Division of Cancer Biology

Basic Research in Cancer Health Disparities

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NIH NATIONAL CANCER INSTITUTE

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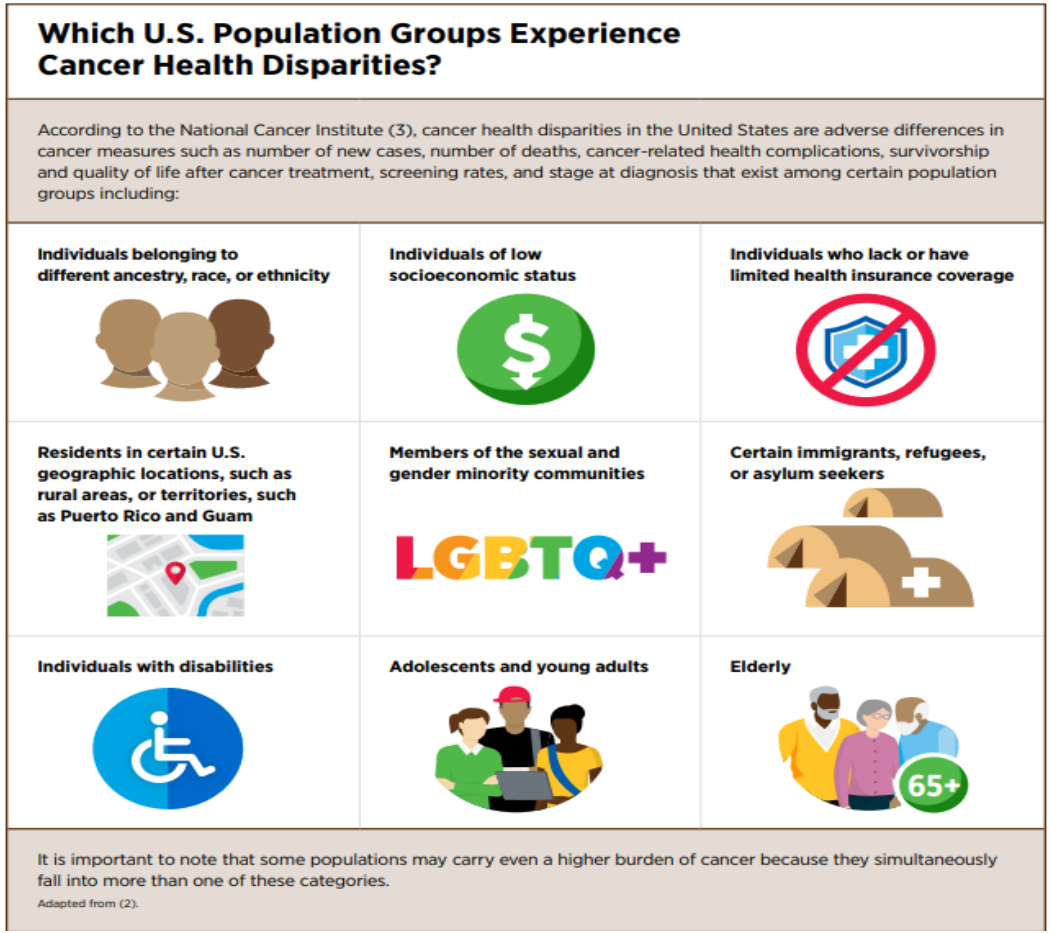
Agenda

1. *Cancer Disparities*
2. *Overview of PARs*
3. *Portfolio Analysis*
4. *Looking Ahead….*

Cancer Disparities

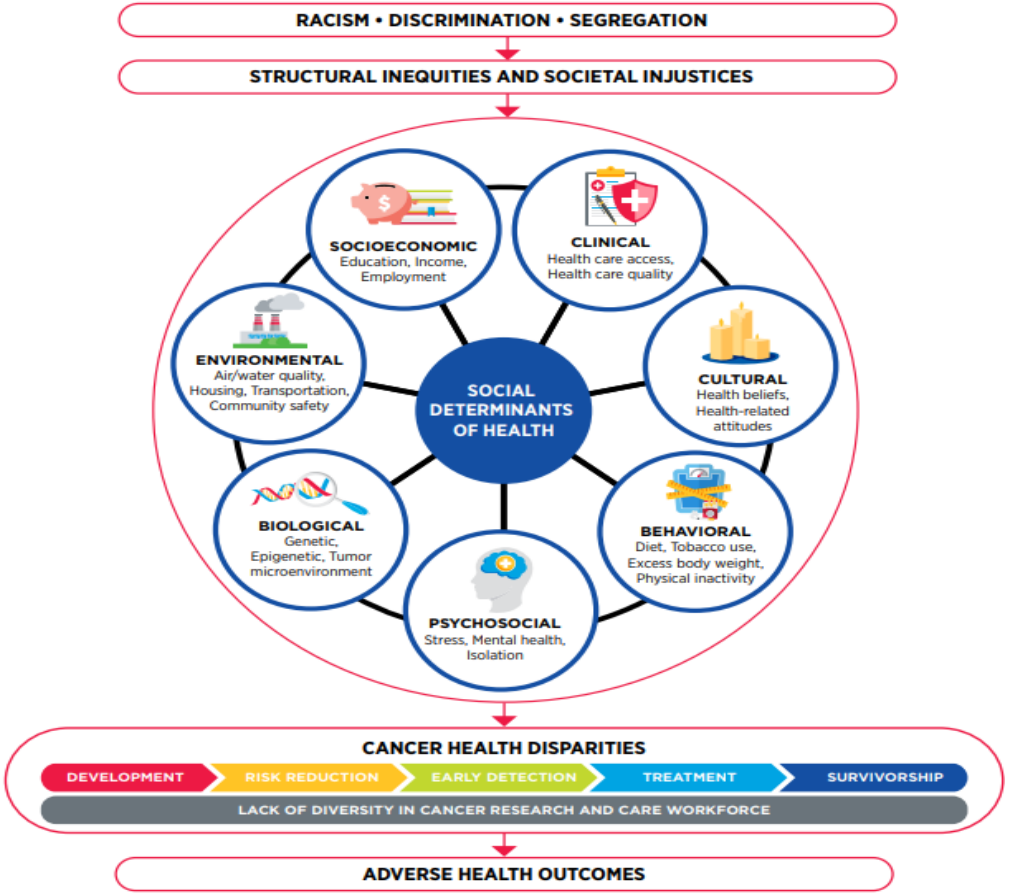
NCI Definition:
“Adverse differences between certain population groups in cancer measures, such as: incidence, prevalence, morbidity, mortality, survivorship and quality of life, burden of cancer or related health conditions, screening rates, and stage at diagnosis”



Source: AACR Cancer Disparities Progress Report 2022

The causes of cancer disparities are multifactorial and complex

- All are directly influenced by structural inequalities and societal injustices.



Source: AACR Cancer Disparities Progress Report 2022

Why Study Biological Factors?

Existing Evidence

- Data shows genetic ancestry, often combined with social determinants of health, can contribute to racial/ethnic disparities in cancer incidence, risk and progression

Need for More Diverse Representation in 'Omics Data

- Much of the genome-wide information related to cancer was obtained from populations of primarily European ancestry, with substantial underrepresentation of racial/ethnic minorities

Why Study Biological Factors? Contd.

Clinical Impact

- Studies **identifying genetic variations** associated with cancer risk have an enormous potential of **developing precise screening and/or treatment strategies.**
- Achieving diverse racial/ethnic representation in cancer research and precision medicine efforts, is critical to ensure all **advancements are equitable** across patient populations

Agenda (#2)

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Background

- Cancer Health Disparities program was initiated in Fiscal Year 2010
- To date, **172 grants** have been awarded between FY 2010-FY2023
    - 72 R21s, 25 U01s, 71 R01s, 1R03, 3 R37s

Note: The U01 mechanism converted to the R01 mechanism in 2015

- Total of **196** investigators have been supported (including MPIs).
- Since 2010, a total of **1218** publications have been reported of which 115 publications were in FY2023.

Basic Research in Cancer Health Disparities Program

- **Funding Opportunity Announcements**

  PAR-21-322 (R01)

  PAR-21-323 (R21)

  PAR-21-324: (R03)

- **Budget:**
  - R01: Budgets are not limited but need to reflect the needs of the proposed project, up to 5 years
  - R21: Direct Costs for 2 years, up to $275k total with a maximum of $200k per year
  - R03: Direct Costs for 2 years, up to $50K total per year
- **Application Due Dates:** Three Standard receipt dates

Purpose and Goals

Purpose: To support **innovative mechanistic studies** that investigate biological/genetic contributors of cancer disparities

Goals:

- Advance the understanding of biology and genetic ancestry in contributing to cancer disparities
- Facilitate the growth of a nationwide cohort of scientists with a high level of basic research expertise in cancer disparities research
- Expand available resources and tools that can advance basic/translational research in cancer disparities (e.g. biospecimens, genomic data, patient-derived models, and methods)

Research Scope

Proposed studies may include:

- Mechanistic studies of biological factors associated with cancer disparities
- Development and testing of new methodologies and models
- Secondary data analyses

Proposed studies should NOT include:

- Genome-Wide Association Studies (GWAS)
- Behavioral, social, environmental, or community/population-based studies that do not incorporate biological mechanisms in the specific aims
- Studies investigating age and/or gender disparities, in the absence of race/ethnicity variables

Research Scope (cont'd)

- Proposed projects are encouraged to:
  - ❑ Use a comparative research design between at least two populations, in which one or more is underserved
  - ❑ Use biospecimens, patient-derived models and/or data sets from different racial/ethnic and/or underserved groups
  - ❑ Use ancestry informative markers (AIMs) to determine genetic ancestry, when appropriate
- Translational and/or clinical research are not required, although potential translational/clinical impact is encouraged.
- Hypothesis-generating, exploratory and/or correlative studies are discouraged for R01 applications but acceptable for R21 and R03 applications.

New Study Section: BMCD

Home > Study Sections > DBIB > BTC

Report your review integrity concerns. **Report** your concerns about unfair review. **Learn more** about integrity & fairness in review.

Basic Mechanisms in Cancer Health Disparities – BMCD

Dr. Sulagna Banerjee

Scientific Review Officer

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The BMCD study section reviews applications involving basic and mechanistic research into the biological/genetic and environmental causes of cancer health disparities in different racial, ethnic and geographic groups. Applications may include mechanistic studies of biological or environmental factors associated with cancer health disparities and how co-morbidities (e.g. obesity, diabetes, chronic infections or dysbiosis) affect tumor biology. Applications may also evaluate mechanisms involved in differential response to therapy.

Review Dates

- List of Reviewers on 02/21/2024
- List of Reviewers on 10/10/2023
- List of Reviewers on 06/21/2023

Membership Panel

The membership panel is a list of chartered members only.

- View Membership Panel

https://public.csr.nih.gov/StudySections/DBIB/BTC/BMCD

Agenda (#3)

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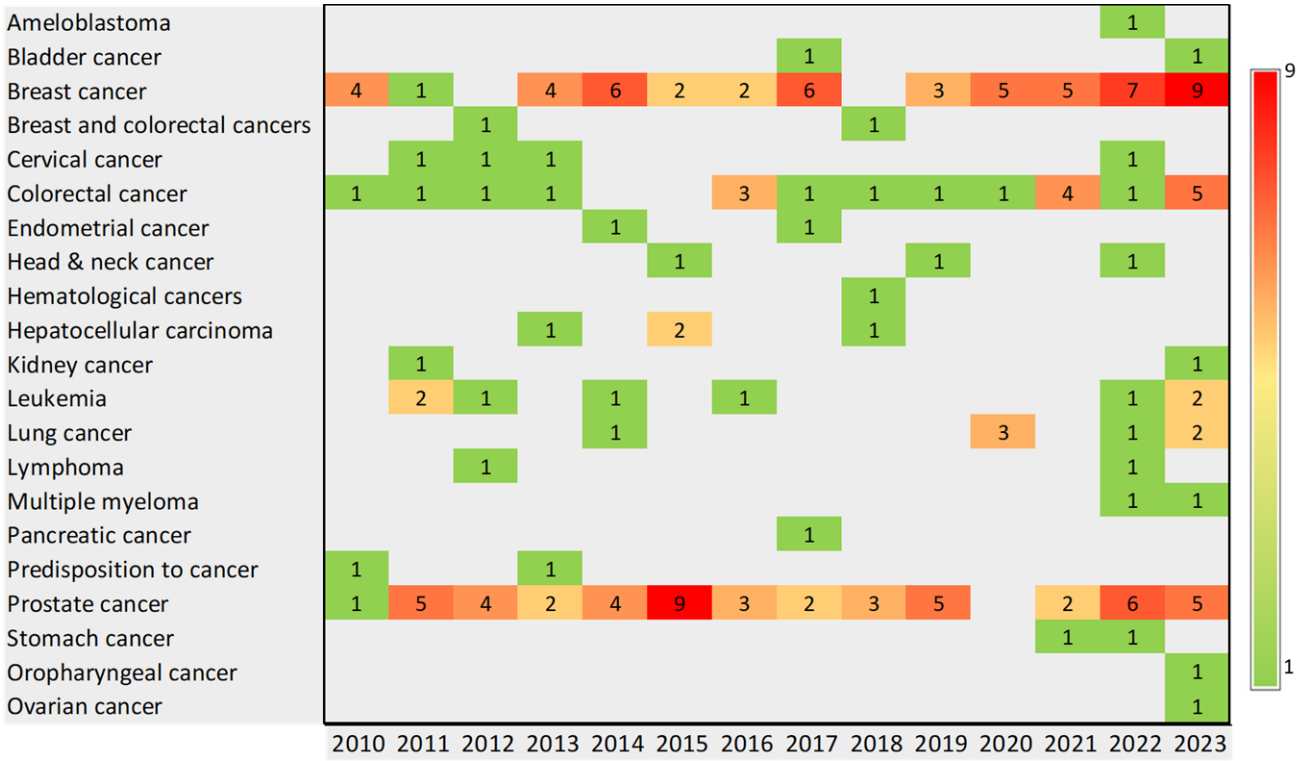
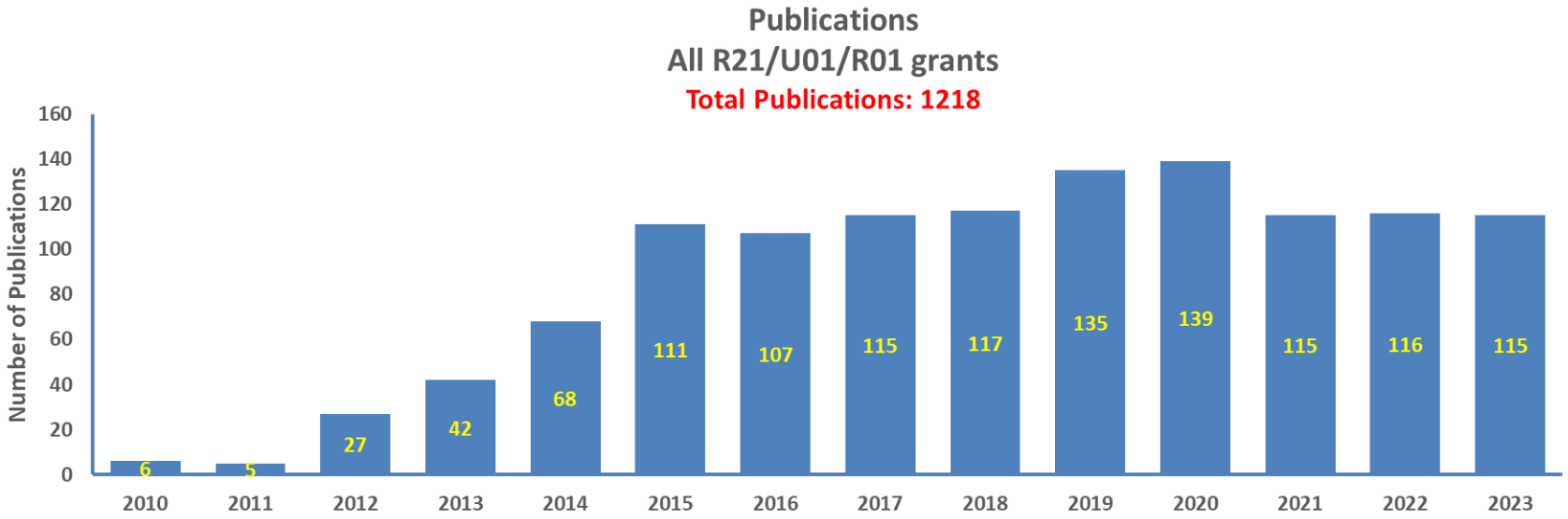
Cancer Types for awarded applications (R21, R01, U01) by fiscal year FY2010-FY2023



Credit: Gati Panigrahi PhD
Laboratory of Human Carcinogenesis, NCI

Publications since 2010



Credit: Gati Panigrahi, PhD
Laboratory of Human Carcinogenesis, NCI

Agenda (#4)

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Summary

The PARs have:

- Increased the number of research grants focused on basic disparities research resulting in an increase in NCI's investment in this area
- Enlarged the cohort of cancer disparity investigators
- Significantly advanced our awareness and understanding of the biological contributors on disparities
- Lead to better understanding of biological factors for cancer health disparities, there has been an increase in the availability of resources (cell lines, model systems, genomic data, patient samples) for disparities-related cancer research

Looking Ahead

- Continue to expand the research portfolio
  - ❑ Diverse populations, different cancer types
- Study Disparities across the cancer continuum
  - ❑ Advance prevention/risk, early detection, treatment, survivorship
- Support Studies seeking to better understand how biology and genetics intersect with social determinants to cause cancer disparities

Contact Information

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Define Title for Accessibility. Recommendation: Thank You

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