**Analysis of Trends in Funding of Metastatic Breast Cancer Research**

**BACKGROUND**

- Metastatic breast cancer (MBC) is the primary cause of breast cancer deaths, with an estimated 43,000 deaths that will occur in the U.S. in 2023 and nearly 700,000 globally.

- The metastatic breast cancer Alliance (The Alliance) is a collaborative group of breast cancer advocacy and research funding organizations, patient groups and patient advocates who share a common goal to improve the lives of people living with MBC.

- At its inception in 2013, the Alliance conducted an analysis of the landscape of MBC (Metastatic Breast Cancer Landscape Analysis) that included awareness of the disease, quality of life measures and access to care, clinical trials, and research in MBC. The analysis of research funding in MBC in this 2014 published report showed just 7% of all funds for breast cancer research were for MBC.

**OBJECTIVES**

- Determine how research investment in MBC has changed between 2014 and 2020 compared to our previous analysis.

- Understand how the research is to key areas of interest to people living with the MBC, so that funders’ strategic investments can take account of both current investment and the priorities of those living with the disease.

**METHODS**

- Funders and patient collaborators to analyze funded breast cancer grants (2014-2020) from 83 non-profit organizations worldwide, including the International Cancer Research Partnership (ICRP) database, the Health Resource Alliance (HRA) database, and projects funded by Alliance non-profit members.

- Grant titles, abstracts, and classifications were extracted.

- A coding tool that used a machine learning algorithm was built to identify grants related to metastatic breast cancer (Met N) where research in metastasis was not specified, including research in normal cell migration, prevention of recurrence, detection & prognosis, treatment, research relating to living with metastasis, and outcomes or health system research. Projects were excluded (Met Y/N)*, trained on manually coded data, the Health Resource Alliance (HRA) database, and projects included for funding by research category.

- Global research investment in MBC, 2014-2020

- Investors into understanding and overcoming treatment resistance, which was the highest patient priority question, increased from 15% in 2014 to 26% of the MBC portfolio in 2020, which was a statistically significant increase above the rate of investment in other patient priority questions.

- Of the categories evaluated (biology, detection/diagnosis/ prognosis/ treatment), the largest increase in investment was for development and clinical testing of treatments. Investment in the biology of treatment resistance was the highest area for investment. Investment was lower for research into detection, diagnostic, or prognostic factors associated with treatment resistance.

- Not shown is the category ‘Other,’ which includes a minority of projects focused on both MBC and non-MBC research, some of which may be relevant to the MBC setting (e.g., evaluating the financial toxicity of living with MBC) or may relate to a small subset of projects working on both early and metastatic breast cancer.

- Conclusion: Identification of better treatments for triple-negative MBC is a patient priority for advocate priorities.

**RESULTS**

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- Conclusion: Identification of better treatments for triple-negative MBC is a patient priority for advocate priorities.

**LIMITATIONS**

- This is the first analysis by the Alliance to assess funding in MBC in 2024 and beyond will

- The coding tool allows for ongoing complex queries to identify gaps in the greatest need for further research funding.

- Current and future analyses can be used to focus advocacy efforts to drive research funding of priorities and outcomes.

- A 20% increase in MBC research funding from 2014-2020 from charities and foundations speaks to the urgency to address patient needs in this sector.

- As the major funder of biomedical research, the National Cancer Institute and other government agencies need to recognize this urgency and increase funding in MBC research.

**NEXT STEPS**

- Analysis in 2024 and beyond will focus on other remaining patient advocate priorities (aligning with the priorities highlighted in blue).

- Authors

- Margarita Flowers, PhD; Ted Pollard†; Karen Wyland, PhD; Katherine Murase, PhD; Amanda Badshah; Medha Deoras-Sutliff, MD; Lynne Davies, PhD.

- **DISCUSSION**

- Despite the almost doubling of MBC research funding since 2014, current research investments (only 13% of breast cancer research funding is for MBC) have not translated to meaningful improvements for patients. Investment continues to fall for short of the urgency for new treatments and prevention of MBC.

- This is the first analysis by the Alliance to assess funding in patient priority areas, specifically treatment resistance.

- The positive trend for research in this area may be a direct result of patient advocacy.

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