

**2012 CaRES Evaluations Completed by Interns
N=37 (86% of 43 Interns) Responded**

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

Responses	Frequency	N=33
0	29	
1	3	
2	1	

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 to do your internship work.	4.54	37
Showed interest in your progress learning research in this area.	4.65	37
Was available to supervise, assist, or advise you.	4.32	37
Demonstrated an understanding of the goals and objectives of the CaRES program.	4.59	37
Made clear his/her expectations of you as an intern.	4.46	37

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.	4.57	37
Responded to your questions or concerns.	4.65	37
Clearly outlined expectations for you as an intern.	4.76	37

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.	4.76	37
Build your overall knowledge of scientific methods and the research process.	4.76	37

Please give us your overall assessment of the CaRES 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?	4.86	37

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 matched well with this project.	4.54	37

You had a positive research relationship with your preceptor.	4.73	37
Your preceptor should be approved again to oversee a CaRES intern.	4.76	37
Your stipend was adequate.	4.51	37
Your hours were flexible.	4.65	37
Your internship was an effective way to obtain a short training experience in cancer research.	4.68	37
The CaRES seminar was an effective way for you to communicate your research activities.	3.96	35
The CaRES seminar guest speaker was a valuable component of the seminar.	3.77	35
The CaRES seminar guest speaker was effective in providing useful information.	3.83	35
You interacted with people with whom you could collaborate on future research.	4.19	37
You are likely to pursue a career in cancer research once you leave school.	3.39	36

The CaRES program helped me to _____ my career plans when it comes to cancer research. (choose all that apply)

	Frequency (%)	N
“identify”	13 (35.1)	37
“solidify”	11 (29.7)	37
“refine”	12 (32.4)	37
“narrow”	7 (18.9)	37
“eliminate options from”	8 (21.6)	37
“decide to change”	3 (8.1)	37

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	1.41	37
Your scientific writing skills	1.65	37
Your ability to perform laboratory procedures	2.30	37
Your knowledge of research design	2.51	37
Your data analysis skills	2.24	37
Your knowledge about doing research in an academic setting	2.46	37
Your knowledge about acquiring grants and funding	1.65	37

What are you planning to do with the results of your CaRES research project?

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	33	3	1	0
Speak at an academic conference	28	4	2	3
Present a poster at an academic conference	14	7	8	8
Draft and submit a manuscript for publication	13	11	12	1

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

2012 CaRES Intern Commentary for Selected Questions
[Edited slightly for clarity]

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, and explain your answer].

Summary: The top response was that the CaRES internship helped students **identify** their career paths with many stating that cancer research is in their future. Almost all of the interns will likely include some type of research in their future. By participating in the CaRES program, several interns realized that clinical research was a better fit than basic science research which helped them to identify or refine their career plans. For others, the program solidified their desire to work in public health such as working on a community intervention or on other public health research projects, though maybe not cancer research. Individual comments are presented below, with a “remarkable” comment in **bold**.

- *Identify:* CaRES program showed me the great breadth of topics that fall under cancer research
- *Solidify:* CaRES helped confirm my desire to pursue cancer research
- *Identify, solidify, refine:* CaRES reinforced my desire to work in public health
- ***Solidify: greater understanding of the impact of cancer and the true public health challenges it possesses. Because of this, I have decided to pursue a career in cancer research focusing on clinical care outcomes and recurrence prevention.***
- *Refine:* CaRES program created an interest in pursuing cancer research in my career
- *Refine, narrow:* CaRES helped me to identify gynecologic oncology as an area of research interest and increased my interest in integrating research into my career
- *Refine:* very interested in being active in cancer research, experiences helped me find ways to achieve that goal
- *Identify, eliminate options from:* It showed me what lab techniques I enjoy doing
- *Identify, solidify, narrow:* realized that basic science research does not interest me very much, however I was able to see that I did have an interest in clinical research
- *Identify, solidify:* allowed me to realize what it is like to work on a community intervention project and solidified that I enjoy working directly with people
- *Refine:* greatly appreciate the opportunity to gain medical research knowledge
- *Identify, solidify, refine:* reinforced my desire to work in public health
- *Solidify:* excellent program that provides an international research opportunity

41) [Question about plans for presenting research results.] Please provide details about any of the boxes you have checked above. Give titles and authors, in order, if available.

Summary of comments: CaRES interns were involved in different stages of research projects. Some were in the process of submitting papers while others were still working on their projects. Many interns will be presenting posters for their projects at UAB Medical Student Research Day or at the UAB Comprehensive Cancer Center Annual Research Retreat. Some interns are presenting posters or making oral presentations at national and international conferences.

There are many manuscripts in the works and others are being discussed with preceptors. A great deal of work was accomplished and there will be many publications in the future co-authored by these CaRES interns.

42) What were the **STRENGTHS** of your internship?

Summary of comments: The interns listed many strengths of the CaRES program including learning new lab or research techniques, the great mentoring by preceptors, the opportunity to write abstracts or manuscripts and to participate in research. Many interns enjoyed practicing concepts learned in class as well as gained a better understanding of how research works outside the classroom. Other strengths mentioned were the independence granted and encouragement given by preceptors, and gaining confidence in their ability to do research. Overall, they thought the CaRES internship was a valuable experience and they enjoyed this research opportunity. Here are individual comments [remarkable comments in **bold**]:

- The ability to work one-on-one with excellent faculty, taking part in cutting-edge research was rewarding
- **I learned many new research techniques and attended several “journal club” talks in which various manuscripts were presented. I also had the opportunity to work more extensively with animals, was taught how to use machines and equipment I was not previously familiar with, and learned new methods for data analyses. I left CaRES with a plethora of new knowledge, skills, and experience**
- Flexibility of schedule and a great working environment
- Allowed me to become more proficient with a greater understanding of academic research
- Allowed me to put into practice concepts learned in class, determine interests
- Great experience, flexible, supportive work environment
- Great relationship with preceptor, felt comfortable asking questions and received guidance, allowed me to do many different activities
- I learned valuable information about translational research, especially with pediatric tumors, as well as the experience of writing a review
- I learned a lot of science theory as well as practical lab techniques. I gained confidence in reading and discussing scientific papers and presenting data in lab meetings.
- **Worked with a motivated group of individuals who allowed me to lead some projects. This taught me diligence and gave me the confidence that I could continue research after school is over. I also learned how to use quantitative analysis software that I believe will be useful in the coming years.**
- Preceptor very flexible, enthusiastic and always willing to answer questions/provide guidance, CaRES staff very helpful

43) What were the WEAKNESSES of your internship?

Summary of comments: Interns did not find many weaknesses in the program, but a few stated concerns. Some interns felt that there needed to be better communication and more guidance from the preceptors about projects. Other concerns interns had were that they felt some of the work they did was not directly related to their project/topic. Here are individual comments:

- I thought at some points that my time was spread thin doing projects that were not directly related to mine
- I would have liked more guidance from my preceptor, especially when working on the review paper since I had never written a paper of that format before. All my other experiences were excellent.
- I thought that I would be able to analyze more. We did not get very far in that process. Also, the way that the files are stored on the computer seemed very disorganized.
- Lack of personal mentorship due to preceptor's busy schedule, asked to participate in other lab work not primarily related to my project, thought time could have been used more effectively
- Details of project duties not clearly defined
- No weaknesses, preceptor did great job
- Best research experience, wouldn't change a thing

44) What SPECIFIC RECOMMENDATIONS do you have to improve the CaRES program (e.g., publicity of the program, website organization, interview process; ways of matching interns to projects, payment method, evaluation approach, etc.)?

Summary of comments: Most interns thought that the CaRES program was well organized and did not have any recommendations. However, there were a few suggestions: better publicity, more clinical and public health based projects, and increase the budget so interns could work more hours. [NOTE: CaRES faculty and staff investigate and discuss all suggestions made, and consider making appropriate changes in the following summer.] Here are individual comments [remarkable comments in **bold**]:

- I believe there should be more clinical and public health based projects that allow for patient interaction and patient evaluation; options should be put up more in advance to allow plenty of time to choose and guarantee a spot in CaRES
- Being able to work more than 30 hours a week with pay would help
- Better publicity, announcements in classrooms or paper flyers
- Continue to advertise to medical students – great way to spend summer
- I understand CaRES is limited by budget but I wish we could have worked more hours, matching and interview process was very efficient
- Excellent program, every facet organized
- **I would not change anything about the CaRES program**
- **My experience with CaRES was amazing. I don't know what could have done better.**

45) What are your career plans?

Summary of comments: Many of the interns' plans include going to or finishing medical school. Many plan to continue pursuing research as part of their career. Some of the medical students planned to pursue careers in surgery, oncology, pediatrics, dermatology, or hematology. There is a lot of interest in cancer research. Some interns want to have careers in public health / epidemiology while others remain uncertain but want a career that includes research. Here are individual comments [remarkable comments in **bold**]:

- **I plan to pursue pediatric neurosurgery while doing neuro-oncology research**
- Plan to pursue an internal medicine residency and most likely a fellowship afterwards, possibly in infectious disease, allergy/immunology, GI, or rheumatology
- Undecided, but I am interested in pediatrics and probably doing some type of clinical research
- **Physician, both clinic and lab, in cancer and toxicology**
- **Plan to get MD degree and become a radiologist or radiation oncologist**
- **Become a dermatologist at an academic hospital. Also, I want to run a skin cancer research lab**
- **Complete MD/MPH degree in 2016, unsure of what my career will be as of yet, but considering Hematology-Oncology**
- **Interested in OB/GYN- possibly with a subspecialty in gynecologic oncology- or in orthopedic surgery. In either case, I intend to integrate research into my career.**
- **MD, mostly clinician with some research work, unsure of specialty but interested in oncology**
- **PhD in Epidemiology**
- **Public health practice possibly in cancer research**

**2012 CaRES Evaluations Completed by Preceptors
N=28 Preceptors (100% of 28 Preceptors) Responded**

Administration of the CaRES program				
<i>5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree 0=N/A</i>				
	N	Mean		
You had high quality applicants to interview	26	4.52		
Interviews were effective	26	4.56		
CaRES allowed you to accelerate your research progress	28	4.51		
	N	Mean	Min	Max
How many applicants did you interview	28	3.14	0	10
To how many applicants did you offer a position	28	1.82	1	4
How many interns did you end up mentoring	28	1.81	1	3
<i>3=Not a Problem 2=Acceptable 1=Serious/Frequent Problem 0=N/A</i>				
	N	Mean		
Communications with CaRES program faculty about how CaRES works	27	3.00		
CaRES program faculty allowing flexibility in intern's work schedule	27	2.93		
CaRES program faculty responding to your questions	28	3.00		
Adequacy of stipend support	28	2.93		
Expectations for CaRES preceptors and interns	28	2.85		
Overall administration of the CaRES program	28	3.00		
Benefits to You				
<i>4=Invaluable 3=Very Helpful 2=Somewhat Helpful 1=Not Helpful 0=N/A</i>				
	N	Mean		
Conceptualizing research methods and procedures	23	2.76		
Designing the research plan	21	2.67		
Analyzing data	26	2.87		
Interpreting results	26	2.80		
Writing final paper or report	22	2.83		
Your Future Involvement in CaRES				
	N	#Yes	%Yes	
Are you interested in being a CaRES preceptor next summer?	28	28	100	
CaRES Intern Evaluation*				
<i>4=Excellent 3=Good 2=Adequate 1=Poor 0=N/A</i>				
Intern Work Ethic				
	N	Mean		
Work hours kept	43	3.77		
Research tasks accomplished	43	3.79		
Meeting deadlines	42	3.67		
Intern Research Ability and Contributions				
	N	Mean		
Conceptualization and designing research	37	3.05		
Understanding methodology	42	3.57		
Analysis and interpretation of data	37	3.26		
Writing quality	30	3.32		
*Larger N due to preceptors evaluating multiple interns. One intern was evaluated twice due to switching projects; his / her scores were averaged and counted as one intern.				

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

2012 CaRES Preceptor Commentary for Selected Questions

Administration of the CaRES Program

Summary: The overall theme of preceptor comments regarding problems that need to be addressed is that there are none. Most left this section blank. There was one comment that some interns may view the program as a job instead of a research opportunity. Another suggested needing more hours from interns and some more detail about class schedules.

- Overall, I thought it was an excellent program that was very easy to navigate through.
- I think the CaRES program is excellent. The CaRES students that I have mentored have all been very helpful to my research.
- Because my CaRES interns work internationally [*Note: with travel and lodging paid by another grant*] they usually need the full number of hours of work. I understand that the Program may limit the number of hours because of available funding. Thankfully, the CaRES Program Director has always worked to address this minor problem.

Benefits to you as a CaRES Preceptor

Summary: Preceptors found many tasks for the interns to do over the summer including research activities, data collection and entry, performing experiments, literature reviews, recruiting patients, and data analysis. Specific intern activities and the benefits that they provided as mentioned by the preceptors are as follows [remarkable comment in **bold**]:

- The interns did an excellent job carrying out the experiments designed and were able to assist my graduate student in completing several experiments. Overall, they did a great job in the lab.
- Intern assisted with a systematic literature review covering recent studies of the cost-effectiveness of various colon cancer screening strategies. He conducted the search, reviewed abstracts, identified papers, developed tables and synthesized the results.
- Our project was in the data collection phase. Therefore, the intern primarily collected data from participants (e.g. BMI, % body fat), helped with training sessions (participants were asked to wear monitors for 7 days), made check-in phone calls, and then did data entry of demographic surveys and daily logs from participants. The intern was invaluable in completing this portion of the project.
- Data gathering (patient surveys, patient related data/medical information), helped with survival data, helped with literature search.
- A great detective and fact-finder of references and data that I needed for my project.
- Intern generated a valuable set of data which will advance the project. Intern's findings provide a solid set of preliminary results which we will now follow-up on.
- **The research efforts of the interns helped put me on the right track in developing a totally new approach to answering our research question. They developed a new cell culture-based assay, and following my data processing, interpreted their results on their own. Then we discussed the findings. I am indebted to their enthusiastic interest and dedication. They pushed this project forward, independently and were a pleasure to have in the lab.** *End of 2012 Evaluation Summary*