NATIONAL MARROW DONOR PROGRAM®

BE THE MATCH®

HCT Workforce Initiatives: Increasing the Capacity to Provide Care

HCT in 2020
System Capacity Initiative

Authors: Ellen M. Denzen, MS; Claudio Anasetti, MD; Lyndsey Aspaas, CHTC; Linda Burns, MD; Megan Cooper, CHTC; Jason Dehn, MPH, CHTC; Alexandra De Kesel Lofthus, MNM, CHTC; Darlene Haven; Kerri Heinen, MT, CHTC; Helen Leather, BPharm; Erin Medoff, APRN; Tammy Miller; Willis Navarro, MD; Joyce Neumann, RN, MSN, AOCN; Pam Robinett; Kim Schmit-Pokorny, RN, MSN, OCN; Laura Wiggins, PharmD; Deborah Yolin Raley, PA-C

BACKGROUND

Hematopoietic cell transplantation (HCT) is a curative therapy for many patients with life-threatening malignant and non-malignant diseases. More than 20,000 HCTs are performed in the U.S. each year and this number is expected to double by 2020. Critical barriers to the future growth of HCT include workforce constraints among physicians, physician assistants, nurse practitioners, nurses, pharmacists, and other health care professionals. HCT in 2020: A System Capacity Initiative (SCI) is a multi-year program, sponsored by the National Marrow Donor Program® (NMDP), to address constraints and increase access to HCT for all patients who are in need of this curative therapy.[1,2]

OBJECTIVES

To implement pilot projects prioritized at the Year II Symposium and ensure the appropriate stewardship of the SCI initiatives going forward.

METHODS

A deliberative process model was used to engage HCT physicians, advanced practice professionals (APP), nurses, pharmacists and stakeholders in a national collaborative effort. The Workforce Working Groups (WGs) deliberated via conference calls and convened for annual symposia with other SCI WGs. WG recommendations were presented, discussed and prioritized by audience polling (Figure 1). Roundtable discussion notes were analyzed for saturation of themes across the Workforce WGs (Table 1). Pre/Post-test descriptive analysis included chi-square tests performed using IBM SPSS 19.0.

IMPLICATIONS

To ensure sustainability of the HCT workforce initiatives going forward, the WGs will continue to partner with stakeholders to resolve barriers to implementation and broaden outreach to the workforce.

Areas for future HCT-related health services research were identified: i) establish benchmarks for staffing and care delivery models; and ii) evaluate the effectiveness of SCI initiatives. The deliberative process model successfully aligned the efforts of the HCT workforce WGs to bridge partnerships and achieve program goals.

FOR MORE INFORMATION OR FEEDBACK

Learn: marrow.org/SCI **Email:** SystemCapacity@nmdp.org

REFERENCES

1. Majhail NS, Murphy EA, Denzen EM, et al. The National Marrow Donor Program's Symposium on Hematopoietic Cell Transplantation in 2020: a health care resource and infrastructure assessment. *Biol Blood Marrow Transplant.* 2012; 18:172-82.
2. Majhail NS, Murphy EA, Denzen EM, et al. National Marrow Donor Program's Hematopoietic Cell Transplantation in 2020: A Workforce and Infrastructure Assessment Symposium, Second in a Series. [Submitted for publication]. 2012.

WORKFORCE WG RECOMMENDATIONS

Physician

Year II

1. Develop and implement an elective course for 4th-year medical school students and 1st/2nd-year residents.
2. Meet with HCT Program Directors and interested health care professionals at the BMT Tandem Meetings to increase awareness of and engagement in WG activities.
3. Disseminate results of group interviews on workforce capacity conducted with Fellowship Program Directors and fellows.
4. Identify measures of interest included in the Health Services Research study, Transplant Provider and Center Factors and Outcomes of Allogeneic Hematopoietic Cell Transplantation.

Year III

1. Launch HCT curriculum modules and motivational videos as part of an elective rotation for medical students and residents. The course aims to increase participants' appreciation of and excitement for HCT. Going forward the WG will partner with the American Society for Blood and Marrow Transplantation (ASBMT) to implement the program at transplant centers.
2. Conduct a second BMT Faculty and Educators' Session in collaboration with the ASBMT at the 2013 BMT Tandem Meetings. The goal is to share progress of the WG, promote awareness and adoption of the curriculum, and address barriers to a career in HCT.
3. Engage HCT trainees and other stakeholders in workforce recruitment via professional conferences, social media and relevant job boards in partnership with the American Medical Association, American Medical Student Association and ASBMT.

APP

Year II

1. Develop a Web page for APPs within the ASBMT website.
2. Create and disseminate a brochure for APPs that promotes career options in HCT.
3. Engage HCT programs to increase the number of shadowing and clinical rotation opportunities for APPs.

Year III

1. Identify priority content areas for inclusion on the ASBMT APP website (e.g., Education, Students/Careers, Discussion/Forum and Membership). The ASBMT APP Steering Committee will manage content in partnership with the WG. An APP Special Interest Group (SIG) was approved and implemented with liaisons to the Association of Physician Assistants in Oncology and Association of Pediatric Hematology/Oncology Nurses.
2. Launch an HCT 101 Lecture targeting APP students. Thus far more than 150 students have participated with a trend toward increased interest in a career in HCT (N=58; $p<0.001$).
3. Engage Dana-Farber Cancer Institute to increase shadowing opportunities for APPs. A formal program and application process were developed due to overwhelming interest.

Nursing

Year II

1. Develop and provide an "Introduction to Blood and Marrow Transplant (BMT)" presentation to promote a career in HCT nursing.
2. Develop a model multi-disciplinary rounds program to address ethical/moral distress and compassion fatigue.
3. Conduct outreach through professional societies to increase the diversity of the HCT nursing workforce.

Year III

1. Launch the "Introduction to BMT" presentation, which tended to increase nursing students' interest in an HCT career (N=65; $p<0.0001$). The NMDP will provide CNE credits for the presentation for nursing professional development.
2. Develop a multi-disciplinary rounds model to address moral distress which includes: points of HCT care, methods to reduce impact on health care providers, evidence for action and resources needed.
3. Discuss/disseminate transplant health professional educational resources and key facts/figures at the National Black Nursing Association conference. The goal was to expose this audience to HCT as a nursing career option and identify ways to support transplant patients from their community.

Pharmacy

Year II

1. Provide training opportunities for pharmacists through professional society conferences and meetings.
2. Define a minimum standard of HCT pharmaceutical care.
3. Develop and encourage the adoption of Collaborative Practice Agreements (CPA), which facilitate pharmacists' participation in HCT clinical care.

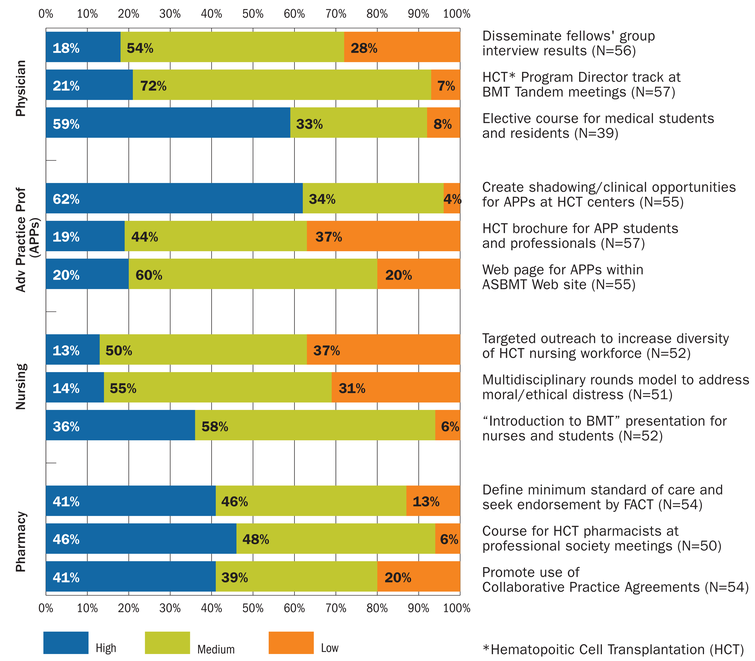
Year III

1. Offer training sessions through the Hematology Oncology Pharmacy Association and ASBMT to recruit pharmacists to the HCT specialty and provide junior practitioners with fundamental skills. The WG helped establish the ASMBT Pharmacy SIG to engage HCT pharmacists in building workforce capacity.
2. Work with the FACT Standards Committee to incorporate minimum standards for pharmacy support on the HCT team.
3. Publish two manuscripts which describe: i) HCT team staffing models and recommendations for allocating responsibilities among pharmacy staff and ii) recommended use of CPAs.
4. Survey U.S. transplant centers to describe the current scope of practice regarding submission of test claims (prescriptions processed to determine co-pays) to payors.

Table 1. Hematopoietic Cell Transplant (HCT) workforce challenges – common themes

Themes	Challenges
RECRUITMENT	· Expose students and residents to HCT earlier in career · Identify HCT as a career path for students, fellows and junior professionals · Create shadow/clinical rotation opportunities for those interested in HCT · Improve training curricula and provide educational resources
RETENTION	· Address dissatisfaction with work/life balance (e.g., provider to patient ratios, flexible work schedules, multidisciplinary staffing models, ability to use vacation time) · Identify range of experience with HCT (e.g., inpatient, outpatient, decision-making) and success stories · Promote professional development (e.g., support for professional memberships, coverage for licenses/fees) and educational opportunities from orientation to advanced HCT courses · Provide mentoring/coaching early in career · Improve work environment through recognition, addressing compassion fatigue and moral/ethical distress, and protected time for research
DIVERSITY	· Increase cultural competence among all HCT health professionals · Expand diversity of the workforce to represent communities in need of HCT · Integrate CLAS (Culturally and Linguistically Appropriate Services) standards

Figure 1. System Capacity Initiative Workforce Recommendations: Impact on Capacity



ACKNOWLEDGEMENTS

Funding for this conference was made possible (in part) by 1R13HL110705-01 from the NIH.

SCI Year III Workforce WG members:

Physician: Chair: Linda Burns, MD **Vice Chair:** Claudio Anasetti, MD **Members:** Nancy Bunin, MD; Christopher Flowers, MD, MS; James Gajewski, MD; Thomas Joseph, MPS, CAE; Mark Litzow, MD; Navneet Majhail, MD, MS; Edgar Milford, MD; Willis Navarro, MD; Jeffrey Schriber, MD; George Selby, MD; Shalini Shenoy, MD; Ann Woolfrey, MD

APP: Chair: Deborah Yolin Raley, PA-C **Vice Chair:** Erin Medoff, APRN **Members:** Susan Burroughs, PA-C; Gilbert Ciocci, NSN, FNP-BC; Theresa Donohue, PA-C; Julia Gourde, RN, CNP; Amy Joyce, MSN, ANP, AOCN; William Levy, PA-C; Shelly Mentzer, MMS, PA-C; Jerelyn Moffet, CPNP; Eneida Nemecek, MD; Mary Thoma, PA-C; Stephany Rodriguez, RN, MS, NP; Nancy Shreve, NP, MS, FNP; Susan Slater, MN, FNP-BC; Kristen Sterling, APRN-BC; Cindy Treviño, ANP-BC, AOCN; Michael Wilson, PA-C

Nursing: Chair: Joyce Neumann, RN, MSN, AOCN **Vice Chair:** Kim Schmit-Pokorny, RN, MSN, OCN **Members:** Dennis Confer, MD; Lourine Davis, RN, BSN, OCN; Rosemary Ford, RN, BSN, OCN; Stephanie Jardine, BSN, RN; Martha Lassiter, MSN, AOCNS; Elizabeth Murphy, EdD, RN; Elaine Stenstrup, MSN, RN, ACNS-BC, AOCNS; Terry Sylvanus, RN, MSN, ACNS-BC, AOCN; D. Kathryn Tierney, RN, PhD

SCI Year III Workforce WG members (continued)**:**

Pharmacy: Chair: Helen Leather, BPharm **Vice Chair:** Laura Wiggins, PharmD, BCOP **Members:** Joseph Bubalo, PharmD, BCPS, BCOP; Cindy Ippoliti, PharmD; Ashley Morris Engemann, PharmD, BCOP; Christopher Fausel, PharmD, BCPS, BCOP; Alison Gulbis, PharmD, BCOP; Tippu Khan, PharmD, BCOP; Scott Lanum, PharmD, BCOP; Julianna Merten, PharmD, BCPS, BCOP; Jamie Shapiro, PharmD, BCOP; Sepideh Shayani, PharmD, BCOP; Connie Sizemore, PharmD; Tracey Walsh-Chocolaad, PharmD, BCOP; Casey Williams, PharmD, BCOP

National Marrow Donor Program Staff: Lyndsey Aspaas, CHTC; Susie Burke; Megan Cooper, CHTC; Jason Dehn, MPH, CHTC; Alexandra De Kesel Lofthus, MNM, CHTC; Ellen Denzen, MS; Darlene Haven; Kerri Heinen, MT, CHTC; Tia Houseman; Joan Jarosh; Tammy Miller; Lynn Pepple; Pam Robinett

©2012 NATIONAL MARROW DONOR PROGRAM NP00739; AUG 2012