with standard-dose PTCy and decreasing instances of relapse caused by the increased use of myeloablative conditioning with MMUD transplantations. He hoped that future clinical trials would incorporate lower-dose PTCy that focuses on reducing relapse through novel combinations of GvHD prophylaxis or immunotherapies.

Discussion

Dr. Milano remarked that in the data presented, the percentage of MMUD transplant recipients who underwent myeloablative conditioning and had GRFS (25%) seemed surprisingly low. Dr.

Auletta said the findings from the 3-year follow-up of study subjects may shed more light on the issue.

John Levine, M.D., M.S., said the U.S. Food and Drug Administration (FDA) is now requesting data on GvHD-free survival, so it will soon be possible to distinguish that from GFRS. He asked why American Indian and Alaska Native (AI/AN) people have a higher likelihood of a perfect match than any other racial or ethnic minority. Dr. Auletta said it might be because the AI/AN population is so small or that AI/AN people may be overrepresented in the registry. Richard Maziarz, M.D., noted that race and ethnicity are self-reported, and having 1/8 Native ancestry qualifies an individual for tribal membership, which might have an impact on the registry's match rate.

Dr. Levine suggested it might be helpful to report expanded HLA typing in more detail to better understand the nuances of matching.

Updates and Innovations in Haploidentical Transplantation

Ephraim Fuchs, M.D., Professor of Oncology, John Hopkins University, Baltimore, MD

Haploidentical transplantation—the use of stem cells from related donors with a partial HLA match to the recipient—has increased dramatically with the availability of PTCy to prevent GvHD. It has improved access to donor sources for racially and ethnically diverse minorities and is safe for treating nonmalignant diseases. Outcomes are clearly improving over time as the field advances, and the use of haploidentical donor and MUD sources is increasing more rapidly than any other sources.

With increased access to and safety of haploidentical donor sources, the field is expanding applications—for example, HSCT for aplastic anemia, a fatal condition. A study of haploidentical transplantation in 17 patients with sickle cell disease (which in the United States almost exclusively affects African Americans) saw only one rejection; 13 patients were cured and are no longer taking immunosuppressive drugs.

Dr. Fuchs explained that solid organ transplant recipients face a lifetime of immunosuppressive drugs to prevent organ rejection, which carries long-term complications and risks. There is potential for haploidentical transplantation to improve the tolerance for grafting among solid organ transplant recipients. Dr. Fuchs and colleagues are working on a program to provide kidney transplant recipients with blood stem cell transplantations from the same donors. If successful, the recipients could stop taking immunosuppressive drugs and be restored to health. They would no longer need dialysis or additional kidney transplants.

Because Medicare pays for kidney transplantations and related costs, eliminating additional drugs and procedures would save the government and its taxpayers billions of dollars, said Dr. Fuchs. It would also contribute to more equitable allocation of donated kidneys. Dr. Fuchs acknowledged that the transplantation tolerance approach is ambitious but said it is achievable with sustained support from the federal government. It would require the federal government to cover the costs of routine care in the context of clinical trials and to recognize the transplantation tolerance procedure as a cellular therapy.

Discussion

Sumithira (Sumi) Vasu, M.D., M.B.B.S., asked what proportion of solid organ transplants involve living donors. Dr. Fuchs estimated about one third of donations come from living donors, although the proportion increases with the increased use of paired donor strategies (e.g., donating a kidney to an unrelated recipient as a condition of receiving a kidney from another donor).

Ms. Barker pointed out that women who have been pregnant, especially those who have had two or more pregnancies, and particularly women of color, are more likely to have HLA antibodies, complicating haploidentical transplantation. She said the transplantation field must work to refine search mechanisms to better serve such women. Dr. Fuchs said his team's desensitization protocol works well and has been published. However, cord blood and MMUD sources are other options, he noted.

Bone Marrow from Deceased Donors

Kevin Caldwell, J.D., Chief Executive Officer, Co-Founder and President, Ossium Health, Inc. Indianapolis, IN

Ossium Health collects bone marrow from the spines of deceased people. Its facility in Indianapolis can process organs from about 60 donors per month. Mr. Caldwell said the approach increases the options available for patients in need, especially racially and ethnically diverse people. Collecting from deceased donors results in more bone marrow per donor than is possible in living donors. It is also much faster and less logistically complicated than collecting from living donors. Ossium works with a network of facilities designated by Congress for organ procurement from deceased people.

To be eligible, donors must be qualified volunteer organ donors—generally, these are relatively young, healthy people who die suddenly. Their organs are subject to the same criteria and testing for viability as living donors. Recovery of the spinal column takes place in the operating room, typically within 4–8 hours of death; the spinal column is then shipped on ice to the Ossium facility for processing. Ossium uses an automated cell processing approach to gather the bone marrow, then notifies NMDP when the samples are available for use. Mr. Caldwell said Ossium conducts in advance many of the steps that are usually taken once a patient is identified as needing a bone marrow transplant, thus saving time.

The use of vertebral bone marrow allows for delivery of higher-volume doses, including repeat doses for re-engraftment. Ossium bone marrow has fewer T cells, which should result in fewer instances of GvHD, said Mr. Caldwell. Products are processed and stored, so they can be thawed and used within days of a request. Studies demonstrate that the bone marrow is comparable to that from living donors in terms of CD34 count, CD34 viability, and colony-forming units and has fewer T cells. Animal studies found no significant differences in engraftment by donor source. Studies in mice of secondary transplants further demonstrate that Ossium bone marrow is rich in true stem cells, with robust levels of chimerism.

Mr. Caldwell said Ossium selects partners in highly diverse communities so its banked samples are more diverse than the U.S. population as a whole. Many of the barriers to donation are circumvented.

The Biomedical Advanced Research and Development Authority (BARDA), a federal agency, supports the development of medical countermeasures for a range of threats, including exposure

to radiologic or nuclear threats. In the event of nuclear attack, many people would be exposed and in need of bone marrow transplantation, ideally within weeks of exposure. Banking bone marrow from deceased donors provides the theoretical capacity to create a strategic stockpile that could be activated in the case of an attack. Ossium and BARDA are discussing the concept of a stockpile, which would require a dramatic acceleration of collection and processing. The goal would be to have enough product available by the end of 2024 to respond to a limited attack and enough for a much broader response by 2030.

Ossium is partnering with NMDP's Be the Match on a study to assess the safety and efficacy of cryopreserved deceased-donor bone marrow transplantation for patients with hematologic malignancies. The outcomes will serve as the basis for a larger study. The study will involve eight sites across the country, two of which are currently recruiting patients.

Discussion

Mr. Caldwell clarified that the operating room team recovers the spinal column along with other organs for donation and sends the spinal column to the Ossium facility.

Dr. Levine and Ms. Barker pointed out that in case of a large-scale nuclear attack, the health care system would not have enough beds, staff, or supplies to achieve thousands of bone marrow transplants. The COVID-19 pandemic exposed the lack of preparedness for mass illness or casualties within the U.S. health system. Mr. Caldwell acknowledged the concerns; he was confident that once bone marrow from deceased donors is established as an available source of product, others would address related issues to improve preparedness and response. Dr. Majhail said that as the alternative sources grow, the capacity of the system must also grow, and he suggested the Council discuss capacity in the field at a future meeting.

A member of the audience asked about the anticipated size of the Ossium inventory. Mr. Caldwell could not divulge the amount of product but said the potential is substantial based on the number of organ donors. After accounting for the number of potential donors who meet Ossium's criteria and the logistic constraints of transporting and processing samples, Mr. Caldwell estimated that Ossium could collect and process about 5,000 spinal columns per year. Once the cells are cryopreserved, they can remain in storage indefinitely, which would enable Ossium to build up a substantial stockpile. Mr. Caldwell said the spine of one donor yields multiple 65-mL bags of cells. In keeping with the BARDA priority of investing in dual use, the banked cells would be available for routine patient use, not just mass emergencies.

Dr. Levine asked whether Ossium's bone marrow could be paired with organs from the same donor to promote tolerance, as described by Dr. Fuchs. Mr. Caldwell said the approach is being studied. Because all of the samples come from organ donors, Ossium is in a good position to facilitate such a protocol.

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK (BMT CTN): EFFORTS TO INCREASE DIVERSITY IN CLINICAL TRIALS

Sumithira (Sumi) Vasu, M.D., M.B.B.S., Scientific Director, Blood and Marrow Transplantation Program, Ohio State University Comprehensive Cancer Center, Columbus, OH

Dr. Vasu and colleagues sought to address underrepresentation in clinical trials of rural residents, people over age 60, people with low socioeconomic status (SES), and underrepresented minorities by gathering insights directly from patients and caregivers. The findings, published in the journal of the American Society for Transplantation and Cell Therapies (ASTCT), were categorized into four topics:

Input into the research portfolio: Involving patient representatives in research planning and conducting surveys (e.g., through grassroots organizations) can identify patients' needs and concerns. For example, patients want to see more research on late effects of bone marrow transplantations.

Input into protocol development: Informed consent processes should be streamlined, and studies should use various audio and visual formats to deliver information and obtain consent. Patients should be involved in crafting study calendars. Scheduling should take into account the frequency of patient visits, particularly follow-up visits, which can pose a significant financial burden on patients (even those covered by insurance).

Increased communication: Providing patients with more information throughout trials would increase engagement. Patients want to know about trial progress and test results. Findings should be shared using more accessible channels, such as social media and patient advocacy organizations, not just limited to professional organizations.

Increased engagement with patient advocacy organizations: Improving interactions will raise awareness among the target patient population about opportunities to participate in trials and also expand outlets to present study findings.

As a result of these findings, the BMT CTN created a standing committee of patients and caregivers to review protocols and informed consent forms. It developed a patient-facing portal on the BMT CTN website. Two new network protocol teams added patient representatives who will contribute to protocol development with the aim of increasing enrollment and retention of study participants. The network is also creating checklists for reviewing protocols to ensure, for example, that they clearly state what is required of patients and what to expect. The checklists emphasize readability of all patient forms and a general evaluation of the study protocol to identify barriers to participation, such as financial or geographic constraints.

When Dr. Vasu and colleagues presented their findings at the Tandem Meeting (the combined annual meetings of ASTCT and CIBMTR), Pfizer asked to collaborate with the network on enhancing recruitment of underrepresented minorities in clinical trials. The request sparked a larger discussion about a network-wide approach with external support. To respond rapidly, the network called for short proposals aimed at improving diversity in existing studies. The network's Patient and Caregiver Advocacy Committee reviewed the proposals and sent their observations to a steering committee, which is assessing them now. Dr. Vasu said the call yielded far more proposals than expected, especially given that no additional funding is available for these immediate projects.

Dr. Vasu pointed out that transplantation places significant financial burdens on all patients and their families, which can be prohibitive for underrepresented populations. ASTCT's task force on reducing financial toxicity identified a range of potential solutions. The task force is focusing on expanding capacity for using telemedicine, which was proven effective during the peak of the

COVID-19 pandemic. Dr. Vasu said the regulations that facilitated telemedicine defined the practice based on the patient's location when care is received; new regulation that defines telemedicine according to where it is delivered would simplify matters. Telemedicine could minimize financial toxicity. For example, research trials might coordinate with local laboratories near the patient for routine testing to avoid some of the costs of travel to the trial site.

Dr. Vasu concluded that increasing access to clinical trials is a priority for the field. The issue is complex and daunting; it requires broad policy revisions to achieve meaningful and sustainable change.

Discussion

Dr. Auletta praised the network's efforts to integrate patient voices. He asked whether researchers are considering biometrics for patient-reported outcomes and what patients think about technology for self-monitoring. Dr. Vasu said that during the peak of the COVID-19 pandemic, telemedicine and remote monitoring proved effective for gathering patients' vital signs, even as part of clinical trials. Patients appreciate not having to travel to the facility, and they like the consumer-oriented technology. Some cardiologists already rely on patients' Apple watches to monitor heart activity. Dr. Vasu said getting patients in the door is the greatest challenge. One proposal under review would engage older patients first by telemedicine and then in person to improve participation.

Dr. Vasu said that the biggest challenges are meeting the needs of people with low SES and maintaining sufficient nursing staff. She called for a broad policy that matches need with resources. Dr. Maziarz noted that telemedicine can be a very useful tool for people with low SES. He pointed out that current federal regulations only support audiovisual telemedicine, which eliminates access for people who have telephones but limited or no access to a computer or internet service. Dr. Majhail hoped the federal representatives participating in this meeting would carry forward the message that the regression in telemedicine service since the peak of COVID-19 has a negative impact on patients' access to care.

UPDATE ON ACBSCT SUBCOMMITTEES

Subcommittee on Cord Blood

Navneet Majhail, M.D., M.S., M.B.B.S.; ACBSCT Chair

Dr. Majhail reminded the group that the Council created two subcommittees in late 2022. The Subcommittee on Cord Blood has met several times and reported on its work to date at the September 2023 meeting. It will bring its recommendations to the Council for consideration at a future meeting.

Subcommittee on Drug Shortages

Richard Maziarz, M.D., Lead Consultant for ACBSCT Subcommittee on Drug Shortages

The Subcommittee on Drug Shortages has identified members and potential consultants, including FDA representatives, but it has not yet convened. Dr. Maziarz reminded the group that FDA can require companies to report on disruptions to manufacturing; it cannot require

companies to make a product nor direct how product is distributed. The American Society of Hospital Pharmacists tracks shortages closely, identifying hundreds of current national product shortages. In more than half of all cases, the reason for a shortage is not known or the manufacturer will not provide information about it.

Dr. Maziarz explained that a sudden shortage of fludarabine had a dramatic effect on blood stem cell transplantation. It is commonly used for conditioning among people with AML, MDS, and ALL—the most common diseases for which HSCT is used. Fludarabine is also linked to the growing use of chimeric antigen receptor T-cell (CAR-T) therapy. ASTCT's Pharmacy Special Interest Group Steering Committee developed guidance for transplant centers on how to manage the fludarabine shortage. However, Dr. Maziarz pointed out, shortages persist of other chemotherapy agents and supplies crucial to managing hematologic malignancies, transplantation, and cell therapies.

The 2023 Tandem Meeting raised a number of questions about shortages, such as the following:

- Could the federal government create incentives to avoid shortages?
- How can institutions be deterred from stockpiling?
- Who should be responsible for allocating scarce drugs?
- What is the role of national organizations in responding to shortages?
- Are there advocacy efforts to increase drug importation?
- Why are European countries facing less severe shortages?
- What regulations are in place to prevent price gouging during shortages?

The issue earned national attention earlier this year with the shortage of key cancer drugs. Several national organizations developed guidance and called for a federal response. The Duke Margolis Center for Health Policy published an analysis that found that the shortages could be resolved with an investment of $3 billion—a small percentage of the total spending on care and a relative bargain given the potential consequences of shortages to many patients. In response to advocacy efforts, FDA has taken some steps, such as easing restrictions on imported cisplatin. Supply has increased slightly, but most cancer centers are still seeing significant shortages. Dr. Maziarz said his own health center created an institutional response to drug shortages that aims to mitigate the effects and ensure fair allocation of scarce resources.

The Subcommittee will review the status of drug shortages that could directly impact the ability to maintain HSCT efforts. It will provide advice on potential strategies to minimize the impact on the field.

PUBLIC COMMENT

No public comments were provided.

NEW BUSINESS AND DISCUSSION

Dr. Majhail said the ACBSCT had no specific recommendations from this meeting. Frank Holloman, director of HRSA's Division of Transplantation, appreciated the focus on increasing

access to transplantation. He said it is important for HRSA to get input from the community and its leaders, and he thanked the Council members for their time and effort. Dr. Majhail thanked Ms. Grant for her role in coordinating the Council's meetings. Ms. Grant noted that the meeting proceedings are shared with colleagues across HRSA for consideration in the programs they administer and oversee.

Action Items

1. At a future meeting, the Council will discuss the capacity of the field to respond to large-scale emergencies.
2. The Subcommittee on Cord Blood will continue its discussions and report back to the ACBSCT at a future meeting.
3. The Subcommittee on Drug Shortages will convene and report back to the ACBSCT at a future meeting.

ADJOURNMENT

Dr. Majhail thanked the participants for a robust and enlightening meeting and adjourned the meeting at 5:48 p.m.