

Center Specific Survival Analysis 2020 Update

Center Outcomes Forum

November 20, 2020



The CIBMTR[®] (Center for International Blood and Marrow Transplant Research[®]) is a research collaboration between the National Marrow Donor Program[®] (NMDP)/Be The Match[®] and the Medical College of Wisconsin (MCW).

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Agenda for Center Outcomes Forum - 2020

- Center specific survival analysis 2020 – brief summary
 - Activities related to the Center Outcomes Forum 2018
- Is Minimal Residual Disease for acute leukemia ready for use as a risk adjustment factor in the center specific analysis?
- Are there new approaches to account for social determinants of health beyond those currently assessed in risk adjustment model?
- Can CIBMTR adequately adjust for the impact of the COVID-19 pandemic in the center specific analysis and if so, how?
- Center Specific Analysis research project proposals
- Update on consequences of public reporting

Center Outcomes Reporting for HCT – Status Update 2020

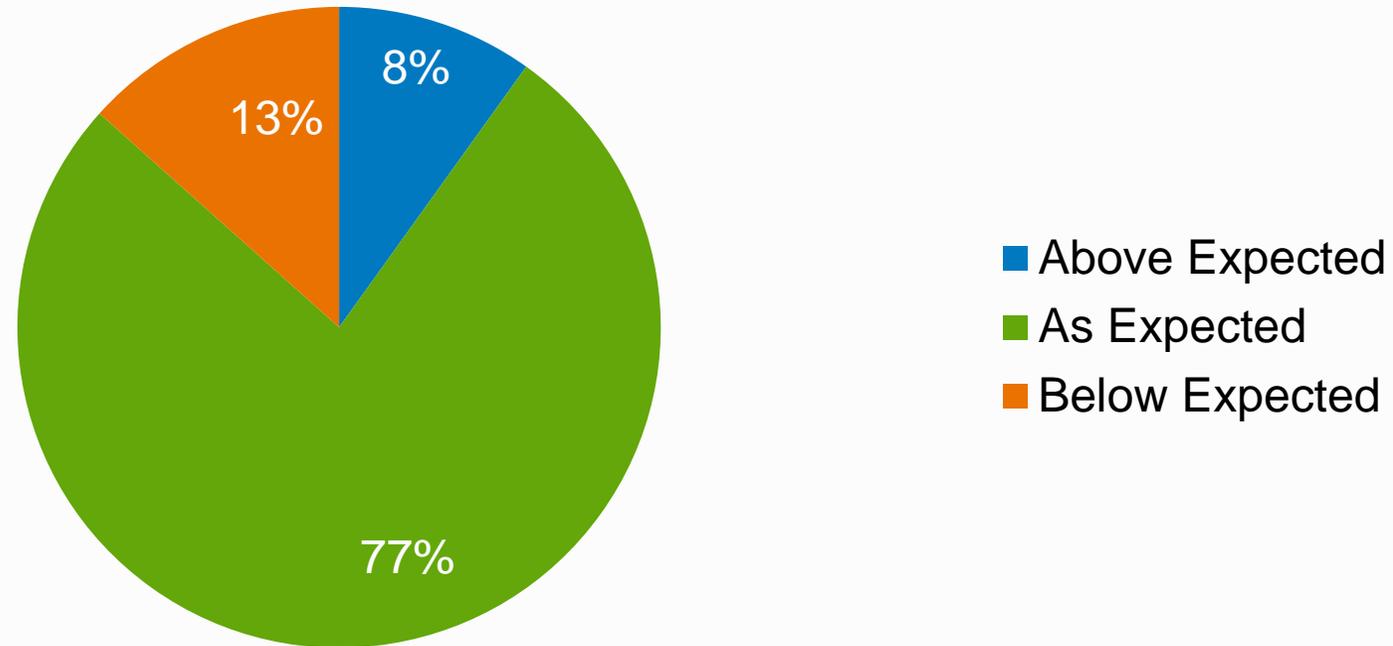
Center Outcomes Report

Final study population - 2020

- Center outcomes report 2020 includes 3 full years of data:
 - Unrelated and Related HCT 2016 – 2018
- Multivariate analysis adjusts for ‘risk factors’
 - Adult and Pediatric BMI introduced 2020
- Centers must have >90% overall f/u at 1 year
 - 4 centers closed or became inactive,
- 172 US centers; 24,687 patients first allogeneic HCT
 - 5 centers (~542 pts) removed because of quality concerns in audits
- Primary outcome: One-year survival
 - Overall: 74.1% (76.4% REL, 72.2% UNR) – 2019: 72.3, 74.8, 70.3

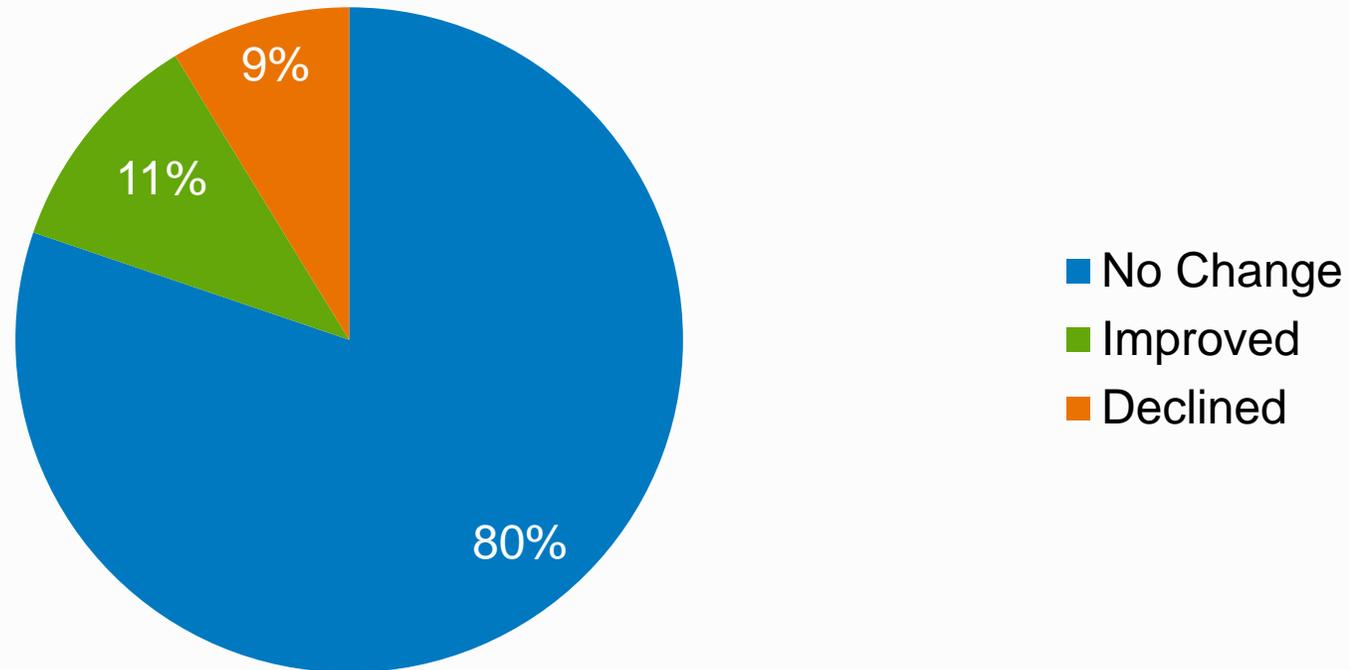
How are US centers doing? 2020

Risk Adjusted Performance



Changes in performance: 2019 → 2020

Change from 2018 Report



N = 172

Changes in 2020 Report

- Therapy-related MDS statistically significant
- Donor age in 5-year increments
- BMI groups introduced
 - Statistically significant for underweight adults, not for pediatrics
- Ethnicity and ALL T cell lineage not significant
- Individual Centers' data available on CIBMTR portal
 - Includes of the intercept term for analysis (since 2017)
 - Allows centers to develop tools

Enhanced Risk Adjustment – 2018 and 2019

- Patient factors:
 - Median household income by zip **
 - History of mechanical ventilation**
 - History of invasive fungal infection**
 - Recipient ethnicity*
- Disease factors:
 - AML transformed from MDS/MPN **
- Disease factors:
 - AML ELN risk – cytogenetic and molecular**
 - Greater refinement of AML and AML in CR3+/REL/PIF*
 - CR1, CR2, CR3+, REL1, REL2, PIF
 - Addition of interval dx to tx for CR3+ and REL*
 - ALL Ph+ *
 - MDS IPSS-R at HCT**
 - Plasma cell disorders disease status at HCT**

* <0.01; ** <0.001

Topics from 2018 COF – what has happened?

- Discuss impact of “enhanced” risk adjustment model implemented in 2018 - ✓
- Recommendations for variables to improve risk adjustment for pediatric non-malignant diseases ✓
- Consider new modeling techniques to handle center effect, prediction ✓
- Follow-up on recommendations about managing consequences – **in progress**
- Develop a research agenda regarding impacts – **in progress**

Agenda COF 2020

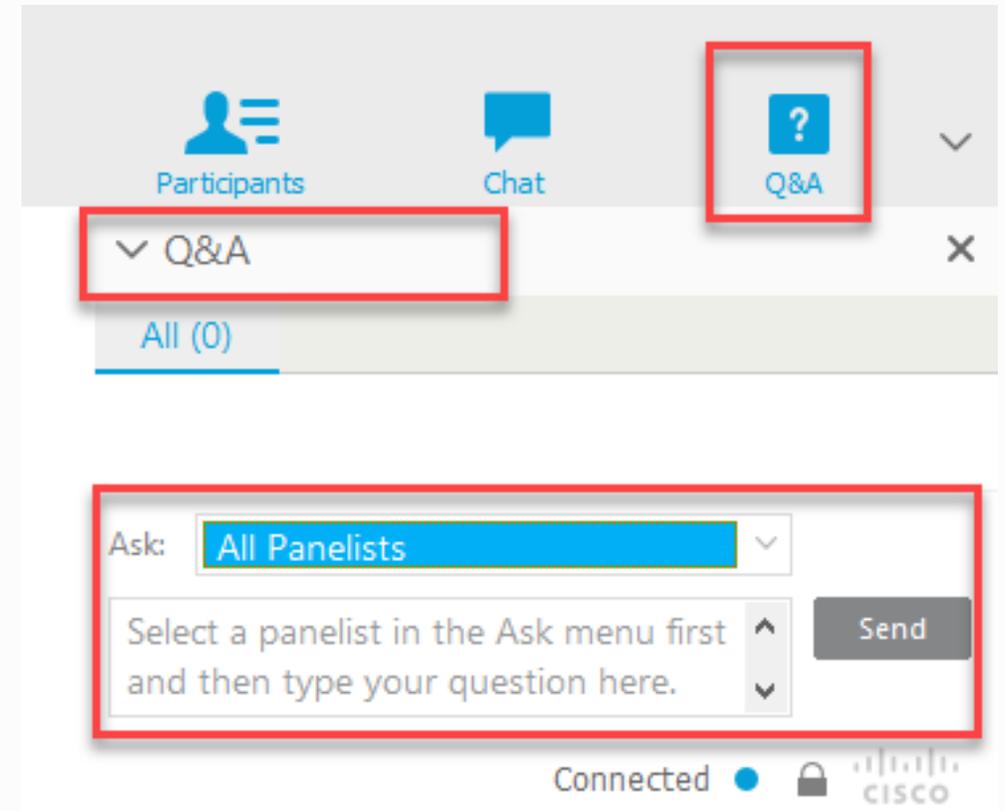
- Is MRD status in acute leukemia ready ?
- Are there better ways to adjust for social determinants of health?
- Can we adequately adjust for the impacts of COVID-19 on this analysis and if so, how?
- Progress on research agenda
- Follow-up on recommendations about managing consequences

My sincere appreciation

- Center Specific Analysis “Core” Team:
 - Caitrin Fretham, Sue Logan, Janet Brunner Grady, Michele Kuxhausen, Jenni Bloomquist, Steve Spellman, Brent Logan, Alyssa Carlson, Maria Brown
- Carol Doleysh – Program Manager, SCTOD
- Alicia Halfmann and Carol – Center Outcomes Forum
- Dan Weisdorf, John Wingard, Navneet Majhail, Wael Saber for moderating
- Wael Saber and Research protocol teams

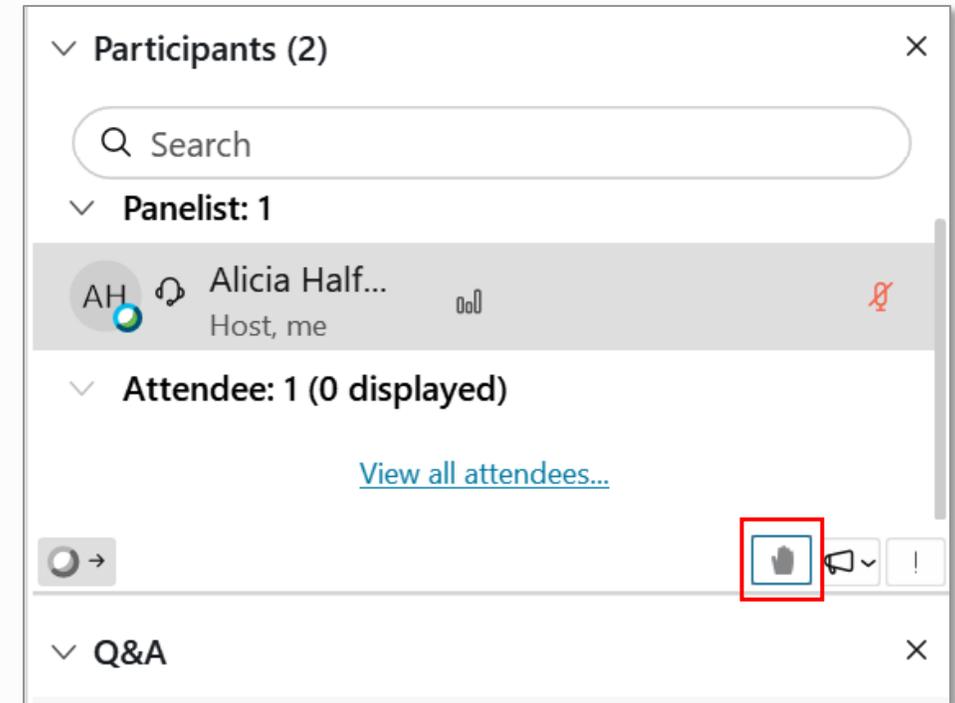
Using the Q & A

- Open the **Q & A panel**.
- On the Q & A panel, **type your question** in the text box.
- In the Ask drop-down list, select **All Panelists**, and then select **Send**.
- Questions will be answered during designated discussion times.



Raise your Hand!

- Find the 'Participants' panel on the right
- Click the hand button  to raise your hand. A hand will appear next to your name
 - To lower your hand, click then hand button again!
- Questions will be answered during designated discussion times

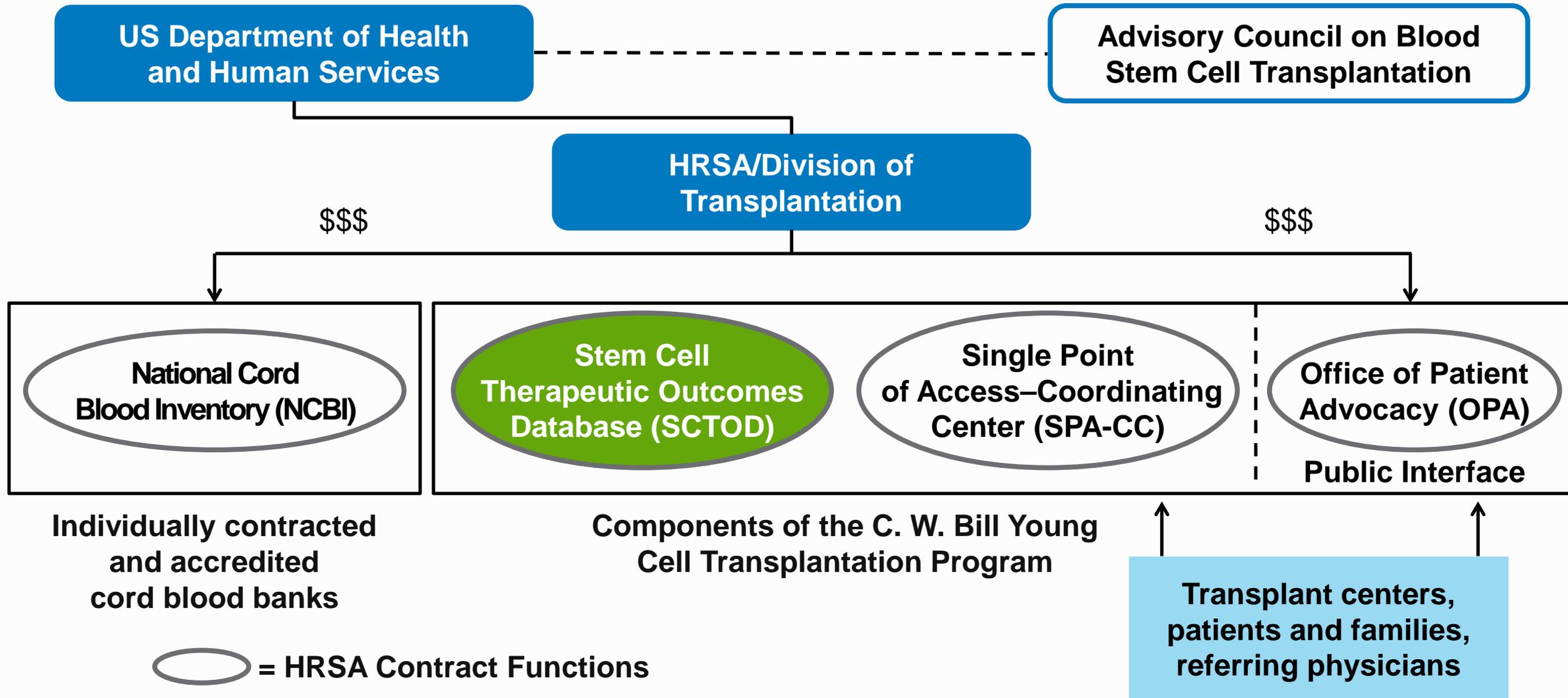


Thank you



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C.W. Bill Young Cell Transplantation Program*



Center Outcomes Analysis:

Basic Concepts

- Examination of individual center specific outcomes relative to the overall network
 - The CENTER is the unit of analysis
- Risk Adjustment for relevant patient, disease, transplant factors ('case mix')
- Assessment of center performance should account for sampling variability/sample size
- Understandable to professional and public audiences

International Center Specific Survival Analysis

- Available to interested international centers
- Foundation is US multivariate analysis
 - Potential limitation – US centers are the benchmark – not enough international centers to create distinct multivariate model
- Similar standards of completeness of data and follow-up
 - Challenges for some international centers
- 14 participating centers and ~2000 patients
- EBMT developing a benchmarking project

What is the center outcomes forum?

- Bi-annual meeting to discuss the center specific survival analysis for hematopoietic cell transplantation (HCT) – the highest impact report produced for the Stem Cell Therapeutics Outcomes Database (SCTOD)
- 1-2 day meeting 2008, 2010, 2012, 2014, 2016, 2018, 2020
- Invitees include:
 - HCT centers/community, ASBMT Quality Outcomes Committee, biostatisticians, quality and reporting methodologists, patients, payers, National Institutes of Health/Office of Naval Research/Health Resources and Services Administration representatives
- Held in MKE, MSP, virtual
- High degree of engagement with attendees