



Peer Review Of CBCRP's Special Research Initiatives

JAN-JULY 2022

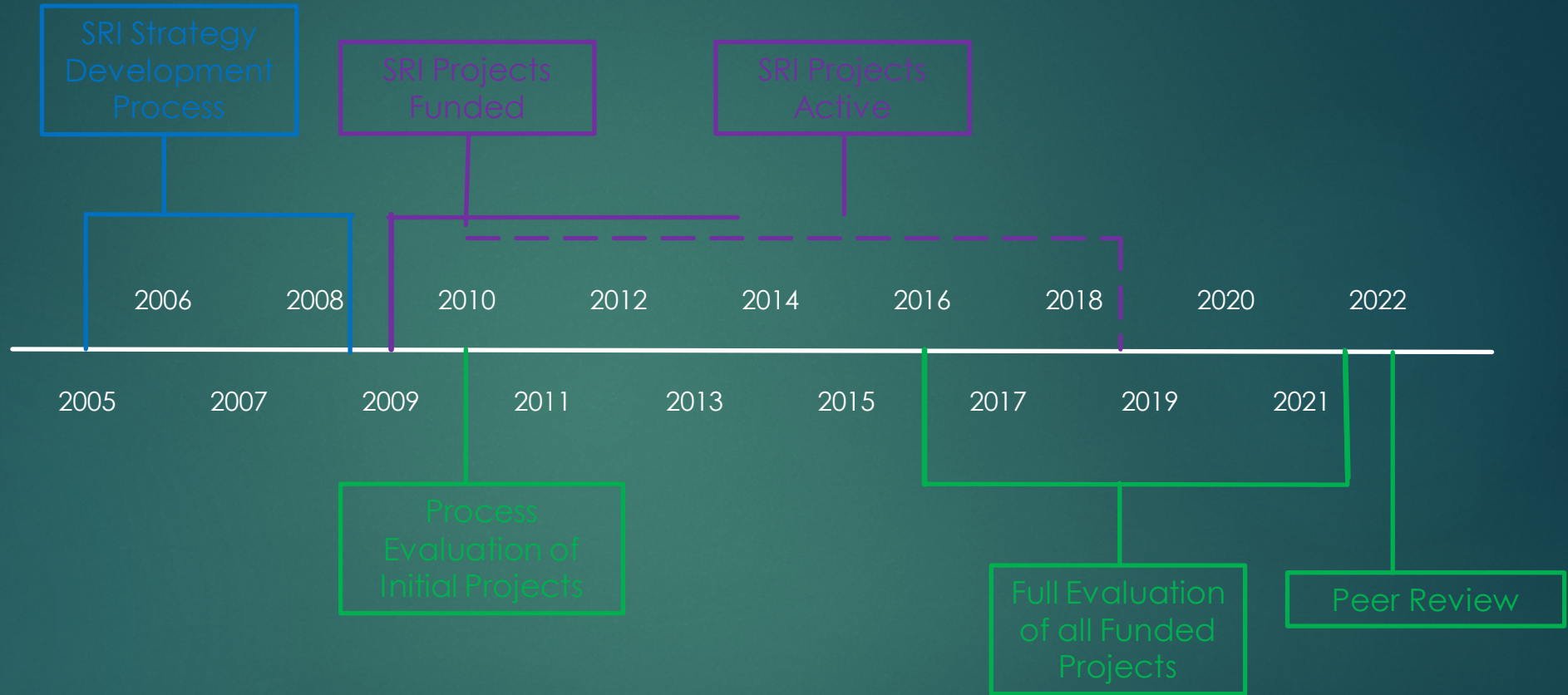
Special Research Initiatives (SRI)

- ▶ In 2004, CBCRP launched its **Special Research Initiatives (SRI)**, with the overarching goal of supporting California-based coordinated, directed, and collaborative research in two areas:
 - The effects of the environment on the development of breast cancer; and
 - Disparities in breast cancer.
- ▶ **Vision:** To identify and support research strategies that increase understanding of, and create solutions to, environmental links to breast cancer and disparities in breast cancer, including solutions to reduce suffering and move us closer to eliminating the disease.
- ▶ **Goals:**
 - ▶ Support a coordinated statewide effort to explore innovative ideas and new theories.
 - ▶ Leverage California's unique and diverse geographic and population resources.
 - ▶ Undertake critical studies that significantly move these fields forward.

SRI Strategy Planning Process (2005-2008)



SRI Initiative and Evaluation Timelines



Nine Special Research Initiatives to Address Environment and/or Disparities

Disparities

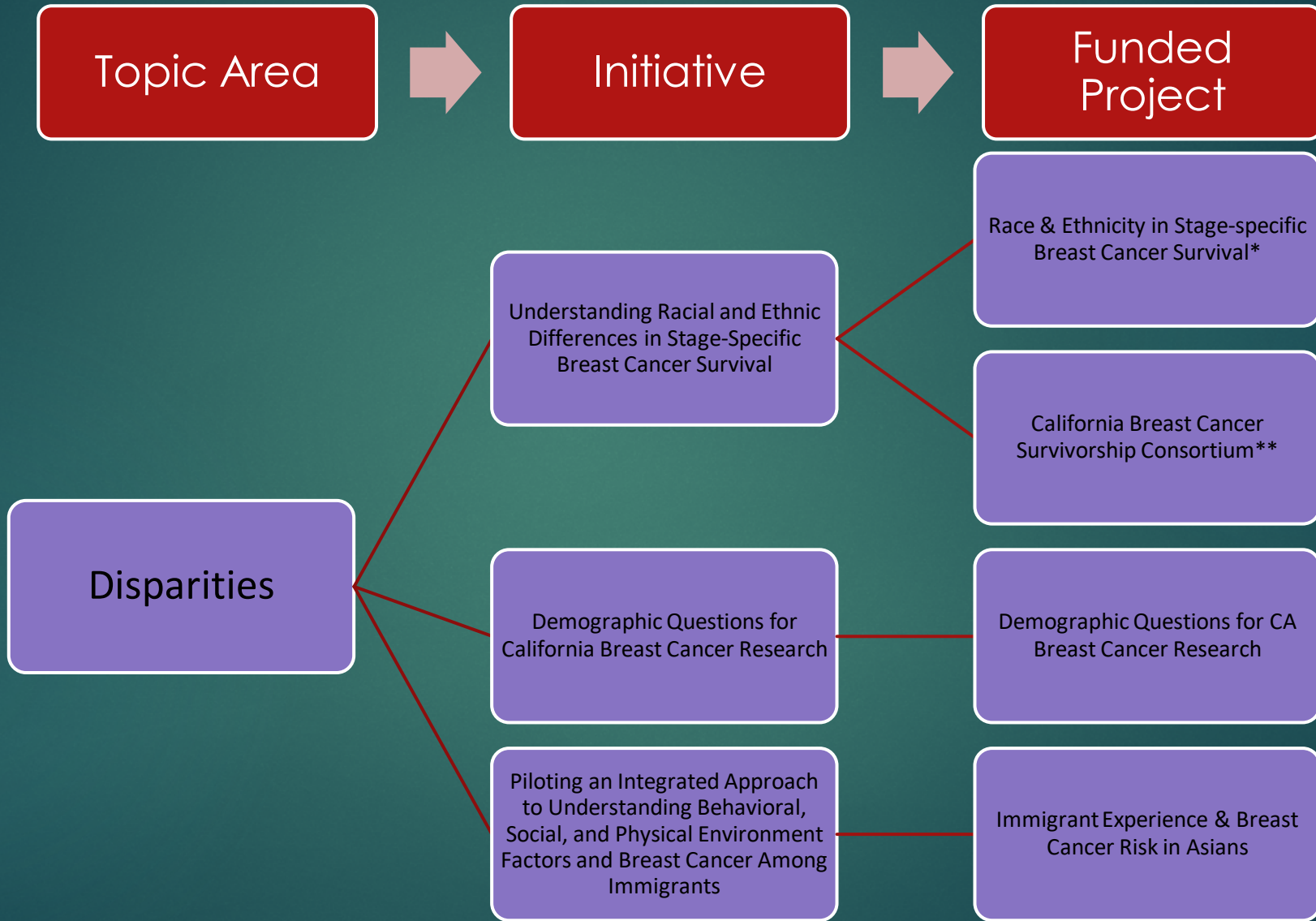
- Racial & ethnic differences
- Demographic questions
- Factors of breast cancer among immigrants

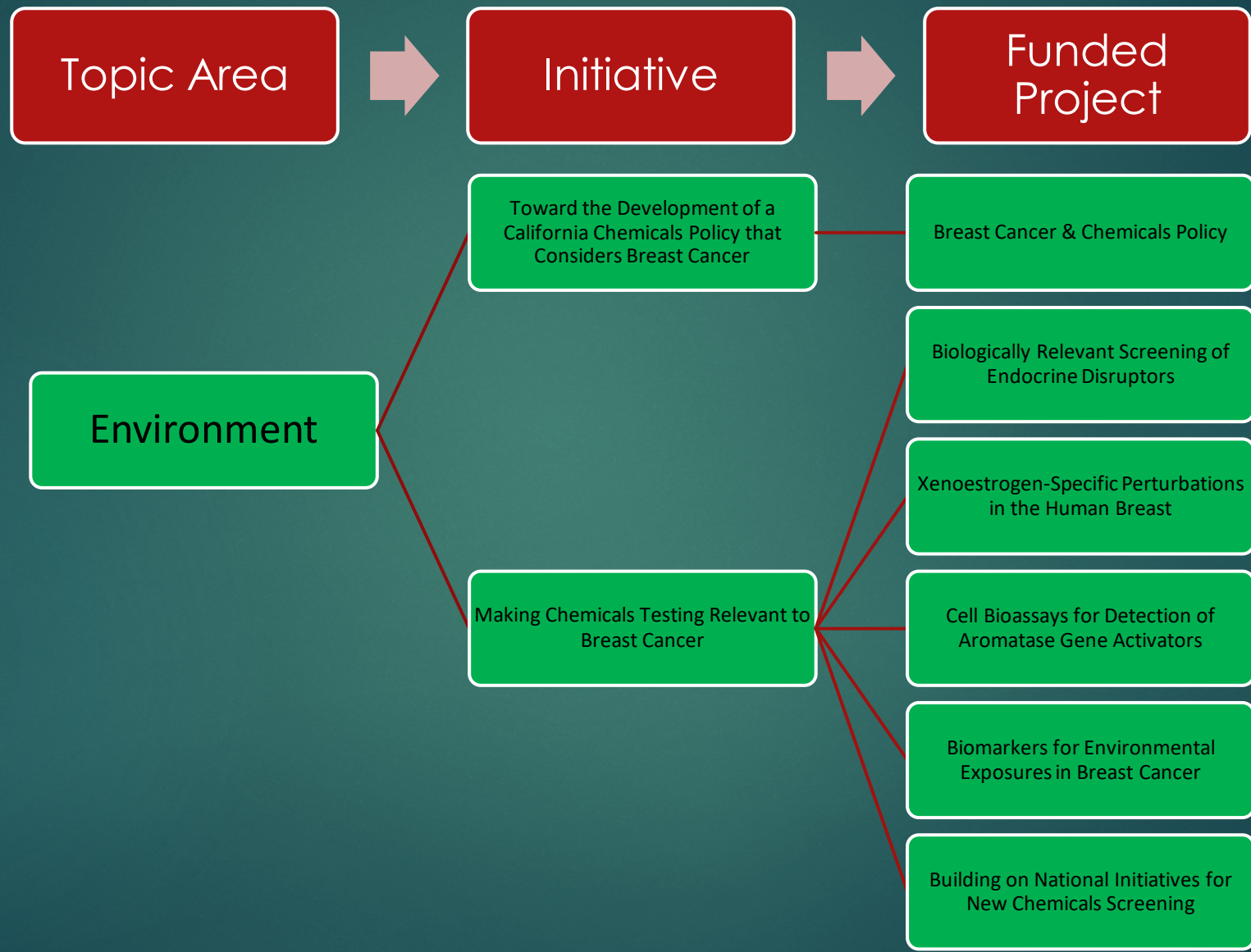
Environment

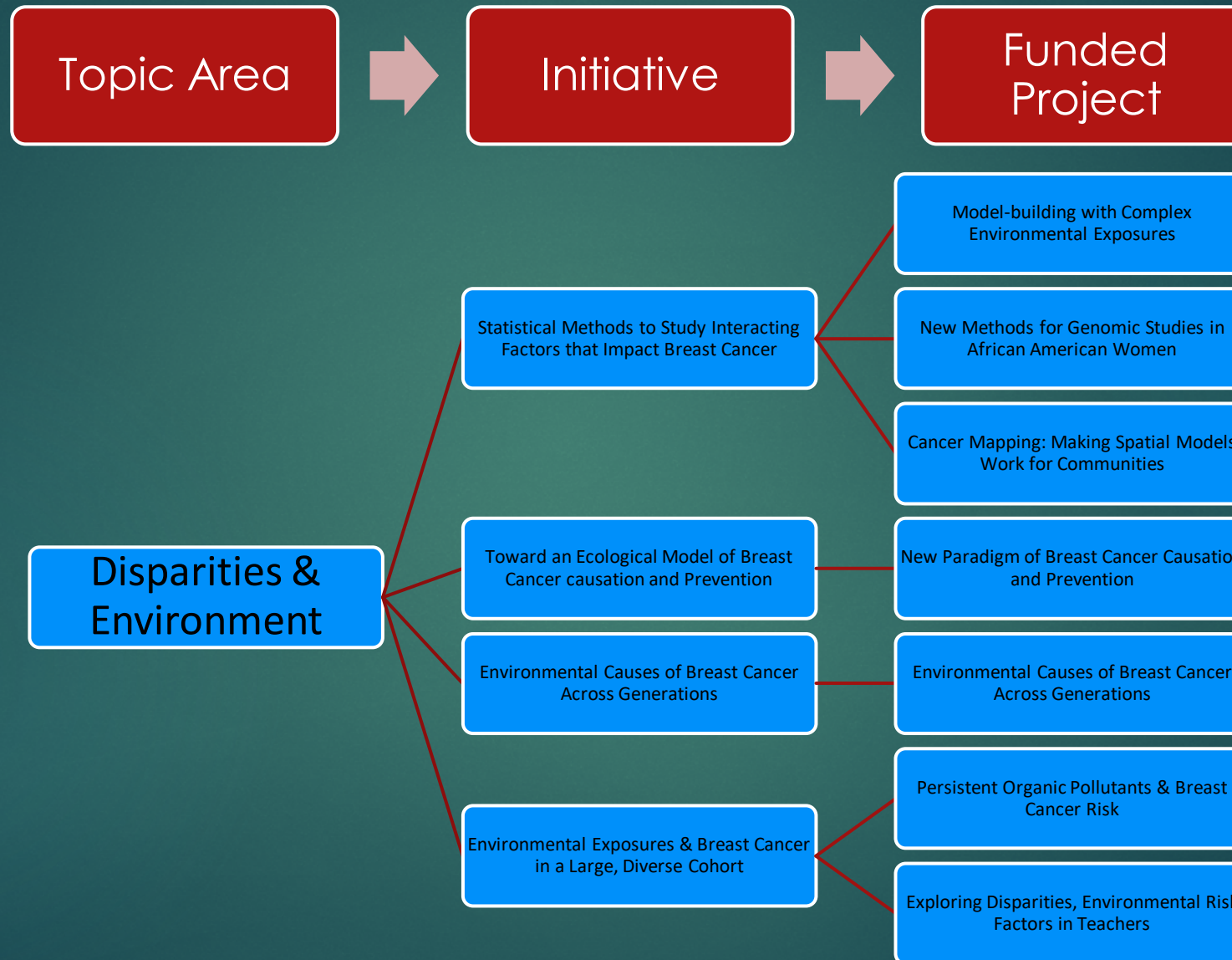
- CA chemicals policy that considers breast cancer
- Making chemicals testing relevant to breast cancer

Both Disparities and Environment

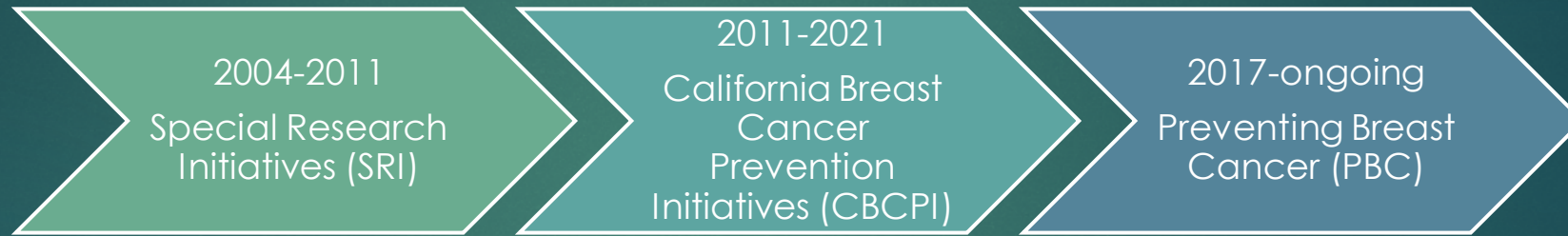
- Statistical methods to study interacting factors
- Toward an ecological model of breast cancer causation and prevention
- Environmental causes of breast cancer across generations
- Environmental exposures & breast cancer in a large, diverse cohort







After SRI, CBCRP Continued to Make Investments in Environment and Disparities Research



Focus of this review

SRI Full Evaluation Process

Summer/Fall
2016

- Evaluation Design
- Document Review
- Database Extraction
- Preliminary Analyses

Winter/Spring
2017

- Survey/Interviews (SRI Investigators)
- Focus Group (Advocates)

Summer/Fall
2017

- Database Extraction
- Further Analyses
- Dissemination (Presentation)

Summer 2020

- Database Extraction
- Further Analyses

Spring/Summer
2021

- Update SRI publication, citation, and journal impact factor data
- Update SRI Evaluation Framework outcome questions and responses

Spring/Summer
2021

- Peer Review

Peer Review Process

- ▶ Provided evaluation data (summaries and source data) to RAND
- ▶ Agreed on Peer Review Committee Process
- ▶ Bi-weekly meetings to discuss data
- ▶ RAND recruited committee, prepared slides and ran meetings with staff present to answer questions
- ▶ Peer review committee met twice for three hours each
- ▶ RAND collected notes from reviewers, drafted report, and circulated to committee.

Peer Review Committee Chair



Gwen Collman
Senior Advisor
National Institute of Environmental Health
Sciences

Peer Review Committee Members



Clement Adebamowo
Director For Global Health Cancer
Research
University of Maryland School of
Medicine



Dezheng Huo
Professor of Public Health and
Medicine
University of Chicago



Sheila McGlown
Advocate
Young Survival Coalition



Lori Petitti
Advocate
Breast Cancer Care & Research
Fund

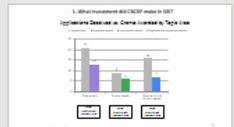



Melissa Troester
Director - UNC Center for
Environmental Health &
Susceptibility
UNC Gillings School of Global
Public Health





Alexandra White
Environment and Cancer
Epidemiology Group Head
National Institute of Environmental
Health Sciences


Data


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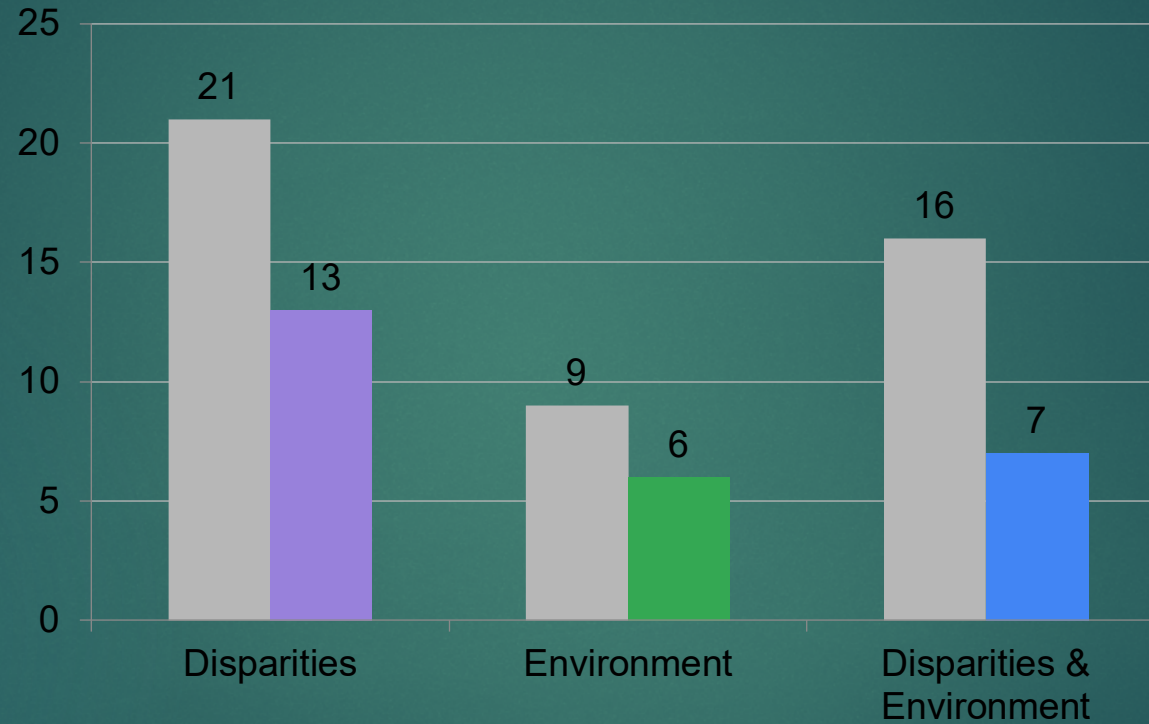
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1. What investment did CBCRP make in SRI?

Applications Received vs. Grants Awarded by Topic Area

■ Applications ■ Disparities awards ■ Environment awards ■ Disparities & Environment awards



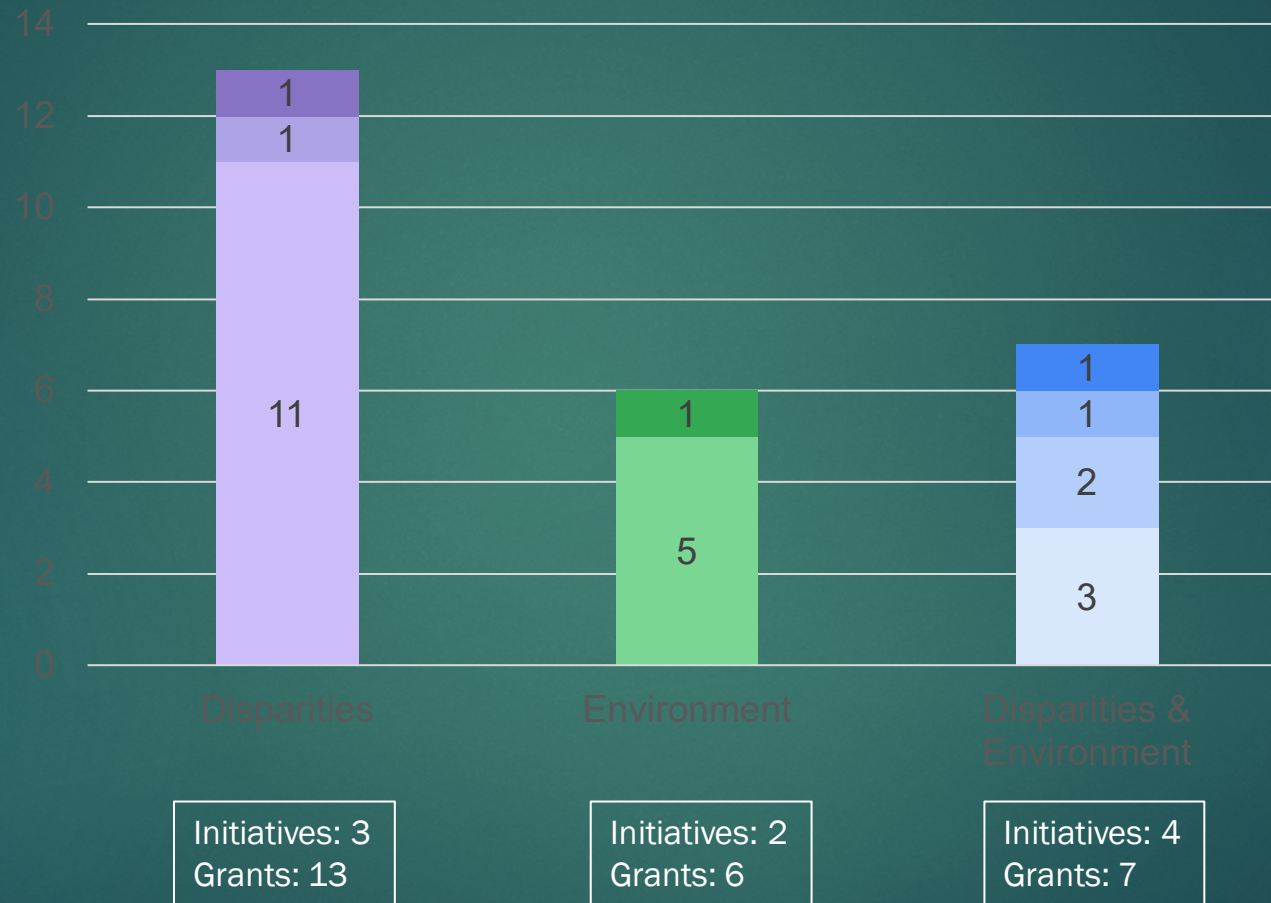
62%
application
success rate

67%
application
success rate

44%
application
success rate

1. What investment did CBCRP make in SRI?

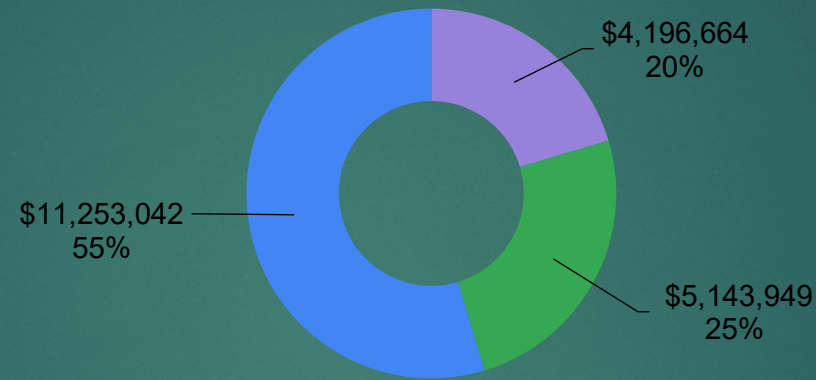
Grants Awarded by Topic Area



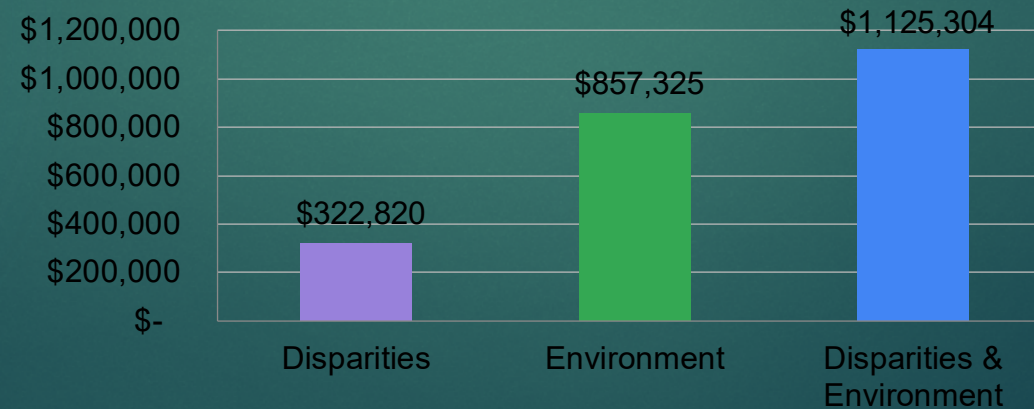
1. What investment did CBCRP make in SRI?

Funding by Topic Area

■ Disparities ■ Environment ■ Disparities & Environment



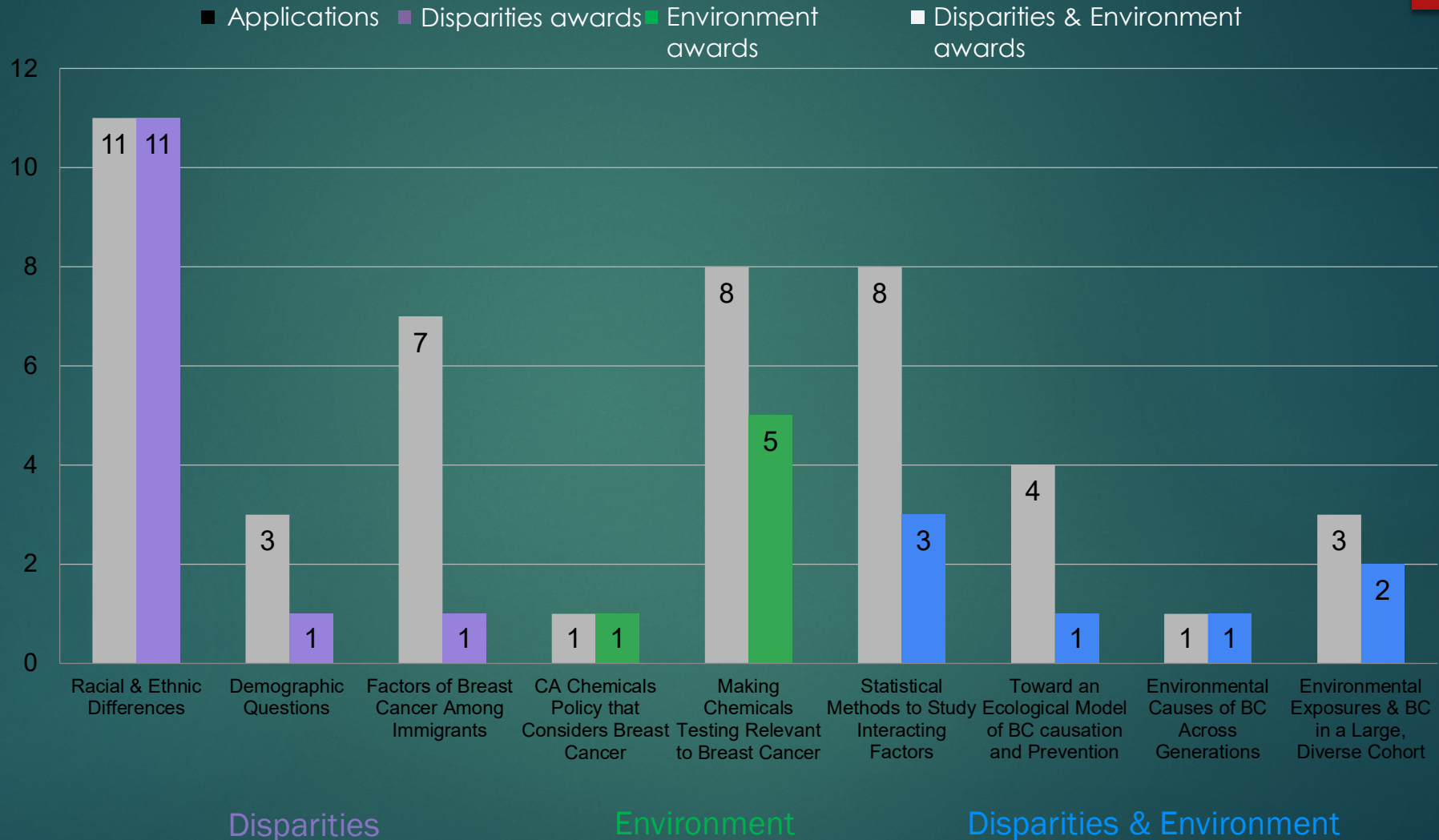
Average Award Amount per Grant by Topic Area



1. What investment did CBCRP make in SRI?

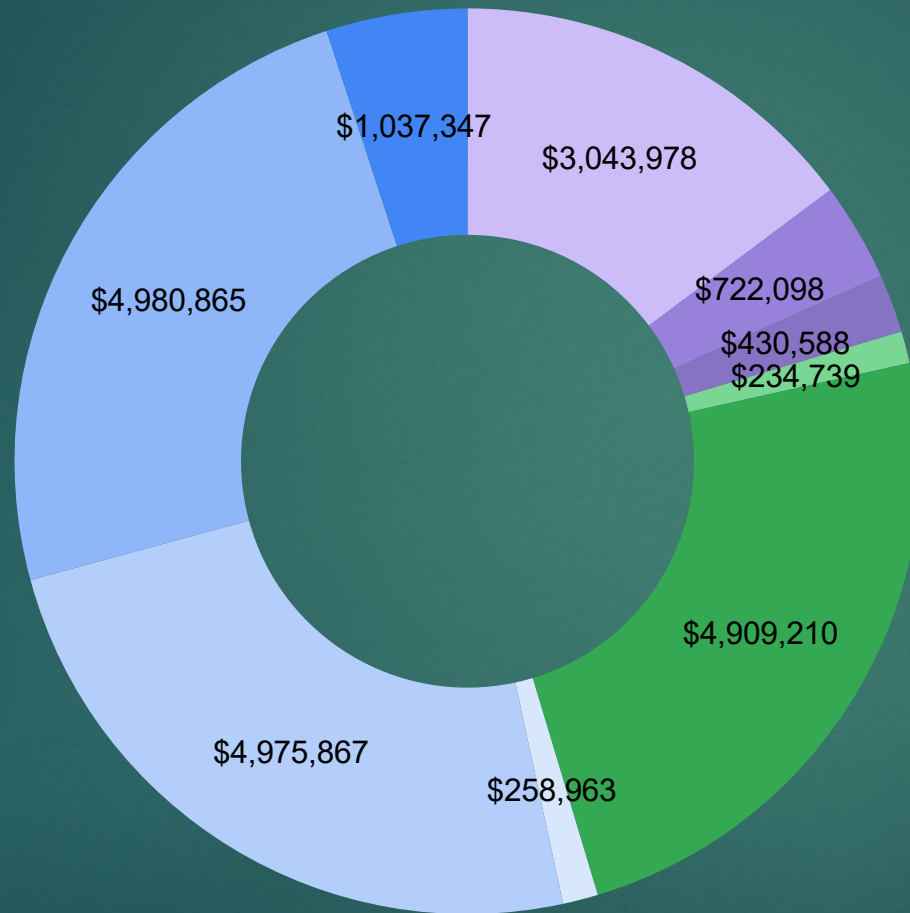
Applications Received vs. Grants Awarded by Initiative

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1. What investment did CBCRP make in SRI?

Funding by Initiative



- Understanding racial and ethnic differences in stage-specific breast cancer survival
- Piloting an integrated approach to understanding behavioral, social, and physical environment factors and breast cancer among immigrants
- Demographic questions for California breast cancer research

- Toward the development of a California chemicals policy that considers breast cancer
- Making chemicals testing relevant to breast cancer

- Toward an ecological model of breast cancer causation and prevention
- Environmental causes of breast cancer across generations
- Environmental exposures & breast cancer in a large, diverse cohort
- Statistical methods to study interacting factors that impact breast cancer

2. (a) How were the SRI initiatives identified?

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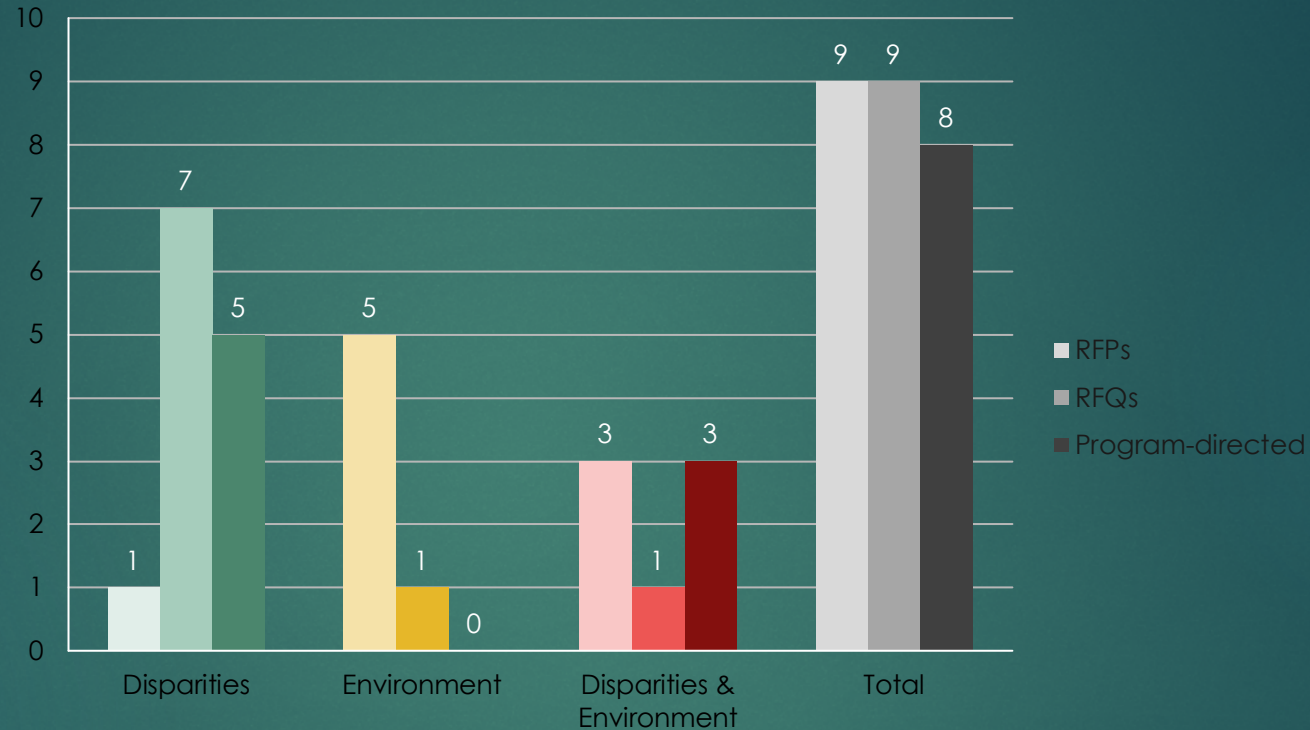


- ▶ SRI initiatives were structured after undergoing a formal 5-stage strategy process to identify gaps in research.
- ▶ During stage 4, a 40-person team used the Gaps document published during stage 3 to develop 10 concept proposals to present to the Steering Committee.

2. (b) How were the SRI initiatives structured?

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Grants Awarded by Funding Mechanism: RFPs, RFQs, & Program-directed Awards



Distribution of funding mechanism by topic area

Disparities:

- 8% RFP
- 54% RFQ
- 38% Program-Directed

Environment:

- 83% RFP
- 17% RFQ
- 0% Program-Directed

Disparities & Environment:

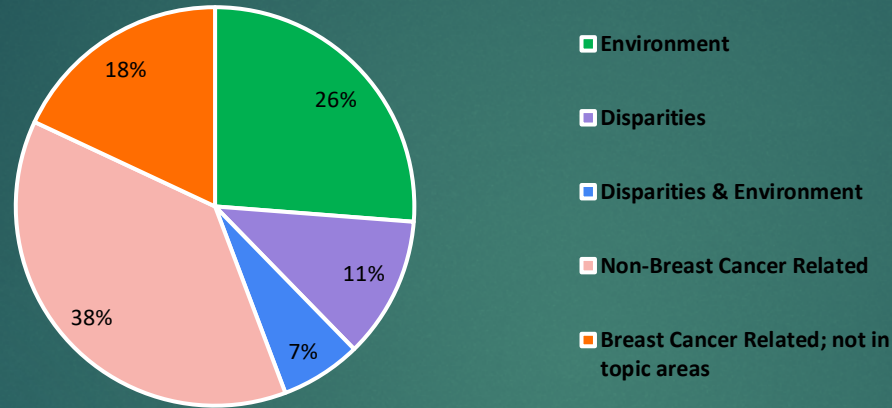
- 43% RFP
- 14% RFQ
- 43% Program-Directed

2. (b) How were the SRI initiatives structured?

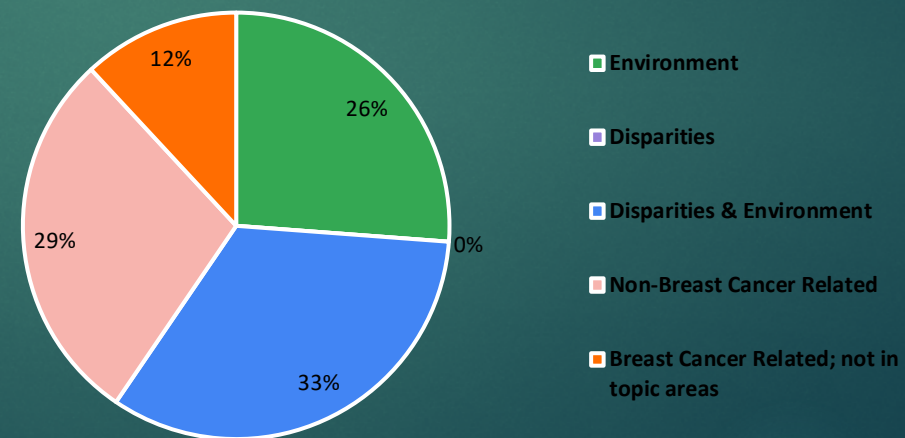
| Topic Area | Initiative | Grants |
|-----------------------------|--|--------|
| Disparities | Understanding Racial and Ethnic Differences in Stage-Specific Breast Cancer Survival | 11 |
| | Demographic Questions for California Breast Cancer Research | 1 |
| | Piloting an Integrated Approach to Understanding Behavioral, Social, and Physical Environment Factors and Breast Cancer Among Immigrants | 1 |
| Environment | Toward the Development of a California Chemicals Policy that Considers Breast Cancer | 1 |
| | Making Chemicals Testing Relevant to Breast Cancer | 5 |
| Disparities and Environment | Statistical Methods to Study Interacting Factors that Impact Breast Cancer | 3 |
| | Toward an Ecological Model of Breast Cancer causation and Prevention | 1 |
| | Environmental Causes of Breast Cancer Across Generations | 1 |
| | Environmental Exposures & Breast Cancer in a Large, Diverse Cohort | 2 |

4. Did SRI build on existing data but avoid duplicating funding strategies by other research funders?

Pre-SRI Project Count in Topic Areas

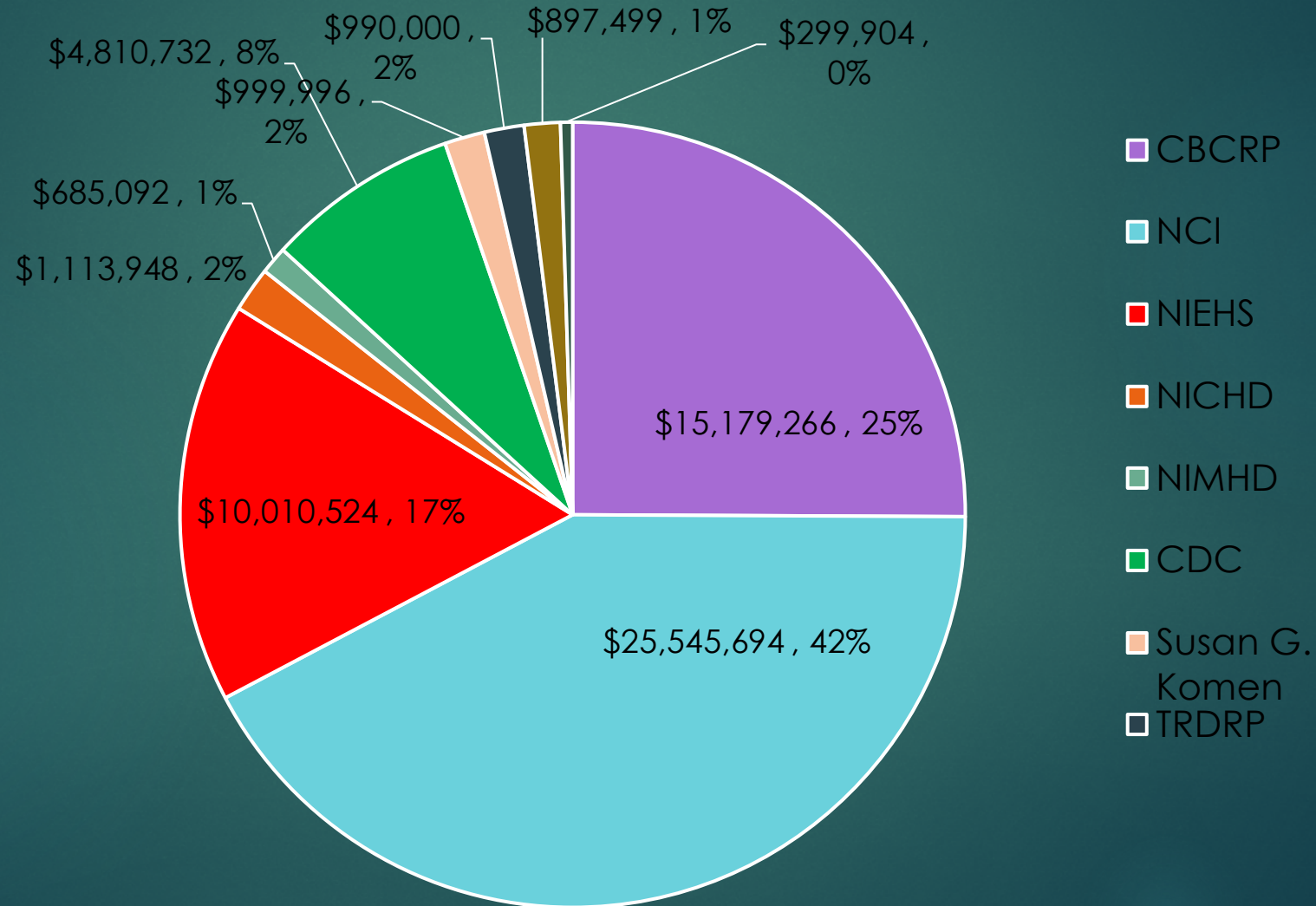


Post-SRI Project Count in Topic Areas



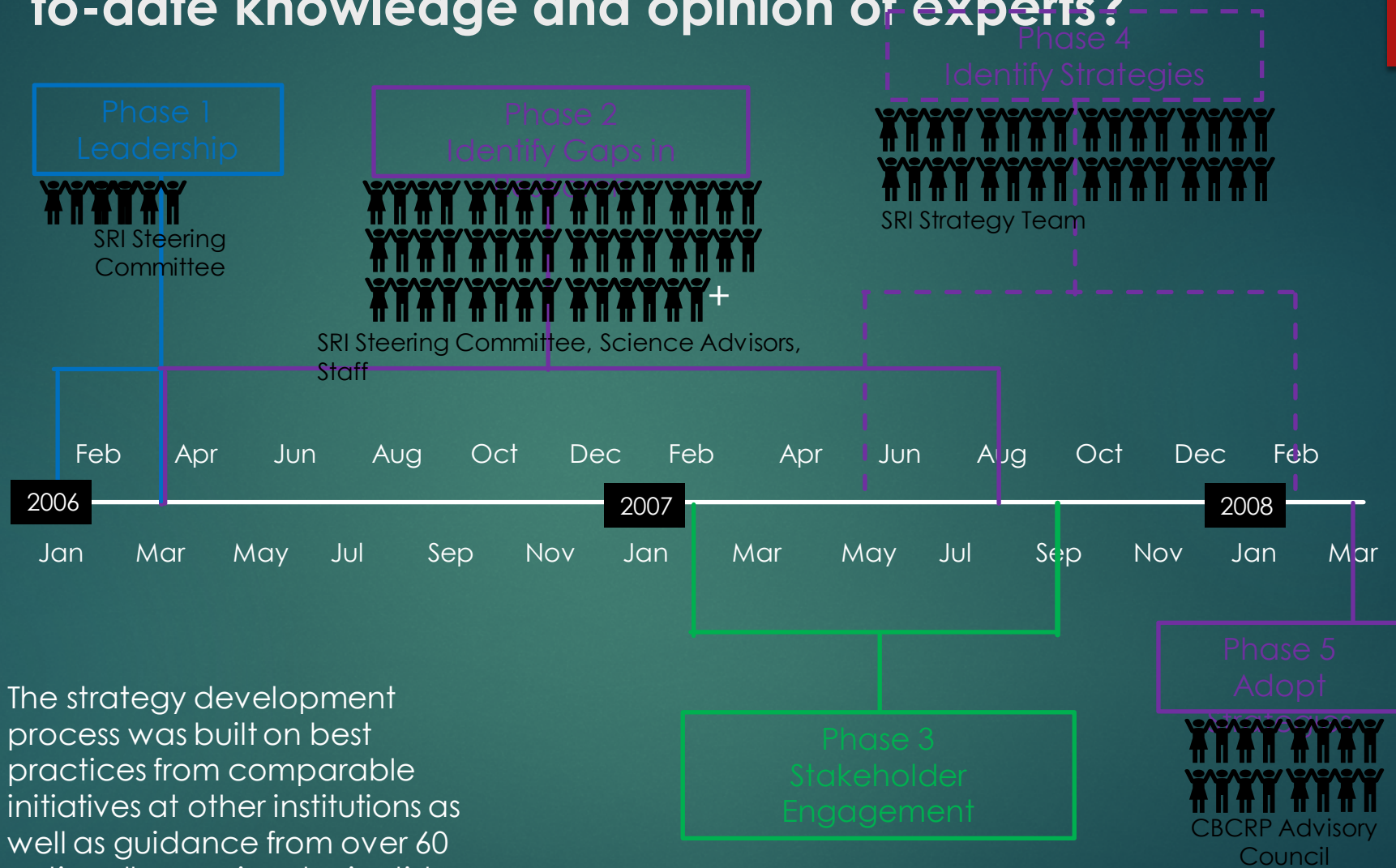
4. Did SRI build on existing data but avoid duplicating funding strategies by other research funders?

Post-SRI Funding by Funders for SRI-Funded PIs



Data source: Database

5. Did SRI choose topics based on the most up-to-date knowledge and opinion of experts?



The strategy development process was built on best practices from comparable initiatives at other institutions as well as guidance from over 60 nationally prominent scientists, advocates, and research administrators

Those affected by breast cancer, investigators who may funded under SRI, clinicians, government officials, interested members of the public

1. Were the goals of each initiative met? Did the grants within these initiatives meet their goals?

| Area | Initiative | Example of one RFP/RFQ Goal for Initiative |
|-------------|--|--|
| Disparities | Demographic Questions for California Breast Cancer Research | Develop recommendations for researchers in gathering demographic information when conducting research on breast cancer in California. |
| Environment | Making Chemicals Testing Relevant to Breast Cancer | Identify and evaluate a comprehensive cost-effective battery of assays for screening chemicals that incorporates the spectrum of mechanisms (tumor promotion, tumor initiation, tumor enabling and developmental disruption) by which chemicals are known or suspected to contribute to breast cancer. |
| Both | Statistical Methods to Study Interacting Factors that Impact Breast Cancer | What are the best methods for incorporating area-level measures of environmental, psychosocial, and other exposures to account for spatial variation, spatial auto-correlation, and multi-level effects? |

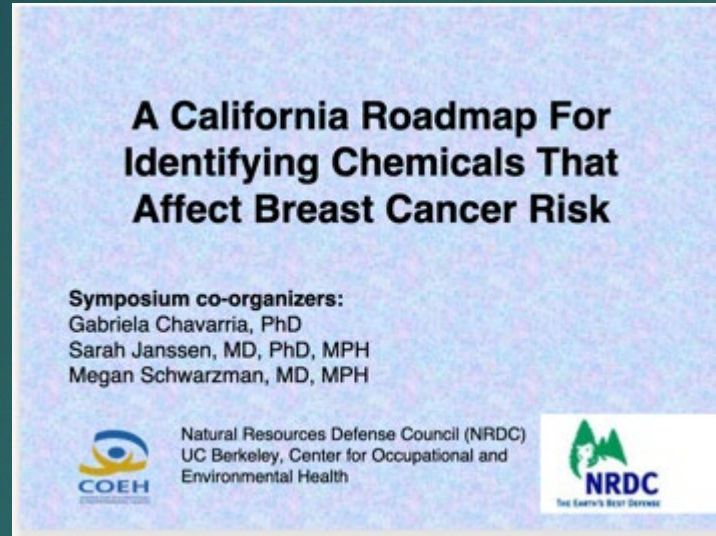
1. Were the goals of each initiative met? Did the grants within these initiatives meet their goals?

| Topic Area | Initiative | Project Title | Publication Count | Total | |
|--------------|--|---|-------------------|-----------|----|
| Disparities | Understanding Racial and Ethnic Differences in Stage-Specific Breast Cancer Survival | Race & Ethnicity in Stage-specific Breast Cancer Survival | 0 | 17 | |
| | | California Breast Cancer Survivorship Consortium | 11 | | |
| | Demographic Questions for California Breast Cancer Research | Demographic Questions for California Breast Cancer Research | 0 | | |
| | Piloting an Integrated Approach to Understanding Behavioral, Social, and Physical Environment Factors and Breast Cancer Among Immigrants | The Immigrant Experience and Breast Cancer Risk in Asians | 6 | | |
| Environment | Toward the Development of a California Chemicals Policy that Considers Breast Cancer | Breast Cancer and Chemicals Policy (BCCP) | 3 | | 22 |
| | Making Chemicals Testing Relevant to Breast Cancer | Biologically Relevant Screening of Endocrine Disruptor | 3 | | |
| | | Xenoestrogen-Specific Perturbations in the Human Breast | 4 | | |
| | | Cell Bioassays for Detection of Aromatase Gene Activators | 3 | | |
| | | Biomarkers for Environmental Exposures in Breast Cancer | 3 | | |
| | | Building on National Initiatives for New Chemicals Screening | 6 | | |
| Both | Statistical Methods to Study Interacting Factors that Impact Breast Cancer | Model-building with Complex Environmental Exposures | 1 | 35 | |
| | | New Methods for Genomic Studies in African-American Women | 12 | | |
| | | Cancer Mapping: Making Spatial Models Work for Communities | 1 | | |
| | Toward an Ecological Model of Breast Cancer causation and Prevention | New Paradigm of Breast Cancer Causation and Prevention | 1 | | |
| | Environmental Causes of Breast Cancer Across Generations | Environmental Causes of Breast Cancer Across Generations | 12 | | |
| | Environmental Exposures & Breast Cancer in a Large, Diverse Cohort | Persistent Organic Pollutants (POPs) and Breast Cancer Risk | 8 | | |
| | | Exploring Disparities, Environmental Risk Factors in Teachers | 0 | | |
| Total | | | | 74 | |

1. Were the goals of each initiative met? Did the grants within these initiatives meet their goals?

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Example Presentations and Tools



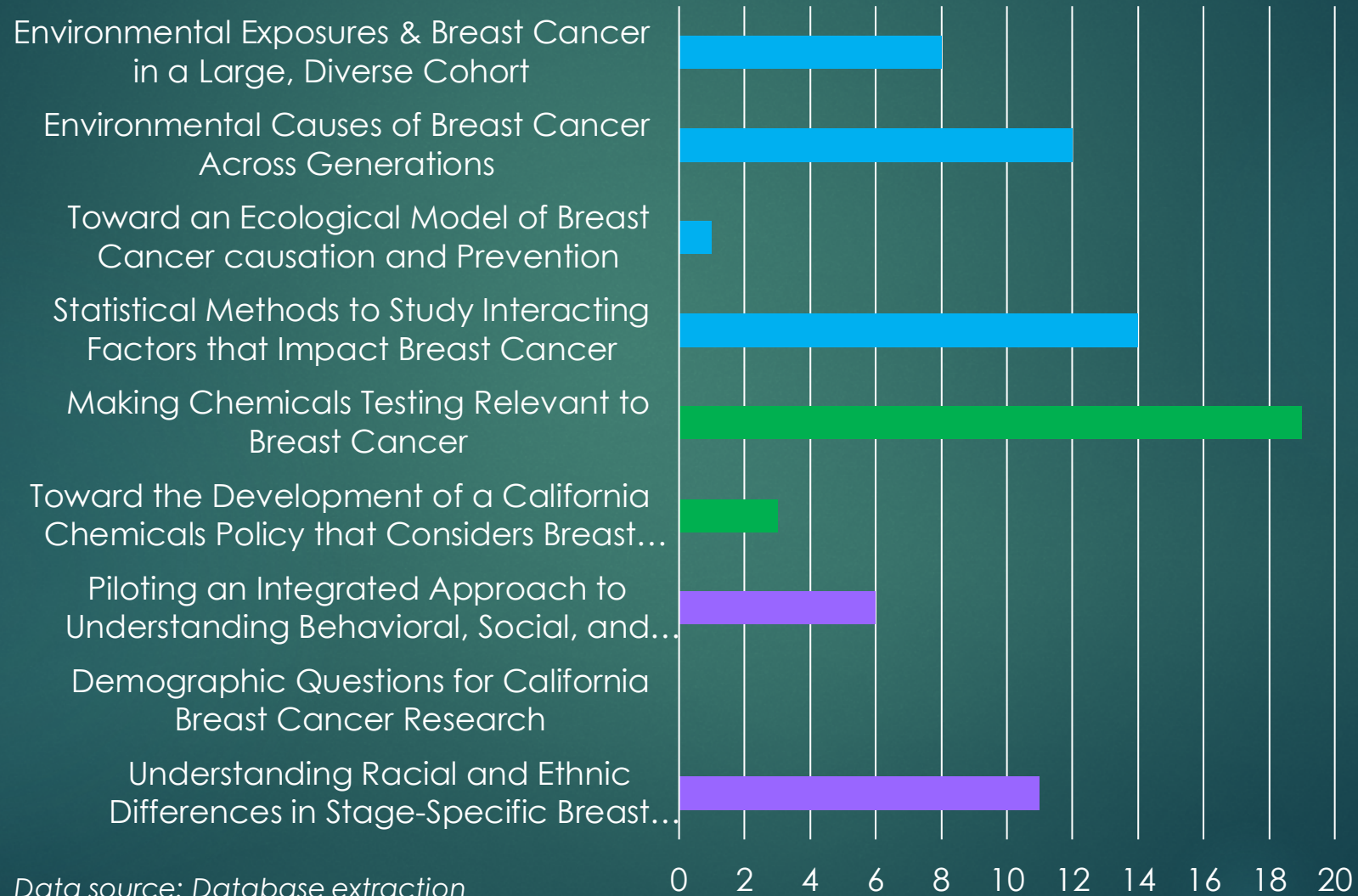
Tools

- **California Breast Cancer Survivorship Consortium** combined multiple cohorts to probe research questions.
- **Demographic Questions for California Breast Cancer Research** developed new survey tools to gather data associated with breast cancer disparities more consistently
- **Biologically Relevant Screening of Endocrine Disruptors** resulted in a new assay that was included in Tox21.
- **Cancer Mapping: Making Spatial Models Work for Communities** developed a mapping protocol to produce more specific data for communities.

2. Did the research findings from the SRI grants lead to increased knowledge to reduce the burden of breast cancer?

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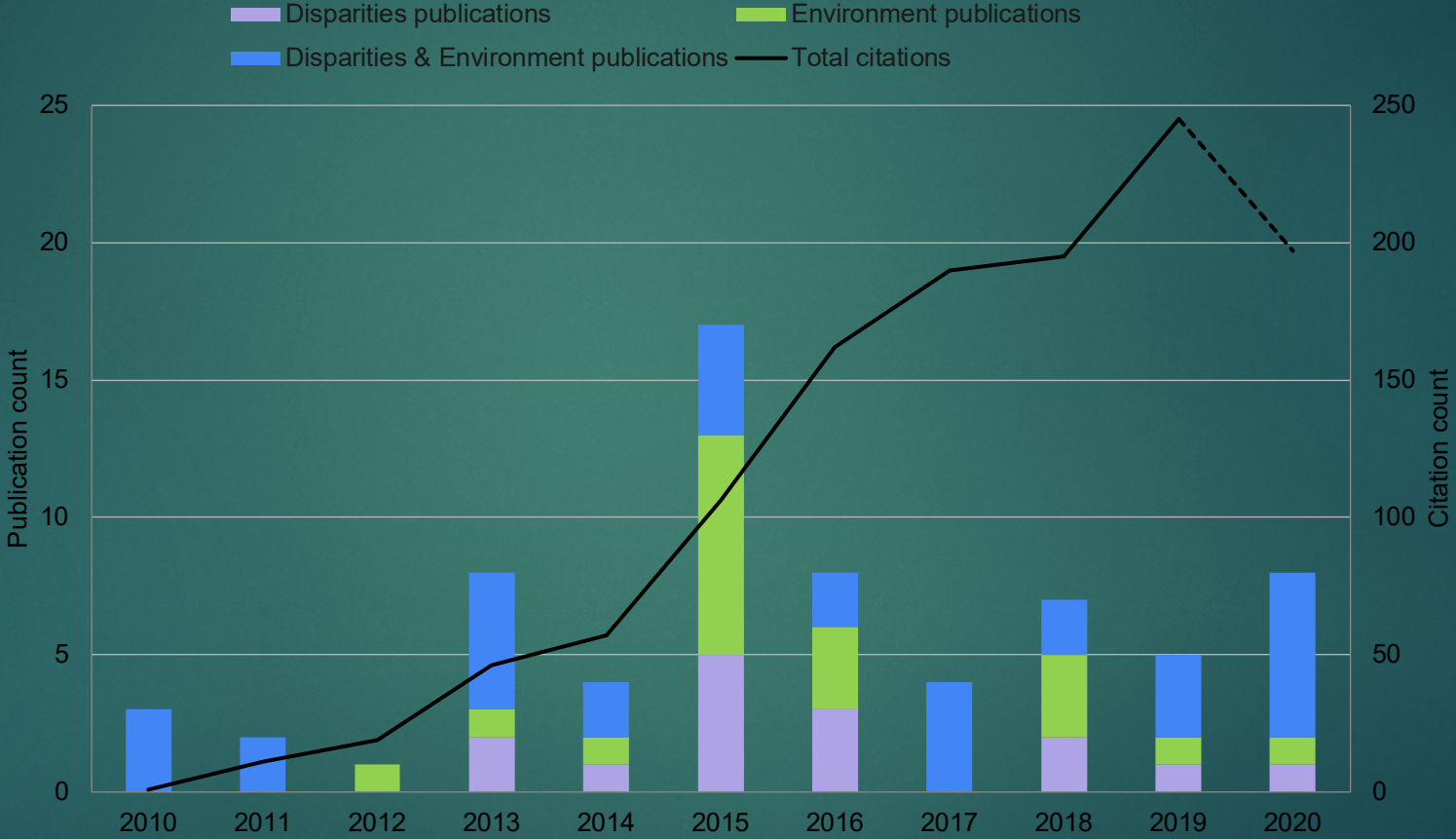
Publications by Initiative



Data source: Database extraction

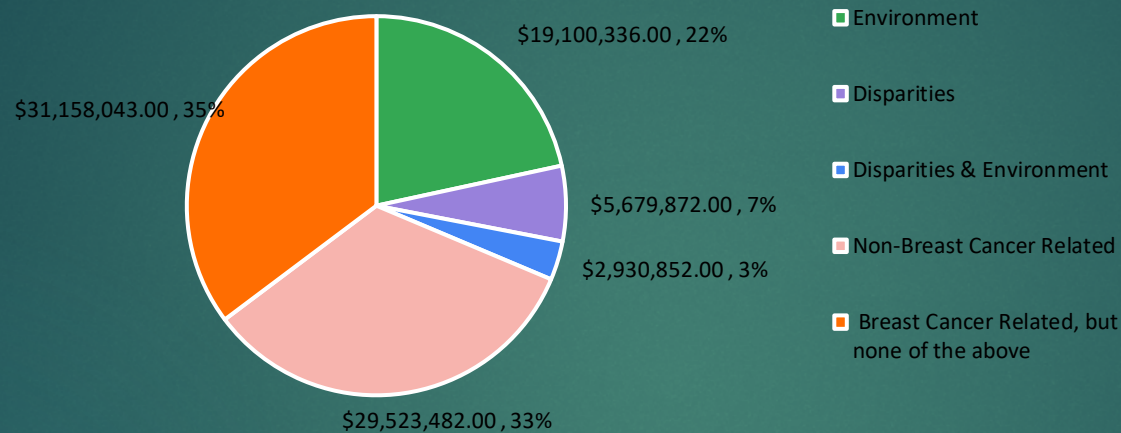
2. Did the research findings from the SRI grants lead to increased knowledge to reduce the burden of breast cancer?

Publications and citations over time

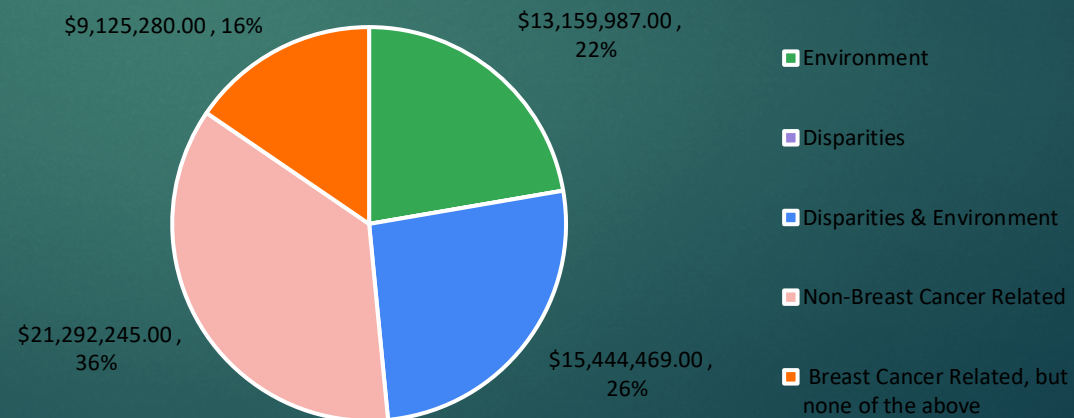


2. Did the research findings from the SRI grants lead to increased knowledge to reduce the burden of breast cancer?

Pre-SRI Funding by Topic Area for SRI-Funded PIs



Post-SRI Funding by Topic Area for SRI-Funded PIs



The breast cancer research by SRI funded PI's increased by 16% in Disparities and Disparities & Environmental topic areas.

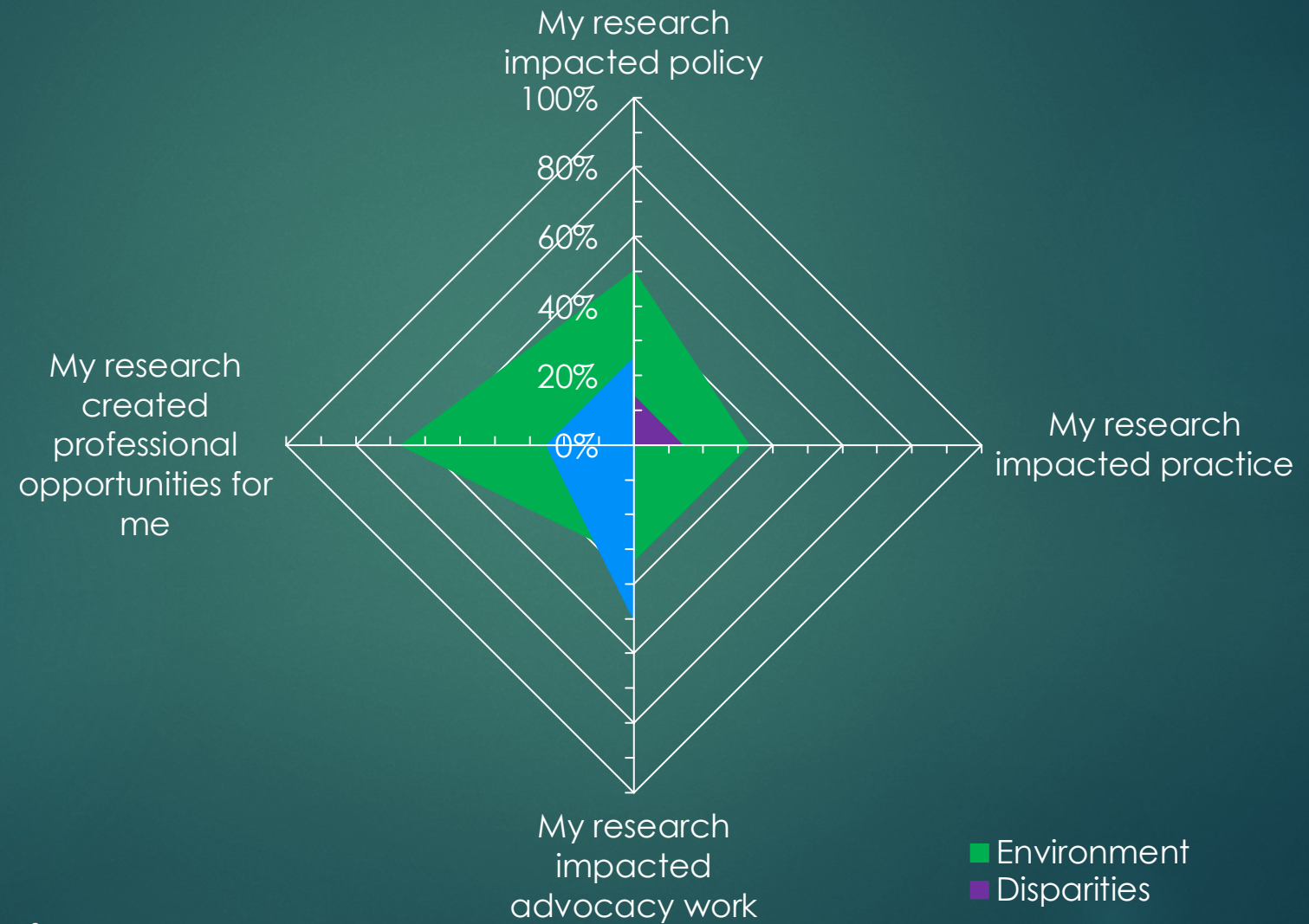
2. Did the research findings from the SRI grants lead to increased knowledge to reduce the burden of breast cancer?

Perspectives of SRI investigators on whether the grants led to increased knowledge to reduce the burden of breast cancer:

- ▶ SRI broadened the definition of prevention
- ▶ Environmental burden was noted across all three SRI topics and the impact of its exposures to be important for Breast Cancer
- ▶ For Environment/Disparities, some investigators noted:
 - ▶ Some studies had a focus on the link between endocrine disruptors and breast cancer
- ▶ For Disparities, some investigators noted:
 - ▶ SRI made it possible to Pool 'Big' data
 - ▶ Funding increased knowledge of the interplay of various factors leading to health/disease
 - ▶ Biological heterogeneity was an underpinning of disparities
- ▶ For Environment, some investigators noted:
 - ▶ Effects at different disease developmental stages or 'windows'
 - ▶ Changes in public policy as a result of this work

3. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

Investigators Perception of Impact



Data source: Survey

3. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

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Advocate Perceptions of Impact

Impact on Policy/Advocacy

*"I've noticed a trend during this period of time (SRI) to make the researchers think of the research in **terms of policy**. Before, that was never really a component of discussion. I remember attending a meeting with the basic scientists that you guys put on and somebody brought up, "What is the public policy implications of these basic biology studies?" And you could just see people were like, "What are you talking about?" But it does seem over time the focus on public health outcomes and public policy has increased through these initiatives."*

Impact on Pipeline

"I think CBCRP grants really helped initial first grants for the new investigators or the new populations that weren't getting the funding, and how they were about to kind of leverage to get more national funding."

3. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

Areas investigators received funding for within the last 5 years (as of Feb. 2017)

Environmental (chemical) exposures and breast cancer

Yes 
No 

NCI
Avon Foundation
NIEHS



Health disparities and breast cancer

Yes 
No 

NCI
ACS
DoD
Avon Foundation
Komen Foundation



3. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

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PI Comments on Portfolio Changes

Expand Portfolio

“Not changing the focus of interest but more ways to address the question that are probably better, smarter, newer”

“Expanded, I would say, rather than changed.”

“I expect that it will in 2-3 years once publications come out and we do follow up studies”

Expand Science

“Made me more aware of issues. Opportunities for doing the type of research that we did are limited.”

“Now, we are speaking to an aspect of science we hadn't appreciated as much before these grants”

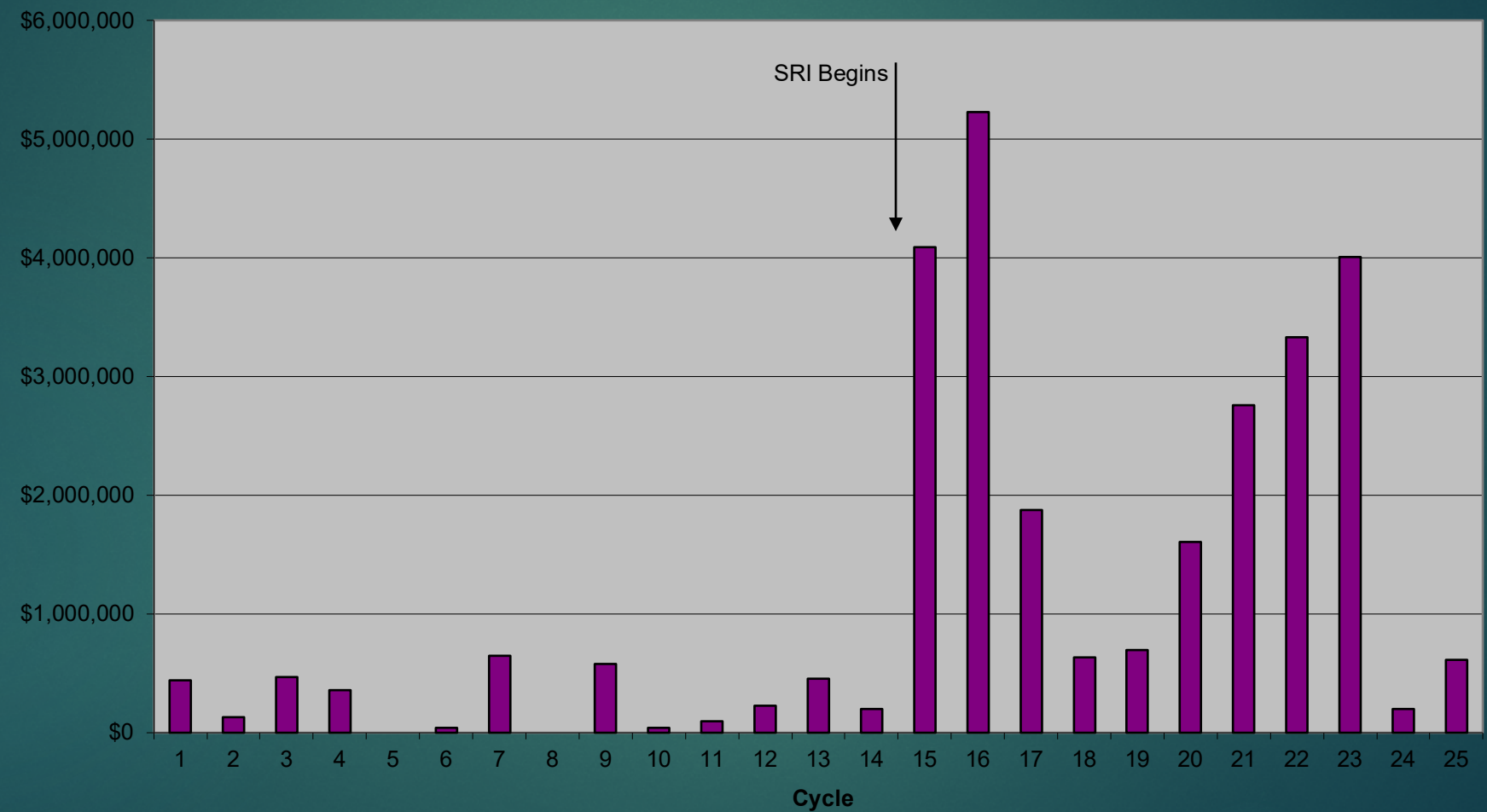
4. How did the structure of SRI impact the research initiated within each initiative?

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- ▶ 3 SRI funding mechanisms:
 - ▶ Direct contract (Program-Directed): More focused than a grant, CBCRP invites an investigator with a certain asset to submit a proposal for specific work
 - ▶ For example, CBCRP would invite a PI with unique data and/or important community partners to submit a proposal that may expand their research in an area of breast cancer that had been identified through the strategy process
 - ▶ Cooperative agreements (RFQs): Substantial CBCRP involvement in carrying out the funded activities
 - ▶ RFA (RFPs): Very targeted with research question specified by the PI; minimal to no CBCRP involvement in carrying out the work
- ▶ This diversity in funding mechanisms led to more grant applications and funding in the areas of Environment and Disparities than previous funding cycles (see the next 2 slides)

4. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

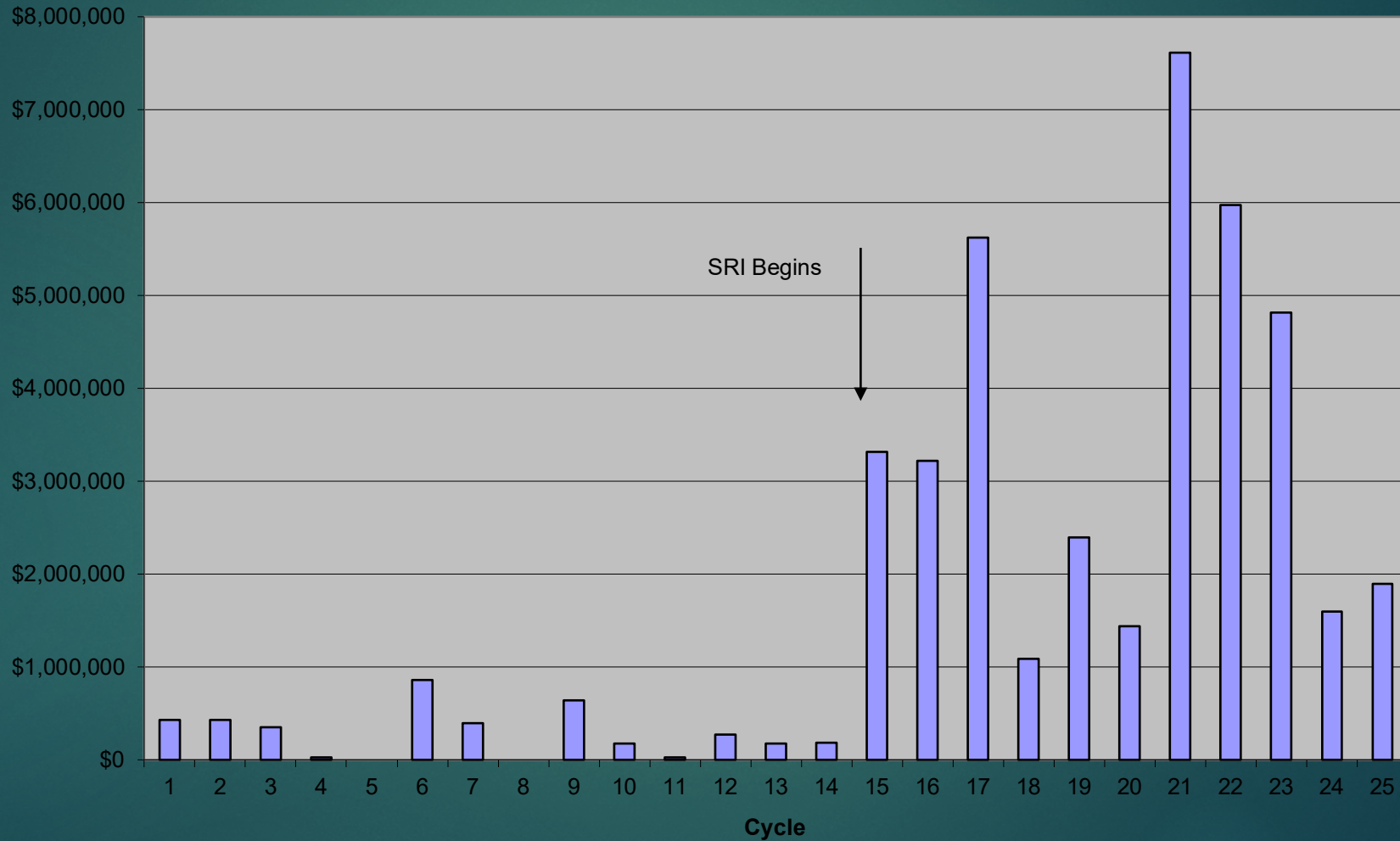
CBCRP Disparities Funding Over Time



Data source: Database extraction

4. Do research findings from SRI grants lead to increased opportunities to move these fields forward in research and/or advocacy?

CBCRP Environment Funding Over Time



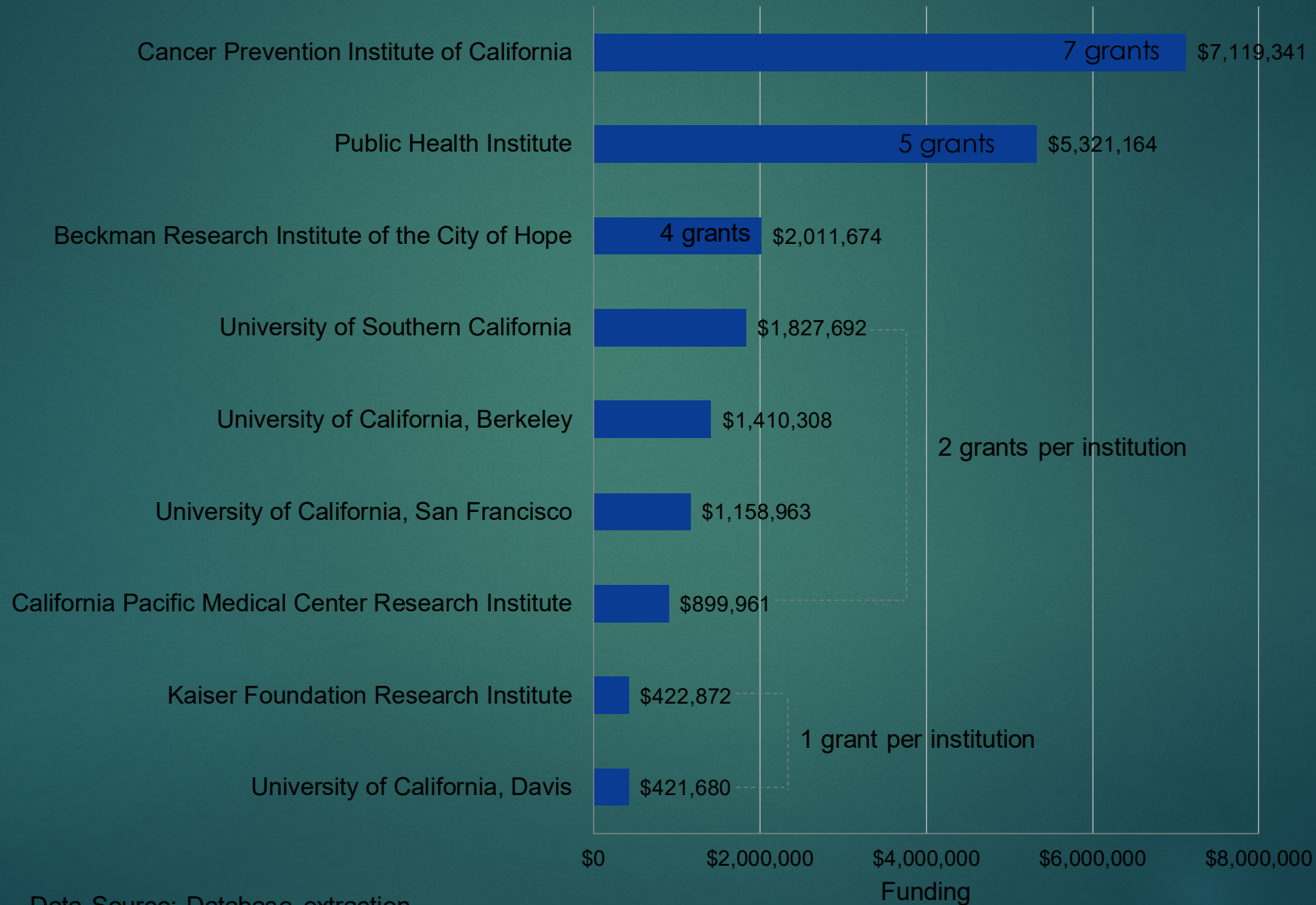
Data source: Database extraction

4. How did the structure of SRI impact the research initiated within each initiative?

Perspectives of key staff and consultants who oversaw SRI on the impact of SRI.

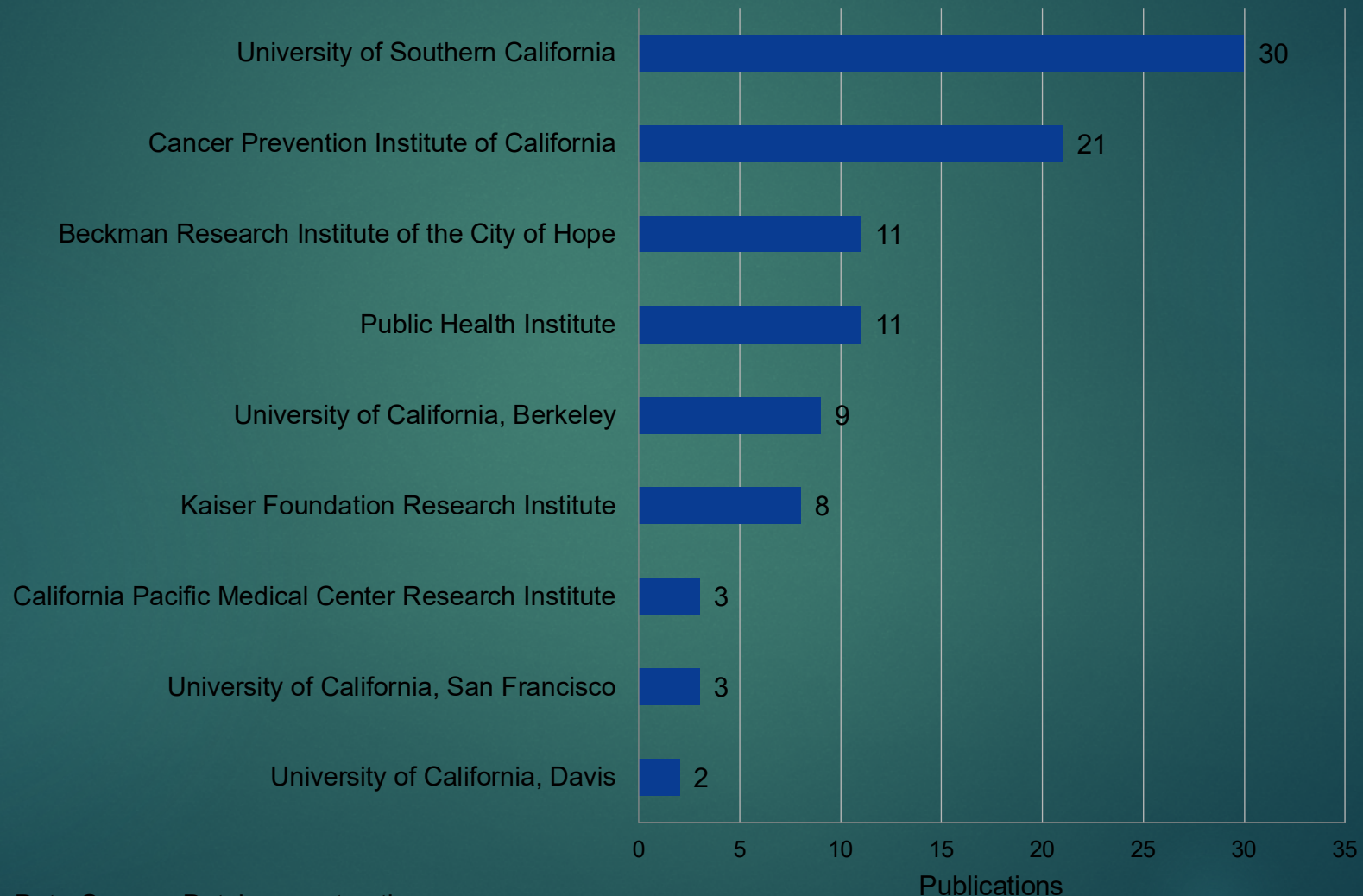
- ▶ SRI may have had impact on:
 - ▶ Bringing the best researchers and advocates together
 - ▶ Providing funding in critical areas and to junior investigators
 - ▶ Advocates not only informing research but helping train or build capacity in researchers
 - ▶ Helping drive key areas of research (e.g., 'windows of susceptibility') or focus attention on policy or public health
 - ▶ Increasing the number of researchers pursuing environment and disparities researched because of the increased CBCRP funding in these areas
- ▶ But, funding and job stability concern remain

5. How did the SRI funded grants leverage California's unique and diverse geography, demographics, and research resources?



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SRI Publications by Institution



Data Source: Database extraction

5. How did the SRI funded grants leverage California's unique and diverse geography, demographics, and research resources?

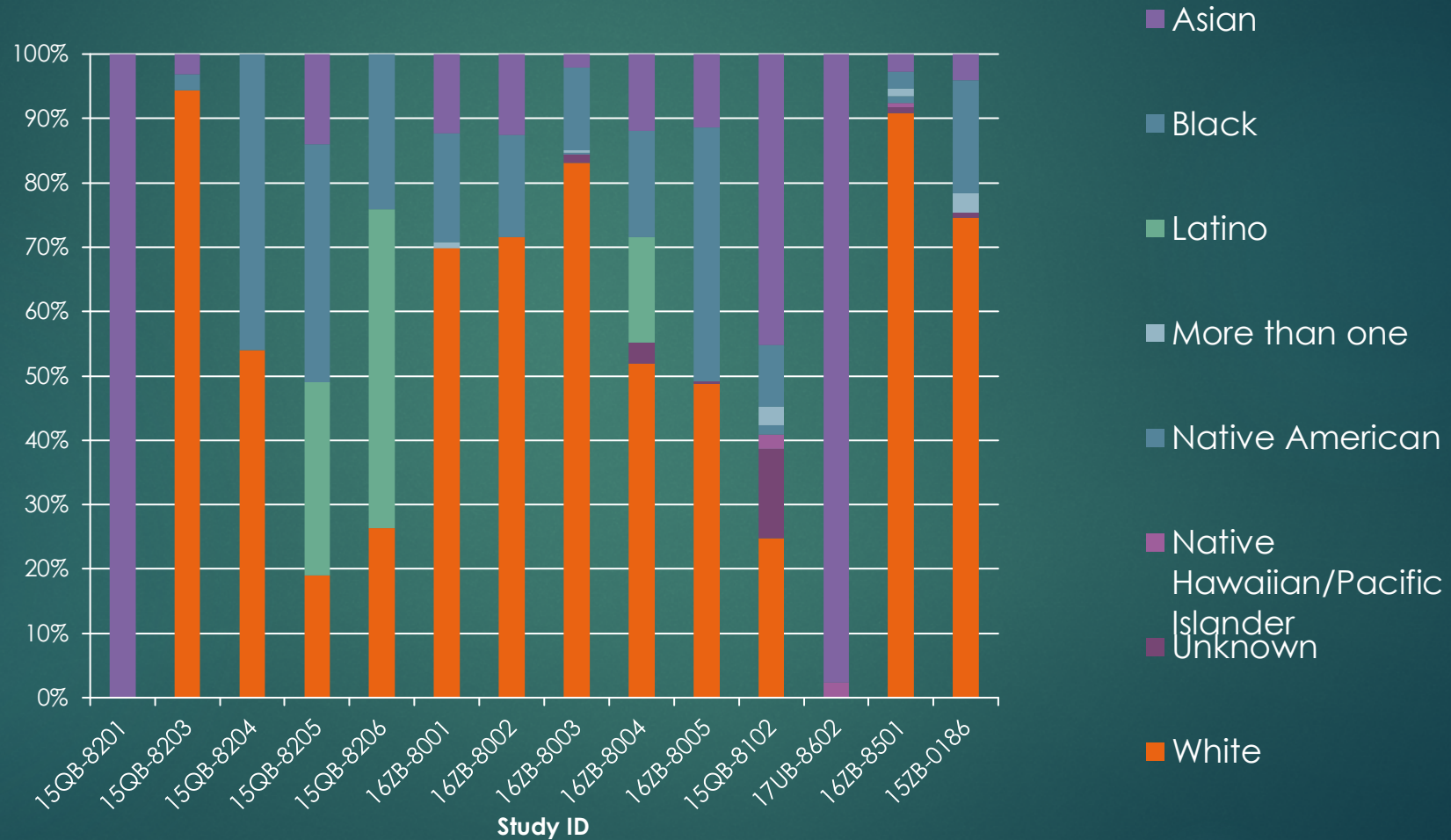
Resources Utilized

| | Environmen † | Disparities | Both | TOTAL |
|------------------------|-----------------|-------------|------|-------|
| External Collaborators | 2 | 2 | 4 | 8 |
| Multidisciplinary Team | | 5 | 2 | 7 |
| Large Data Sets | | 6 | 3 | 9 |
| Registry | | 4 | 2 | 6 |
| Chemical Catalog | 1 | | 3 | 4 |
| Lab, Bench | 4 | 6 | 1 | 11 |
| Lab, Computational | 1 | 8 | 3 | 12 |
| Libraries | 1 | | 1 | 2 |
| Office Space | | 7 | 2 | 9 |
| TOTAL | 9 | 38 | 21 | |

- ▶ Labs available in California are well-known and national/international leaders
- ▶ California scientists and advocates have necessary expertise and experience to conduct these studies
- ▶ Datasets and Cancer Registry available in California offer information on diverse populations

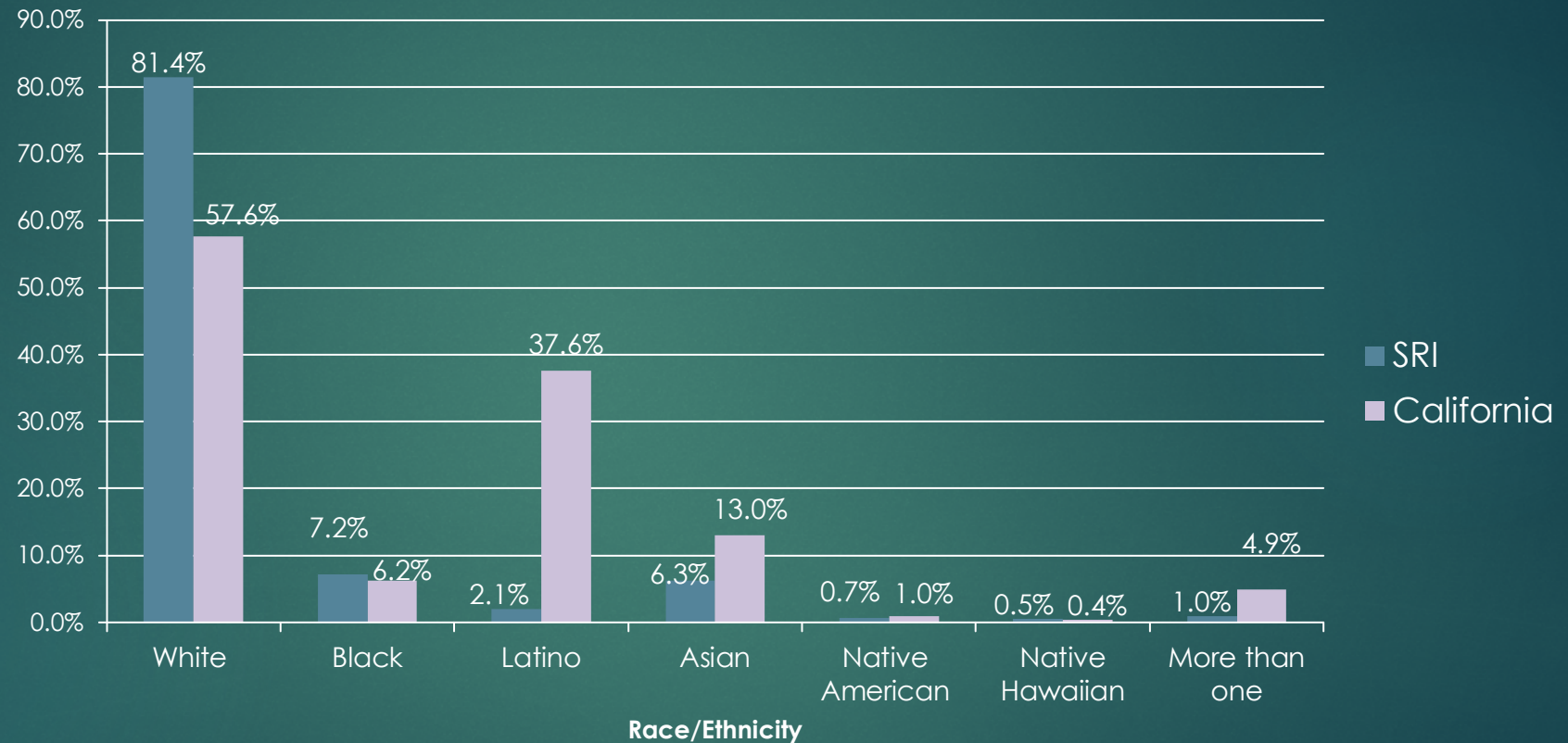
5. How did the SRI funded grants leverage California's unique and diverse geography, demographics, and research resources?

Racial/Ethnic Composition of Study Participants



5. How did the SRI funded grants leverage California's unique and diverse geography, demographics, and research resources?

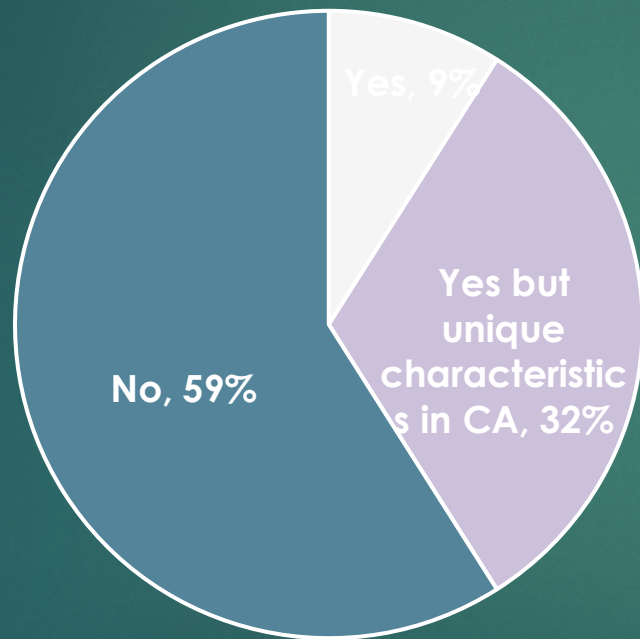
Study Participants vs. California Census Data



5. How did the SRI funded grants leverage California's unique and diverse geography, demographics, and research resources?

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Investigator perspectives on whether study could have been conducted outside of California

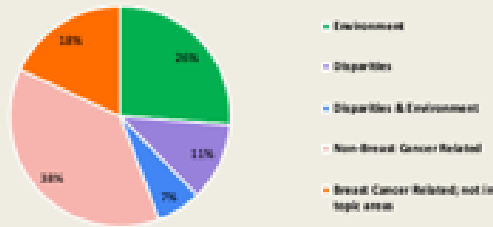


- ▶ Some investigators believed that these studies could have been conducted outside of California
- ▶ However, these studies benefited from unique resources or characteristics
 - Diverse population
 - State based laboratories and test options available
 - Conversations pushed forward in California specifically (implications of existing policies, cancer incidence rates)

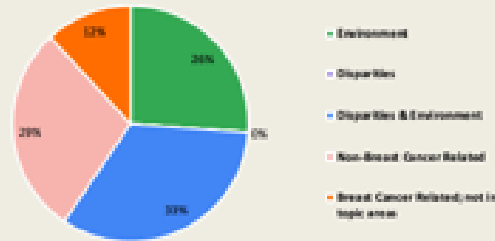
3. Did the research produced as a result of SRI stimulate breast cancer research in the areas of environment, disparities, and/or disparities and environment?

4. Did SRI build on existing data but avoid duplicating funding strategies by other research funders?

Pre-SRI Project Count in Topic Areas



Post-SRI Project Count in Topic Areas

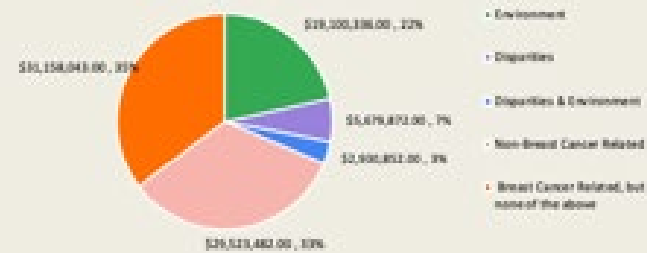


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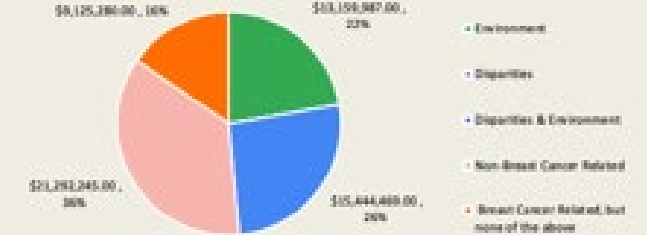
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2. Did the research findings from the SRI grants lead to increased knowledge to reduce the burden of breast cancer?

Pre-SRI Funding by Topic Area for SRI-Funded PIs



Post-SRI Funding by Topic Area for SRI-Funded PIs



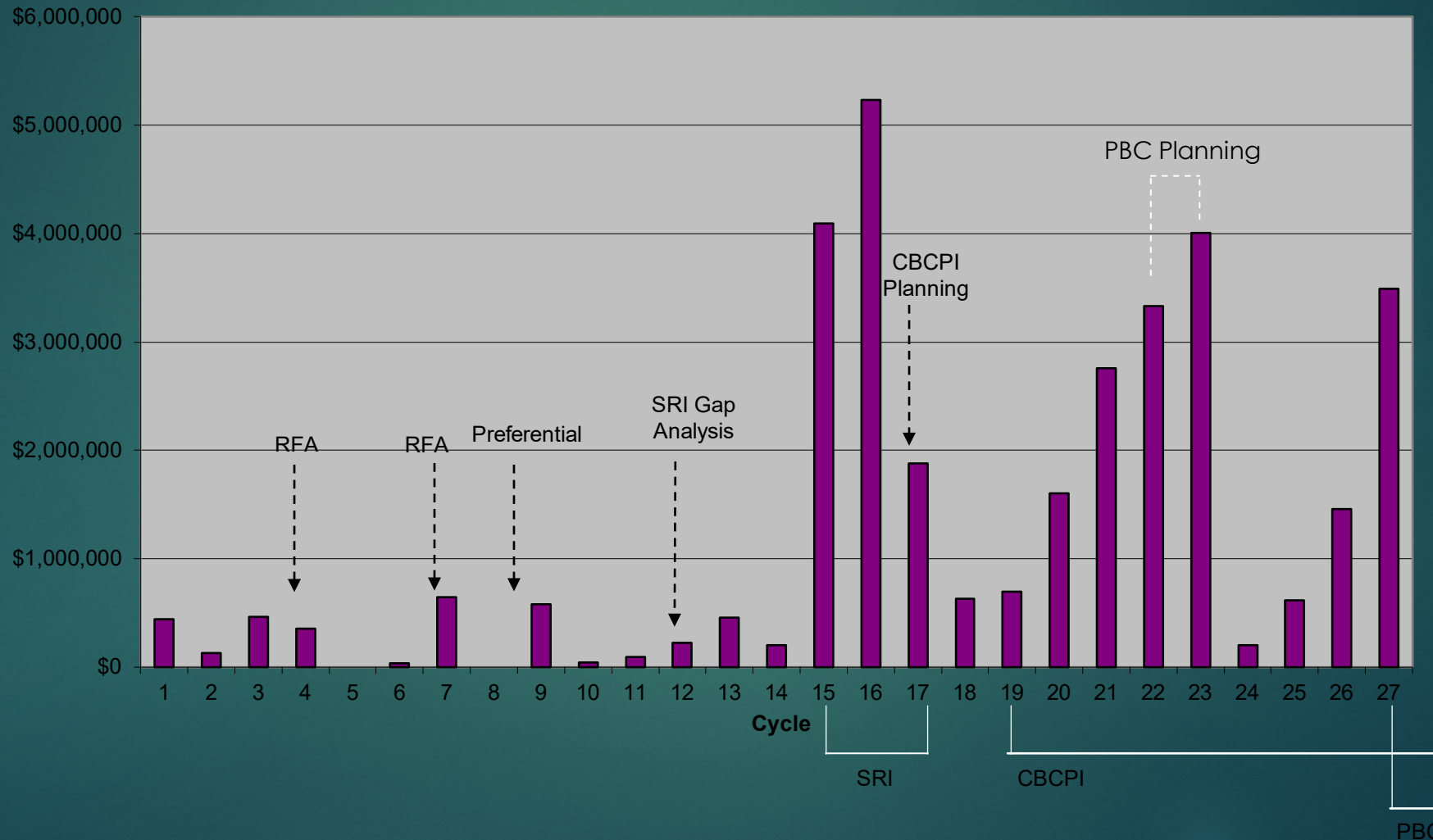
The breast cancer research by SRI funded PIs increased by 18% in Disparities and Disparities & Environmental topic areas.

Data source: Database extraction

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3. Did the research produced as a result of SRI stimulate breast cancer research in the areas of environment, disparities, and/or disparities and environment?

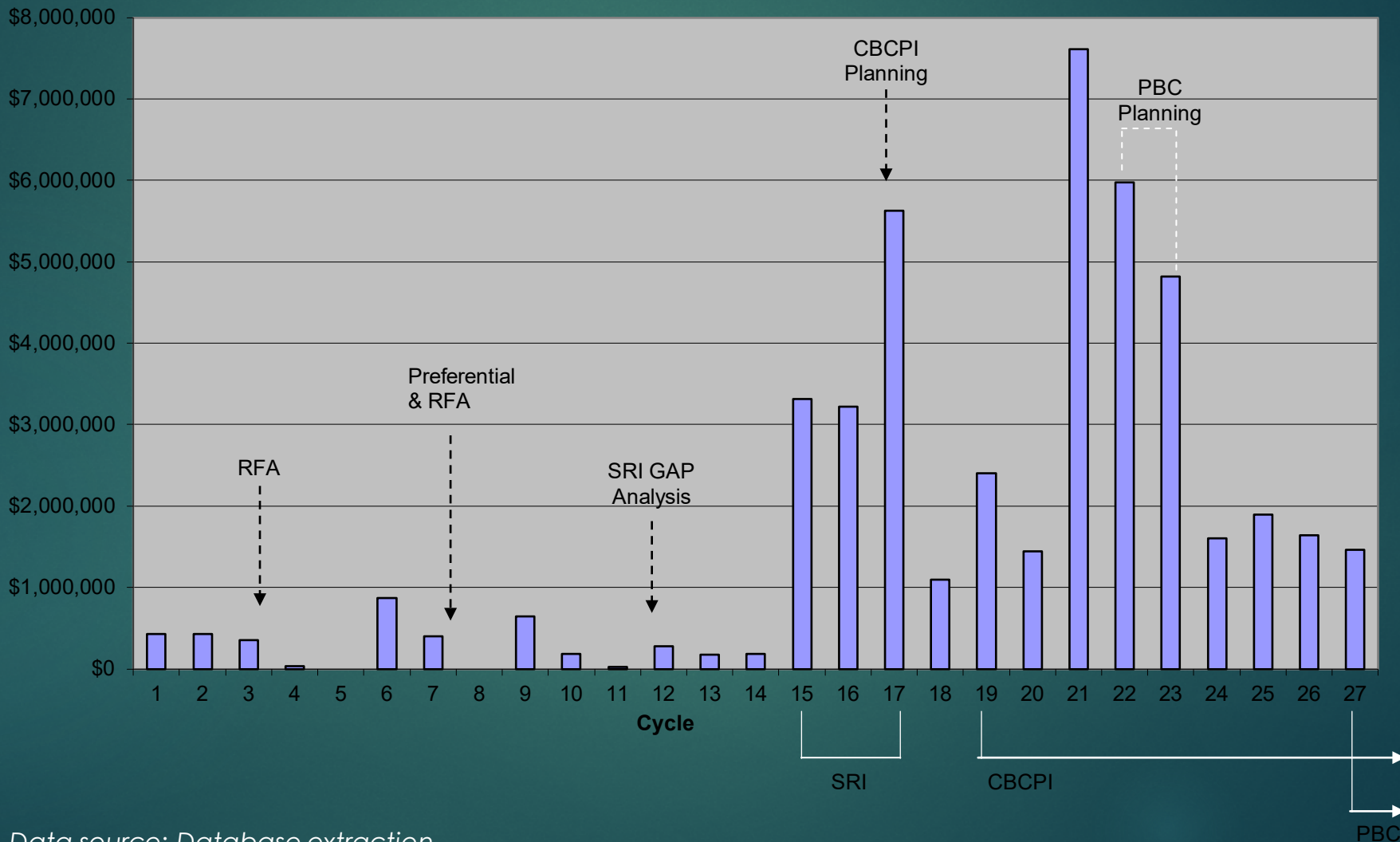
CBCRP Disparities Funding Over Time



Data source: Database extraction

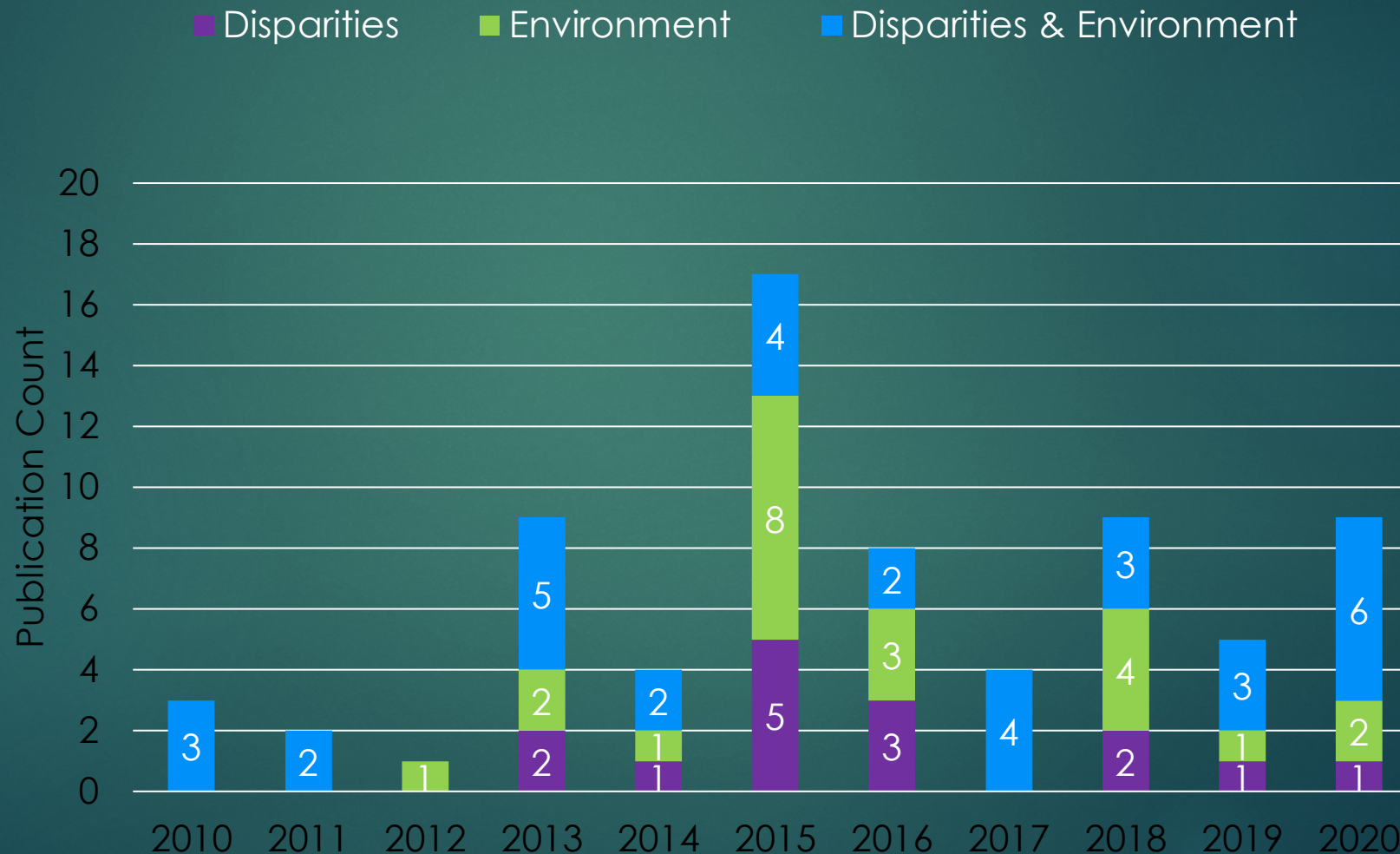
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CBCRP Environment Funding Over Time



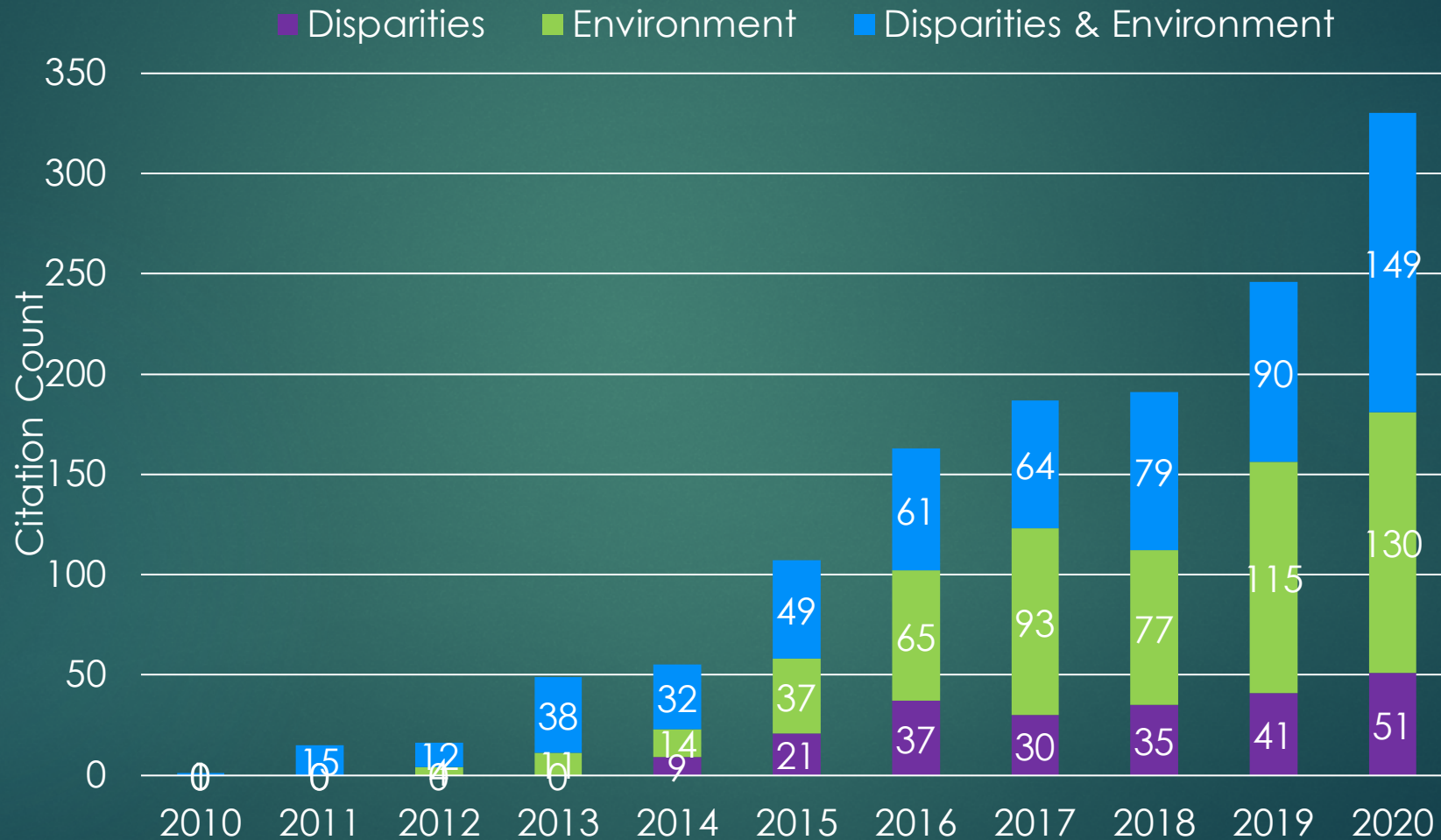
Data source: Database extraction

3. Did the research produced as a result of SRI stimulate breast cancer research in the areas of environment, disparities, and/or disparities and environment? SRI Publications Over Time



Data Source: Database extraction

3. Did the research produced as a result of SRI stimulate breast cancer research in the areas of environment, disparities, and/or disparities and environment? SRI Citations Over Time



Data Source: Database extraction

3. Did the research produced as a result of SRI stimulate breast cancer research in the areas of environment, disparities, and/or disparities and environment?

| Topic Area | Initiative | Average number of citations per publication | Total |
|---------------------------|--|---|-------------|
| Disparities | Understanding Racial and Ethnic Differences in Stage-Specific Breast Cancer Survival | 21.2 | 24.6 |
| | Demographic Questions for California Breast Cancer Research | - | |
| | Piloting an Integrated Approach to Understanding Behavioral, Social, and Physical Environment Factors and Breast Cancer Among Immigrants | 30.8 | |
| Environment | Toward the Development of a California Chemicals Policy that Considers Breast Cancer | 16.7 | 26.9 |
| | Making Chemicals Testing Relevant to Breast Cancer | 28.8 | |
| Disparities & Environment | Statistical Methods to Study Interacting Factors that Impact Breast Cancer | 20.7 | 17.8 |
| | Toward an Ecological Model of Breast Cancer causation and Prevention | 14 | |
| | Environmental Causes of Breast Cancer Across Generations | 18.8 | |
| | Environmental Exposures & Breast Cancer in a Large, Diverse Cohort | 11 | |
| Total | | | 21.9 |

4. Was the research produced innovative and/or theory generating?

Project title: New Methods for Genomic Studies in African-American Women (PI: Stram)

- ▶ Novel Statistical method to analyze African American Breast Cancer (AABC) data
 - ▶ Methodological Considerations in Estimation of Phenotype Heritability Using Genome-Wide SNP Data, Illustrated by an Analysis of the Heritability of Height in a Large Sample of African Ancestry Adults

<https://doi.org/10.1371/journal.pone.0131106>

- The Potential for Enhancing the Power of Genetic Association Studies in African Americans through the Reuse of Existing Genotype Data

<https://doi.org/10.1371/journal.pgen.1001096>

- Plus other publications that use genome-wide association study (GWAS) methods

4. Was the research produced innovative and/or theory generating?

Project title: Biologically Relevant Screening of Endocrine Disruptors (PI: Chen)

- ▶ Novel screening assays to identify chemicals that may cause estrogen-dependent breast cancer
 - ▶ AroER Tri-Screen Is a Biologically Relevant Assay for Endocrine Disrupting Chemicals Modulating the Activity of Aromatase and/or the Estrogen Receptor

<https://doi.org/10.1093/toxsci/kfu023>

1. Did SRI reach its overarching goal?

55

Contributions to the Field



74

Publications



1495

Total Citations



758+

Media Mentions



75+

News Mentions



40+

Academic
Presentations



14+

Non-academic
Presentations

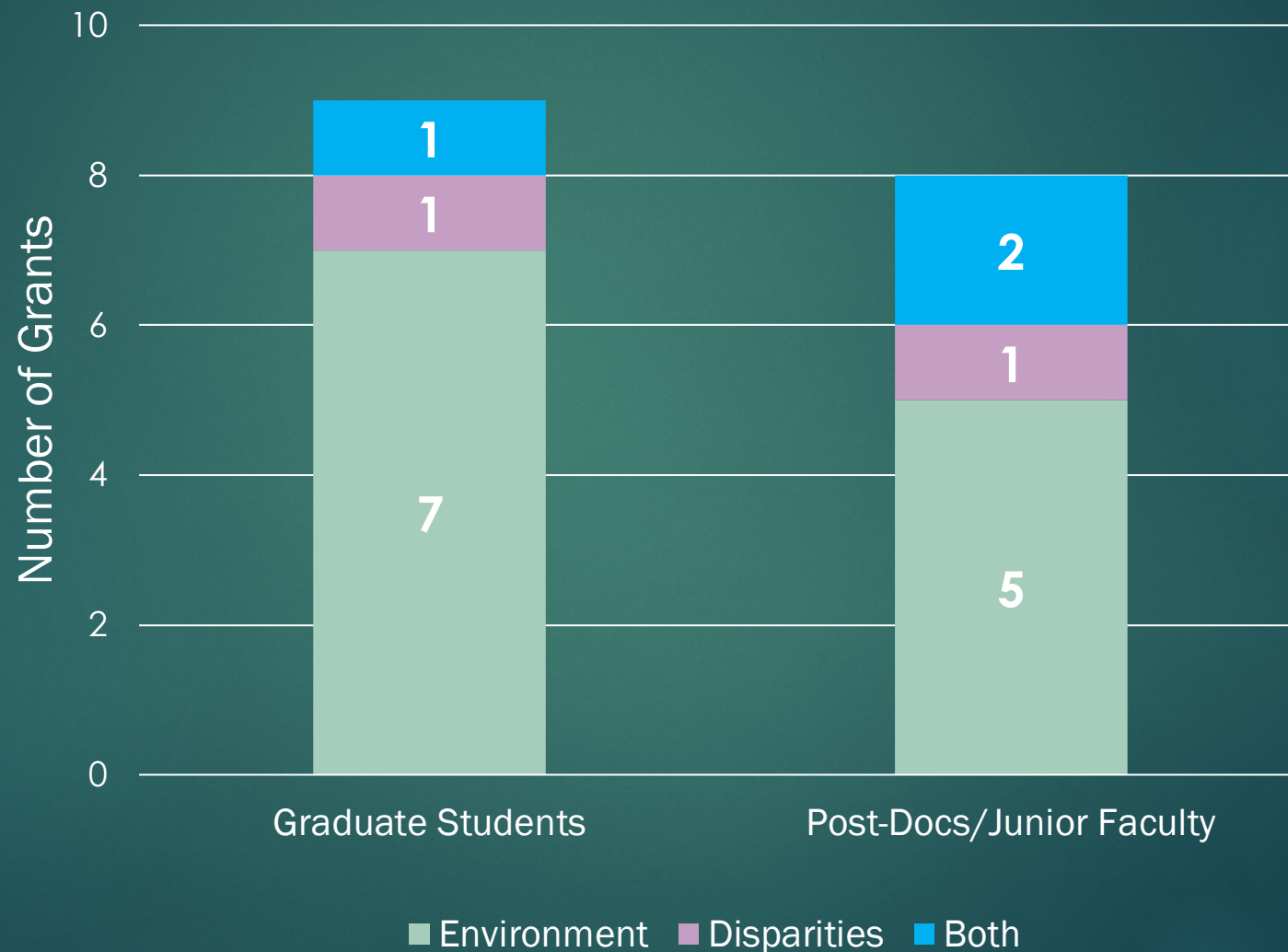
10. Did SRI serve as a pipeline for new investigators interested in these areas?

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Perspectives of SRI investigators on the breast cancer prevention pipeline

- ▶ CBCRP Funding is important for the pipeline
 - ▶ “CBCRP provides funding for younger researchers who are cut out of NIH funding. CBCRP funding brings researchers into the breast cancer field.” (SRI Investigator, Disparities/Environment)
 - ▶ “CBCRP is important because young people have a better chance of getting funded by CBCRP than NCI...So in CA CBCRP is an important funding source for junior investigators to get pilots and small projects funded – important to get preliminary data funded so they can go to NCI or DOD, to get funding.” (SRI Investigator, Disparities)
- ▶ Funding climate + job stability
 - ▶ “Students find this work very interesting but are not interested in getting into this area because there aren’t real jobs at the end. There aren’t a lot of faculty positions where people are working on this, which is an issue for post-docs as well. Though there is personal interest, people don’t see a future in this. This isn’t a priority right now. Talk is where the money is.” (SRI Investigator, Environment)
 - ▶ Established investigators also are reducing time or changing careers

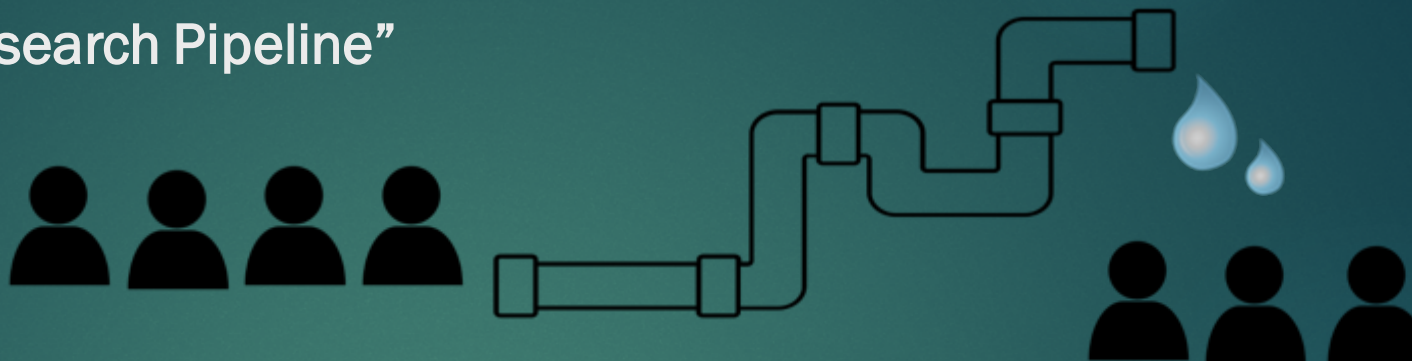
10. Did SRI serve as a pipeline for new investigators interested in these areas?



10. Did SRI serve as a pipeline/pathway for new investigators interested in these areas?

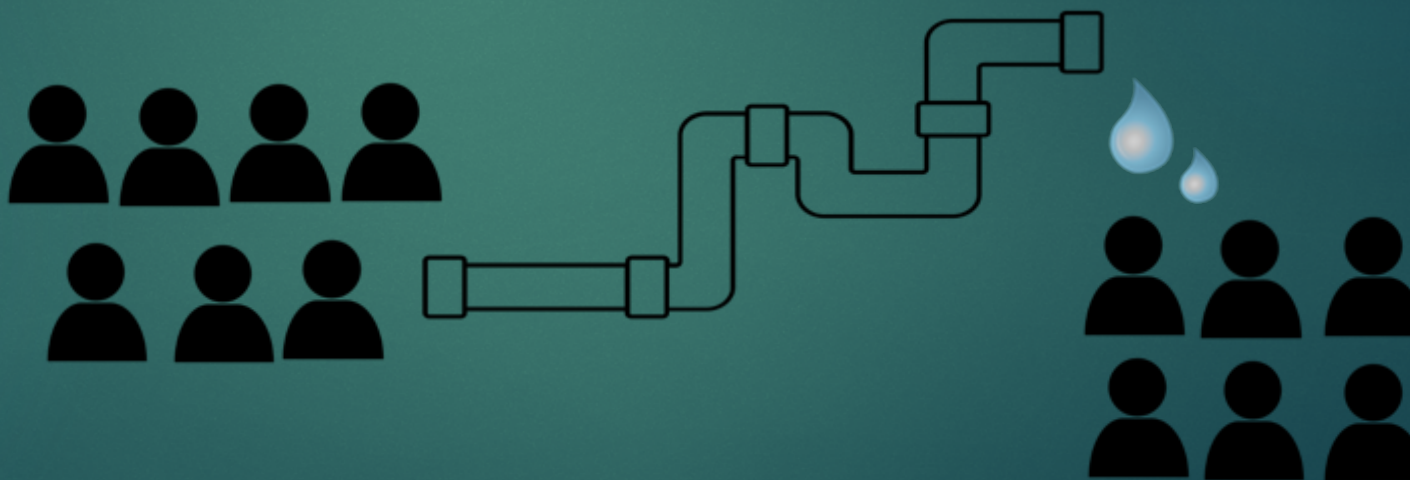
SRI “Research Pipeline”

Graduate students



As of 2017, 3 out of 4 graduate students had gone onto do research in a similar area to their SRI project.

Post docs & junior faculty



As of 2017, 6 out of 7 post docs and junior faculty had gone on to do research in a similar area to their SRI project.

6. Have we funded research that would not have happened otherwise?

Identifying Gaps in Breast Cancer Research

California Breast Cancer Research Program Special Research Initiatives

Identifying gaps in breast cancer research: Addressing disparities and the roles of the physical and social environment

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B. Environmental Chemicals/Pollutants

1. Air Pollutants, Fuels and Additives

2. Persistent Organic Pollutants

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4. Pesticides

5. Solvents and industrial chemicals

6. Water Contaminants

7. Hormones in Food

8. Metals

9. Exposures from Polyvinyl Chloride

10. Bisphenol A

C. Compounds in Personal Care Products

D. Pharmaceuticals

E. Infectious agents

F. Ionizing Radiation

G. Electric and Magnetic Fields

H. Light at night

I. Vitamin D/Sunlight

Section II: Disparities in Breast Cancer: Domains of Individual-level Social Inequality

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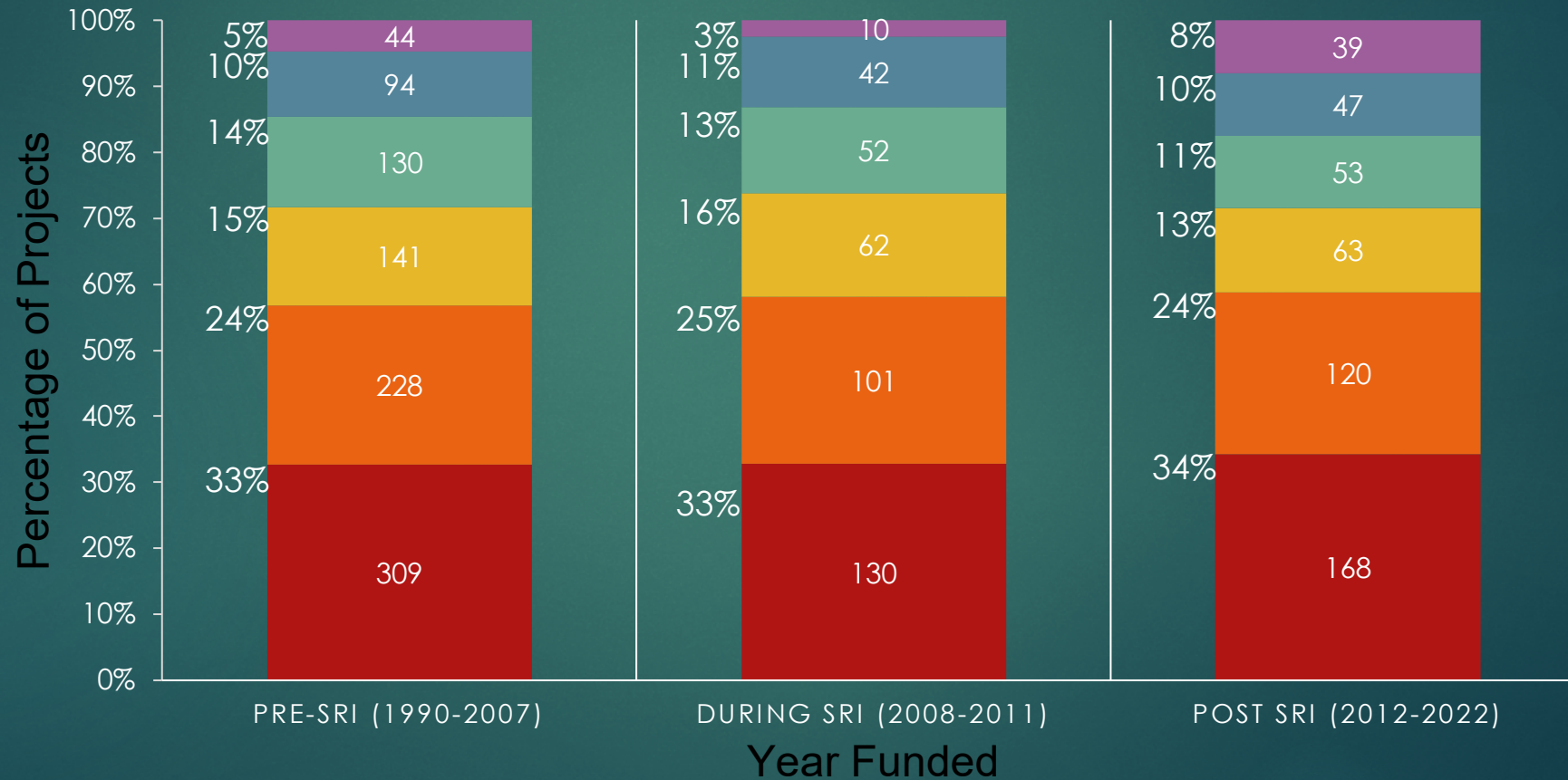
E. Health Insurance

Section III: Neighborhood Context and Breast Cancer

8. How did the SRI influence: CBCRP research portfolio?

Projects by Common Scientific Outline Categories

- Prevention
- Early Detection, Diagnosis, and Prognosis
- Treatment
- Biology
- Causes of Cancer/Etiology
- Cancer Control, Survivorship and Outcomes Research



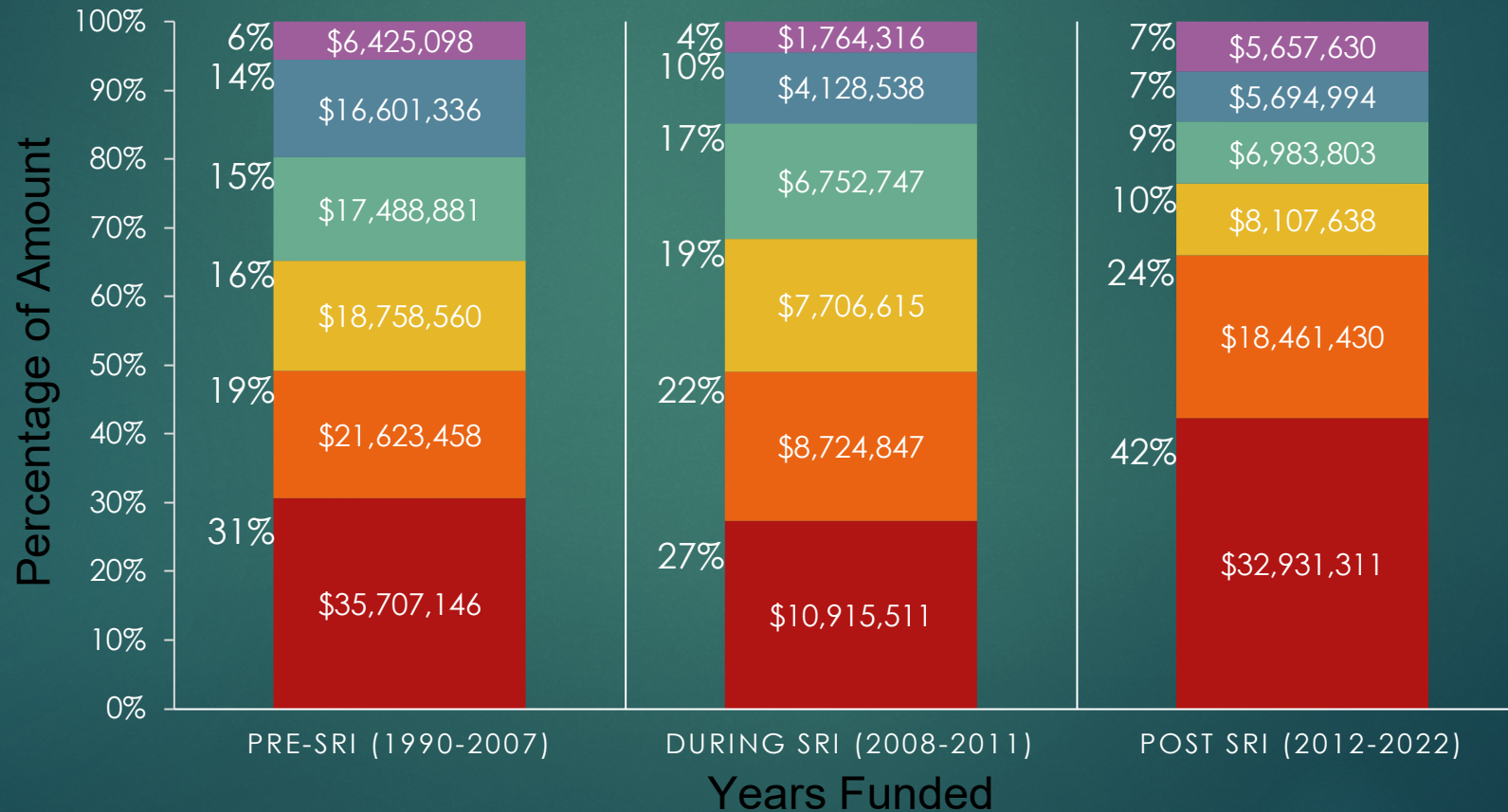
Data Source: Database extraction

Environmental maps to Causes of Cancer/Etiology
 Disparities maps to Cancer Control, Survivorship and Outcomes Research (CCSOR)
 Prevention usually maps to Prevention but can go to CCSOR

8. How did the SRI influence: CBCRP research portfolio?

Amounts by Common Scientific Outline Categories

- Prevention
- Early Detection, Diagnosis, and Prognosis
- Biology
- Treatment
- Cancer Control, Survivorship and Outcomes Research
- Causes of Cancer/Etiology



Environmental maps to Causes of Cancer/Etiology
 Disparities maps to Cancer Control, Survivorship and Outcomes Research (CCSOR)
 Prevention usually maps to Prevention but can go to CCSOR

8. How did the SRI influence: CBCRP research portfolio?

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CALIFORNIA BREAST CANCER PREVENTION INITIATIVES

Supporting coordinated, directed and collaborative research that addresses strategic needs in breast cancer research.

In 2004, CBCRP launched Special Research Initiatives (SRI), which devoted 30 percent of CBCRP research funds to support coordinated, directed and collaborative research on the identification and elimination of environmental causes of breast cancer and the identification and elimination of disparities and inequities in the burden of breast cancer in California. These resulted in many [successful research projects \(pdf\)](#).

In March 2010, the Council decided to build on the existing SRI by devoting 50 percent of CBCRP research funds between 2011 and 2015 to program initiated research. This new effort is titled the California Breast Cancer Prevention Initiatives. The ultimate goal of this funding strategy is to support research that not only increases knowledge about these questions, but also points to solutions that will reduce the suffering from breast cancer and move science closer to eliminating the disease. Approximately \$24 million will be dedicated to supporting directed, coordinated, and collaborative research projects to pursue approaches to:

1. Identify and eliminate environmental causes of breast cancer.
2. Identify and eliminate disparities/inequities in the burden of breast cancer in California.
3. Population-level interventions (including policy research) on known or suspected breast cancer risk factors and protective measures.
4. Targeted interventions for high-risk individuals, including new methods for identifying or assessing risk.

In March 2015, CBCRP's Council approved fifteen (15) concept proposals to stimulate compelling and innovative research in all four topical areas of the CBCPI (environmental causes, health disparities, population-level interventions and targeted interventions for high risk individuals). A series of funding opportunities will be released over the next two years reflecting these concepts.

CBCPI: 2011-2015

PREVENTING BREAST CANCER: COMMUNITY, POPULATION, AND ENVIRONMENTAL APPROACHES

Supporting coordinated, directed research that addresses strategic needs in breast cancer research

The California Breast Cancer Research Program (CBCRP) Program Initiatives integrate expertise and experience from a range of stakeholders to identify compelling research questions and fund research projects that help find solutions to reduce suffering from breast cancer and move science closer to eliminating the disease. The initiative engages scientists, advocates, people impacted by breast cancer, and the broad community in a dialogue to frame research priorities and fund meaningful research.

In 2004, CBCRP launched its Special Research Initiatives, devoting 30% of research funds to research to environmental causes of breast cancer and the unequal burden of the disease. In 2010, CBCRP launched its second round of Program Initiatives, adding population-level prevention interventions as a target area, devoting 50% of its funds to these priority areas.

In 2015, CBCRP's Council decided to build on the existing Program Initiatives by devoting 50% of CBCRP research funds between 2017 and 2021 to a third round of Program Initiatives. This new effort is titled Preventing Breast Cancer (PBC): Community, Population, and Environmental Approaches. Approximately \$20 million is being dedicated to directed, coordinated, and collaborative research to pursue the most compelling and promising approaches to:

- Identify and eliminate **environmental contributors** to breast cancer.
- Identify and eliminate **fundamental causes of health disparities** with a focus on breast cancer in California.
- Develop and test **population-level prevention interventions** that incorporate approaches to address the needs of the underserved and/or populations experiencing disparities in the burden of breast cancer.

In June 2020, CBCRP's Council approved the first four concept proposals to stimulate

PBC: 2015-2021

9. Who benefitted from the research produced by SRI funded grants?

Perspectives of SRI investigators on SRI impact on pipeline:

“CBCRP provides funding for younger researchers who are cut out of NIH funding. CBCRP funding brings researchers into the breast cancer field.” (SRI Investigator, Disparities/Environment)

“CBCRP is important because young people have a better chance of getting funded by CBCRP than NCI...So in CA CBCRP is an important funding source for junior investigators to get pilots and small projects funded – important to get preliminary data funded so they can go to NCI or DOD, to get funding.” SRI Investigator, Disparities)

Perspectives of advocates on SRI impact on pipeline:

“I think CBCRP grants really helped initial first grants for the new investigators or the new populations that weren't getting the funding, and how they were about to kind of leverage to get more national funding.”

9. Who benefitted from the research produced by SRI funded grants?

Perspectives of SRI investigators on the importance and impact on SRI on funding climate and job stability :

“There aren’t a lot of faculty positions where people are working on this, which is an issue. Though there is personal interest, people don’t see a future in this. This isn’t a priority right now. Talk is where the money is.”

“Established investigators are reducing time or changing careers [due to lack of funding]”

9. Who benefitted from the research produced by SRI funded grants?

Advocate Involvement in SRI

At the time of the SRI, early stages of CBCRP's requirement for advocacy involvement in grants

- ▶ 16 of 26 grants with advocates
- ▶ 19 advocates involved in SRI grants (*some involved in more than one SRI grant*)
- ▶ 7 participate in SRI evaluation (representing 12 grants)
 - ▶ **Goal:** To get more detailed information about the outcomes of the funded SRI project(s) from the advocates' perspective and reflection on the SRI and its funded projects
 - ▶ Engagement throughout the study
 - ▶ Dissemination of study results
 - ▶ Opportunities created due to SRI involvement

9. Who benefitted from the research produced by SRI funded grants?

Perspectives of Advocates on:

- ▶ **Decision to Participate**
 - ▶ Level of comfort with researcher and research
 - ▶ Alignment with mission and values
 - ▶ Time and ability to support
 - ▶ Researcher's understanding and appreciation of value of advocate engagement





- ▶ **During Study Implementation and Dissemination**
 - ▶ Advocates felt disengaged and disconnected from both implementation and dissemination
 - ▶ Unsure of the outcomes and impact


- ▶ **Advocate Involvement Impact on Researcher**
 - ▶ Cultural sensitivity, community engagement
 - ▶ Importance of community trust and buy-in
 - ▶ Reflection on personal biases
 - ▶ Importance of dissemination

9. Who benefitted from the research produced by SRI funded grants?

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Breast Cancer and the Environment: A Life Course Approach

DETAILS

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CONTRIBUTORS


Committee on Breast Cancer and the Environment: The Scientific Evidence, Research Methodology, and Future Directions; Board on Health Care Services; Board on Health Sciences Policy; Institute of Medicine

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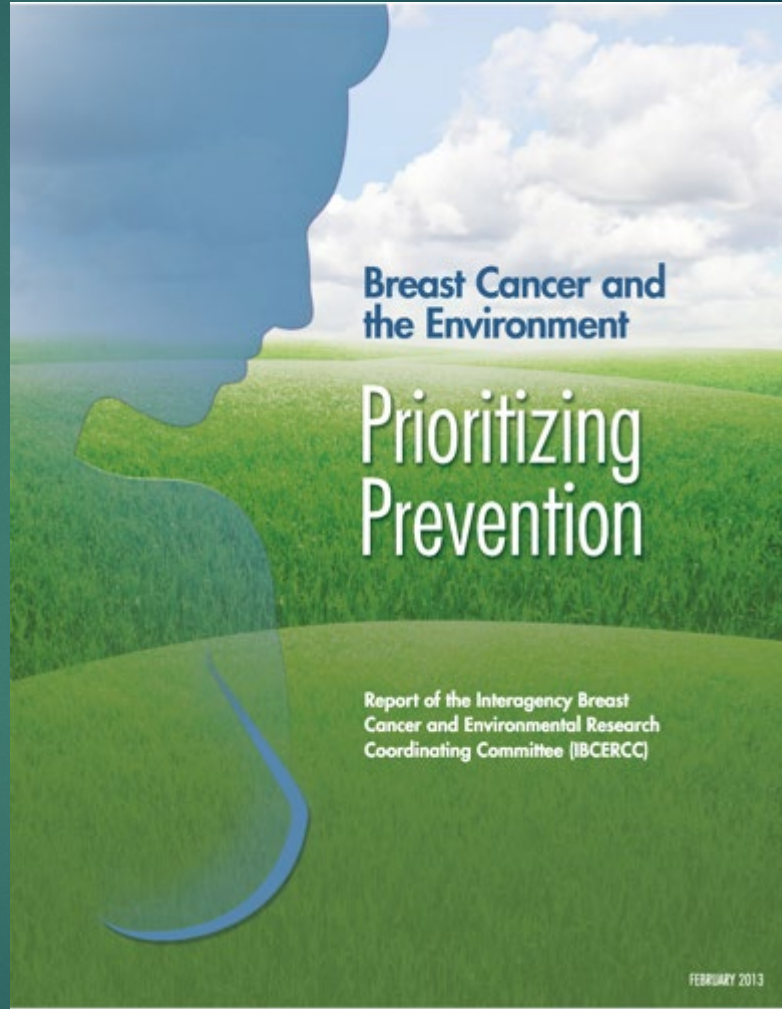
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Breast Cancer and the Environment

Prioritizing Prevention

Report of the Interagency Breast Cancer and Environmental Research Coordinating Committee (IBCERCC)

FEBRUARY 2013

<http://nap.edu/13263>

https://www.niehs.nih.gov/about/assets/docs/breast_cancer_and_the_environment_prioritizing_prevention_508.pdf

INDICATORS AND CONCLUSIONS

Overall, CBCRP made an impressive commitment with well-chosen topic areas and initiatives that were relevant and ambitious.

| PROCESS AND SHORT-TERM OUTCOMES | PEER REVIEW CONCLUSIONS |
|---|--|
| Description of the Strategy Development Process | systematic and comprehensive approach |
| Description of the Initiatives and Funded Projects | many of the identified gaps are still relevant today |
| Applications Received by Topic Area and Initiative | difficult to assess whether SRI avoided duplicating funding strategies by other research funders |
| Grants Awarded by Topic Area and Initiative | research grant abstracts and summary final reports aligned closely with the SRI objectives |
| Grants Awarded by Funding Mechanism | CBCRP was leading the way by providing directed funding |
| Amount Awarded by Topic Area and Initiative | the increases in disparities and environment funded research projects were positive |
| Pre-and Post-SRI Project Counts for SRI Investigators | some SRI investigators were able to find additional funding streams ..., other SRI investigators indicated some challenges in receiving more funding |

INDICATORS AND CONCLUSIONS

| MEDIUM-TERM OUTCOMES | PEER REVIEW CONCLUSION |
|---|---|
| Description of the Goals of Initiatives and Funded Projects | the initiatives met their goals |
| Publication by Topic Area, Initiative, and Grant | clearly contributed to increased knowledge on the specific topic areas, as well as breast cancer more generally. |
| | two research projects did not result in any publications |
| Citations over Time by Topic Area | In all, nine initiatives are represented by publications |
| | papers are published in high impact journals and several would be considered seminal in the field |
| Sample Presentations and Tools | insufficient evidence to address whether the SRI projects led to moving these fields forward in advocacy and policy |
| Pre-and Post-SRI Project Counts for SRI Investigators | For investigators, junior researchers, and post-doctoral students, their experience led to increased opportunities |
| PI interview results | |
| Description of Funding Mechanisms | the directed funding for disparities and the environment made an impact. By developing strong initiatives, CBCRP drove research to the environment and disparities topic areas. |
| Use of Existing Resources | SRI clearly took advantage of opportunities in California to enable robust research and collaborations |

INDICATORS AND CONCLUSIONS

| LONG-TERM OUTCOMES | PEER REVIEW CONCLUSIONS |
|--|---|
| Description of Involvement of Advocates, Community Members, Researchers in Research and Strategy Development Process | key element of success was the collaboration requirement |
| Pre-and Post-SRI Project Counts for SRI Investigators | SRI funding increased the research areas in the post-SRI portfolios of funded investigators. |
| CBCRP Funds Invested in Disparities and Environment Over Time | contribution of SRI funding to fill funding gaps underscores the significance of the SRI. |
| Publications and Citations by Topic Area and Initiative Over Time | volume and depth and breadth of publication show they are timeless, maintain relevance |
| Sample New Methods and Technologies | SRI-funded research generated novel methods |
| Total # of Publications, Citations, Media and News Mentions, and Academic and Non-Academic Presentations | the research produced was innovative, hypothesis-generating, and relevant long after the SRI program and impacted policy through presentations and dissemination into the community |
| SRI Investigators Receiving Follow-On Funding and Funding Sources | SRI nurtured and moved research and researchers in the direction of the topic areas |
| Gaps identified during the Strategy Development Process | the research produced stimulated both the field of breast cancer research in general and the specific topic areas |
| CBCRP Projects and Funding Pre-SRI, during SRI and post-SRI | there was a clear increase in funding for disparities and environmental exposure research in breast cancer over time starting with SRI. |

CONCLUSIONS

Overall, we find that the goals and vision of the SRI program were met as demonstrated in three ways:

- First, SRI nurtured and moved research and researchers in the direction of the topic areas.
- Second, SRI-funded research projects continue to impact the scientific and other stakeholder communities.
- Third, the volume of publications as well as the depth and breadth of the contributions cited show that the research findings, publications, and other products are timeless and still relevant years later in the current research environment.

We find that SRI program-directed funding and structure allowed for leveraging targeted awards to fund research in the identified topic areas,

It is possible that this work wouldn't have happened without the support of the SRI. Feedback from SRI investigators was that a targeted approach added value and some felt that their SRI research would not have happened without the SRI funding.

SUGGESTIONS

- ▶ We note that to better understand the context and the stimulation of SRI funding for long-term assessment ,it would have been useful to have information on concurrent funding opportunities outside of CBCRP on disparities, environment and/or both disparities and environment.
- ▶ Further, we believe that it is also possible that the expanded portfolio of researchers may continue to generate valuable findings for these topics but the information to make this assessment is not currently tracked.