

**2009 CaRES Evaluations Completed by Interns
N=39 Interns (93% of 42 Interns) Responded**

How many CaRES internships have you done with us at UAB prior to this summer?

Responses	Internships	Frequency	N=39
	0	35	
	1	4	

Please rate how well your preceptor...

5=Excellent 4=Good 3=Neutral 2=Fair 1=Poor

	Mean	N
Gave you the orientation and assistance you needed.	4.69	39
Showed interest in your progress or learning.	4.79	39
Was available to supervise, assist, or advise you.	4.54	39
Demonstrated an understanding of the goals and objectives of the CaRES program.	4.67	39
Made clear his/her expectations of you as an intern.	4.62	39

Please rate how well the CaRES administrators and staff...

5=Excellent 4=Good 3=Neutral 2=Fair 1=Poor

	Mean	N
Explained to you how the program was to work.	4.64	39
Responded to your questions or concerns.	4.74	38
Clearly outlined expectations for you as an intern.	4.72	39

Please tell us how much the CaRES program helped you to...

5=Excellent 4=Good 3=Neutral 2=Fair 1=Poor

	Mean	N
Build your overall knowledge of the particular research area you worked in.	4.77	39
Build your overall knowledge of scientific methods and the research process.	4.51	39

Please give us your overall assessment of our program.

5=Excellent 4=Good 3=Neutral 2=Fair 1=Poor

	Mean	N
How would you rate the quality of your overall educational, research, and training experience provided by the CaRES program?	4.85	39

Please tell us whether you agree or disagree with the following statements.

5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

	Mean	N
Based on your prior education, experience, and skills, you were well matched with your research project.	4.49	39
You had a positive research relationship with your preceptor.	4.79	39
Your preceptor should be approved again to oversee a CaRES intern.	4.84	39
Your stipend was adequate.	4.64	39

Your hours were flexible.	4.77	39
Your internship was an effective way to obtain a short training experience in cancer research.	4.69	39
The CaRES seminar was an effective way for you to communicate your research activities.	4.10	39
The CaRES seminar guest speaker was a valuable component of the seminar.	3.58	38
The CaRES seminar guest speaker was effective in providing useful information	3.67	39
You interacted with people with whom you could collaborate on future research	3.97	39
You are likely to pursue a career in cancer research once you leave school.	3.50	38

The CaRES program helped me to _____ my career plans or path when it comes to cancer research. (choose all that apply; percentages will add to greater than 100%)

	Frequency (%)	N
"identify"	13 (33.3)	39
"solidify"	8 (20.5)	39
"refine"	10 (25.6)	39
"narrow"	9 (23.1)	39
"eliminate options from"	3 (7.7)	39
"decide to change"	1 (2.6)	39

How much has the CaRES internship taught you?

3=Greatly enhanced 2=Moderately enhanced 1=Somewhat enhanced 0=Did not enhance

	Mean	N
Your general writing skills	1.05	39
Your scientific writing skills	1.36	39
Your ability to perform laboratory procedures	2.33	39
Your knowledge of research design	2.36	39
Your data analysis skills	1.90	39
Your knowledge about doing research in an academic setting	2.59	38
Your knowledge about acquiring grants and funding	1.54	39

What are you planning to do with your research?

3=Already Submitted 2=In Progress 1=Being Planned 0=Not Applicable

	0	1	2	3
Use your summer project as the basis for a thesis or dissertation proposal	29	8	2	0
Speak at an academic conference	22	11	3	3
Present a poster at an academic conference	15	12	8	4
Draft and submit a manuscript for publication	12	15	11	1

End of Statistical Summary

See related comments on the following pages.

2009 CaRES Intern Commentary for Selected Questions

29) “The CaRES Program helped me to _____ my career plans or path when it comes to cancer research”

[Fill in the blank with one or more of these words: identify, solidify, refine, narrow, eliminate options from, decide to change]

Summary: In that a long-range goal of the CaRES program is to encourage students to choose cancer research careers, we believe that this is one of the most important questions on our evaluation instrument. In summary, many students were introduced to a field that they will incorporate into their professional careers. While some found that bench work was for them, others were able to refine or narrow their career path away from bench work toward other areas of cancer research. CaRES also opened the eyes of a few interns who now see career possibilities that they had not previously thought about. Ideally all CaRES interns will go on to a cancer research career, but we believe that the CaRES experience is valuable even to those students who are now more clear that they do *not* want to do cancer research but instead will take their careers in another direction.

Individual comments are presented below. The comment that we found particularly compelling is presented in ***bold italics***.

- ***Narrow:*** My main reason for doing the CaRES program was to see if I wanted to get a PhD in cellular biology. Although I enjoy doing basic science research, I do not think that I will ultimately decide to go into basic research. Instead, I will use the knowledge gained in this program and apply it to my future career in Environmental Health.
- ***Solidify:*** I was certain I wanted to pursue a career in cancer research and my CaRES experience strengthened my certainty. The skills I obtained and the work I performed over the summer broadened my perspective of the many elements that are involved in cancer research (it’s not just lab or clinical work; there is a lot of work behind the scenes and lots of effort needed in order to cultivate your research). I feel like I have a better and better-rounded understanding of the research process including grant writing/submission, evaluation, manuscript preparations, research/study execution, etc. My work this summer definitely emphasized the importance of details in all areas of a project.
- ***Refine:*** My project was more clinical research and I enjoy that. I’m not sure that I would do “bench” research in the future.
- ***Identify and Solidify:*** My career plans include research as it relates to health literacy issues. After my experience in CaRES I can more clearly recognize the distinct role that health literacy and clear communication play in cancer prevention strategies.
- ***Identify and Refine:*** I don’t have extensive experience in cancer research first-hand and this internship helped me to see the realm of research that will be a possibility to pursue in the future.
- ***Identify, eliminate options from, and decide to change:*** I identified that some of the basic science bench work is not for me, which helped me eliminate options

from what I've seen this summer. However, I have not all together decided that research is no longer in my future.

- Refine: I really enjoyed clinical research. In the past I had only been exposed to bench research.
- Identify and Refine: I've done some cancer research in the past, so I was really hoping to just add another experience to my previous one (as cancer research is a very broad entity).
- When I applied for this internship, honestly, I did not have an inkling as to whether I wanted to pursue a career in cancer research. The CaRES internship opened my eyes to many opportunities in research that I was unable to pursue before. The internship allowed me an experience to develop my skills and cultivate interest and passion in a topic that I had previously disregarded. My interest towards pursuing cancer research has grown after my CaRES internship.
- Identify: Before this internship I had not considered cancer research as a career. Now I see it as an exciting possibility.
- Narrow: The CaRES program taught me how to use motivational interviewing (MI) as a method to address addiction and chronic health problems. This type of goal-oriented, patient-centered, type of interaction was very effective in eliciting patient behavior change. MI can also be applied to other chronic diseases such as obesity.
- Refine: I knew coming in that I'd likely be interested in a surgical specialty, and possibly oncology. The experience I gained here may lead me into a more specific direction including research in my practice.
- Solidify: Having been involved with research for the past three years, the CaRES program at UAB helped me further my research interest in cancer.
- Expand: As part of my research experience, I was able to participate in the inception of a brand new research project. I learned that if I wanted to do research as part of my career, it was not so hard and it was a true possibility.
- Solidify: I knew that I was interested in research in cancer. My experience showed me that I not only enjoyed cancer research but that cancer research is a definite career choice for me.
- ***I don't feel that any of the words above describe what the CaRES program has done for me. Before my experience with the program, research was very intimidating to me. The good thing about my work this summer is that I am not intimidated by it anymore and I realize how important research is to medicine. I worked with people that were working hard to find different ways to fight off cancer and I enjoyed my experience and learned a lot. So I feel more open to research, whereas before I thought that I would never do research.***
- Eliminate options from: I enjoyed doing skin cancer research, but I know that I do not have a future in it. I have to be around patients, directly benefiting them.
- Narrow: I became aware of appealing career options which helped focus my career goals.
- Identify: This internship has convinced me to integrate research into my career, particularly the role infectious diseases (i.e. HPV, HIV) have in the formation of cancer.

- Identify: I do want to involve research in my medical career; before this summer, I was undecided about whether or not I would want to pursue a research career at all.
- Narrow: I enjoyed the work that I did this summer. This field is probably not where I will end up, but it has made me see many other fields in which cancer research is important.
- Identify: I enjoyed my time as a CaRES intern. I am interested in HIV/STI research and could see myself pursuing a career with HPV.
- Identify and Refine: The CaRES program allowed me to identify what it means to do cancer research in a laboratory setting. As a future physician, I have refined many of my training options, which may now include oncology and research.
- Identify: Previously, I was not very interested in cancer research, but after the internship I am now interested in cancer research, particularly breast and cervical cancer.
- Identify: I was able to identify an interest in research in general, but also with cancer-specific research.
- Narrow: I really enjoyed my experience this summer, but I don't think I want to pursue a career in research.
- Solidify: I know that cancer treatment is something I want to do and cancer research is a strong possibility.
- Eliminate options from: I decided I did not want to pursue skin cancer research.
- Narrow: I decided that while I admire people who are willing to spend their lives doing laboratory research, I am not one of those people. I would still consider doing clinical research, but not bench work.
- Refine: CaRES allowed for a broad view of cancer related research projects, therefore allowing nontraditional programs/projects.
- Narrow: Basic science research is not for me.
- Solidify and Refine: I've been interested in neurosurgery since beginning medical school, working in the department and doing research relative to the understanding and treatment of brain tumors helped me refine my interest in the field and solidify my decisions.
- Narrow: I am more interested in gyn/onc after my internship. Prior to my research, I was primarily just interested in ob/gyn.

41) Please provide details about any of the boxes you have checked above. Give titles and authors of publications if available.

Summary of comments: While many interns were involved in the early stages of research and are not ready to present or publish their work, a lot of work was accomplished and there will be many publications in the future co-authored by these interns. There are several interns who completed projects that they will be presenting via posters at UAB Medical Student Research Day, the International Cancer Education Conference, the UAB Comprehensive Cancer Center Annual Research Retreat, the UAB Graduate Student Research Day, and the Triological Society's Southern meeting. Some of the research done this summer may lead to master's theses for those interns who are completing master's degrees in public health or other areas.

42) What do you consider to be the STRENGTHS of your internship?

Summary of comments: Many strengths of CaRES internships were listed. Interns expressed gratitude for having such great mentors to work with, both their preceptors and others working in the labs and clinics. The interns enjoyed having the opportunity to apply knowledge regarding research methods learned in the classroom to the work given to them to do this summer. Other strengths mentioned were the support of CaRES staff; flexibility of the program; being able to learn how cancer research is actually done; being mentored one-on-one; becoming familiar with the lifestyle of the cancer researcher; exposure to role models in the lab or in the clinic; and making progress in understanding the scientific literature.

43) What do you consider the WEAKNESSES of your internship?

Summary of comments: A weakness mentioned by about 10% of respondents is the “necessary evil” of a summer research program: for some projects the time on the job is too short to get oriented, learn what do to (sometimes on a steep learning curve), then finish the project in 10-12 weeks. A related concern is being thrown into the middle of a project and having to play catch-up all summer. Some interns thought that they would be doing certain tasks, but due to limited time or changing circumstances were not able to get to them, leaving these interns disappointed. [Note: all interns are told that the CaRES project they signed up for in the winter may have advanced or changed somewhat by the time they begin working on the project in the spring.] Several interns listed the CaRES seminar speakers chosen this year as a weakness. [Note: new speakers will be chosen for the following year.] A few interns stated that they did not receive as much guidance as desired, while a few others thought that they were given too much direction in that they wanted the freedom to improvise.

44) What SPECIFIC RECOMMENDATION do you have to improve the CaRES internship program?

Summary of comments: Many interns thought that the CaRES program was well done and did not need any modifications. One common suggestion was that the preceptors should be better oriented regarding their role. [Note: we enhanced the CaRES Intern-Preceptor agreement form on the website to address this concern.] A few interns stated how wonderful this opportunity is, but that it needs to be better publicized, potentially having past CaRES interns speak with potential candidates. A few students suggested that CaRES increase the number of international internships available.

45) What are your career plans?

Summary of comments: Most CaRES interns, being medical students or public health students, plan a clinical career, a public health career, or a career that combines both. Cancer research will be the focus of some careers and will be a part of others. Through study of the comments made in response to question 29, it is clear that CaRES was instrumental in helping many of these up-and-coming health professionals choose a career direction, many of them choosing a direction toward cancer research.

End of Intern Commentary

**2009 CaRES Evaluations Completed by Preceptors
N=20 Preceptors (74% of 27 Preceptors) Responded**

Administration of the CaRES program				
<i>5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree</i>				
	N	Mean	StdDev	
You had strong applicants to interview	20	4.70	0.57	
Interviews were effective	20	4.35	1.18	
CaRES program allowed you to accelerate your research program	20	4.10	1.02	
Factual Questions				
	N	Mean	Min	Max
How many Interns did you interview	20	3.85	1	10
How many interns did you offer a position and mentor	20	1.65	1	3
3=Not a Problem 2=Acceptable 1=Serious/Frequent Problem 0=N/A				
	N	Mean	StdDev	
Communications with CaRES program faculty about how the program worked	20	2.85	0.67	
CaRES program faculty allowing flexibility in intern's work schedule	20	2.95	0.37	
CaRES program faculty responding to your questions	20	2.55	0.22	
Adequacy of stipend support	20	2.60	0.94	
Expectations for CaRES preceptors and interns	20	2.85	0.75	
Administration of the CaRES program	20	2.85	0.37	

Benefits to You			
<i>4=Invaluable 3=Very Helpful 2=Somewhat Helpful 1=Not Helpful 0=N/A</i>			
	N	Mean	StdDev
Conceptualizing research methods/procedures	20	2.20	1.36
Designing the research plan	20	2.50	1.28
Analyzing data	20	2.35	1.31
Interpreting results	20	2.25	1.25
Writing final paper/report	20	2.15	1.42

Your Future Involvement in CaRES	N	#Yes	%Yes
Are you willing to consider being a preceptor in CaRES next summer?	20	19	95

CaRES Intern Work Ethic			
<i>4=Excellent 3=Good 2=Adequate 1=Poor</i>			
	N	Mean	StdDev
Work Hours	20	3.72	0.52
Research Tasks	20	3.66	0.55
Meeting Deadlines	20	3.52	0.68
Intern Research Ability			
<i>4=Excellent 3=Good 2=Adequate 1=Poor 0=N/A</i>			
	N	Mean	StdDev
Conceptualization & designing research	20	3.09	1.12
Understanding methodology	20	3.47	0.72
Analysis/interpretation of data	20	2.88	1.29
Writing Quality	20	2.75	1.52

End of Statistical Summary; see related comments on the following pages.

2009 CaRES Preceptor Commentary for Selected Questions

Administration of the CaRES Program

Summary: Overall most preceptors found that the CaRES program was well run and that program faculty and staff were responsive. It was suggested that the CCC Annual Research Retreat be scheduled when all medical students could attend it; and that more direction be given to the preceptors regarding what they are expected to do. [Notes: scheduling of the CCC Retreat is beyond the control of CaRES; and we have improved the CaRES Intern-Preceptor Agreement form with regard to specifying preceptor duties.]

Benefits to you as a CaRES Preceptor

Summary: Preceptors found many tasks for the interns to do over the summer including research activities, writing, bench work, data analysis, organizing and evaluating new techniques, and drafting papers. Specific intern activities and the benefits that they provided as mentioned by the preceptors are as follows:

- Development of research instruments and data collection methods.
- Intern was excellent writer, drafted or updated several manuscripts for publication, re-analyzed some data.
- Main task was to learn how to do bench work and understand what exactly what they were doing. Interns are way too junior to participate in some tasks.
- Developed a session on eating healthy for Latino children.
- Clinical shadowing.
- Researching and evaluating new techniques.
- Conceptualizing research questions to ask.
- The intern took initiative and did a thorough search and summary of the most recent research. He also went into the shared drive and pulled up ALL research done on this project to date, organized it, summarized it and put his work in the context of what had been done so far.
- The intern was excellent at keeping the project focused on what remained to be finished in order to get this work published. He looked into what had been done, what needed to be done again, what needed more replicates, then did it.

Your Future Involvement in CaRES

Summary: Preceptors found that whereas the interns have only a short time to work in the summer, they provide a valuable boost to the preceptors' research. Having such a well-run program and motivated and eager interns each year makes the preceptors want to continue mentoring and developing future researchers. Specific comments are as follows:

- Through this program I am able to recruit motivated health sciences students who have some research experience and they are keen to explore the scientific side of Medicine.
- Have the students too short a time to achieve anything meaningful but will likely continue participating.
- Highly motivated students who can get productive work done and I enjoy training those who are enthusiastic about learning.

- The program has allowed me to sponsor additional graduate students and to get more projects done in the field.
- Good kids who are willing to work. I like those and would like to help them.
- The program is very organized and we have the opportunity of getting qualified interns that can assist in the implementation of our research as well as receive mentorship.
- I have found CaRES interns to be smart, have an excellent work ethic and be truly interested in their projects.
- I prefer working with graduate students, and these are the best.
- This program has always been responsive to comments about suggestions for improvement; I think that it has improved every year that I have been involved with it.
- Teaching young scientists is great.
- All applicants were great.
- Simple process to participate and quality students.
- Every intern that I have had has been good and helpful in keeping my research moving. I have interviewed some that I considered to be real duds, but I have always had good applicants to choose from. The “free labor” has really helped my program, and I have enjoyed having the summer interns to teach – most of the ones I have had have really been interested in the science and wanted to learn.

End of Preceptor Commentary