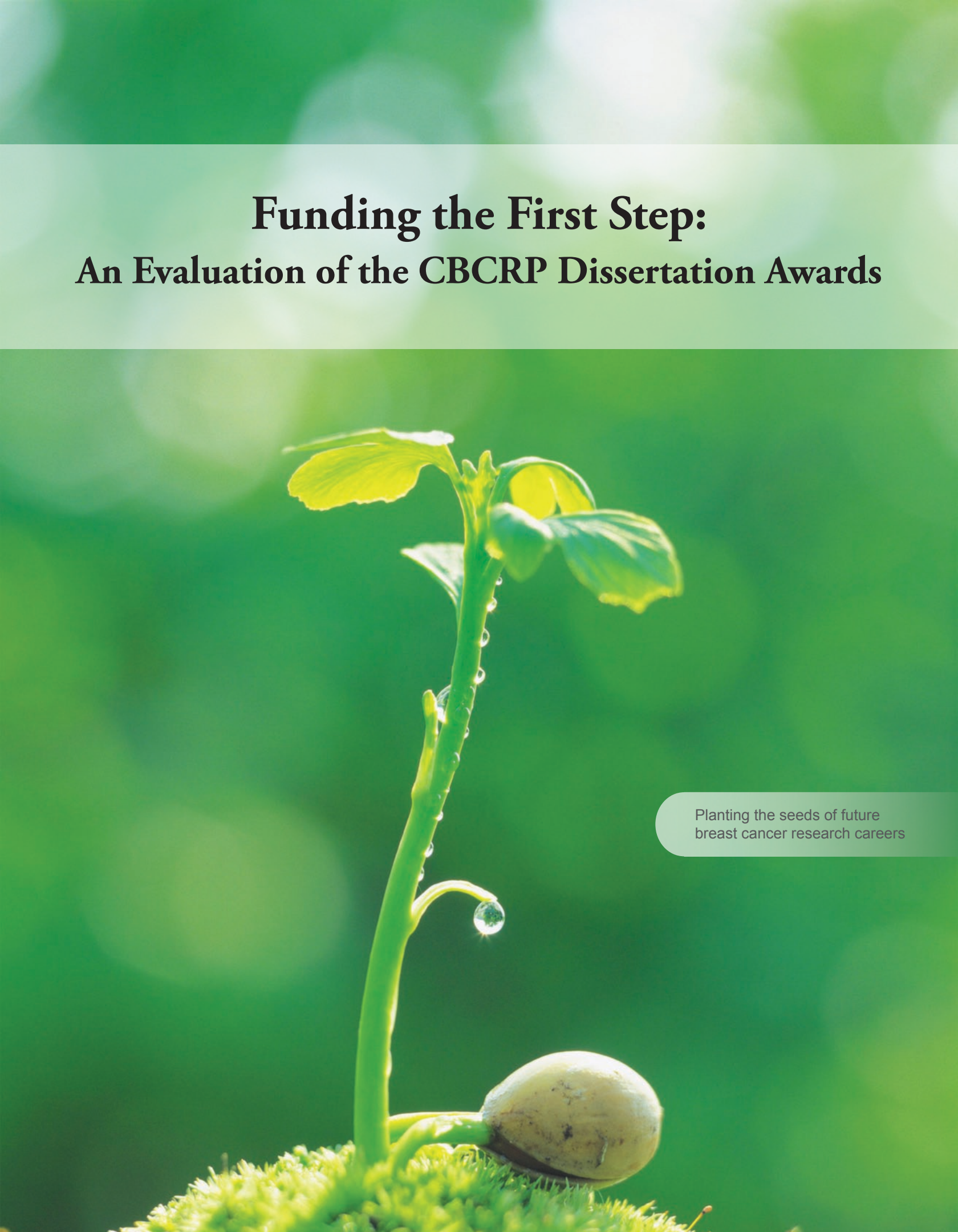


Funding the First Step: **An Evaluation of the CBCRP Dissertation Awards**

A young green seedling with a water droplet on its stem, growing from a seed on a mossy surface. The background is a soft, out-of-focus green.

Planting the seeds of future
breast cancer research careers



Funding the First Step: An Evaluation of the CBCRP Dissertation Awards

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About the California Breast Cancer Research Program

The mission of the California Breast Cancer Research Program (CBCRP) is to eliminate breast cancer by leading innovation in research, communication, and collaboration in the California scientific and lay communities. Since its founding in 1993, with the passage of the Breast Cancer Act by the California legislature, the program has worked towards the goals of funding innovative research, facilitating dissemination of research findings, and promoting their translation into public health practices. Funded primarily by a California state tax on tobacco, the CBCRP has awarded 761 grants totaling over \$181 million in research funds to investigators throughout California.



Contents

Background.....	2
Goals of Study.....	2
Expected Outcomes	3
Methods.....	3
Findings.....	4
Description of Sample.....	4
Current Positions and Long-term Career Plans.....	6
Impact of the CBCRP Dissertation Award	10
Outcomes from Research Conducted with CBCRP Funds.....	11
Dissertation Award Recipient Profiles.....	13
Feedback and Comments	15
Conclusions	17
Has the CBCRP helped develop the career of the Dissertation Award recipients?	17
Has the CBCRP helped train future researchers in breast cancer research or other fields?	18
Has the CBCRP helped fund promising new avenues of breast cancer research that have continued?.....	18
Recommendations.....	19
Acknowledgments	21

Background

The mission of the California Breast Cancer Research Program (CBCRP) is to eliminate breast cancer by leading innovation in research, communication, and collaboration in the California scientific and lay communities. Since its founding in 1993, with the passage of the Breast Cancer Act by the California legislature, the program has worked towards the goals of funding innovative research, facilitating dissemination of research findings and promoting their translation into public health practices. Funded primarily by a California state tax on tobacco, the CBCRP has awarded 761 grants totaling over \$181 million in research funds to investigators throughout California.

The Advisory Breast Cancer Research Council, the advisory committee of the CBCRP, is composed of scientists and clinicians, as well as representatives from nonprofit health organizations, private industry and breast cancer survivor/advocacy groups. The council serves to set the program's research and funding priorities as well as conduct programmatic review of all submitted applications.

Awards are granted across the spectrum of disciplines addressing the many facets of breast cancer, including basic and clinical sciences, public health, and social sciences. The CBCRP award portfolio is comprised of several award

types, among them, the career development awards. Career development awards, which include Dissertation and Postdoctoral Fellowship Awards, are designed to encourage the training of California's best young scientists in the field of breast cancer research. The Dissertation Award program supports graduate students completing either their Masters or Doctoral-level dissertation research.

Since 2002 the CBCRP has granted 39 Dissertation Awards totaling an investment of over \$2.5 million. This investment comprises 1.6% of total funding and 5.6% of all grants given over that time period. Awards are granted for a maximum duration of one year at the Masters level and two years at the Doctoral level. In 2005, Dissertation Award budgets were raised from \$30,000 to \$38,000 per year and application requirements were modified to include a mentor profile and training plan, written and submitted by the applicant's mentor. The awards have no citizenship or nationality requirement, but research supported must be performed at an institute within the state of California. Additionally, applicants are expected to work under the guidance of a mentor who is either an established breast cancer researcher, or who collaborates closely with one. The goal of the award is to support the training and career development of future breast cancer scientists.

Goals of Study

The goals of this study are:

- To assess the short term outcomes of the first four funding cycles of the CBCRP Dissertation Award program
- To improve the CBCRP Dissertation Award program

Expected Outcomes

Prior to this report, logic models were developed to aid in identifying the short term outcomes expected as a result of the Dissertation Awards. The results of this model yielded the following expected outcomes:

1. Awardees will gain important career development skills.
2. Awardees will publish articles in peer reviewed journals, give presentations at meetings, and receive awards and honors based on the work done with their award.
3. Awardees will complete their graduate degrees and move on to subsequent positions in breast cancer research.
4. Awardees will leverage outputs from their CBCRP funding to obtain additional funding for their postdoctoral fellowships.
5. Mentors will leverage work done by Dissertation Awardees into additional funding for further breast cancer research.

Methods

Eligibility for the study consisted of the following criteria:

- Awarded Dissertation Award from the CBCRP during the annual funding cycles VIII-XI (2002-2005)
- Accepted award and used at least six months of funding
- Received award in pursuit of Ph.D.

The CBCRP evaluation staff and committee designed an online survey and distributed it to previous CBCRP Dissertation Award recipients via email. Questions covered current positions, future career plans, outputs generated as a result of their funded research both during and after the award period, personal assessments of outcomes associated with CBCRP funding and allowed opportunity for comments about the CBCRP and the Dissertation Award. Early career scientists who received non-CBCRP funded

Dissertation Awards pilot tested the survey and minor changes were incorporated in the final online version.

The CBCRP evaluator collected and confirmed current email addresses, and requested a current CV from each potential respondent. The CBCRP evaluator sent an email to all respondents containing a link to the online survey. The survey remained open for one month and three reminder emails were sent to those awardees that did not complete the survey. Follow up phone calls were made to two respondents.

Upon completion of the surveys, reported outputs were verified by CBCRP evaluation staff. Publications were assessed for relevance to the funded project and additional funding leveraged was verified against online databases, when available. Funds leveraged by the awardees' mentors were verified with the mentor.

Findings

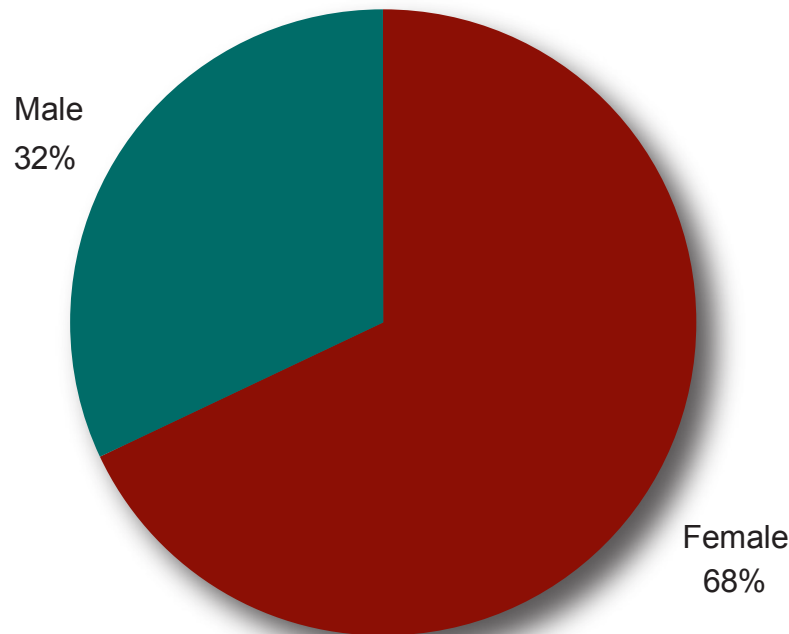
During the VII-XI annual funding cycles the CBCRP funded 24 Dissertation Awards. Of those, one was given to a student working towards their Masters degree and one was resigned before six months, therefore disqualifying these awardees from inclusion in our study. Of the 22 eligible respondents, information was received from all 22, giving this study a 100% response rate.¹

Description of Sample

Data were gathered from the CBCRP database and awardee responses to survey questions on their gender, ethnicity, institution and grant priority area. Sixty eight

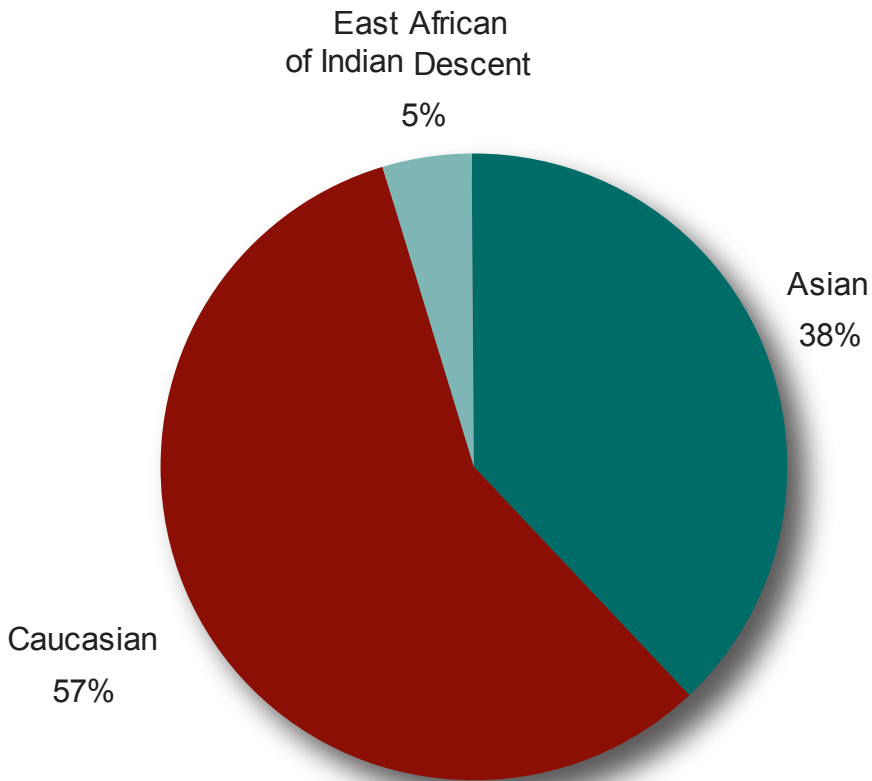
percent (15/22) of the sample were female and 32% (7/22) were male. Of the 22 respondents, 13 (59%) identified themselves as Caucasian, 8 (36%) as Asian and 1 respondent described themselves as “East African of Indian descent.” The biology priority area included the largest number of grants 12/22 (54%) followed by etiology and prevention 4/22 (18%), community impact 3/22 (14%), and early detection and treatment 3/22 (14%). The 22 Dissertation Awards were given to 10 institutions with University of California, San Francisco (4), City of Hope (3), University of California, Irvine (3), Scripps Research Institute (3) and University of Southern California (2) being the top 5 recipient organizations.

GENDER OF SAMPLE

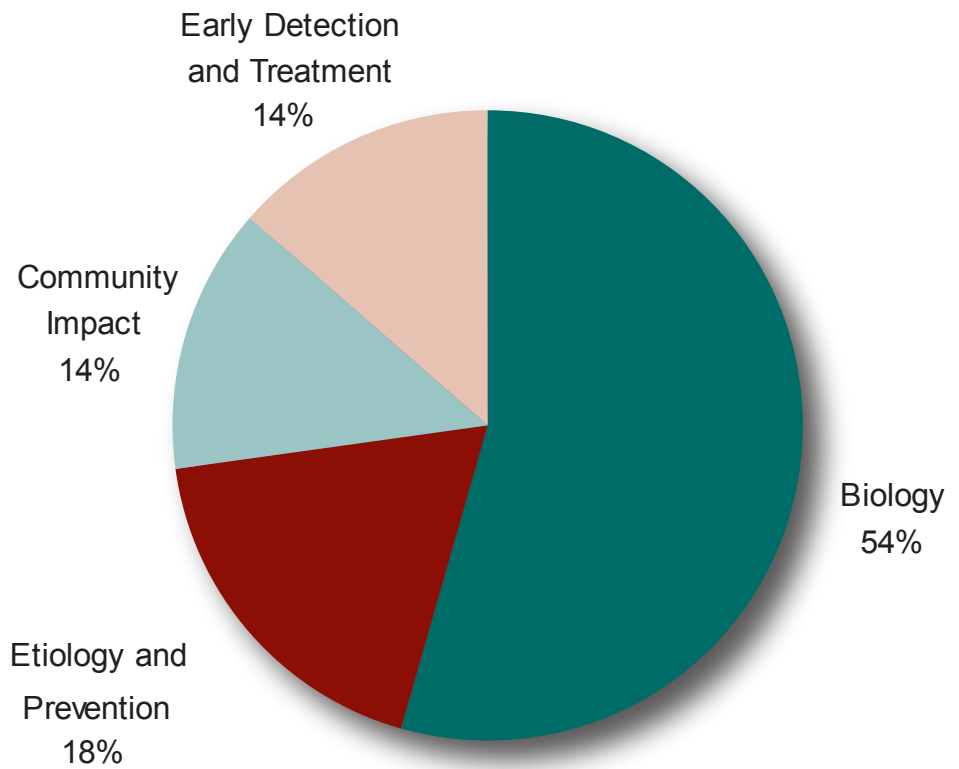


¹21 respondents completed the entire online survey, 1 respondent partially completed the survey and additional information was extracted from their CV.

ETHNICITY



PRIORITY AREA



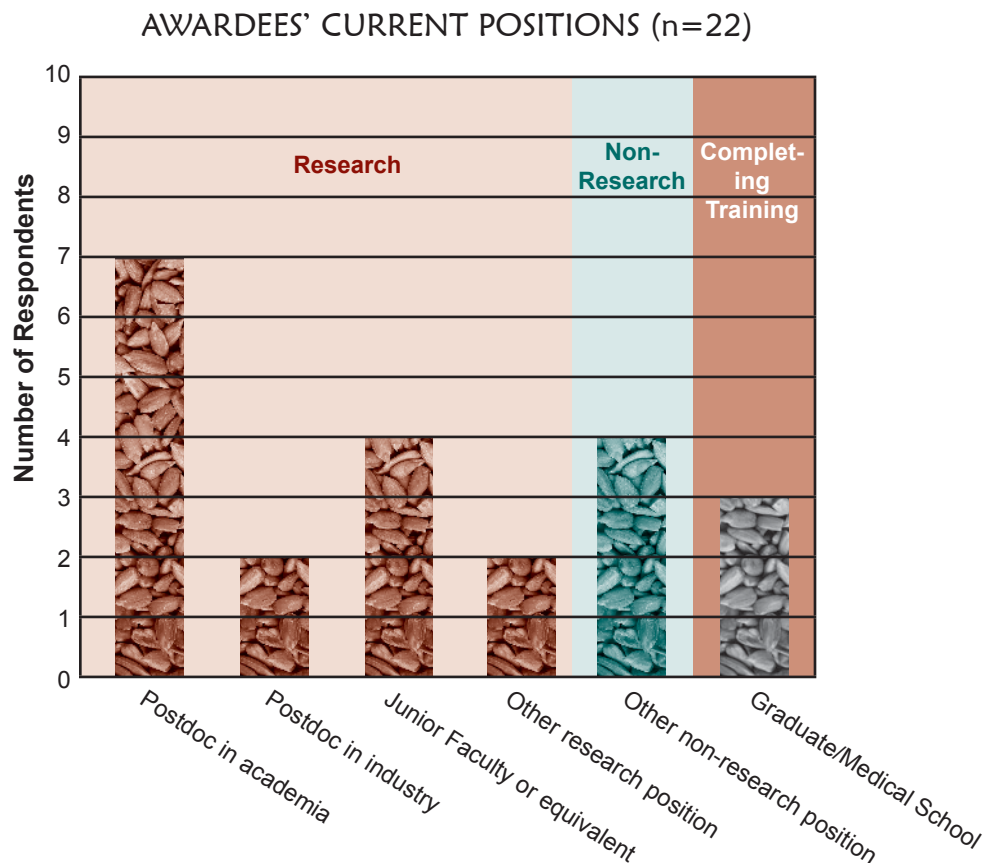
Current Positions and Long-term Career Plans

Dissertation Award recipients' current positions and future career plans were addressed in this study. We were interested in how many awardees continued the traditional career research track by moving onto a postdoctoral position, other positions held by awardees not continuing on to postdoctoral research, how many planned on pursuing a research position as their long term career, and motivations for leaving research if that was their plan. Additionally, we were interested in the proportion of respondents remaining involved in the breast cancer research field after completing their dissertation research.

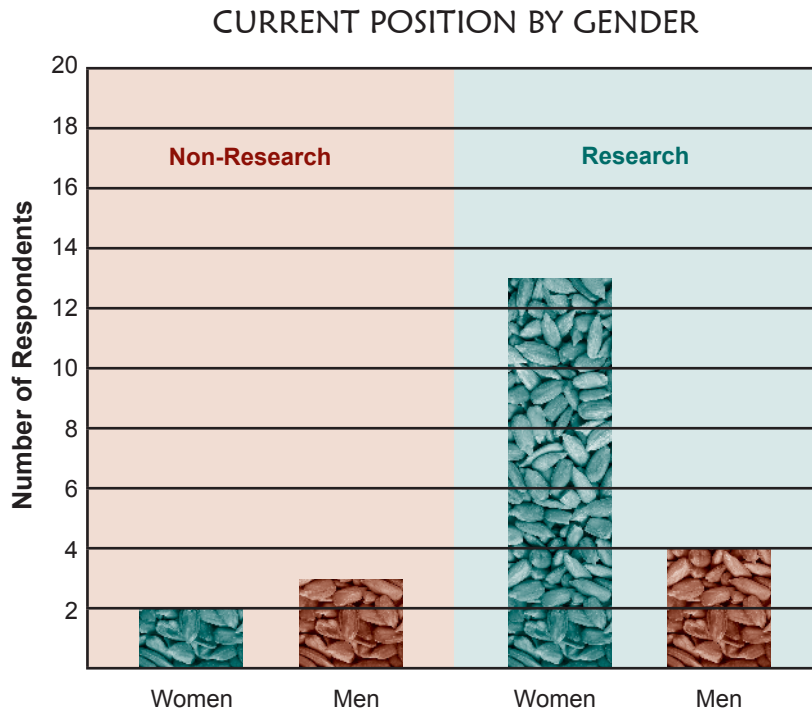
Current Position

Of the 22 eligible respondents 20 had obtained their Ph.D. at the time of the survey; length of their graduate

study ranged from 3-7 years with an average of 5.6 years. The remaining 2 respondents were still working toward the completion of their Ph.D.s and one additional recipient was completing his medical training as part of a M.D./Ph.D. program at the time of our survey. Among the 19 respondents having completed their graduate training, 15 continued to be involved in research at the time of the survey. Nine were involved in postdoctoral research, seven in an academic setting and two in industry; four awardees held junior faculty (or equivalent) positions and two held other research positions such as staff research scientists. The four remaining respondents held non-research positions including business development and sales at a bioinformatics company, technology transfer, oncology social work, and starting a business to interest kids in science. All three respondents still finishing their training planned on pursuing postdoctoral positions in academia upon graduation.

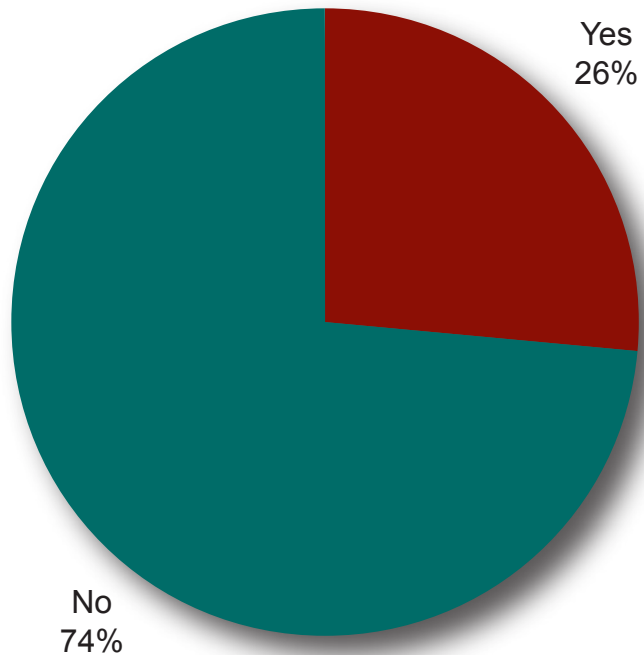


When respondents' current positions were analyzed by gender, 87% (13/15) of women held (or planned to hold in the case of those still in graduate school) research related positions, while a comparatively smaller 57% (4/7) of men were in these same types of positions.



Among the post-graduate respondents, only five (26%) continued to be involved in breast cancer research at the time of the survey. This finding is surprising given that all but four of the awardees had indicated their intention of pursuing a career in breast cancer research in their CBCRP Dissertation Award application. Reasons given for leaving the breast cancer research field included: wanting to broaden skill and knowledge base (4) and availability of jobs at graduation (1). All three respondents still completing their training were unsure whether their future research would be in the field of breast cancer research.

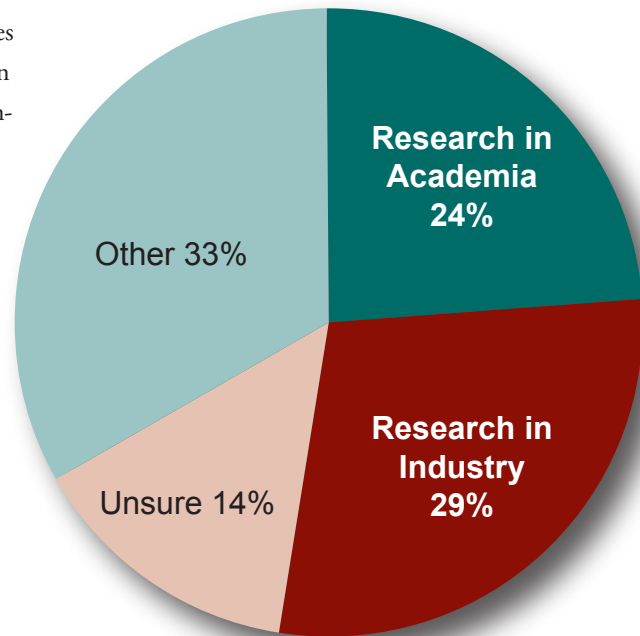
STILL INVOLVED IN BREAST CANCER RESEARCH (n=19)



Long Term Career Plans

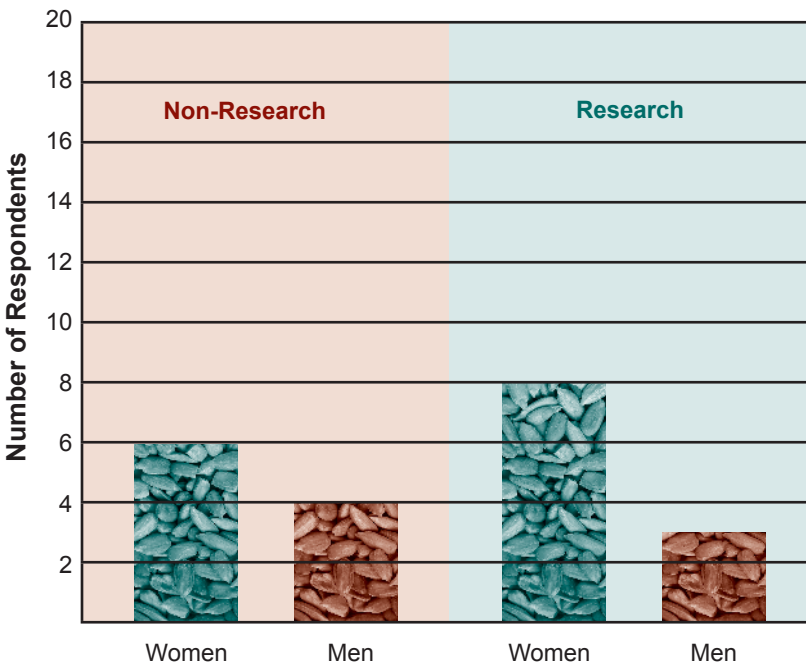
When asked about their long-term career plans, just over half of respondents (11/21, 53%) said they saw themselves in research positions, 29% within industry and 24% in an academic position at a research institution. Of the remaining 10 awardees not planning on remaining in research long term, 3 (14%) were unsure as to their long term career plans and 7 (33%) listed a variety of other positions they saw themselves in. These included business development, technology transfer, clinical practice, oncology social work, science writing, science policy and grant administration.

AWARDEES' FUTURE POSITIONS (n=21)



There was some difference between genders planning on staying in research long term, though less than the differences seen among respondents' current positions. Fifty seven percent (8/14) of women and 43% (3/7) of men reported research as their primary future career position.

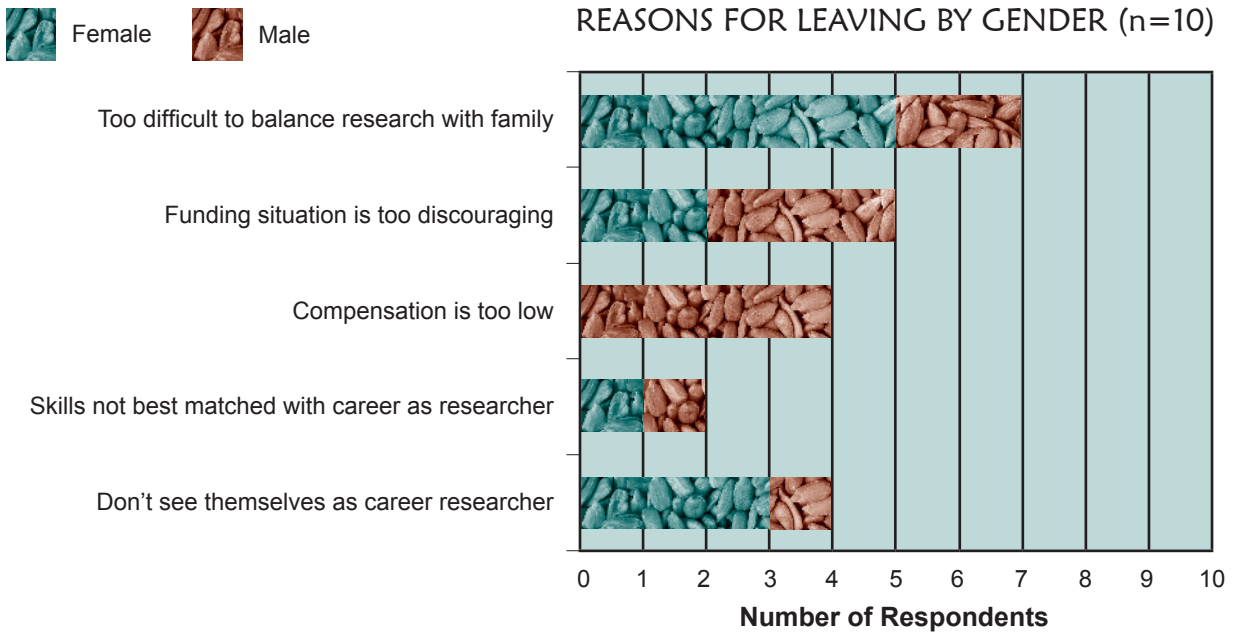
FUTURE POSITIONS BY GENDER (n=21)



Respondents who were considering leaving research as part of their long term career plans (n=10) were asked for the motivating factors behind this choice. Overall, more than two-thirds (7) of respondents reported considering leaving research due to difficulties balancing research with family life, while half (5) felt that the research funding situation is too discouraging.

Differences between genders were apparent in some but not all reasons given for considering leaving research.

While all of the men and none of the women chose compensation being too low as a reason, a majority of both sexes, five out of the six women and two out of the four men considering leaving research, reported difficulties in balancing family and career as a motivation for this consideration. A discouraging funding outlook was also a more common response from men leaving research (75%, 3/4) as compared to 33% (2/6) of women.



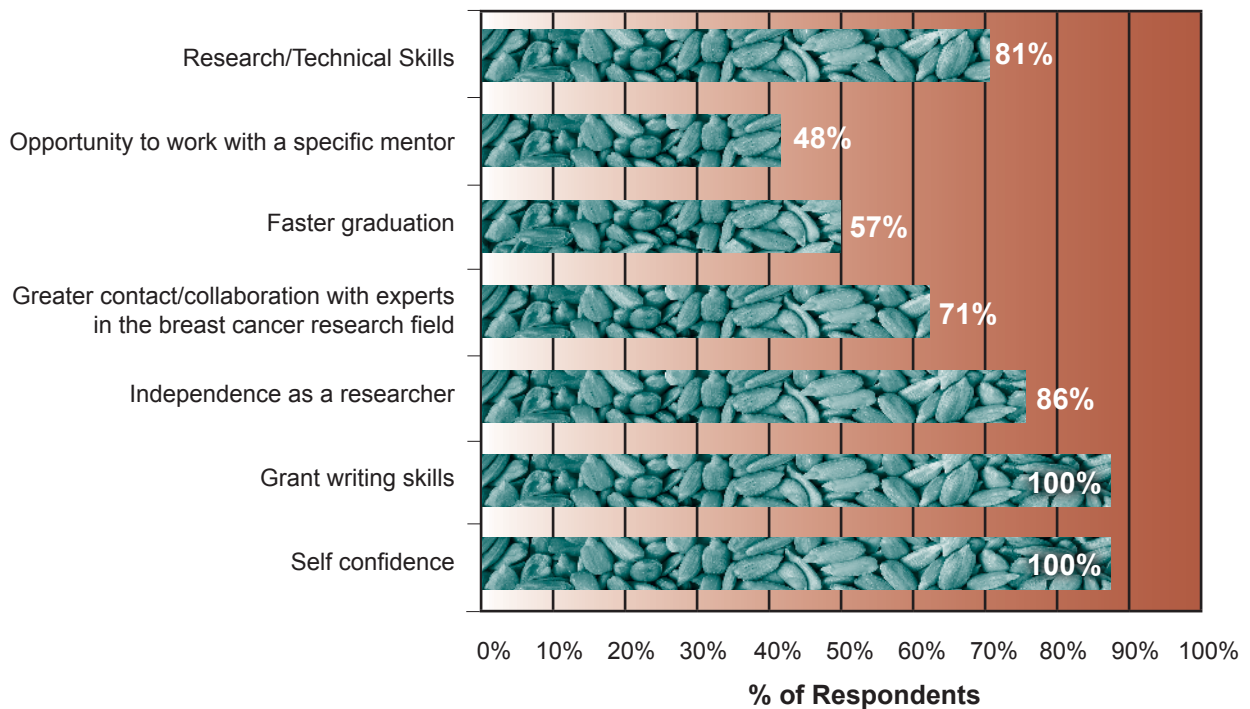
Impact of the CBCRP Dissertation Award

The next section of the study focused on the impact of the CBCRP Dissertation Award on the predoctoral experiences of the awardees. We were most interested in the career development gains made by the awardees that they attributed to their CBCRP funding.

Respondents were asked if they felt the CBCRP Dissertation Award helped them attain certain skills and achieve

a number of important career development goals during their graduate careers. Overwhelmingly, respondents felt that the CBCRP Dissertation Award helped them gain self confidence (100%), grant writing skills (100%), independence as researchers (86%), research/technical skills (81%) and allowed for greater collaboration with experts in the breast cancer research field (71%). Additionally, more than half of respondents (57%) thought the CBCRP Dissertation Award helped them achieve faster graduation.

CAREER GAINS ATTRIBUTED TO AWARD BY RECIPIENTS (n=21)



Outcomes from Research Conducted with CBCRP Funds

Short-term outcomes of the CBCRP Dissertation Awards, including publication in peer-reviewed journals, recognition of achievement through the receipt of professional awards and honors, and the presentation of work at professional conferences and meetings, are described in the next section of this report.

Publications

Respondents were asked to submit references for papers published from work done with their Dissertation Award. The evaluation staff verified publications lists and ensured that publications were related to their CBCRP award. A

total of 52 publications were attributed to the 22 Dissertation Awards included in our sample. Publication numbers per awardee ranged from 0-9, with an average of 2.4 publications per person and 95% of the respondents publishing at least one paper.

Presentations

Presenting research results at scientific meetings and conferences is important for both dissemination and career development for a future scientist. Seventy-seven percent (17/22) of respondents reported presenting their work at conferences and meetings during their graduate careers for a total of 56 presentations. Presentations were given in a variety of professional meetings both domestic (49) and international (7).

Outcome	Total Number	Range per Respondent	Average per Respondent	% of Respondents Having at Least 1
Publications	52	0–9	2.4	95%
Presentations	56	0–10	2.7	77%

Awards and Honors

Awardees were honored for their work on a number of occasions and reported receiving a variety of awards and honors associated with their work funded by the CBCRP. Awards included scholarships to attend conferences locally and internationally, awards for best paper of the year and a distinguished Dissertation Award.

Awards or Honors Given to Respondents for CBCRP-funded Research

Gordon Research Conference on Hormone Action
in Development and Cancer
Graduate Student-Postdoctoral Fellow Conference Award

Burnham Institute for Medical Research
Molecular Pathology Student of the Year

City of Hope
Rachmiel Levine Student Scientific Communication Award

Journal of the American Society for Information Science and Technology
Best Paper Award (2)

University of California San Francisco
Julius R. Krevans Distinguished Dissertation Award

Obtaining Additional Funds for Research

CBCRP Dissertation Awards are given to scientists at the very beginning stages of their careers. For many recipients this award is their first time receiving funding. However, particularly for those respondents looking to remain in research, ability to successfully compete for additional funding will become increasingly important as their careers progress. Additionally, in an environment of decreasing funding budgets, many recent graduates will be expected or encouraged to obtain their own funding if they choose to pursue a postdoctoral position. An established track record of funding will aid in obtaining future funding as well as make awardees more competitive for future jobs.

We asked respondents whether the research done with their CBCRP Dissertation Award was used to help obtain additional funding, either for themselves or on the part of their mentors or colleagues. The Dissertation Awards included in this study represent an investment of \$1.4 million from the CBCRP. Additional funding was leveraged from the CBCRP-funded work done by 10 of the 22 (45%) respondents.

Eight of the 22 respondents (36%) were able to leverage their CBCRP Dissertation Award for additional research funds of their own. Most of these awards were in the form of postdoctoral fellowships from a number of different organizations including the Damon Runyon Cancer Research Foundation, American Cancer Society, and CBCRP. The eight resulting awards total \$802,115. Most of the respondents credited the publications they produced with their CBCRP Dissertation Award as well as the prestige of being a previously funded candidate and the experience of having already applied for funding in helping them get these awards.

Respondents were asked if their CBCRP-funded work was used to obtain additional funding by their mentors; information given was verified with the grant PI and funding databases. Eight grants, including three R01s and two NIH Center grants, were awarded to five mentors totaling \$19,657,902. These awards represent \$14.02 dollars of additional funding for every \$1 invested by the CBCRP.

Funding Leveraged By	Number of Grants Leveraged	Total Amount of Grants Leveraged	Funding Leveraged per CBCRP \$ Invested
Awardees	8	\$ 802,115	\$ 0.57
Mentors	8	\$19,657,902	\$14.02
Totals	16	\$20,460,017	\$14.59

Most Important Outcome

Finally, we asked respondents to list the single most important outcome, personal or career oriented, of the CBCRP Dissertation Award in their view. Respondents' answers ranged from development of scientific and career skills to real impact on breast cancer patients.

Most Important Outcome	Number of Respondents
Scientific	4
Career Development	17

Some of their responses included:

Supporting career development:

“The CBCRP Dissertation Award was of great help for my scientific and career development. Scientifically, it helped me to focus my project in a specific area as well as provided me with great grant writing experience. I am honored to have received this award and will always be grateful to the CBCRP for your support.”

Facilitating transdisciplinary work:

“(Allowing for the) development of skills to work across various disciplines. Although my primary focus at present

is clinical work, I am involved with developing, implementing, and evaluating innovative psychosocial support programs that will involve cross-disciplinary teams. The ultimate goal is to expand these model programs to a larger cross-country network of community cancer centers if research proves them feasible and valuable.”

Making an impact in the lives of breast cancer patients:

“My research helped 14 breast cancer survivors sleep better.”

Dissertation Award Recipient Profiles

Hosein Kouros-Mehr, Ph.D.

Hosein Kouros-Mehr was already involved in cancer research when his aunt was diagnosed with stage four breast cancer at the young age of 39. Her losing fight with the disease inspired Dr. Kouros-Mehr to devote his graduate research as part of the M.D./Ph.D. program at University of California, San Francisco to better understanding the processes that lead to the development and progression of breast cancer.

In 2004 Dr. Kouros-Mehr was awarded a CBCRP Dissertation Award entitled “Gene Expression Profiling in the Developing Mammary Gland” to carry out his dissertation research. By identifying genes involved in the normal differentiation of breast cells, Dr. Kouros-Mehr was able to show that GATA-3, a gene previously associated with

tumor prognosis, is involved in maintaining the differentiated state of cells in a normal breast. Upon loss of this gene, breast cancer cells lose their differentiated state and are able to disseminate to different sites. This finding represents a major breakthrough in the breast cancer research field by identifying the molecular basis of a cell's differentiation status and linking it with its metastatic potential.

During his graduate research Dr. Kouros-Mehr was successful in publishing his findings in a number of prestigious peer-reviewed journals, including *Cell* and *Cancer Cell*, presenting his work at several professional meetings and was awarded the Julius R. Krevans Distinguished Dissertation Award for outstanding dissertation research at University of California, San Francisco in 2007.

Dr. Kouros-Mehr is currently completing his M.D. degree at University of California, San Francisco. Upon his graduation, he plans to continue his involvement in the field of

breast cancer research by further exploring the function of GATA-3 in mammary development and breast cancer as a postdoctoral fellow at the National Cancer Institute, and as a resident in anatomic pathology.

Jill Mitchell, Ph.D., M.S.W.

Jill Mitchell came to the CBCRP with the ambitious proposal of bridging the fields of anthropology, psychology and psychoneuroimmunology to better understand how women with advanced metastatic breast cancer deal with their situation. Intrigued by the observation that some breast cancer survivors reported finding meaning and benefit from their experiences with the disease, and that in other diseases this correlated with improved health outcomes, she set out to ask whether this construction of meaning correlated with differences in survivors' psychological and physiological stress profiles. Dr. Mitchell's multidisciplinary approach, including in-depth interviews and psychological assessment, drew from her background in anthropology and the psychosocial aspects of cancer.

This allowed her to take an integrated approach to address this complex issue of survivorship.

In addition to completing her Ph.D., Dr. Mitchell's experiences during her CBCRP-funded research inspired her to further her clinical training and obtain a Masters in Social Work. Dr. Mitchell's current position as an oncology social worker at a community cancer center in Boulder, Colorado, allows her to continue to be involved in the lives of breast cancer survivors. Here she finds that her research experience informs her clinical work on a daily basis. Serving as a team leader in the piloting and development of new innovative and integrative biopsychosocial interventions, Dr. Mitchell continues to work toward the goal of providing more comprehensive care to breast cancer patients.



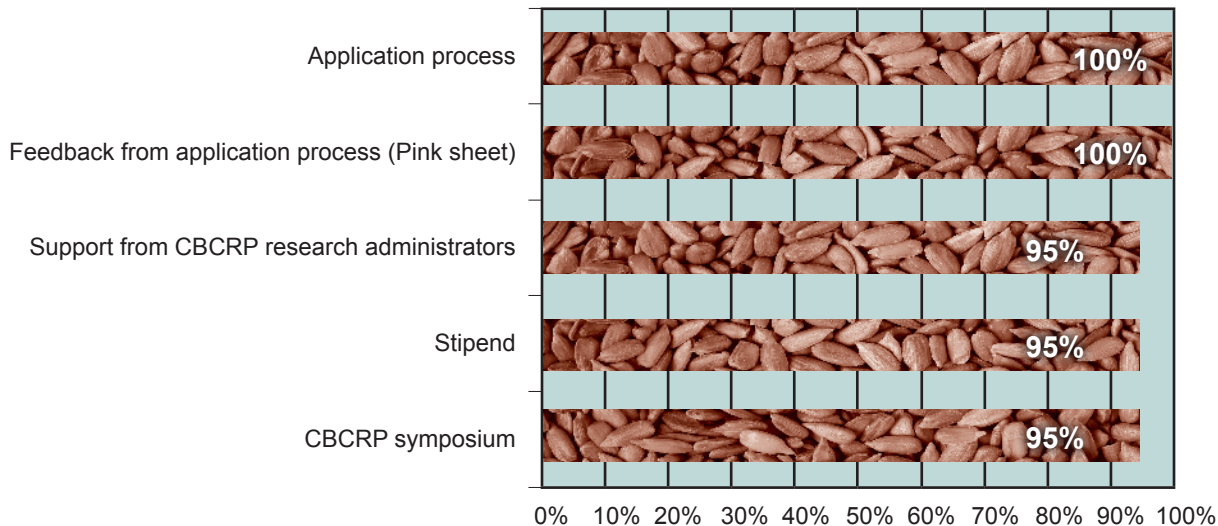
Feedback and Comments

The final section of the study asked awardees to rate their experiences with several individual aspects of the Dissertation Award as well as giving them the opportunity to submit any comments and/or suggestions to the CBCRP.

Overwhelmingly, respondents had positive things to say about their experiences with the CBCRP. All respondents

(n=21) indicated their satisfaction with the application process and the feedback they received as part of the process. The vast majority (95%) were happy with the support they received from the CBCRP research administrators, happy with their stipends, and happy with their participation in the CBCRP symposium.

SATISFACTION WITH ASPECTS OF CBCRP (n=21)



When asked for suggestions to improve the CBCRP Dissertation Award, respondents requested additional feedback and guidance from the CBCRP including input from reviewers during the course of the funding period and guidance in the transition to postdoctoral studies.

Several awardees were appreciative of the CBCRP's funding of non-US citizens:

“One of the few awards for which foreign graduate students are eligible—therefore invaluable for those without US citizenship.”



Conclusions

Has the CBCRP helped develop the career of the Dissertation Award recipients?

Career development of the Dissertation Award recipients was addressed in a number of different ways in this study. Respondents overwhelmingly indicated they felt the award helped them achieve important career gains including self confidence, grant writing skills, and independence as researchers, among others.

Outcomes associated with the award, such as publications and presentations, are important in the progression of the careers of the recipients and serve as markers of career development. Fifty-two total publications were produced by this group; with over 95% of recipients publishing at least one paper from their CBCRP-funded Dissertation Award. Additionally, over three quarters of the recipients presented their work at professional meetings and conferences.

Career progression was also evident by the vast majority of awardees completing their graduate work at the time of the survey and assuming new positions. Slightly less than half of the recipients were involved in postdoctoral research, although several others remained involved in research in other capacities including as junior faculty, research scientist in industry, and staff research scientists. Other recipients were continuing their careers in clinical settings or finishing a combined M.D./Ph.D. degree.

Finally, the ability to leverage funding is an important skill in a successful research career. Eight of the 22 Dissertation Award recipients were able to leverage their CBCRP grant for additional funding, mostly in the form of postdoctoral fellowships.

In comparison to Dissertation Awardees from other funding organizations, CBCRP Dissertation Awardees pursued postdoctoral fellowships at roughly the same rate as those found by the Wellcome Trust and Cancer Research-UK (CR-UK). Average publication numbers were slightly lower than those found by the Wellcome Trust (2.4 versus 2.8) but a higher percentage of CBCRP awardees published at least one paper (95% versus 82%). Data pooled from a collection of other dissertation evaluation studies were reported by the International Cancer Research Partners (ICRP), a consortium of cancer research funders from the US, the UK, and Canada. CBCRP Dissertation Awardees compared well with the ICRP numbers which reported 85% of awardees publishing at least one paper (95% CBCRP), 50% leveraging funding (36% CBCRP), 70-80% attributing career gains to receipt of the award (57-100% CBCRP) and a time to degree of 6.5 years (5.6 years CBCRP).

Measure	ICRP Numbers	CBCRP Awardees
Publish at least one paper	85%	95%
Leverage funding	50%	36%
Attribute career gains to award	70–80% ²	57–100% ²
Time to degree	6.5 years	5.6 years

²These ranges are derived from answers to several questions about individual career gains.

When compared to CBCRP Postdoctoral Fellowship Awardees, Dissertation Award recipients publish a slightly lower average number of papers (2.8 versus 2.4) and were less successful at leveraging additional funding (59% versus 36%). These differences are not surprising given the increased emphasis on publication and funding leveraging as a research career progresses from graduate school into postdoctoral research. Additionally, differences in the times the two studies were carried out, 2001 for the Postdoctoral Fellowship report and 2008 for this Dissertation report, may also play a role. This will be better addressed upon the completion of the follow-up Postdoctoral Fellowship evaluation currently underway.

Has the CBCRP helped train future researchers in breast cancer research or other fields?

The CBCRP is interested in the career development of budding research scientists with the expectation that a portion of these awardees will go on to established careers as breast cancer researchers. Of the Dissertation Awardees included in this study, only 26% remained in the breast cancer research field upon graduation. Although this is low, it is not unexpected for researchers to change fields after graduate school. Reasons given by respondents for leaving breast cancer research included wanting to broaden skill and knowledge base, an understandable goal if the awardee is interested in remaining in research long term, and the availability of jobs at graduation, an reasonable consideration upon entering the workforce.

A majority of awardees (52%) stated that a position in research, either in academia or industry, was their long term career goal. This is somewhat higher than the rates seen in studies done by CR-UK in 2004, when 40% responded this way, and in 2007, when 50% reported wanting to stay in research long term. Reasons given by respondents for leaving research dealt primarily with the struggle to balance research with family life, compensation being too low and a discouraging funding situation. These reasons were also among those given in the CR-UK studies and are likely to reflect the state of the research field in general.

These results suggest that the CBCRP Dissertation Awards are successful in training future researchers, but are less

successful in assuring that they will remain breast cancer researchers. The Advisory Breast Cancer Research Council will have to weigh future investment in Dissertation Awards with this in mind. This finding is despite the fact that a required part of the Dissertation Award application is the description of the applicant's future career plan. While most applicants indicated a plan to remain in breast cancer research (although most did not), 4 out of 22 (18%) of these awards were funded despite a lack of a stated commitment by the applicant to a future in breast cancer research. Given this, a more restrictive requirement for this commitment might be considered in the application review process.

Has the CBCRP helped fund promising new avenues of breast cancer research that have continued?

The impacts made on breast cancer research by the CBCRP Dissertation Award recipients extend beyond their outputs and immediate career accomplishments. The CBCRP expects that foundations laid by the research done with these awards will be built upon either by the awardee themselves or more likely by their mentors.

Awardees were able to leverage the \$1.4 million invested by the CBCRP for additional funds for research in both breast cancer research and cancer research. Two of the eight postdoctoral awards received by the Dissertation Award recipients were from breast cancer funding organizations, Komen for the Cure and the CBCRP, and five were from cancer research funding organizations including the American Cancer Society and the Damon Runyon Cancer Research Foundation. Given this, it is clear that a number of the CBCRP Dissertation Award recipients remain committed to continuing their careers in either breast cancer or cancer research in general.

Work done by award recipients under the guidance of their graduate mentors was used by five mentors to obtain additional funding for their research. The eight grants obtained by the awardees' mentors resulted in an additional \$19.7 million dollars for breast cancer research, assuring that these avenues of research will continue.

Recommendations

The CBCRP is dedicated to eliminating breast cancer by leading innovation in research, communication, and collaboration in the California scientific and lay communities. Career development plays a role in this mission by supporting the training of the breast cancer researchers of tomorrow.

In comparison to other predoctoral award cohorts, the CBCRP Dissertation Award recipients compare strongly

and surpass many, most notably in publication percentage and time to degree; and their work is used by their mentors to leverage large amounts of additional funding for breast cancer research. However, given the finding that only 26% of the respondents remain in the field of breast cancer research upon completing their graduate studies, it is in the Advisory Breast Cancer Research Council's interest to reevaluate the contribution that funding these awards makes to achieving the CBCRP's mission.

With this in mind, the CBCRP should consider:

Continuing the Dissertation Awards program
but targeting these awards to students identified as more likely to remain in breast cancer research in the long term

Discontinuing the Dissertation Award program

Acknowledgments

The authors are grateful to the participants of this study who took time from their busy schedules to provide information and give insightful feedback on their experiences as CBCRP awardees.

We would also like to acknowledge the hard work contributed by several additional members of the CBCRP staff in the production of this report: Mhel Kavanaugh-Lynch, Katherine McKenzie, Laurence Fitzgerald, Walter Price, Natalie Collins, Lynn Dunagan and Eric Noguchi.

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