



The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

902.HEALTH SERVICES AND QUALITY IMPROVEMENT - LYMPHOID MALIGNANCIES

Evaluating Blinatumomab Treatment Adoption in Varied Resource Settings Using the RE-AIM Framework

Caitlyn Duffy, MD MPH¹, Zehra Fadoo, MBBS, MD², Niharendu Ghara, MBBS, MD³, Victor Santana, MD¹, Hiroto Inaba, MD PhD⁴, Sima Jeha, MD⁵, Yichen Chen⁶, Linh Pham⁶, Hyun Jy Chung⁶, Meenakshi Devidas, PhD MBA⁷, Nickhill Bhakta, MD MPH⁵, Heather Brandt, PhD⁶

¹ St. Jude Children's Research Hospital, Memphis, TN

² Aga Khan University Hospital, Karachi, Pakistan

³ Tata Medical Center, Kolkata, India

⁴ Department of Oncology, St. Jude Children's Research Hospital, Memphis, TN

⁵ Department of Global Pediatric Medicine, St. Jude Children's Research Hospital, Memphis, TN

⁶ St. Jude Children's Research Hospital, Memphis

⁷ St. Jude Children's Research Hospital, Memphis, TN

Background

Blinatumomab is a targeted immunotherapy for B-ALL. Widespread adoption of this evidence-based intervention in varied resource settings has been limited due to cost, commercial access, and barriers including institutional capacity and medication complexity. We used implementation science frameworks to facilitate and study the translation of blinatumomab into hospitals in lower-resource settings in partnership with a drug-donation program. After 2 years of collaboration, we applied the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) Framework to assess implementation processes and effectiveness outcomes in 2 pilot centers.

Methods

As a component of a larger hybrid effectiveness-implementation type 2 study, we applied RE-AIM methodology retrospectively to examine data for one hospital in India and one in Pakistan. Quantitative and qualitative data were abstracted from meeting notes, readiness assessments, a 54-question implementation survey based on validated measures, and clinical team observations. Local physicians overseeing the patient treatment with blinatumomab collected de-identified clinical data from routine care from 20 patients. Infusion and 6-month follow-up data were available for 18 and 16 patients, respectively. Patient characteristics were summarized using descriptive statistics. Clinical data were analyzed in aggregate to report real-world effectiveness, and other data were integrated to report on the five RE-AIM domains.

Results

Overall *reach* was determined by comparing proportion of annual patient requests, predicted number of eligible patients, and characteristics of patients who received blinatumomab. Reach varied by site from 48%-110%. Participants were representative with a median age of 8 years (IQR 6.23) and 55% were female. MRD-positive disease was the primary indication for receiving blinatumomab (60%, n=12). Regarding *effectiveness*, 73.3% of patients achieved remission after cycle 1, and 9 patients (60%) proceeded to hematopoietic stem cell transplant after receiving blinatumomab. At six months, 81.3% of patients were alive, 1 had died, and 2 were lost to follow-up. *Adoption* at the staff level was measured based on engagement of provider roles in training and feedback as measured by completion of a multidisciplinary implementation survey. While nursing was engaged in training at both sites, there was a notable lack of nursing-specific input to the implementation survey, identifying a key opportunity to improve engagement strategies. Early-indicator *implementation* outcomes were assessed by local multidisciplinary teams demonstrated high feasibility (aggregate mean 4.64/5, SD 0.35), acceptability (aggregate mean 4.71/5, SD 0.39), and appropriateness (aggregate mean 4.86/5, SD 0.24) of blinatumomab at their institution. Site-specific modifications to improve implementation included: modifications to the bag change schedule due to the lack of availability of medical supplies (bag sizes, pump cassette), and nursing ratios were temporarily reduced to provide closer monitoring for patients receiving blinatumomab. Thematic analysis revealed that *maintenance* is supported by the perceived relative advantage of blinatumomab vs. traditional chemotherapy, with physicians appreciating the opportunity for improved quality of life for patients and noting that also "the treating teams and the parents are happy," highlighting a potentially positive impact on the physician and family wellbeing. One challenge for program maintenance is the cost of associated medical supplies such

as medication infusion tubing and filters and the need for prolonged hospitalization due to barriers related to transportation and the availability of outpatient and emergency services. This will inform future strategies, such as implementation mapping, to determine how to address these site and resource-specific barriers.

Conclusion

Successful implementation and collaboration with local multidisciplinary teams is a critical predecessor to establishing effectiveness and improving future global access to complex, novel therapies such as blinatumomab. Systematic application of established implementation measures, such as RE-AIM, can improve reporting of rich implementation data and inform strategies to improve the long-term adoption and maintenance of these effective therapies in the real world.

Disclosures Duffy: *Amgen Foundation:* Other: Caitlyn Duffy received an unrestricted grant from the Amgen Foundation that was received by and is managed by St. Jude. As part of St. Jude mission Dr Duffy participates in the Blincyto Humanitarian Access Program & provides in kind support to the program. **Santana:** *Amgen:* Other: As part of the mission of St. Jude Global Hiroto Inaba, Victor Santana, Sima Jeha and Caitlyn Duffy participate in the Blincyto Humanitarian Access Program and provide in kind support for this program.. **Inaba:** *Amgen:* Other: As part of the mission of St. Jude Global Hiroto Inaba, Victor Santana, Sima Jeha and Caitlyn Duffy participate in the Blincyto Humanitarian Access Program and provide in kind support for this program.; *Servier:* Consultancy. **Jeha:** *Amgen:* Other: As part of the mission of St. Jude Global Hiroto Inaba, Victor Santana, Sima Jeha and Caitlyn Duffy participate in the Blincyto Humanitarian Access Program and provide in kind support for this program. .

<https://doi.org/10.1182/blood-2023-190228>