

2016 CaRES Evaluation Completed by Interns

N= 41 (100% of interns responded)

Compiled by Dr. Allison Litton and lightly edited by Dr. John Waterbor, November 9, 2016

Current degree in progress/ completed this summer

MD	23 (56%)
MPH/MSPH	10 (24%)
PharmD	3 (7%)
DVM	2 (5%)
BS/MD	1 (2%)
Other	<u>2</u> (5%)
	41

How many CaRES internships have you completed at UAB prior to this year?

	Frequency
Responses	0 39 (95%)
	1 1 (2%)
	3 <u>1</u> (2%)
	41

Please rate how well your preceptor

5= Excellent 4= Good 3=Neutral 2=Fair 1=Poor	Mean
Oriented you and gave assistance you needed to do the internship	4.56
Showed interest in your progress learning research in this area	4.65
Was available to supervise, assist and advise	4.39
Demonstrated an understanding of the goals and objectives of the CaRES program	4.56
Made clear his/her expectations of you as an intern	4.46

Please rate how well the CaRES administrators and staff

5= Excellent 4=Good 3=Neutral 2=Fair 1=Poor	
Explained how the CaRES program works	4.68
Responded to your questions and concerns	4.68
Clearly outlined the expectations.	4.60

Please tell us how well the CaRES program helped you to

5= Excellent 4=Good 3=Neutral 2=Fair 1=Poor	
Build overall knowledge of the particular research area	4.56
Build over knowledge of scientific methods and research process	4.56

Please give us your overall assessment of the CaRES program

5= Excellent 4=Good 3=Neutral 2=Fair 1=Poor	4.6
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Please tell us whether you agree or disagree with the following statements

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

Based on your prior experience, knowledge and skills, you were well-matched with your research project	4.43
You had a positive research experience with your preceptor	4.68
Your preceptor should be approved again to oversee a CaRES intern	4.78
Your stipend was adequate	4.65
Your hours were flexible	4.48
Your internship was an effective to obtain a short training experience in cancer research	4.60
The CaRES seminar presentation was an effective way to communicate your research results	4.40
The presentations by faculty were valuable components of the CaRES seminars	4.21
The presentations by faculty provided useful information for career development	4.24
You became acquainted with researchers with whom you could collaborate on future research	4.17
You are likely to pursue a career in cancer research once you leave school	3.73

The CaRES program helped me to _____my career plans when it comes to cancer research

	Frequency
Identify	7 (17%)
Solidify	7 (17%)
Refine	21 (51%)
Narrow	2 (5%)
Eliminate options from	4 (10%)
Decide to change	0 (0%)
	41

State the degree to which your CaRES internship experience helped you improve

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

	Mean
General writing skills	1.68
Scientific writing skills	2.00
Ability to perform laboratory procedures	2.36
Knowledge of research design	2.41
Data analysis skills	2.29
Knowledge about conducting research in an academic setting	2.58
Knowledge about acquiring grants and funding	1.78

Dissemination of results (progress towards publishing or presenting CaRES research data)

	3	2	1	0
3= Already submitted 2= In progress 1= Being Planned 0= N/A				
Basis for thesis or dissertation	2	1	6	32
Make an oral presentation at a professional meeting	11	6	8	16
Present a poster at a professional meeting	3	13	13	12
Draft and submit a manuscript for publication	2	14	12	13

End of Statistical Results

2016 CaRES intern commentary for selected questions

What are the strengths of the CaRES program and internship experience?

That I was involved in every step of this project from its development to the results, in addition to having invaluable guidance and support from my preceptor along the way.

Strengths included very helpful feedback I received from my preceptor on how to improve my manuscript writing skills, as well as help in data analysis. I also attended weekly meetings with her research team, through which I got to see the entire research process and how much work goes into it.

One major strength of my internship was the ability to conduct research in an academic setting alongside such brilliant doctors in such a high tech facility. I really learned about navigating the academic world and what this entails for my career. Another strength was the opportunity to learn and refine my ability to compete Western Blots. I now have a new skill to add to my repertoire.

Research in a realm other than clinical and bench research that medical student usually are exposed to. I got to expand on my interest in public health and implement it in my research.

I think I was really exposed to the inner working of running a research lab and balancing multiple projects. I also think I became very knowledgeable about my specific research and the broader diagnosis and treatment of ovarian cancer. I was able to attend weekly morning reports and tumor board meetings for the Division.

This project allowed me to further hone my scientific writing skills by writing for grants, proposals, and manuscripts. I also learned a great deal about western blots, IHC, and other molecular techniques like Cre-Lox recombination.

Presenting my project in front of a small group before having to do it with a poster presentation, and helpful faculty

My preceptor was an incredible mentor. She was never bothered by questions and was always extremely happy to help in any way. She always took time each day to collaborate with me and address any issues.

I really enjoyed listening to the research experiences of fellow CaRES Interns. In terms of my research, I really loved how flexible my experience was and the fact that I was pretty independent in my work.

Having enough spots that a large number of students could engage. Having weekly meetings that we could also communicate with other students through. I also appreciated the meeting which went over how to write and talk about our research.

What are the weakness of the CaRES program and internship experience?

I felt that I did not receive nearly enough supervision during my project. While my preceptor helped me select my topic, I had nearly no guidance as to how to implement the study design or to organize the research results. In fairness, my preceptor was not the primary faculty member with whom I most closely worked; instead, I was placed on a project with a different physician who took little interest in my professional development. The overwhelming majority of my work this summer was data entry (a LOT of it), and I have not heard back from the study's PI in more than a month about the future directions of the study.

I was disappointed I was not able to participate in the intervention study that I was supposed to be involved in, however, no one can be blamed, as the project start date got backup up by IRB problems.

Just the normal delays that occur in research and coordinating when needing to meet with others in the department and many vacations during the summer of other department faculty contributing to the work.

Bless my mentor's heart. My mentor was helpful for setting up my research and instructing me how to find data points, but the stress of being a physician and doing research on the side gave me the impression that she has other things to do during the week and would rather not take the time to think of statistical analysis or which data points are valid predictors of outcomes.

I think there were times where I was uncertain of the tasks that I was supposed to be juggling. My project actually changed significant in the middle of the summer due to some issues with our analysis timeline.

It can be difficult to work with PhD's when my life as a medical student is way less "basic-science," and our schedules are different. I didn't get as much expert hands-on experience as I do at school.

Communication between preceptor, research coordinator and interns took several weeks to pan out. Asked once to call a participant personally and wasn't comfortable doing so.

My preceptor was extremely busy and while she worked hard to always have time to discuss my questions when I had them, it was sometimes difficult to figure out my role on a certain task without much guidance at the time.

A weakness of the CaRES internship were the weekly seminars. They weren't extremely engaging, and it seemed that students didn't care about them very much since attendance wasn't mandatory. Maybe having more influential speakers or more motivating topics would make students want to take the seminars a little more seriously. I also expected to learn more about what conferences are, what it takes to write a manuscript, how grants work, and more explanation of how research is actually done.

Lack of guidance, lack of organization (within the department I worked in). Both of these caused the projects I worked on to either be cancelled or will not be finished in the next few months. Having such a strong science background, I did not learn anything new in relation to scientific method or research methods.

The original project posted on the CaRES website was given to another student in the lab, so I was told I would be helping with a graduate student's project a few weeks before I began.

There isn't much consistency between projects, and some projects vary greatly between workloads and hours performed. However, this may be due more so to the PIs and not CaRES internship in general.

I think one limitation of the internship is the short time period. My advisor mentioned that, by the time a student become accustomed to the work, the internship is over. I wish I had realized this beforehand, because I would not have taken on a full load of classes over the summer.

I would say that it was not as much work as I thought it would be. That definitely had an upside but at times I felt like I was not productive because I did not have enough to work on.

Because we experienced IRB delays, I could not collect all of the data by the completion of my internship. Therefore, we were only able to evaluate and analyze a small portion of the data.

I think I was out of the loop when it came to CARES emails, which created some problems. I wish I had gotten to do more data analysis, but the project just didn't move fast enough--it wasn't a problem with the CaRES program itself.

I just wish I could have done this during the school year! Also, I did not realize that the research conference/poster presentation would be during our fall break.

Maybe a little more hands on experience with writing.

I had never written a rigorous scientific paper before, and doing so has been a big challenge for me. My weaknesses are my scientific writing skills due to lack of experience, however, I believe that this experience has taught me so much that I will be far better prepared from the get-go on my next paper.

The only thing I think that could have been done differently to better my experience, would be to interpret the data more along the way. I think we could have refined the protocol earlier on to generate data more efficiently. It is hard with Western Blots, however, because there are so many variables and factors to balance.

What are specific recommendations to improve the program?

I wish there wasn't a self-match process. I think it should be an application-based program to keep everything fair. Payment and evaluation were fine.

The program should definitely consider utilizing more paper advertisements. I would never have known about the program had I not been specifically interested in the (study topic already).

I think it would have been helpful to know what types of activities I was going to be doing in the internship from the description of the project on the website. I felt that the project descriptions were a bit wordy and did not really reflect what the mentors would be able to do.

Making the seminars a little more engaging, mandatory, and limiting them to just one hour OR making them less frequent and mandatory. Maybe say that students have to attend a certain number of them in order to allow for students who have to be out of town.

Perhaps it would be beneficial to make the program a little more formal? I hate to think that you would lose interns who don't require this, but I was confused about the amount of work I would be doing. I took nearly a full load of classes this summer, and I wish I had focused on the internship to get a full experience over the summer. This may have been a result of my interactions with my specific preceptor or poor planning on my part more than the program itself, however. I also think it would be great if there were a component of the program that focuses on helping students prepare professional posters, presentations, and papers, perhaps as a part of the seminar series. I have already presented at conferences and prepared posters, but I don't think many students realize the complexity of such presentations until they do one. Having practice (or at least a seminar) in the topic might be beneficial.

Allow for pre planning before the project starts. Took me 10-12 days to get through all of the quizzes to be able to work on the project myself. Also, any publications that should be read or studied before starting the project.

Earlier release / publicity so that we can go ahead and be committed earlier (to plan our summers)

Many of the internships did not do what the original research plan was described on the internship page. If there was a way to fix that or make it more specific that might be more helpful.

Needs to be regulation of hours or set amount for each week. Some students worked 40 hours while others worked 15 hours but all received the same amount of money.

I may have jumped right into a project when the descriptions were first put up, thinking the later I contact a preceptor, the harder it is to get. What I did not know was there would be more projects posted as time went on.

The organization of the final presentation days could be slightly improved to prevent an excessive number of students from presenting on the same day.

I would simply recommend that the CaRES program be a bit more judicious in ensuring that cancer-related research is being performed; that is, I would recommend that only projects that have obtained IRB approval be posted on the CaRES website. My research ended up being entirely different from what I expected, and the summer was filled with a lot of uncertainty because I was not placed on the project that I had initially applied for.

Maybe create an awesome video (5 mins) that shows what the CaRES program is all about, with interview of previous participants telling the viewer how the program worked and how it prepared them for whatever they eventually did. This would be great advertising and would bolster the applicants; you could even send it out to other medical school regionally and gauge interest there. It would be nice to have a wider variety of medical students from other institutions. Maybe add a social at the beginning of the program so that people can meet each other outside of the classroom, kind of as a future networking deal.

My biggest suggestion would be to have a more defined expectation for hours, or what "full-time" means. I certainly understand that some projects would have "busy" and "slow" periods, but I know that some fellow interns were required to work 40 hours a week and were paid the same as interns that only put in around 10 hours per week. Perhaps some sort of overall hour requirement for the internship would help this, as some people were not able to work a second job to supplement income during the internship while others were able to do so.

I have never seen CaRES advertised. I had been an intern with my preceptor previously, and the student he had found to fill this position became ill; I was able to replace that student. Other than more publicity, everything else seemed great.

I think you should come speak to the medical school in the fall, possibly late October or early November, before first year students start making summer plans. I also think students should be encouraged to find mentors before the projects are posted. This would facilitate a better, more fair process of preceptor assignment rather than the preceptor taking the first student that happens to email them after their project is posted.

New features of the CaRES program are the eligibility of students from Auburn University, Samford University, and the University of South Alabama; and the flexibility to place one or more of our CaRES students at HudsonAlpha Institute for Biotechnology in Huntsville, Alabama. If you are a student from one of these universities or if your CaRES internship was done at HudsonAlpha, please comment on any special challenges, problems, issues, or difficulties you faced that would not be a problem for UAB students who do CaRES projects in Birmingham. Please suggest how CaRES could do things differently next year in order to make things go more smoothly for students like you.

I am a student at the University Of South Alabama College Of Medicine. I did not have any trouble with transitioning into my UAB research position. It was quite a smooth process. It took a couple days after my start day to get my employee information, but once I got it, i was able to get my parking pass, ID #, and blazer ID.

The process of applying was very smooth from Auburn. The only difficulty I experienced was getting my UAB ID and email but the staff at UAB was very helpful and willing to get everything set up in a timely manner.

I did not particularly face this problem, but if you did not have a Blazer ID for the computer log in, that would have been a problem where my internship was placed. I only had one even though I was from a different school because I had worked at UAB.

I did not mind watching the seminars on YouTube, and I thought the videoconference worked well for out presentation. I think CaRES did a good job with this and I have no complaints.

One issue was housing. Thankfully my parents resided about 30 mins (with no traffic) from the Bevill Building. Traffic required 1.5-2 hours in the car. On campus housing would be ideal for an intern coming from out of town.

My only issue was finding a place to live in Birmingham. But that was quickly remedied after Dr. Waterbor helped me obtain a room in Denman Hall, for which I am extremely grateful.

The only difficulties I experienced were when I was attempting to register for a Blazer ID and be added into the UAB system. The office manager in my department first attempted to register me for a Blazer ID because we were unaware the CaRES office had already completed the paperwork. Providing the non-UAB students or the mentors of non-UAB students with a packet or an email with general information on UAB and registering for a Blazer ID could help with the confusion.

I was very excited to be a part of the UAB CaRES program this year! I think it is an amazing opportunity and was grateful to be included! I think it would be nice for outside students to have a list of things they need to apply for and complete before starting the program that students from UAB might already have (Blazer ID, badge, etc.).

I worked at HudsonAlpha this year. I think participating in professional development with the HudsonAlpha interns was helpful. However, I think I missed out on a lot of emails that got sent to the other CaRES interns. Even after I let the CaRES faculty know that I wasn't getting emails, I was still out of the loop about project presentations...and about this survey!

Please read and reflect on the goals that you and your preceptor set in the CaRES Mentoring Contract that you completed. In general, were most or all of your goals met? If not, please state why not (e.g., internship too short, supplies did not arrive on time, patients were difficult to recruit). We do not wish to blame anyone for unmet goals; we seek to understand how realistic goals should be set and how they can be met.

	Frequency
Goals Met	24 (59%)
Not Met	6 (15%)
Met, but not completed	9 (22%)
N/A	2 (5%)
	41

If Not Met, why not?

The goals written by my preceptor were very vague, and thus not amenable to being measured. Data entry, literature review and presentation, and providing a basic summary of my findings were the goals that were written, and these were completed. Overall, I am grateful that I was able to perform clinically relevant research this summer. However, it did not go as smoothly as I had hoped, and I am still unsure as to whether it will result in any meaningful products or publications.

Most of them were met, but long term goals are still being worked on because 1 summer is not long enough for most people to complete a research project.

My goals changed from the original contract because the path of my mentor's project changed. However, the basics remained the same. The work was bench research, so a few problems with materials and cell samples hindered my ability to get results right away, so we were not able to complete the project and the final goal of writing a manuscript was not met.

The preceptor was very available and there were lab meetings to present our results. However, because I was doing part of a graduate student's project, I mainly followed what he said. There were less meetings with the preceptor than I would have liked, and there was less planning and designing experiments based on the results I have obtained, because of my role in helping the graduate student.

Our goals were unfortunately not completely met due to delays with the IRB and IMPACT training.

Most of the goals were met. Few of the goals are still ongoing, albeit slowly because of time constraints.

I met my first goal of understanding quality control and normalization processes. I was not able to meet the other two goals due to time constraints. The initial steps of the project took longer than expected, so I was not able to get as much done in 8 weeks as we had hoped.

What are your career plans: practice medicine, practice public health, do research, do cancer research in particular? (n= 41, many students included more than one response)

	Frequency
Medicine	27 (66%)
Cancer Research	13 (32%)
General research	14 (34%)
Public Health	8 (20%)
Teaching	1 (2%)
Veterinary medicine	2 (5%)
Pharmacy	1 (2%)

THE END