



CFAR EVALUATION REPORT SUMMER 2024

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UCSF-Bay Area Center for AIDS Research (CFAR) 2024 EVALUATION REPORT

INTRODUCTION

Housed in the UCSF-Bay Area Center for AIDS Research (CFAR), the Accelerating Research Careers in Science through Early Mentored Research Experiences (referred to as the CFAR Scholars Program) is a program under the umbrella of the National Institute of Allergy and Infectious Diseases (NIAID) Center for AIDS Research Diversity, Equity and Inclusion Pipeline Initiative (CDEIPI). As one of 16 nationwide programs, the CFAR Scholars Program is designed to provide undergraduate and master's level Black, Indigenous, Persons of Color (BIPOC) or other under-represented minorities (URM) in science and medicine with exposure to HIV related research in the biological and/or clinical sciences. CFAR Scholars are paid for 20 hours/week for 12 weeks while being immersed in the following program components:

1. **Mentorship** by a key and emerging HIV researchers
2. **Access to town halls and workshops** on emerging science and community events
3. **Engagement** with other scholars and the broader UCSF community
4. **Shadowing** of researchers and physicians at different sites across San Francisco
5. **Development** and completion of an applied HIV research project
6. **Academic support and guidance** towards pursuing graduate or medical school

UCSF CFAR is committed to building a diverse workforce in science and medicine through the harnessing of new perspectives to solve outstanding health challenges. It is CFAR's belief that BIPOC and URM have insights into important research questions and represent a valuable population of future researchers that remains largely untapped. By combining key best practices through mentorship and immersion into applied research experiences, the CFAR Scholars programs positions itself as a crucial resource to assist in filling the representation gap in the HIV related research workforce.

EVALUATION OVERVIEW

Now in its third cycle of programming, the 2024 CFAR cohort included six scholars who were paired with six HIV research mentors. In fall of 2024, CFAR leadership distributed a post-program survey to assess short-term impact of the program. The post summer assessment was followed by this qualitative evaluation which had a smaller sampling compared to the last two cycles given its focus on first time CFAR mentors. Similar to previous years, this evaluation utilized semi-structured interviews of CFAR mentors, and a scholar focus group to accomplishing the following aims:

1. To assess the experience and short-term impact of the program on CFAR scholars, with a specialized focus on recommendations to improve program structure and experience for future scholars.

2. To assess mentor experiences and strategies used during programming.
3. To identify gaps in training, priority needs, and ways in which the program can better equip and support its mentors.

Transcripts of the scholar focus group and mentor interviews were reviewed to develop a summary of key findings and recommendations included in this report. This report builds upon key findings and recommendations developed from the 2022 and 2023 program evaluation.

Stakeholder group	Sample Size	Assessment format
CFAR Scholars	4	Focus group (4)
CFAR Mentors	3	Semi-structured interviews

OVERVIEW OF KEY FINDINGS

The evaluation was divided into two key stakeholder groups: CFAR scholars (trainees) and CFAR mentors. Focus group and interview transcripts were reviewed with a focus on extracting information most relevant to stakeholder experiences, process outcomes, and short-term impact. These data were assessed and used to develop actionable feedback for implementation in future iterations of the program.

To facilitate ease of incorporation, program recommendations have been organized under four major categories:

1. Outreach/Recruitment, Application Process, Orientation
2. Program Structure/Offerings
3. Research/Training Experience
4. Mentorship Experience

These recommendations have been developed as strategies to either prevent or ameliorate identified barriers to program efficiency and contribute to an enhanced mentoring experience for both CFAR mentors and scholars. It should be noted that while empirically based, these recommendations do not constitute an exhaustive list of potential strategies, due largely to the nuanced nature of research experiences, mentor/mentee relationships and their tendency to depend on the multi-connected nature of the individual, interpersonal and institutional relationships of any given cohort. Like last year, this 2024 evaluation yielded some themes that were similar to those uncovered during the 2022 and 2023 evaluation. While acknowledging some of those factors and experiences, this year's report attempted to focus more on novel findings to expand the comprehensiveness of program recommendations. The following sections will provide a summary of findings and recommendations for each group. It's worth noting that while some recommendations may be listed under a single category, their impact of their implementation has the potential to span multiple categories and impact both stakeholder groups.

CFAR SCHOLARS

Outreach/Recruitment, Application Process, Orientation Recommendations

The following recommendations focus on opportunities to highlight and reinforce program expectations and available resources. Each year, program participants discuss the impact of scholars juggling multiple responsibilities on their ability to focus solely on their project. When prompted, scholars have been able to recall certain resources being offered at some point during the program but confessed to not always using them regularly or implemented them during check-ins with their mentors. Given the likelihood of future scholars being in similar positions, it might prove a worthwhile focus to alter the way that some of the resources are shared and incorporated into the program. Additionally, the general structure of the program not being full time has also led to scholars feeling that the program is more “flexible” which some believe has contributed to there being less cohesion or opportunities for community building during the summer, compared to other programs they have seen. If not already embedded into the interview and acceptance process, CFAR can consider creating talking points to share with applicants to better help them understand the nature of the program structure and offerings.

- 1. Highlight and emphasize program restrictions/requirements during the interview and acceptance process.** For many students, the excitement of being selected for an interview represents an ideal time to communicate program expectations. While the recommendation is to emphasize the program requirements, it would be worthwhile for CFAR leadership to determine whether they want to make not working other jobs or attending summer school an explicit condition of acceptance into the program. While this is the case for a number of other programs, those programs are typically set up as traditional job hours with daily activities or required attendance set to a standard schedule of 9a-5p. If not already included in the interview questions, this may be a question to add to ensure that the CFAR team is aware of any potential conflicts when they are making final selections of their cohort.
- 2. Use the orientation to share examples of key documents and encourage their use throughout summer programming.** Scholars expressed the importance of having an orientation to help introduce and ground them in the program. Scholars were able to identify some of the resources provided but admitted that they were not used regularly throughout their project. While not being able to remember the name, scholars recalled receiving their “1st document” that allowed them to capture what they wanted to get out of the program and to set program goals. Retrospectively looking back at their experience, they believed this to be a really important activity that they wished would have played a more prominent role for them and their mentor during meetings. One scholar said: “I really think this was important to just not write it the first time with your mentor but to keep going through the document again, maybe in the midterm or every few weeks to say hey, did we meet any of our goals we wanted to accomplish? If I were a mentor and had a mentee, this is

something that I would want to happen”. This resonates with a key theme that arose last year as well. To address this a special review of a completed form can be included in the orientation and ask the mentor and mentee to work on it together and submit it to CFAR leadership early in the program.

Program Structure/Offerings Recommendations

This section will highlight recommendations related to scholar preferences on program structure and addressing participation and project related productivity. In its second year of programming, CFAR modified its structure from a 16-week to a 12-week 50%-time program. The total time allotment for students was 20 hours per week inclusive of their dedicated research/project time and additional curricular seminars and workshops. The reason for the change was to address the reports received in year one from scholars and mentors feeling that the weekly time allotted was insufficient to meet the weekly demands of their projects. CFAR also noted that several students also had to work during program and hoped that the increase to 50% might alleviate some of that need. During this evaluation scholars were asked specifically about this modification and their thoughts about the weekly allotment of 20 hours per week in reference to their responsibilities. The responses varied but a recurring theme for students conducting lab benchwork felt more constrained due to the time-sensitive nature of their work. They often felt that 20 hours was not enough time. This was especially relevant to the students who were working in addition to the program. For many of these students, they have held their current job between 1 and 3 years and due to financial need were not in a position to stop working. At least one explicitly noted that her job was very flexible and had established a relationship where she could modify and for the most part adjust her schedule to meet her CFAR responsibilities. They also mentioned the challenge of last-minute schedule changes for seminars or sessions. It also inquired about student’s preferences for overall program structure which students overwhelmingly stated their preference for a hybrid model with caveats around seminars and workshops that would allow for virtual attendance in cases where someone was physically unable to attend in person.

- 1. Provide a set calendar at the start of the program.** One key theme mentioned by each of the scholars was their desire to have a set calendar that would better allow them to coordinate their summer schedule. Overall, the students appreciated having access to seminars and workshops that provided opportunities for networking and learning about people’s journeys and stories into their career. Many students expressed that hearing these stories encouraged them to see that there is “no single path” to the career of their choice. They also shared that seminars were not mandatory and that there were times when they did not find out about it until after already having a conflict with their schedule. The following is a quote from one of the scholars expressing a similar sentiment:

I feel like personally for me, since I was also like working a part time job. It was a little bit hard, just because the scheduling felt inconsistent like we would get emails and be

like, oh, instead of this time, we're actually meeting here like the schedule just wasn't set. So it was really hard to communicate that to my other job, and I'm glad that my other job was very flexible and allowed me to participate in everything. but there was definitely times where I was like, oh, no, I can't cover my shift in time, but I did like the format of how like we were either in a talk, or we were either doing like ID clinic or something. I thought the format was really cool, but if there was a sweet spot, I would just say, like more consistent scheduling, or just having a set schedule.

By having a set schedule at the start of the summer, students can better make alternate arrangements in the event they have jobs that they need to maintain for financial reasons beyond the time of the CFAR program.

2. Maintain hybrid programming that allows for virtual attendance at seminars when needed. Students unanimously expressed their preference for a hybrid program. Some of the most praised components of their experience were the in person opportunities to network, attend site visits and the ID Clinic. They reported liking the overall format, quality and representation of speakers and being able to hear their unique stories which they described as “encouraging”, “uplifting” and “eye-opening” among other things. In addition to desiring a set calendar to increase their chances of making as many sessions as possible, they also expressed a desire to have virtual options for attendance at seminars in instances where people were unable to make it physically. Some specific examples were students reporting being sick and unable to attend in person and having to miss out because there was no virtual option. This is quote from another scholar supporting this idea: *“I remember there were some times that some people would get sick and would just have to like, miss the whole thing. But if it was hybrid that could also accommodate some people, let's say they're not feeling too well. they can just stay home, jump onto zoom and still be benefit from it. So yeah, I think hybrid would be great.”* Another student also expressed their support for these ideas giving the example of having to deal with MUNI breaking down and how having Zoom attendance as an option would have helped them to still be able to “participate” in the talk.

3. Consider increasing weekly time allotment for students working on bench lab projects. For the third year in a row, the challenges of time constraints faced by scholars working on lab projects was highlighted by both scholars and mentors. By the nature of lab work, there are more built-in time constraints as students must be available to attend to experiments and running assays at specific times. Students shared that their schedule was largely dictated by whatever experiment they were running that day/week, and the time intensive nature of lab work made it challenging to get everything done in the allotted 20 hours. One student described their overall experience juggling lab work:

I think, for me it was a little bit difficult with the number of hours that we were given per week. Being a part of a lab. because, you know the experiments, a lot of the time take a lot of hours. So it then started being a little bit difficult juggling the lectures and the lab time where you're getting enough work done in the lab. It seemed short, like 20 hours per week, seemed very, very short. So a lot of the time I just ended up kind of

ignoring the 20 hours and going over you know, to make sure that I could get everything done for the end of summer. So yeah, I think that was that was really tough.

Giving the funding restraints, it may not be feasible for all students, but it might be worth a conversation to determine if for specific projects an additional allotment of hours per week might help resolve some of the challenges around time constraints commonly reported by students and scholars. This would require having conversations with mentors early on about the scope of their project which could also be helped by an earlier recommendation of requiring the submission of summer/project work plans to CFAR leadership a few weeks into the program.

4. Establish a primary mode of communicating time sensitive announcements.

This recommendation is related to the summer schedule and calendar. Students stated that depending on what was being communicated they sometimes had different modes of communication including email, text, slack etc. With multiple modes of communication for various information, students said they would at times not receive important updates in a timely manner. One student stated that some specific information on workshops was disseminated specifically through their UCSF email account but stated that they were unable to access their UCSF email from their phone. It could be worthwhile update to the orientation to discuss and establish with each cohort a primary mode of communication for specific types of information such as use of text messages for time sensitive updates on workshops or site visits.

5. Include more time for cohort connections and community building into programming.

Scholars regularly expressed their appreciation for in person activities and meetings including opportunities to connect with members of the SHARP cohort. When asked about what recommendations they had for CFAR to improve the program for the next cohort, scholars stated they wished they had more built in time to connect with their cohort as a group and build community together as a part of the programming. They appreciated the time they got to see each other but stated that “it only happened a few times”.

6. Provide a block period of the day for guest speakers and seminars.

While students greatly enjoyed the speaker sessions, they wished that they would occur in blocks over a period of a few hours or at certain times in the day that they could create a schedule around. Similar to the last two years, certain students shared that commuting for 2-3 hours for a 1-hour session proved to be challenging. They expressed their desire to have more than one speaker if they are having to commute for an extended period of time particularly as there was no virtual option. In one student's words:

Honestly, I don't really have a lot of suggestions, because I was mostly doing like coding and programming work, so I think my time was perfect because I was working with like a set data set. I mean, every project's different so I feel like every experience is different but one thing that I do agree with, from what everybody said is about the fixed seminar schedules. I think that would have also really helped me, because I'm like an

hour away on BART. So like I was going to the seminars and sometimes the times weren't fixed. So then I would like have to keep checking my emails and making sure I was going there at the right time, and things like that. So I was traveling so much even for like sometimes an hour seminar, I would be spending 3 hours. So I just wanted to make sure the seminars were at a set time. and things like that would have been really helpful.

Another student mentioned facing restrictions due to the timing of the lab experiments which were often run overnight and required checking first thing in the morning.

I was just trying to develop an assay, which was a machine that we had to normally turn on in the morning. So it was working in the morning. And one of the suggestions for me would be for this program would be that maybe for the next year, maybe they can change the times of the seminar to the afternoons or something like that. This way, guys who actually work in the lab we have to be there in the morning. So I remember that I was missing some of the seminars because I had to be working with the machine. So yeah, that that's 1 of my suggestions. But in total, I think everything is good.

- 7. Maintain site visits and increase shadowing opportunities at local clinics where possible.** As in previous years, students overwhelmingly shared their appreciation for in person opportunities that immersed them in the day-to-day activities of institutions like local clinics and health departments. Each of the students identified their trip to the ID Clinic as an especially impactful experience with one student saying that it changed their professional aspirations:

The experience going to ID clinic was really awesome to me. I really loved that aspect, and it really changed my direction of what I want to do. I kind of realized how I really loved like doing research and like doing like the SOGI aspect of research. But I also really loved like working with patients. And I really want to become a nurse practitioner specifically in HIV or like in like emerging diseases. And it really showed me that I didn't have to follow like this very specific subset direction. I'd say, like there's so many ways to do it, and there's so many options out there that growing up I didn't know about, or it wasn't spoken about.

Another student who was able to attend a shadowing experience with SHARP also commented about their experience:

Oh, there is like one time where I got to like shadow SHARP, because the schedule got kind of messed up and everyone wasn't able to [go], so Lorren Dangerfield offered us, to go with her, and we went to like this Latino clinic, and it was like such an amazing experience. They talked about the mission neighborhood project. And we got to talk about what they do. And they like really showed true cultural competency and talks, and I feel like that was a very pivotal moment for me, because they talked about how there was a man who like wasn't able to come outside so they like helped him with the priest, and also a curandera which is like a like a Latino healer. And I thought, like

administering that and also talking about it was just so awesome. And I wish that we had more of that.

Research/Training Experience Recommendations

- 1. Provide guidance for mentors working with scholars conducting benchwork to help them set feasible goals given time constraints of programming.** This is an area that has stood out each year by both mentors and scholars. Ultimately, the mentors and scholars feel they have been able to figure out how to make concessions given the time but have expressed the time allotment of 20 hours in total to be a bit challenging. One student mentioned they basically just went over the weekly allotment of 20 hours (which they felt was inadequate to complete all that was needed for their project since it also included time allotted for attendance at curricular workshops and seminars: “So a lot of the time I just ended up kind of ignoring the 20 hours and going over just, you know, to make sure that I Could get everything done for the end of summer. So yeah, I think that was that was really tough.” Providing mentors with sample projects from past years and or making explicit connections with previous mentors who have successfully worked with CFAR scholars doing benchwork could prove beneficial from a planning and execution perspective.
- 2. Encourage mentors to include site visits or field work when relevant to their data sets or research project.** This recommendation aligns with the expressed impact of site visits on student experience. Additionally, students talked expressly about having come into the CFAR program having experience working directly with data already or working with data that had already been collected and the importance of them being able to see the population from which the data was collected. One student was very clear on the impact and perspective shift of data not just being “random information” but “each data point representing a person and their story”.
- 3. Encourage/promote including mentees into other team/lab meetings where relevant.** For many students, the ability to attend and participate in team/lab meetings served as a foundational source of establishing trust and respect for them as a “colleague rather than just a student”. Scholars expressed that being able to interact with others who are working on various aspects of the research gave them a greater appreciation of their role with their research project. It helped them to elevate themselves from viewing themselves as an outsider to a member of the team.

Mentorship Experience Recommendations

- 1. Encourage mentors to discuss and set expectations at the onset of their mentoring relationship.** This year’s cohort perhaps more than any previous year expressed similar descriptions when describing what qualities/characteristics of their mentors stood out the most. Students also identified these qualities as key facilitators that

contributed to having a successful mentorship. One standout theme was the importance of establishing expectations and communication preferences at the start of their relationship. Many of the scholars expressed being a bit apprehensive about not knowing how things would be with their mentor and how they would be viewed. For each of them, they found that initial meetings turned out to be “really friendly” and helped to ease their anxiousness. Several scholars identified how “supported” they felt and used the term “friend” or “friendship” when describing their mentors. These themes stood out and were related to another theme of scholars feeling more “comfortable” and at ease with their mentors which in turn allowed them to open up more. Scholars expressed their appreciation for mentors who offered not only invaluable career advice and support with graduate school applications, but also provided “life advice” and turned out to be someone they could discuss personal life issues with. All the scholars discussed having had initial conversations with their mentors to discuss expectations they had about their projects along with identifying preferred methods of communication and check-ins which they found very meaningful. Below are a few quotes illustrating some of these themes:

- *I think for me. Right at the beginning we sat down and had this conversation about like expectations which was really nice because he was like, Oh, I don't really have expectations. But you know, we just we're gonna do the best that we can over the space of time that we have together and that made my guard go down in a way where I'm like, okay, all I have to do is show up and do my best, and that's more than enough. So I think that really solidified our entire summer and made him very approachable at any time. If I was struggling to do something, or I kind of messed up, and I did mess up here and there. So it was nice, having that kind of support*
- *I think my mentor was super friendly, and it was like I was seeing her more like a friend. And this was actually, so I was comfortable with her, and I was able to even you know, tell her some, maybe personal stories you know. And also, I was super confident with her, so I was able to ask any questions that I had in Lab and in total, I can't believe that this friendship between us actually made it really happen better.*
- *I think I already mentioned this. But yeah, I think the easy communication style like, I could text her, I could email her. And I think what everybody else said, I think it was not only like a mentorship, but like a friendship kind of I mean. That's kind of like hard to deal with, people who are like, you know, senior in the industry or anything you go to. It's always like you know, hard, I mean, boundaries are important, but I think it was really interesting to have, see that kind of friendship flourish. I think it was really nice too, and to know that I can communicate with her like going forward and just talk about life, even if it's not like, we can just catch-up kind of like friends. I think that's really an important aspect. Because then you're not afraid to be like, Okay, hey? Like, this is what's going on, and it doesn't have to be like, oh, I accomplished something I can just tell her this is what's going on, even if it's something hard.*

CFAR MENTORS

Overall, CFAR mentors had a largely positive experience during the CFAR program. All were motivated at least in part by their passion to see increased diversity and representation in the scientific workforce as well as their positive view of CFAR as a program that supports this goal within UCSF. Many expressed the important role that mentorship played in their own careers and wanting to continue that tradition of giving back to those who are not regularly included in research in academia. For each mentor, this was their first time participating in the CFAR program. Mentors were asked the following questions to help gauge their level of understanding on their role and how prepared they felt to take on this role: “On a scale of 1-10, (1= not at all clear, 10= Extremely Clear) How clear were you about your role and expectations as a mentor for the CFAR program at the start of the program?”, the responses ranged from 6 to 10 (compared to 8-10 from 2023 (the 2023 cohort consisted largely of returning mentors). “On a scale of 1-10 (1 being not at all prepared and 10= extremely prepared) How well would you say CFAR prepared you for your role as a mentor?” Responses for this inquiry ranged from 7 to 10 (compared to 8 to 10 in 2023). Each of the mentors found orientation really helpful with at least one commenting on the level of details provided in slides. Similar to the last two years, there was a lack of recall when asked about specific resources or items being shared with mentors. They also appreciated having other opportunities to check in including with other mentors, though there were disparate responses on the frequency of these meetings. Another highlight was the accessibility and support from the CFAR leadership team. Mentors specifically stated how helpful it was to have John, Carina and Joe available to meet with them as needed.

Outreach/Recruitment, Application Process, Orientation Recommendations

1. **Invite past mentors to speak at orientation.** The welcome orientation continues to be identified as a helpful resource for new and return mentors alike. When discussing what they found most helpful, many identified being able to connect with other mentors and learning about their experiences with scholars and managing their projects. Being able to hear directly from mentors who have served more than once at the onset of the program would be a welcome addition to help orient new mentors to the program and troubleshoot navigating specific problems that have arisen in the past with scholars.
2. **Provide mentors with the full summer calendar at the start of the program.** Mentors stated their desire to have a better understanding of their mentees full schedule earlier in the program to help them with planning. Mentors found it helpful to know what topics and information scholars were being taught as a part of their program. One stated that “it helped them to know that they didn’t have to focus on trying to cover everything as a mentor”. They found it useful to be able to compliment or fill in gaps based on their knowledge of the full summer curriculum and incorporate ways to supplement and follow up on topics that have been covered in workshops. Additionally, having a clear picture helped mentors with scheduling time in the lab as well as potential fieldwork and site visits.

3. **Set up a Box folder or welcome email containing a mentor packet of all information provided during orientation.** Mentors at times struggled to recall exactly what resources were providing during orientation. One stated explicitly that they did not receive a mentoring packet despite identifying the orientation as extremely “helpful and informative”. Having a Box folder or Welcome email with all resources included can serve as a tool for mentors when they find themselves trying to recall specific information or resources. This also can prove a helpful resource to share with others given that some mentors mentioned having another individual partnering with them to help mentor their CFAR scholar.

Program Structure/Offerings Recommendations

1. **If modifying the overall summer timeline is not feasible, consider making special provision for specific categories of projects.** Once again, the number one challenge identified by mentors was that of time. While mentors appreciated the comprehensive nature of the CFAR program and its offerings of seminars and workshops, they also noted that the allotment of 20 hours per week in total simply was inadequate. This was especially true for those leading wet lab and other types of bench work. One mentor shared in detail how they approached their summer planning to drive home the point of time constraints:

I wish we had more [time]. I would be realistic because looking at the total, I think it was less than 20 hours per week. And I'm like, okay, you cannot really do that, because, like you have like long experiments that would require that you spend sometimes 8 hours in a day, like on your feet doing stuff. Yeah But then, when I had to look at the schedule and everything. So how we navigated that was we sat down once a week to look at our work plan for the week and plan in advance like an experiment that is 2 weeks long. We have like a worksheet, and then I'll take a look at Google calendar, and try to fit the time that she will be here... so yeah, it could be a bit messy but we figured out a way to make things work. So if it's something like I could start an experiment earlier, I could start that, and then I will have her join me at the critical time if it is a new technique that she needs to learn, then I'll prepare everything. And then once she comes in, we continue with what we have to do. So yeah, that's the only way that it could work, but otherwise like to have like a fully independent experiment just for her to handle, that would be a very big ask yeah, with the time constraint.

When asked specifically the ideal weekly time allotment that scholars would need to conduct the anticipated work, this mentor said a minimum of a half day or 20-24 hours a week dedicated solely to research. As mentioned in a previous recommendation from the scholar section, it might be worth considering increasing the weekly time allotment for specific projects given the availability of funding and number of scholars.

Research/Training Experience Recommendations

1. **Provide mentors with examples of previous projects and sample final presentations.** This seems particularly relevant for first time mentors who didn't really have a full picture of what might be a feasible project for the summer. Two out of the 3 mentors were able to finish their projects (the third mentor's scholar had to leave the

program midway due to being in an accident) but stated that they had to modify things along the way. It's been a common theme over the last three years for mentors to adjust their initial scope of work given the reality of time constraints once the project got started. One even expressed his excitement and surprise about what they and their mentee was able to accomplish over the summer:

Yeah, looking at where we started and where we ended. So from the start, we had this plan these aims. And I was a bit doubtful if we could actually do that because, unlike my peers that have to do mostly social sciences work, it is a bit different when you are working in a cell culture-based lab. I work with tissue samples so it's different. At first I was like, Oh, maybe the time it's not ideal, because you plan experiments like 2 weeks out. And then you have to follow through, and something could fail along the line. And then you have to repeat. So, taking that into a consideration, and then looking at the final products, like the presentation, I was like, Oh, wow! We actually did that, yeah. And with the time constraints. But I had my doubts from the beginning. If we could do that.

Mentorship Experience

- 1. Create a summary of identified challenges and share with current mentors.** In a classic case of “you don’t know what you don’t know”, mentors expressed their desire to have additional insight from previous mentors about their experience in the program and any challenges they faced with scholars along with how they addressed/resolved them. Mentors were particularly interested in receiving advice about how to best support scholars as they prepare for their final presentations an area that they observed to be a source of great anxiety for scholars. One mentor shared:

We need to make sure that they're being successful, but also that we're feeling supported and successful. But ultimately, it's their experience that's the most important at least in my opinion. So I'd be curious, I can't remember like to remember back to what they presented initially, but it would be good to incorporate some of that feedback into some of the initial mentoring materials. Just so people are aware like what the most challenging parts are for the mentees, and what like extra support worked for the mentees.

- 2. Implement a midterm check-in for scholars and share results with mentors.** Mentors expressed an interest in hearing directly from students about how things were progressing. They stated that while in their opinion, things could have been going well but what truly mattered was what kind of experience the scholar was having and how they might better meet their needs. A similar sentiment was expressed in previous years with mentors wanting to hear directly from scholars about how they perceived their mentoring experience to be going.
- 3. Encourage mentors to establish the best means of communications for the summer.** This recommendation was also highlighted in the scholar section. Mentors also

identified the importance of having open communication with their mentees and the challenges that can arise when they are unable to connect with them. One mentor shared the following example about not being able to reach their mentor and what they implemented into their mentorship as a result.

Yeah, you know, this is more like she [had a health challenge] and then also lost a very close friend. And all those kind of things like sets you back. And that was like the 1st thing that I had to deal with during the 1st week or the second week, where I couldn't get in touch with her. I panicked. Yeah, we finished an experiment that day, and then she was leaving around 7 pm/8 pm. And then the following day I couldn't get hold of her and I was like I panicked. I got in touch with the CFAR because I know that they take these classes with CFAR just to see if she attended any of those at least. But it was just later on she said that she dropped her phone somewhere [so that's why] she wasn't answering text messages or taking text messages or stuff like that. So I was like, oh please, next time, just send me an email to my [personal email]. if it's a different email, I might not see it. And it worked out fine.

This aligns with comments shared by scholars about having emails that they may not be able to access directly or check less frequently. Related to communication was the mentor's belief in the need to be able to see beyond just academics and to be able to check in with scholars about personal life goals in addition to career goals. This year more than the previous two, the themes of seeing and supporting the “whole person” rather than just a specific area was highlighted. The ability to feel comfortable enough to connect with each other on a personal level was something that stood out for both scholars and mentors.

4. Provide additional opportunities for mentors to connect socially. Just like the scholars, mentors also expressed a desire to build connections with other mentors. Some couldn't recall if there was a midpoint mentor session but identified having the orientation as helpful but wishing there was a time for in person connections rather than just zoom. One mentor shared: “I'm thinking of an in person meeting where we could all get to know each other better. [Get to know] other people's strengths, their experience with mentoring that kind of thing, I think would be helpful”

Desired trainings for future participation

There was one mentor who specifically identified Mentoring the Mentor as being “really really helpful and informative”. Like previous mentors who have had the opportunity to attend the training, they mentioned wishing that they had the chance to participate before their participation in the CFAR program. They also mentioned wishing there was a way to have some built in accountability after this training. They felt like they had “all this new information” but weren't really sure how to implement it. One idea might be to have quarterly check in meetings for CFAR scholars after they participate in the training and offer opportunities for them to check in with each other. This group could also potentially serve as a pool for recruitment for annual

CFAR programming. Mentors also identified the following topics for additional trainings they would be interested in:

- How to sustain good mentor/mentee relationship.
- Helping students deal with/overcome Imposter Syndrome
- Emotional Sensitivity when dealing with student mentees
- Being pro-active and maintaining communication with mentees

CONCLUSION

This report focused largely on hearing from scholars and first-time mentors of the CFAR program and analyzing themes to develop recommendations to improve future cycles. It is recommended that this year's report be viewed in addition to the previous two evaluations to provide an even more comprehensive picture of changes to consider incorporating. Both scholars and mentors continue to identify CFAR as a program that has an immensely positive impact on their lives and trajectory into a career in the area of STEM research, HIV/AIDS and Public Health. This year especially, students reflected on the invaluable support received as they applied to graduate programs. The following illustrative quotes demonstrate the impact the program and their mentors had on scholars in relation to their belief in themselves and their educational/career pursuits:

- *I was also applying for PhDs this past cycle so I really didn't have as much belief in myself that I could enter a school like a UC to be honest. It was like a very daunting thought or task. But I think as I was going through this summer, I was also having meetings with several people within the lab who already have their PhDs and that in itself gave me hope because everyone was talking about their different journeys, and how they got to where they are now, and a lot of it wasn't super linear. A lot of it was, you know, all right my grades are okay but it's about the research experiences. So it kind of gave me hope that, hey? Just shoot your shot, and you'll end up exactly where you're meant to be kind of thing. So from the beginning, I wasn't too sure about PhD applications, but by the end I knew that I was gonna apply to several places which is cool.*
- *I feel like this internship really solidified that it's possible for me to achieve a career in HIV research, just because I've already been to a conference to present my poster like it really made me feel like, just growing up there wasn't scientists that looked like me, or there wasn't researchers that wasn't something talked about growing up so like to achieve that goal and to be able to be pushed forward in it. It really means a lot. And I appreciate, like my mentor, and also, John Saucedo, and Lauren, for even giving this opportunity.*
- *Similar to what everybody else said. I think it solidified my interest in going into like my desired career path. Like, I want to work in epidemiology and biostats, especially*

in disease investigation and disease tracking. So I'm already applying to MPH programs, and I think it really made me kind of get over my imposter syndrome of oh, I can't do this like, I'm not fit for this you know, all of those things. So yeah, I think that's something that I think was really helpful, and especially having, like a mentor keep reaffirming these things to me, because you know you can't just get over and process syndrome once, you have to keep reaffirming these things. So I was in a BS in public health already, and I had, like other internships throughout my career in the last 2 years. And I think, like this specific internship especially doing a mentored research project, with just like kind of the final nail, like where I can build this house and now, I am like, fully ready to actually like turn in my applications without fear. Obviously, there's always going to be a fear of rejection of these programs and applying. But I feel like after doing this research project I'm not afraid. Even if they reject me, I know that I can at least do something else that I think is gonna be helpful.



CFAR Evaluation Report Summer 2023

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UCSF-Bay Area Center for AIDS Research (CFAR) 2023 EVALUATION REPORT

INTRODUCTION

Housed in the UCSF-Bay Area Center for AIDS Research (CFAR), the Accelerating Research Careers in Science through Early Mentored Research Experiences (referred to as the CFAR Scholars Program) is a two-year-old program under the umbrella of the National Institute of Allergy and Infectious Diseases (NIAID) Center for AIDS Research Diversity, Equity and Inclusion Pipeline Initiative (CDEIPI). As one of 16 nationwide programs, the CFAR Scholars Program is designed to provide undergraduate and master's level Black, Indigenous, Persons of Color (BIPOC) or other under-represented minorities (URM) in science and medicine with exposure to HIV related research in the biological and/or clinical sciences. CFAR Scholars are paid for 15 hours/week for 16 weeks while being immersed in the following program components:

1. **Mentorship** by a key and emerging HIV researchers
2. **Access to town halls and workshops** on emerging science and community events
3. **Engagement** with other scholars and the broader UCSF community
4. **Shadowing** of researchers and physicians at different sites across San Francisco
5. **Development** and completion of an applied HIV research project
6. **Academic support and guidance** towards pursuing graduate or medical school

UCSF CFAR is committed to building a diverse workforce in science and medicine through the harnessing of new perspectives to solve outstanding health challenges. It is CFAR's belief that BIPOC and URM have insights into important research questions and represent a valuable population of future researchers that remains largely untapped. By combining key best practices through mentorship and immersion into applied research experiences, the CFAR Scholars programs positions itself as a crucial resource to assist in filling the representation gap in the HIV related research workforce.

EVALUATION OVERVIEW

In its second year of programming, CFAR hosted six scholars who were paired with six HIV research mentors. In fall of 2023, CFAR leadership distributed a post-program survey to assess short-term impact. The post summer assessment was followed by a Winter 2024 evaluation aimed at accomplishing the following aims:

1. To assess the experience and short-term impact of the program on CFAR scholars, with a specialized focus on recommendations on how to improve programming for future scholars.
2. To assess mentor experiences and strategies used during programming.

3. To identify gaps in training, priority needs, and ways in which the program can better equip and support its mentors.

The winter evaluation took advantage of data provided during the summer assessment to develop a focus group and semi-structured interview guide. Transcripts of the scholar focus group and mentor interviews were reviewed to develop a summary of key findings and recommendations included in this report. This report builds upon key findings and recommendations developed from the 2022 program evaluation.

Stakeholder group	Sample Size	Assessment format
CFAR Scholars	6	Focus group (2), written responses to focus group guide (4)
CFAR Mentors	6	Semi-structured interviews

OVERVIEW OF KEY FINDINGS

The Winter 2024 evaluation was divided into two key stakeholder groups: CFAR scholars (trainees) and CFAR mentors. Focus group and interview transcripts were reviewed with a focus on extracting information most relevant to stakeholder experiences, process outcomes, and short-term impact. These data were assessed and used to develop actionable feedback for implementation in future iterations of the program.

To facilitate ease of incorporation, program recommendations have been organized under four major categories:

1. Outreach/Recruitment, Application Process, Orientation
2. Program Structure/Offerings
3. Research/Training Experience
4. Mentorship Experience

These recommendations have been developed as strategies to either prevent or ameliorate identified barriers to program efficiency and contribute to an enhanced mentorship experience for both CFAR mentors and scholars. It should be noted that while empirically based, these recommendations do not constitute an exhaustive list of potential strategies, due largely to the nuanced nature of research experiences, mentor/mentee relationships and their tendency to depend on the multi-connected nature of the individual, interpersonal and institutional relationships of any given cohort. Additionally, this year's evaluation yielded some themes that were similar to those uncovered during the 2023 evaluation. While acknowledging some of those factors and experiences, this year's report attempted to focus more on novel findings to expand the comprehensiveness of program recommendations. The following sections will provide a summary of findings and recommendations for each group. This year's evaluation also expanded

the first category to include the application process as an additional subset. It's worth noting that while some recommendations may be listed under a single category, their impact of their implementation has the potential to span multiple categories and impact both stakeholder groups.

CFAR SCHOLARS

Outreach/Recruitment, Application Process, Orientation Recommendations

The following recommendations focus on the potential to expand program awareness to its intended audience, improve cohort selection/readiness, and to create a more intentional mentor selection/matching process.

- 1. Expand outreach across campus departments and listservs.** While participants appreciated CFAR's mission to increase exposure and access to HIV related research and careers to historically underrepresented groups, they believed that there was a need to diversify the application pool from which the cohort is selected. Scholars shared personal anecdotes of telling their friends about the CFAR program only for many of them to reply that they "had never heard of it". Many expressed the sentiment that while it seemed outreach was widely shared with Biology students, that the same did not occur for other majors across campus such as liberal arts or public health. Scholars believe that this program and the topic of HIV/AIDS can benefit from having students from a wide range of majors, backgrounds and lived experiences. One student mentioned appreciating meeting a history major in another program with a similar mission.
- 2. Expand the application timeline.** Some students felt that the overall application process could be improved. One of the main reoccurring themes related to this was that the process was not as comprehensive as it could be in two key ways: 1. Ensuring the selection of scholars who would fully appreciate the program and 2. Including opportunities to get to learn more about potential mentors and their research prior to the matching process. Additionally, one student mentioned that they had initially been rejected from the program, but then called later and offered a slot 1.5 weeks into the program having missed orientation and other key activities. Starting the application/acceptance process earlier in the school year affords the staff the opportunity to finalize selection of their cohort earlier in the semester and receive confirmation from the full cohort. While program staff cannot eliminate the possibility of unexpected changes to a student's decision to participate, extending the timeline can create a buffer that would allow program leadership to select alternates from a pre-established waitlist if the need arose prior to the start of summer programming.
- 3. Implement a more holistic mentor recruitment and selection process.** While students really enjoyed their mentorship experiences overall, there were two recurring themes related to the mentor matching process: 1. A desire to have the opportunity to have more insight/knowledge about their mentors and their research and 2. A better assessment

of mentors to ensure their commitment, preparation and bandwidth to host a mentee over the summer. This is a theme that also rose to the top for last year's cohort. Scholars strongly recommended that leadership better assess mentors' full scope of readiness for the project especially in light of their other commitments which scholars understood to be important. They also spoke on the importance of being able to explore and connect on each other's learning and teaching style earlier on to help ensure a good fit. They mentioned this being especially relevant given their belief that compatibility was an integral part of success for both the mentor and scholar.

4. Expand structure of orientation and require submission of key documents.

Scholars noted the importance of having an orientation to help introduce and ground them in the program. They noted that not all the mentors attended the scholar orientation, so it ended up being a varying experience for many. Some expressed their need for time to acknowledge that this was the first research internship for them and feeling that the program was at times working under the assumption that they had certain knowledge, information or experiences that they did not have. Others acknowledged and appreciated having a manual and certain resources but explicitly noted that nothing was ever required to be submitted and they felt it would have been helpful for them to have reviewed and completed documents together with their mentors and submitting those at the start of the program. One quick fix would be to include an internship agreement that outlines project goals, objectives, deliverables and a basic timeline that would be required to turn in to CFAR leadership 1- 2 weeks after the program start date.

Program Structure/Offerings Recommendations

This section will highlight recommendations aimed at improving efficacy of program structure and addressing scholar participation as a means of boosting cohort connection.

- 1. Maintain site visits, community tours, virtual conferences, diverse speakers, representative leadership and shadowing opportunities.** Overall, students thoroughly enjoyed the content of the program structure and the well-rounded nature of programmatic components. Students expressed great appreciation of the representation of not just speakers but of program leadership. One scholar said: "I love that the directors were all mostly people of color and it made me feel like okay, I am able to have a position like this in the future and help other younger generations with this type of pipeline". Scholars reported being able to hear about a wide variety of health careers available and CFAR being a wealth of connections for them to follow up with as they built out their network in the field. Students regularly commented on their preference for in person activities which will be discussed next.
- 2. Streamline schedule and modify requirements related to in person activity.** One of the most recurring themes was the desire to have more in person time for speaker sessions, site visits, weekly meetings and opportunities to connect with their cohort. This

desire was strongly linked with the belief that in person contact and activities greatly helped facilitate building trust and community with both mentors and their cohort members. Several scholars remarked that this was especially evident when comparing their experience to that of SHARP program. One expressed that “the SHARP scholars felt more connected and had a great dynamic, they were always together”. A few scholars acknowledged that some subgroups within their cohort were closer because of having the chance to work more closely together but didn’t believe that the full cohort had the same level of “cohesion” and attributed this directly to the CFAR scholars not being required to be in person regularly together. They noted that varying levels of commitment to the program from scholars and this impacted the overall program experience. Another scholar shared the following: *“they gotta do better with selection and ensuring that people really value the program. This doesn’t have to do with mentorship per se but before the actual internship starts. The mentorship was great, great projects, great speakers but in the end when people weren’t showing up it impacted things and some scholars didn’t get what they needed from their mentors. There were seven in total. Six made it to the end of the presentations and four who regularly participated in everything. It wasn’t required but it counted for hours required to participate in the program. It would have been better if everyone or at least most people participated in everything. It didn’t feel as fulfilling as the other internship group. They felt really connected and had a better dynamic and flow but ours felt a bit disconnected.* Students also shared their desire for better planning with speaker sessions. There were times when they would have to commute 40 minutes or more each way for a one-hour session. They understood that speakers may not be able to spend a significant amount of time but would have liked to see perhaps more engagement or building out the day so that there are several speakers or activities thus making the commute feel more worthwhile. Lastly, students reflected on the impact of in person activities not being required due to the part-time nature of the program. Many students shared that they held other responsibilities as a result of the part-time nature, and they believed that this at times affected participation in CFAR activities.

- 3. When relevant, increase the number of workshops for scholars who are not yet preparing for job search or graduate school.** While students really appreciated the range of speakers and topics, some of the younger participants expressed that certain workshops were more helpful for their current educational stage. Specifically, the premed/pre-health workshop was identified as being “really interesting” and “helpful”. This is an area that can be modified based on the makeup of the cohort and potentially bringing in additional partnerships from UCSF graduate student groups which often have a desire to provide mentorship or key workshops for undergraduates coming up the pathway.
- 4. Provide an opportunity for graduate level CFAR scholars to serve as “near peer” mentors for undergraduate CFAR cohort.** Scholars expressed their appreciation for having access to various sources during the program including CFAR leadership. For some of the younger scholars, this was their very first internship experience. They shared the

pressure of being expected to know are the assumption that they knew certain things they honestly didn't and trying to balance those expectations. At least one expressed great appreciation for the "older" students that took them under their wings as they tried to navigate this first-time experience. They shared a desire to have the orientation be a space where these truths could be acknowledged both for the student and mentor as some of the mentors were also serving in this capacity for the first time. Given CFAR includes graduate level scholars, there is an opportunity to embed a bit more structure within the cohort and have them take on the role of "near peer" mentors for undergraduates. This way there is a scaffolding effect of mentorship that is occurring from the leadership level on down to scholars.

Research/Training Experience Recommendations

- 1. Where feasible, promote scholar use of mentor data for projects and time in the field.** In last year's evaluation one of the overwhelming themes was scholars desire to participate in data collection opportunities. A similar sentiment was expressed this year to a lesser degree, but scholars readily expressed their appreciation for projects which enabled them to directly use their mentors' data to explore a topic of personal interest. One key point that stood out was that scholars directly connected their mentor's willingness to give them access to their data as a great facilitator for establishing and building trust in their relationship. Trust was identified as a key component for a successful mentoring relationship that also positively impacted their research training experience. One scholar stated: "trust was a very big part. I felt that my mentor trusted me with the data and as a result I was able to explore topics that interested me without feeling scared to mess something up". Building of trust and the overall research experience was also connected to confidence. Reflecting on the overall impact of their research training experience one scholar shared the following: "Before the program, I hadn't had the opportunity to work in HIV/AIDS or Public Health centered fields. After completing CFAR, I feel more confident in participating in research that isn't directly related to developmental psychology."
- 2. Encourage/promote more structured opportunities for students to engage in group work.** For many students, the ability to participate in group work was identified as a key facilitator for student engagement and community building. Some scholars who initially viewed themselves as preferring independent work came to learn that they actually did better working in groups. Being able to work together added an additional layer of peer support and helped scholars feel more comfortable in their ability to succeed in their research projects. Students greatly appreciated being brought into lab and team meetings and being exposed to various aspects of the research project as part of the larger group. They felt that the training experience provided them with experience and practice to various skills with one stating "I feel I gained a lot more presentation experience and became more comfortable with public speaking as a result". For many scholars, being included in a larger team or group work

provided access to experiences that stretched beyond their specific research project and provided them with a better understanding of how the work their mentor was doing impacted different communities in the real world.

Mentorship Experience Recommendations

- 1. Expand the mentor selection process to enable scholars to meet or learn more about the mentors work prior to the matching process.** One scholar aside, program participants had a largely positive experience with their mentor. They did however acknowledge the inherent challenge of trying to simultaneously establish trust, build rapport and successfully conduct a research project. For the second year in a row, scholars desire to have the opportunity to either meet mentors prior to the start of the program or be included somehow in the matching process was the most repeated theme of things to modify for future cohorts. Students stressed the importance of being matched with someone who had complimentary learning/teaching styles to help bolster communication which was identified as the most crucial component to a successful mentorship. Students noted that it was at times difficult trying to manage the different components of trying to build a relationship which they readily acknowledged simply takes time. Many also noted a natural progression of ease and communication over time, but noted the relatively short time-frame and weekly time spent in person with mentors was a barrier to getting to know their mentors teaching and mentorship style during early phases of the program. Scholars would have liked to have a deeper introduction to the mentors earlier on and have greater exposure to them and their professional trajectory that led them to where they are. One suggestion to address this would be to implement a “Round Robin” style activity with mentors and scholars prior to the official start of the program. Scholars could then rank their mentor choice to help facilitate the matching process. While scholars would not be guaranteed their top choice, it would at least provide an introduction of all mentors and allow for an informal process to learn more about the mentors and share a bit about their own personal interest and journey.
- 2. When feasible, consider group or paired mentoring for first time mentors.** Overall, scholars believed their mentors did a good job of working with them to establish a relationship built on trust and clear communication. There were instances however where some scholars felt that the communication was not as clear as it could have been or that they often had to be the one to initiate communication. There were also instances where scholars felt that despite having regular contact with their mentor, they were not brought in to the larger team or group that their mentor worked with. In most of these cases, students acknowledged that this was their mentor’s first experience mentoring and said they understood that they too were trying to figure things out. This was a sentiment also expressed by mentors last year as a point of opportunity moving forward. CFAR can look to be more intentional about creating a “buddy” system or plan for first time mentors to ensure that they have any additional resources or tools to equip them for their experience. It might be that first time mentors are required to participate in the “Mentoring the mentor” training

prior to the start of summer programming. Additionally, having a special focus on first time mentors during a mentor orientation could prove beneficial.

CFAR MENTORS

Overall, CFAR mentors found their experience to be extremely rewarding and impactful. All of them acknowledged the critical role that mentorship played along their professional journey and viewed their participation as a way to “give back” to play that same role for those coming up behind them. Returning mentors expressed having a greater sense of confidence in their ability and better understanding of how to prepare for the program. Specifically, when asked the following: “On a scale of 1-10, (1= not at all clear, 10= Extremely Clear) How clear were you about your role and expectations as a mentor for the CFAR program at the start of the program?”, the responses ranged from 8 to 10 (compared to 4-10 from 2022). Mentors were also asked: “On a scale of 1-10 (1 being not at all prepared and 10= extremely prepared) How well would you say CFAR prepared you for your role as a mentor?” Responses for this inquiry ranged from 8 to 10 (compared to 5 to 8 in 2022). Each of the mentors that attended orientation found it helped them to feel better prepared for the program but there was some discrepancy in recalling what specific tools were provided. The specifics of recommendations provided will expound in further detail.

Outreach/Recruitment, Application Process, Orientation Recommendations

- 1. Work with returning mentors to develop a list of relevant trainings and certifications that scholars should have prior to starting their research project.**

Many mentors expressed a desire for more time allotted to their research project specifically. They acknowledged the helpful nature of the robust CFAR programming while simultaneously feeling that as a result, scholars had less time to spend explicitly on their research project. Additionally, some mentors shared that time was taken up by things like onboarding and other required trainings which impacted the mentor’s ability to fully immerse their mentee into the project the way they originally envisioned. One scholar shared: *“I think there was a lot of stuff the mentee had to do in the beginning like onboarding. If there was any way for that to happen and then for the mentorship to start. This ate up a lot of their time. For a while they were working on CITI training. it might have been my mentee they never got it fully completed....I had ideas, but it just didn’t work out. I was excited to include my mentee in data collection and field work for instance, but they never got CITI training completed so I couldn’t include them. If those types of things could have been done sooner, I could have added them to my study more.”* A related recommendation is to consider modifying the application/interview process to include questions on prior research experience and relevant certifications and trainings that they have completed. CFAR staff can then help facilitate starting these trainings as soon as possible before the start of summer programming. This information can also be shared with mentors so they can better plan out research projects.

- 2. Include a section on use of ChatGPT as a resource tool during student orientation as well as a note on the application regarding the use of ChatGPT for application responses.** At least one mentor shared having some challenges with a mentee around the use of ChatGPT being used to develop article summaries in place of the scholar doing the reading and write-ups themselves. This reliance on software rather than as a complimentary tool became more evident during meetings and other times during the summer project.
- 3. Consider expanding efforts to recruit mentors who attended a CSU.** One of the main themes identified by mentors to help establish a successful mentoring relationship was having open communication and building relatability. Given the CFAR program is for SF State students, having mentors that share a similar educational trajectory either as an SF State or other CSU alum, could go a long way in helping scholars to see that they too and accomplish similar goals. One mentor shared: *“We talked a lot about being a woman of color in academic and what that means for me and approaching my relationship with one of encouragement to help tackle and overcome the barriers that are put in place. We had some really rich discussion and she appreciated that perspective as well. Rapport was important related to my student who was from SFSU which is a great institution and has a lot of students from certain backgrounds and what that means and the issues that are not often addressed in academia. I think it’s important to have that relatability. I myself attended SFSU as well and it’s really important to have that. It’s really important to inspire and reassure them that they also have a place. That was really great for us both to have attended SFSU.”*
- 4. Maintain a welcome meeting/orientation for mentors and create a Box folder to store all orientation materials and other resources.** The mentors who attended orientation found it to be very helpful. There seemed to be a bit of uncertainty in recalling if there was a single orientation for mentors alone or if there was one for scholars that mentors also attended. The latter was mentioned by certain scholars. At least one returning mentor mentioned that the *“set up” meeting was really good this year expressing “I don’t know if it was because I had previous years’ experience. I don’t recall if there were any specific tools they gave this year, but I feel I learned from the experience...It would be nice to have a folder of stuff”*. One of the activities that the mentors repeatedly identified as being helpful was the opportunity to check in with other mentors and hear more about their experiences. Ensuring that there is an initial welcome/orientation specific for mentors would also help solidify them getting to know each other as a cohort of mentors and get to learn more about each other’s work and the research other scholars are engaged in.
- 5. Set up a “Round Robin” experience to help facilitate the mentor matching process.** One of the key themes expressed by mentors and scholars alike was the desire to

get to know their mentor or scholar better. By planning a Round Robbing activity, the scholars would get the opportunity to meet all the mentors and hear a little about their journey and research and share a bit about their interests and then do a ranking of the top three or four choices of people to work with. I have personally seen this work well in past programming but there is a bit of work required to plan and ensure availability which might prove challenging. A related recommendation is to provide scholar bios to the mentor prior to matching so that they get a better sense of who the scholars are.

Program Structure/Offerings Recommendations

- 1. Revisit the program timeline and weekly calendar.** In looking at the comprehensive nature of the CFAR program, one area that was consistently mentioned by mentors was the availability of time scholars had to work directly on their project. The consensus was that there was not enough time to fully immerse the scholars into their research project, team meetings and field work in the way they desired. The competing demands for time at times resulted in scholars having to pull out from participating in meetings or field work on more than one occasion, even after a mentor had already planned the activity around the scholar's availability. One mentor gave the following example: "In order to successfully include them I had to coordinate with my schedule and theirs and sometimes they had to call out and the impacts of this when after the 1st or 2nd time I said ok if this occurs again, you need to reschedule the other thing not this." Mentors also shared that many of their mentees had other responsibilities such as work and in some cases school, so their time was divided across competing demands. This seemed to be related to the program not being full-time which many of the mentors noted was a key difference. They acknowledged the challenge of trying to accomplish a meaningful project with only 10-15 hours a week compared to other programs where the scholar is committed to the project 30-40 hours per week. A few mentors noted that their original thoughts for how they planned to approach the summer shifted once they started meeting with their mentee. One noted: *"I think I started out just thinking that I would be able to integrate my mentee into my lab and just kind of support my mentee in identifying approaches to thinking of a research question, doing literature review, running the analyses and just kind of giving details on how to do all of those things. But I kind of learned quickly that my mentee...was balancing a lot of other responsibilities with a part time job and the program, and I think maybe even finishing up some school work. And so it quickly shifted to helping them figure out what was their overall goal and what was a tangible way of reaching that goal in the time frame that we had."* Another mentor noted that their mentee was clearly overwhelmed, and they spent a great deal of time assisting the mentee to navigate these feelings. CFAR leadership should consider reassessing the overall program timeline and whether that can be modified to maximize scholar availability and alleviate some of the challenges faced with mentor commitments over the summer. Potential ideas include considering an 8-week program with a 30 hour per week commitment or a 10-week program with a 24 hour per week commitment.

2. **If modifying the overall summer timeline is not feasible, consider making special provision for specific categories of research projects.** Notably for basic translational research projects, mentors believed that 10-15 hours was simply not enough time to fully develop, equip and immerse scholars in a stand-alone project. Mentors strongly believed that students needed to come in with more experience and/or flexibility in their schedule and availability of time to commit to these types of projects. One scholar suggested getting input from the potential mentor ahead of time to help review and assess readiness. For example, reviewing their CV or interviewing the student. Mentors also expressed key certifications and trainings that required successful completion before a student could engage fully which also took up time as some trainings were only offered during certain times of the academic year.
3. **Consider mentor pairing or implementing a “buddy system” for new/first time mentors.** For many first-time mentors, the task of taking on an undergraduate mentee while rewarding, required a lot of real-time learning. Like last year, first time mentors shared that the vision they had for the summer and what ended up happening were not always in alignment. This occurred for various reasons including not knowing what would constitute an appropriate project or having to adapt during the program to address more urgent needs that arose with the scholar juggling many responsibilities. It was also clear that returning mentors had a greater level of self-efficacy in their ability to set realistic goals and greater confidence in their role as a mentor. When asked how prepared they felt this time around one mentor shared: *“I felt my role was pretty clear. We know the time period, what is expected at the end and what we contribute to our mentees. Feels like the second time definitely helped. Last year felt like a 5 or 6. Felt much clearer about what worked and what didn’t work and felt easier to curate the experience for the time allotted. We have a set amount of weeks. My first year I wasn’t clear about what all could be accomplished during that time. Setting a more manageable realistic goal. My first year I didn’t even want to set a smaller goal. I didn’t account for how busy they are with other aspects of the program.”* Mentors also expressed how helpful it was to know about the program calendar and what other workshop sessions were offered. One mentor stated that during their first year, they had questions around how much of the responsibility the mentor had for meeting scholar goals overall in teaching certain topics. It was helpful to know that they didn’t have to fully take that on themselves and that the sessions could be complimentary to related sessions and check-ins offered by the mentor.

Research/Training Experience Recommendations

1. **Encourage field work when feasible and include scholars in team meetings to help foster a sense of community.** For many of the scholars, getting a chance to go engage in field work was a highlight of their summer. Mentors also saw the benefit of having scholars join them for field work and get a chance to see the broader impact of their mentor’s research. One mentor shared that “bringing young people into the field was a way to help

them figure out what path/direction they want to go in life. The specifics of who they want to work with and what health outcomes they want to participate in.” Mentors highlighted the importance of “full immersion” of scholars into the various aspects of their work to give them a better understanding and appreciation of all that research entails and its impact on the community.

2. **Where feasible, match scholars with mentors who can directly engage in the skills and methodologies that students are interested in building.** Both scholars and mentors expressed the importance of getting to know and understand each other’s teaching and learning style. Moreover, mentors felt most confident in working with a scholar on aspects of research that aligned with their area of knowledge/expertise. One mentor shared the following: *“when you work with someone who is new to research it can be challenging to break down and convey more complex ideas. She chose a qual research project which is great for her and that isn’t my area. There were times when I questioned the feedback I was giving but it was still good for me.”* While most mentors felt they were able to oversee their mentee’s projects, there were some who felt they at times second-guessed themselves when the topic was not directly related to their area of research/expertise.
3. **Provide mentors with ideas for sample projects and tasks that mentees can take on based on previous cohort cycles.** For some mentors, it seemed there was a difference between their expectations and the realities of what their mentee had time/ability to work on given the other program components. Some of this might also be that mentors with less experience were deferring to what the mentee shared with them about what their roles and responsibilities were for the summer. Additionally, some mentors in particular first-time mentors, discussed not necessarily knowing what a feasible project for the program would be. The other demands on scholar time due to attendance at workshops and other activities was not originally accounted for when considering their weekly time commitment.

Mentorship Experience

1. **Develop a short assessment to obtain feedback from trainees about their mentor.** This was the number one sentiment expressed by mentors. They found it challenging to fully know if they had truly been a successful mentor without hearing directly from their mentees. One scholar remarked *“that’s the one thing I wish I could do was get feedback from the scholars. It would be nice to know if it was effective or not from the scholars perspective. It’s hard to say because I could be here thinking everything was great but the mentee could have a different perspective.”* Mentors readily expressed their desire to receive some type of direct feedback as a means of helping them to assess their role as a mentor and make improvements for future cycles.

2. **Maintain opportunities for mentors to check in with each other during programming.** Many mentors shared their appreciation for getting to connect with their fellow mentors in the program. Some of the mentors explicitly mentioned the benefit of the midpoint meeting of all the mentors and identified it as a helpful experience to get to know other mentor/mentee teams. One mentor shared that “scheduling is really difficult during the summer but, if possible, it would be nice to have at least one more opportunity to check in with the other mentors and get feedback and insight to their experiences with their mentees”. Another mentor appreciated the connection she saw amongst the mentees and thought it was a great to meet the other mentors as well and would like to see more of that connection. This could also provide an opportunity to remind mentors to follow up with resources and tools that they were provided with during the start of the program. For example, at least one mentor mentioned having completed the IDP at the start but admitted that they didn’t return to it enough over the course of the program and time working with their mentee.
3. **Explore ways for mentors to receive their stipend as additional pay rather than being absorbed by their department.** One mentor lamented “the compensation I received went straight to my department and UCSF took it from me and plugged it. Would be great if there was a way to receive it directly so that it is extra funds on top of salary.” Another mentor shared some additional details about her stipend across the last two years. In their case the money was in addition to their salary paid into a discretionary account which could be used to cover some of their own time, towards a conference, RA support or other related expenses. When it goes towards salary as a “Z” payment it is taxed at 40%. Just something to keep in mind and perhaps share with mentors on the front end so they can determine the best way to use the funds if they are unable to receive it directly through intercession pay.
4. **Expand program to include access to more senior level researchers for junior level mentors.** When asked to share specific recommendations to improve the program, one mentor shared the following: *“I love doing this. happy to do this in the future. It seems like they tapped the same people as before. As a URM it sort of feels like we get tapped for everything, but it feels right to get tapped for this. I do want it to be me...but it’s always me. I wonder if there’s a way to also include other research options even beyond URM mentors. Ex. There’s a lot of great research going on at UCSF, but the mentors are not a URM. Could there be a pairing so that the junior URM researcher also gets exposed to more senior researchers who may not be URM’s? Consider ways to increase the breadth of research experience and exposure also for mentors. Most of us are junior researchers. Could this be a vehicle to expose researchers to more career mentors?”* This relates to the sentiment expressed by many of the mentors who had previously participated in CFAR as a trainee and acknowledged how beneficial it was for them in their careers. Most stated that their experience in CFAR and the important support/mentorship they received is a big part of what made them want to give back to students as a mentor.

5. Maintain support provided by program directors/leadership. All of the mentors expressed their appreciation for CFAR leadership in hosting orientations and meeting with them to explain programming. It was abundantly clear that mentors knew they could connect with leadership as needed for support. As one mentor stated: *“The directors of the program ex. John and Carina were resources themselves. They made themselves available. In my case I had a very positive and easy experience. So, no challenges to discuss but we met as mentors during the program to chat with them to get any support that we needed. Any specific resources they provided them as well. We met as mentors together as a group. But if we needed to meet individually with them that was certainly helpful.”*

Desired trainings for future participation

The following list identifies key topics or training sessions that mentors would find helpful for future participation:

- How to support students through the process of their first authorship. Taking what they have accomplished with their research project/presentation and transforming it to the draft stage of a peer reviewed article.
- How to navigate and support helping a mentee transitioning if the mentoring relationship increasingly becomes less of a good fit.
- How to create supportive environments for mentees?
- Workshop exploring different mentoring styles.
- How to engage in corrective and caring communication. Helping mentors communicate in ways that don't feel harmful but encouraging and motivating even when it's necessary correction.
- Navigating power dynamics, including a focus on when the mentee transitions to a colleague.

CONCLUSION

This report focused largely on providing key recommendations to improve future cycles of the CFAR program. It is recommended that this year's report be viewed in addition to the 2022 evaluation to provide an even more comprehensive analysis. All in all, the overwhelmingly positive responses and data provided by scholars and mentors attest to the positive impact the program had on both mentors and scholars. While there was one trainee who experienced a challenging summer overall, their experience seemed to be an outlier and still provided useful information to help bolster specific recommendations related to assessing student motivation and readiness for program participation. CFAR leadership should take pride in knowing that they have developed a comprehensive program that positively equips historically underrepresented scholars for a career in the field of HIV research. The following quotes highlight some of the key impressions from this summer:

- “Honestly, I've had such a great experience with the CFAR mentor program here at UCSF. I think that mostly stems, because I know there's a lot of good support for the scholars,

you know, outside of their interaction with me as a mentor, they do like a bunch of tours. And there's didactic classes and a lot of seminars. And they meet lots of other researchers and different types of contacts, and you know, there's like a whole foundation of support, I think, for these scholars...And that's what I like really enjoy. I really both enjoy being a mentor within this program, because there is all that support. But I'm also pleasantly surprised at how open the world come becomes to them, you know, in such a short amount of time. They seem more confident in their ability to do this type of work, or even what their next steps are after the program, which is great, you know, like they have options, and they know that they can pursue them, and they know they have people who believe in them

- “We still see that young people of color are up against a lot at succeeding in the sciences, and they might not know many scientists in their lives because of the under representation that we see in the sciences. So it's a really vicious cycle. It's hard to get out of. And this kind of program is really important to help break that cycle and to help increase that sense of success and confidence. And feeling like there's a path forward...I think this program is really conscientious without being condescending. Or you know, there's so many pitfalls for well-intended training programs. And I feel like this one avoids them from what I can tell...it feels really solid in that way and the need for it is really strong. “

Below is a word cloud of the responses provided by scholars and mentors when asked to describe their CFAR experience in 1 word:



UCSF-Bay Area Center for AIDS Research (CFAR) 2022 EVALUATION REPORT

INTRODUCTION

Housed in the UCSF-Bay Area Center for AIDS Research (CFAR), the Accelerating Research Careers in Science through Early Mentored Research Experiences (referred to as the CFAR Scholars Program) is a newly implemented program under the umbrella of the National Institute of Allergy and Infectious Diseases (NIAID) Center for AIDS Research Diversity, Equity and Inclusion Pipeline Initiative (CDEIPI). As one of 16 nationwide programs, the CFAR Scholars Program is designed to provide undergraduate and master's level Black, Indigenous, Persons of Color (BIPOC) or other under-represented minorities (URM) in science and medicine with exposure to HIV related research in the biological and/or clinical sciences. CFAR Scholars are paid for 15 hours/week for 16 weeks while being immersed in the following program components:

1. **Mentorship** by a key and emerging HIV researchers
2. **Access to town halls and workshops** on emerging science and community events
3. **Engagement** with other scholars and the broader UCSF community
4. **Shadowing** of researchers and physicians at different sites across San Francisco
5. **Development** and completion of an applied HIV research project
6. **Academic support and guidance** towards pursuing graduate or medical school

UCSF CFAR is committed to building a diverse workforce in science and medicine through the harnessing of new perspectives to solve outstanding health challenges. It is CFAR's belief that BIPOC and URM have insights into important research questions and represent a valuable population of future researchers that remains largely untapped. By combining key best practices through mentorship and immersion into applied research experiences, the CFAR Scholars programs positions itself as a crucial resource to assist in filling the representation gap in the HIV related research workforce.

EVALUATION OVERVIEW

In its inaugural year (summer 2022), CFAR hosted 5 scholars who were paired with 5 HIV research mentors. In fall of 2022, CFAR leadership distributed a post-program survey to assess short-term impact. The post summer assessment was followed up by a Winter 2023 evaluation aimed at accomplishing the following aims:

1. To assess mentor experience and describe key strategies used by mentors during programming.
2. To identify gaps in training, priority needs, and ways in which the program can better meet the needs of its mentors.
3. To assess short term impact of program on CFAR scholars and specifics of how the program can be improved for future scholars

The winter evaluation took advantage of data provided during the summer assessment to develop a focus group and semi-structured interview guide. Survey responses, along with transcripts of the scholar focus group and mentor interviews were reviewed to develop the summary of key findings/recommendations included in this report.

Stakeholder group	Sample Size	Assessment format
CFAR Scholars	5	Focus group (3), written responses to focus group guide (2), survey
CFAR Mentors	5	Semi-structured interviews

OVERVIEW OF KEY FINDINGS

The Winter 2023 evaluation was divided into two key stakeholder groups: CFAR scholars (trainees) and CFAR mentors. Focus group and interview transcripts were reviewed with a focus on extracting information most relevant to process outcomes and developing actionable feedback for implementation in the upcoming 2023 CFAR Program cycle.

To facilitate ease of incorporation, program recommendations have been organized under four major categories:

1. Outreach/Recruitment/Orientation
2. Program Structure/Offerings
3. Research/Training Experience
4. Mentorship Experience

These recommendations have been developed as strategies to either prevent or ameliorate identified barriers to program efficiency and contribute to an enhanced mentorship experience for both CFAR mentors and scholars. It should be noted that while empirically based and extensive, these recommendations do not constitute an exhaustive list of potential strategies, largely due to the nuanced nature of research experiences, mentor/mentee relationships and their tendency to depend on the multi-connected nature of the individual, interpersonal and institutional relationships of any given cohort. Given that these recommendations represent the inaugural cohort, there is good reason to believe that the data obtained has the potential to improve program efficacy and the overall experience of future cohorts and mentor participants at this site and potentially across sites/institutions hosting similar programs with similar priority populations.

The following sections will provide a summary of findings and recommendations for each group. It's worth noting that while some recommendations may be listed under a single category, their impact of their implementation has the potential to span multiple categories and impact both groups.

CFAR SCHOLARS

Outreach/Recruitment/Orientation Recommendations

The following recommendations address opportunities which have the potential to expand awareness of the CFAR Scholars program to its intended audience and bolster recruitment efforts through collaborations with SFSU stakeholders and other modalities preferred by the program's priority populations. It also includes ideas to expand students' exposure to and orientation to program objectives, expectations and enhance their readiness to self-identify as a successful mentee and research trainee.

1. **Identify campus partners that will allow CFAR leadership and/or alumni to give in person or virtual presentations to promote CFAR program.** The average student receives several emails daily and may not always see the fliers that are sent through this means. Currently, there is no single systematic way to identify or conduct targeted outreach to students of color who have an interest in pursuing health or research careers. These students can typically be found by exploring gateway courses that are required for post graduate careers in medicine or research such as Biology, General and Organic Chemistry. Making short presentations at the start of the semester before applications are due is one way to expand the reach of awareness for the program. This recommendation also applies to student groups/orgs such as SACNAS, BE-STEM that cater to BIPOC, URM, pre-health students.
2. **Identify campus partners (faculty, staff, CFAR alum) that can serve as ambassadors to promote and encourage students directly to apply for the program.** While expanding the outreach by way of short classroom announcements can help increase student awareness, that awareness may not translate into action. One student explicitly mentioned that despite receiving an email with the CFAR flier, they did not consider applying for the program until an SFSU mentor said, “she should greatly consider it”. For this student, having direct encouragement from a mentor was the difference between ultimately applying and gaining acceptance to the program and not. It is not uncommon for BIPOC and other URM students to doubt themselves or their qualifications for research and health-based pathway and research trainee programs. This lack of self-efficacy can result in students choosing not to apply as a means of shielding themselves from facing potential rejection.
3. **Share information about the CFAR program via social media.** Students mentioned that rather than email (or as a recommendation in addition to email), CFAR should utilize social media to promote the program. Specifically, students mentioned getting existing UCSF, SFSU accounts or creating their own CFAR account would be a good way to spread information widely in a modality that is readily available and regularly used by students. Social media provides a relatively low resource high reach method of reaching potential pools of future applicants. It can also offer additional opportunities to highlight current and past scholars and their accomplishments thus creating a sustainable online community/network through online ambassadors and research “influencers”.
4. **Develop/provide a CFAR scholar resource manual.** Many students stated that they weren’t sure what to expect from the program other than they would be gaining HIV related research experience. Development of a scholar manual would serve as a vital resource to contain all relevant and important information that scholars will need for the summer and beyond. The manual can exist as an electronic “living document” that can be added to by the CFAR team as well as students and mentors over the course of their 16-week experience. Recommendations for manual content include scholar contracts, roles and responsibilities, summer calendars, workplan templates, mentor meeting templates, tips for a successful mentoring/research experience, supplemental research resources, samples of past CFAR scholar projects, abstracts and related presentations, upcoming trainings/certifications and webinars related to their projects, campus and institutional resources that they have access to as a CFAR scholar. It appeared that while some scholars were clear about the existence of certain material and tools provided by CFAR, others were less familiar or likely had less usage. The manual can therefore serve as an important reference to return scholars to a singular location for resources during the summer.
5. **Provide an orientation that focuses on preparing scholars to be a successful mentee.** Scholars recalled seeing 1 or 2 slides embedded within the orientation that focused on mentors and

mentees but felt that it would have been helpful to do a deeper dive into the topic. Specific topics of interest include developing a strong research question, goal-setting, time management, follow through, and establishing/sustaining professional communication with your mentor. One specific example provided by a scholar was them feeling uncertain about whether it would be seen as “unprofessional” to ask their mentor to go for coffee so they could meet in a less formal, academic oriented environment. This session could also include a segment of setting realistic expectations for their research projects given the 16-week window allotted to complete their projects.

- 6. Encourage and provide support for mentees to meet their mentors prior to the formal start of summer programming.** Using tips found in the provided manual or through connections from CFAR leadership, mentees should be encouraged to meet their mentor at least once before the programs, ideally in person but virtually if an in-person option is not feasible. As will be shared in later recommendations, one of the key points students made was the importance of being able to establish a good connection with their mentor along with their desire to get to know them outside of the more formal weekly meetings that occurred during the program. One student stated that she asked CFAR leadership if it was okay to reach out to her mentor before the start of the program. She expressed how helpful this was as it provided her an opportunity to connect prior to the formal program start and helped to ground their relationship. Upon sharing this, other scholars noted they wish they would have had a similar opportunity to meet and engage with their mentor before formally starting their research project as well.

Program Structure/Offerings Recommendations

This section will highlight recommendations that focus on expanding or highlighting program structures and offerings that helped facilitate scholar participation and promotion of interpersonal skills.

- 1. Maintain access to seminars on emerging sciences, virtual conferences, ‘meet and greets’ with HIV researchers and shadowing opportunities.** Students greatly appreciated the well-rounded nature of offerings provided by CFAR leadership. A repeated theme was the value of in person meetings where feasible because of the added sense of community it contributed to amongst the cohort. Scholars were explicit to share how the opportunities to connect and interact with a wide array of providers and researchers in the field over the course of the program helped increase scholars’ sense of belonging and belief that they too could accomplish a successful career in the field of HIV research. In addition to the shadowing opportunities with experts in the field of HIV research, scholars also voiced their desire for greater exposure to the multifaceted nature of responsibilities held by their mentors. Scholars shared that their mentors were not only researchers but professors, nurses and physicians. They expressed a desire to have a “day in the life” of their mentor to further explore the multi-faceted career options that were largely unknown to them prior to participating in the program. In reference to the workshops provided, scholars mentioned being able to have more of them in person would improve opportunities for engagement with speakers and with their peers over the summer.
- 2. Incorporate more organized social activities or meetings with CFAR scholars and mentors.** Scholars reported that they spent on average 1-12 hours weekly with their mentors across various meetings and outreach/research activities. All scholar reported that in the sense of their research project this felt like an adequate amount of time. Scholars also expressed their desire to extend their mentoring relationship beyond the scope of just academics or research. Some reported the positive impact of seeing their mentor out in the field and being a bit more “loose” and the humanizing effect of those interactions. Scholars reported that being exposed to their mentors in a

“more relaxed setting” and “being able to see how funny they were” helped to alleviate anxiety associated with power dynamics of the mentor/mentee relationship.

3. **Provide additional professional development workshops.** Some students explicitly mentioned they would have like to attend workshops on topics such as writing your statement of purpose, developing a resume/CV etc.
4. **Provide an opportunity for CFAR scholar alum to serve as “near peer” mentors for the current CFAR cohort.** Students widely expressed how impactful the CFAR program was overall. One of the major themes attributed to the positive impact was the idea of inbuilt community and support networks that spanned across the CFAR team, mentors, graduate students and other staff within their research project or team. The fact that students found solidarity and support amongst their cohort was one of the most highlighted components to the program structure with each scholar citing the value of weekly cohort meetings and check-ins. Students also reflected on how being on the other side of the program, that there would be certain things that they would do differently and expressed their own personal willingness to serve as a peer mentor to future CFAR scholars to help address some of the key experiential questions that arose for them over the course of their research experience.
5. **Better promotion and use of a CFAR specific Slack channel.** It appears some scholars were more aware of the existence of a slack channel while others seemed to suggest the use of one. Some mentioned that it would be great to have more reminders while others thought it would be helpful to include a channel for communication between CFAR staff and the scholars. Students mentioned their use for courses and labs, so the platform is one that is already familiar to them.

Research/Training Experience Recommendations

1. **Where feasible, increase opportunities for scholars to participate in data collection.** Scholars stated that they would have liked to have been a part of data collection rather than just analyzing the data. Given the structure and timeline of the program this may not always be feasible. To supplement this recommendation CFAR leadership can conduct a special session that provides scholars with insight from researchers highlighting the importance of the various stages of research from developing the question, to collecting data, analyzing data and translating the findings into practice. This vantage point may increase scholars’ appreciation of their role in the research continuum rather than placing a higher value on certain aspects.
2. **Share specific examples of the types of projects that are feasible for the program.** Scholars mentioned that with the program being so new, there was little guidance on what would be considered an appropriate research project. Some mentioned wanting more clarity on the research project expectations at the start of the program. For example, “clarifying that the research project could about what they worked on during the program with their mentor or any particular area of interest in HIV research”. Others mentioned that the examples would help temper their expectations around their final presentations.
3. **Promote more structured opportunities for the cohort to engage in group discussions and working sessions during the initial stage of developing their research question.** Cohort check-ins repeatedly rose to the forefront of the focus group discussion as the “highlight” of scholar experiences during the program. The sense of community and support was something that

resonated greatly with scholars and offered a chance to get updates and share progress on their respective research projects. Scholars shared how helpful it was to have working sessions later in the program and looking back wished they had additional opportunities at the start of the program to come together in person to workshop ideas for their research questions and get feedback as well as more focused time towards the end to conduct mock final presentations to their cohort. This recommendation is aligned with many doctoral level programs that provide structured weekly seminars that allows students to develop their research question and prospectus over the course of the semester or academic year in cohorts. Implementing this format into the program can serve as another point of exposure into graduate level academic training for a career in research.

- 4. Provide or increase awareness of opportunities for scholars to showcase their work at upcoming conferences.** Students mentioned that being able to present their work at a summer conference would be a great option to showcase the student's work and represent the CFAR program in other spaces. In speaking to both scholars and mentors there are some that are continuing their work beyond the 16-weeks and are currently preparing to submit their work for presentation at a conference in New Zealand.

Mentorship Experience Recommendations

- 1. Maintain the selection of high caliber, supportive and instructive mentors.** Without a doubt, scholars were exceedingly happy with their overall research experience and with their mentors. When asked to identify the key components they believed resulted in successful mentorship during the program the scholars responded with the following: Good clear communication, consistency, being a good teacher, providing exposure to different areas of work/research, pushing in a supportive non-threatening way, engaging the student and pushing us to use our own voice, experiences and perspectives when working on our project. Scholars felt their voices were truly valued and that despite their own personal misgivings, mentors did a great job of including them and making them feel like part of the team and not just 'a student that didn't have much to offer'. Scholars also felt that mentors did a great job of prioritizing their trainees' mental health throughout the program. Overall, there were two major themes identified as being vital to the establishment and sustainment of a successful mentoring relationship. One was "Trust" and the other "Transparency". Students felt that at the end of the day it always led back to these factors as key reasons they were able to have and maintain a positive relationship with their mentor. Some scholars also noted that in some regards they wish they had been a bit more transparent about what may have been going on with them personally outside of academics because it might have helped their relationship and work productivity even more. This latter point can serve as one potential area of focus within the recommendation above for a mentee specific orientation to mentorship.
- 2. Maintain the communal network of mentorship embedded in the CFAR ethos.** Scholars and mentors alike both applauded CFAR leadership for their ability to create and sustain a team or community effort in relation to mentorship. Scholars repeatedly stated how supported they felt being able to access their mentor, another member from their lab or research team as well as Joe, Dr. John and Dr. Carina and staff throughout the program. One student gave the example of being from another city and unfamiliar with San Francisco and would without fail, always get lost on the way to UCSF and end up calling Joe who would graciously always offer and come pick them up and always be so patient. Scholars shared how patient the CFAR team, and their mentors were with them and how they asked for their input and truly valued them as true team members. Scholars appreciated the collaborative spirit embedded in the program and its leadership team and mentors.

- 3. Encouraging mentors to host “Safe Space” for communication with scholars.** When asked about what might have helped them to feel more comfortable communicating with their mentors, scholars said that having a specific space outside of a shared lab or public meeting room would have helped. This was affirmed by scholars who stated that they personally had opportunities to meet with their mentors in private settings in which they felt they could discuss things more openly compared to being out in the field or in a group setting. Students highlighted the importance of weekly check-ins with mentors though it was clear the modality varied by in person, phone, and Zoom. For some students, they recalled not being able to comfortably discuss important topics in front of their family at home and not really having a private space at their home to step away for a more intimate conversation. This is important to note for students who share rooms with other siblings or family members and may not have the same level of freedom to discuss personal or private matters that may be influencing their performance. Overall, scholars did feel that while in person their mentors did a pretty good job of creating a “safe space” for them to communicate.

CFAR MENTORS

CFAR mentors were very pleased and positively impacted by their CFAR experience. Many of them felt a sense of obligation to serve as a mentor because they had been fortunate enough to have great mentors in their careers including in the CFAR program and wanted to provide that for someone else. Many mentors stated that because of their relationship with John, Carina and CFAR, when approached to participate in the program and gave a “Yes”, perhaps while not knowing fully what they were saying yes to initially. Specifically, when asked the following: “On a scale of 1-10, (1= not at all clear, 10= Extremely Clear) How clear were you about your role and expectations as a mentor for the CFAR program at the start of the program?”, the responses ranged from 4 to 10. Some scholars acknowledged the possibility that more information might have been given in the beginning that they missed because of demanding schedule, but they were basing the response on what they recalled. Mentors were also asked: “On a scale of 1-10 (1 being not at all prepared and 10= extremely prepared) How well would you say CFAR prepared you for your role as a mentor? What, if anything? could the program have done to improve your level of preparation?”. Responses for this inquiry ranged from 5 to 8. The specifics of recommendations provided will expound in further detail. Mentors overall believed that CFAR did what they could to prepare mentors and that given the newness of the program, there was only so much that could have been prepared for in advance. They went into it with an open mind believing that they would be able to work through things with the CFAR team and their mentees. Clear, consistent communication, trust and transparency were all major themes that mentors relied on and attributed program success to. Additionally, some mentors stated how much they learned and how much their mentees impacted them not just professionally with their vital contributions to research but personally as some of them navigated issues such as personal loss and trying to balance an exceedingly demanding work load during the program.

Outreach/Recruitment/Orientation Recommendations

- 1. Continue expanding and leveraging existing partnerships and CFAR Center network to recruit mentors.** Aside from personal motivations to help URM students thrive and expand representation in the HIV research workforce, mentors reported being largely motivated to participate in the program because of their existing relationship and having personally benefitted from the CFAR program. For some this included either previously having a mentor or currently having one or more mentors connected to the CFAR Center. For mentors, they stated that their

“Yes” was not just to the trainees but to their colleagues as well and resulted in a strong level of commitment to seeing the program succeed.

2. **Standardize outreach/recruitment strategies and having a deeper or supplemental Orientations for mentors who agree to participate.** Mentors recalled being approached individually and being offered varying levels of information as part of their recruitment process. Some explicitly stating that after giving their “Yes”, they had moments where they wondered “what did I actually agree to?”. Most mentors mentioned the desire for some additional “structure” and knowledge of overall program structure as it pertained to mentee expectations, roles and responsibilities. As an example, one mentor shared that she was informed that she could “give the student a project to work on” and recalls after a few weeks receiving the grant aims, scope of work and the program student application and immediately thought “oh I wish I would have read this before”. She stated that Monica, John and Lauren were all top notch and accessible but the additional information provided a better concept and understanding of the program. Given 2022 was the first year of the program, it is understandable that things were being conducted as works in progress. Moving forward CFAR leadership can develop a 1-2 pager/info sheet to be shared with all potential mentors. These resources can address some of the key questions that mentors had during this initial recruitment phase of the program.
3. **Provide clarity and samples of potential research projects during the mentor recruitment phase.** One of the major themes that arose during mentor interviews was the challenge in knowing what constituted a meaningful yet feasible research project for an undergraduate student given what they felt was a relatively shortened timeline. Mentors shared that they were used to working with students for a period of 1-2 years and having to craft a 16-week project left them feeling uncertain of what was realistic for them. Additional uncertainty existed as certain mentors expressed they were unclear about the possibility of project extension or continuity. In other words, they were unclear at the beginning whether it was even an option for students to continue working with them beyond the 16-weeks. Mentors expressed figuring all of this out in real time as they began meeting with their scholars and getting to know them and what their personal goals were and using these factors to aid in the development of the project. It is also notable that certain mentors expressed that it felt a bit more challenging to craft a unique or individualized project for their scholar due to the nature of their work. For example, mentors working in a lab noted the difference in what students were able to work on compared to other projects that were more translational or outreach based. Some found it more difficult to give a student a unique project that they could independently work on due to the nature of the existing project. One mentor shared that she realized with her student, the most realistic goal would be to teach them key skills and offer training and start them on a project recognizing that it would take longer than the allotted time for them to have a project of their own. Reflecting on the process of developing a project one mentor noted: “Once we began to understand what our mentee could feasibly accomplish during the allotted window, it felt like there was an organic flow to create the opportunity for the mentee. Once we met and began to better understand their interest and desires and what they had to present at the end. I began to understand better how to help them achieve those outcomes.”
4. **Develop and provide a CFAR Mentor packet/manual.** This recommendation spans multiple categories and serves as a resource to help improve what all mentors thought was an already wonderful program. Throughout the interviews, it became clear that the combination of demands for work, program and challenges of time impacted mentors’ ability to recall what they had or had not been provided in terms of specific resources to assist them in their mentor role. While it was clear that some had not received certain items from CFAR, some specifically recalled receiving but not necessarily utilizing them regularly. The existing of a mentor manual as a “living” resource guide

can help to ameliorate the issue of not knowing where a certain document or information is. Some key items for inclusion include the following: CFAR program scope of work, slides on CFAR program/link to website, mentor roles/responsibilities & expectations, student applications/summary, student bios, program calendars including important dates such as final presentations, mentor meetings or other required events, resources on mentoring URM undergrads, highlights from the Mentoring the Mentor training. Mentors also mentioned that it would be helpful to have access to the trainee calendar of workshops and sessions which they believed would help increase comfort early on during one on ones with their trainees while also helping to reinforce knowledge. Mentors noted that their competing responsibilities made it challenging to create space in their calendar for events if they were not provided adequate notice. One mentor stated “as soon as the calendars get set, share it as an invite for the mentors. I felt there were a lot of dates up in the air. Clearer programming would be helpful in helping to fit things in which can be harder with a lab and someone who is a full-time student. Having the mentees calendar helped me plan out experiments making sure they got the most out of their limited time in the lab”. Simultaneously, mentors also believed that having knowledge of their trainees’ calendar of workshops would help them fill in potential gaps in knowledge by topic. Another mentor shared: “it would help to know what [trainees] are expected to know by when. The program is awesome. I’ve never had an opportunity like this in my life. It’s a phenomenal program but having the structure would be great. Felt like I could be talking about something that they may not be discussion in their [other] sessions.

5. **Provide a mentor training prior to the start of the summer experience.** This differs slightly from the orientation recommendation and is rooted in the feedback from mentors who had the opportunity to participate in the “Mentoring the Mentor” training session after the start of the summer program. Mentors expressed how helpful it was for them and how they wish they had the opportunity to attend it prior to the start of the summer research experience.

Program Structure/Offerings Recommendations

1. **Increase the ratio of in person meetings and check-ins.** Mentors appreciated the impact of the pandemic resulting in a more flexible schedule that included virtual/remote sessions but specifically identified a preference for orientations, meetings and weekly check-ins that were in person. As an example, one mentor shared the following: “At the expense of committing myself to more time, I would have enjoyed more structure to mentor meetings with leadership but it’s hard because you don’t want to add more work to everyone. But taking advantage of the fact that we can learn during those times to advance our expertise as a mentor as well. I think we did the best we did for just starting out.” Another mentor shared: “But having things in person to get to meet them and the other mentees in the program would be really good. Having supplement or deeper orientation to share expectations clearly so they have a clear understanding of their roles and what is expected of them. There should be some flexibility but there is a need for structure overall”, affirming the desire for more in person and increased structure to certain sessions. Specifically, mentors mentioned how helpful it was to have the initial meeting and the one midpoint meeting with their fellow mentors and CFAR leadership. They especially appreciated getting to learn about other projects, other mentoring styles used and hear about challenges others may have been having with their mentee and strategies they used to address/resolve them.
2. **Incorporate mini-mentor training sessions through the summer.** This recommendation stems from different mentors who had the opportunity to attend various trainings, webinars or sessions either directly focused on mentorship, leadership or navigating research careers in

academia and expressed a desire to have additional opportunities to debrief on key topics of interest as a cohort of mentors during the program.

3. **Set expectations for in person work for trainees.** Overall, mentors shared that there was an increased sense of participation or engagement during times when their trainees were able to meet or work in person and would like to see this extended in the future compared to remote/virtual.
4. **Incorporate mid-program evaluations.** Mentors acknowledged certain challenges faced with trying to recall specifics months after the conclusion of the program. They noted that while helpful, post program evaluations do not allow for course correction during the program. They proposed that having a 3rd party evaluator (so scholars and mentors and CFAR leadership can be more transparent) conduct mid-program assessments and offer recommendations that can be implemented before the conclusion of the program.
5. **Maintain financial support of mentors and consider exploration of extension of funds to continue trainee support beyond program.** While none mentioned it as a motivation for participation, mentors acknowledged and appreciated that CFAR provided financial support to the mentors for their time. Some mentioned that while they didn't need it personally, they were grateful as they were able to use it to support their trainees in other ways such as supporting their travel to a conference. Mentors felt valued and that their time was appreciated given that the summer is often a time where they are able to focus on research or other personal advancement. One mentor shared the following: -"I'm glad the program will continue. The students really enjoyed it and the exposure. I hope they get more funding to expand it. There have been a lot of these programs that we do for no compensation so this one offers something to cover the minority tax so that is really really good. I see that the commitment level is higher and everyone is getting the best out of it". Mentors also mentioned that in the future it would be great for CFAR to have a pool of funds that mentors had access to extend support of their trainees beyond the 16-weeks for either direct research or assistance with abstract/paper development and travel to conferences. One mentor specifically mentioned currently applying for funds to send their trainees to a conference in New Zealand. She recognizes this may not be feasible right now but something for program leadership to consider for the future.
6. **Encourage and support trainees to write letters of support for mentor file.** Mentors expressed gratitude for the availability of letters from John and CFAR leadership and noted the potential benefit of also having both constructive feedback and letters from trainees as part of their files.

Research/Training Experience Recommendations

1. **Work with mentors in advance to provide information/access to relevant scholar trainings.** Depending on the type of research project trainees worked on, there were certain trainings they needed to complete prior to them being able to start or fully engage in certain aspects of their project. One mentor mentioned how tricky this was due partly because of the limited availability of the trainee as well as the limited availability of offerings and requirements to complete the training. For example, one mentor shared that it made sense for lab members to be trained in flow cytometry which requires 3-4 training sessions, each of which is 1-3 hours and is only held once a month. By having knowledge of key trainings that are either known to be required or likely required, CFAR leadership can share this information with trainees in advance of the

official summer start time and where feasible enable them to get a head start on training for their project.

Mentorship Experience

Overall mentors expressed their appreciation for and desire to have continued support in their roles as early career mentors. Having the opportunity to be mentored in the CFAR program proved a valuable resource in their career with some expressing their wish to have that access be continued rather than relegated to a specific timeframe. The demands of navigating a career in an academic setting was something that provided various challenges. For one mentor in particular, they expressed the pressure of taking on the mentor role as “anxiety inducing”. The following quote expands on this thought: “I place a lot of time on doing something well because I don’t want someone to look at me and say “oh that Latino” didn’t do something well. So I feel like when I don’t have all the tools its doubly anxiety producing because if I can’t do this well then programs like [CFAR] won’t be funded well or funded in the future. We feel we have to over excel when we didn’t have training to over excel. It’s hard to feel you can excel and you feel the scrutiny.” The pressure experienced by URM mentors serves as an important reminder of the importance of scaffolding layers of support, trainings and resources when developing research trainee programs for URM undergraduates and early career researchers. The following section highlights topics of trainings and resources identified as facilitators to mentor success.

Sub categories:

Tips for Establishing and Maintaining a successful mentoring relationship

The following list identifies key strategies and tips used by mentors to establish and sustain a successful mentoring relationship during the program:

- Use of clear communication to establish goals and boundaries
- Regularly reassessing goals and exploring next steps
- Maintaining communication (ex. regular check-ins even during busy weeks)
- Clarifying expectations whenever necessary (including little things like permission to call or refer to them as mentor)
- Working in partnership with other mentors and CFAR leadership to curate a unifying message (specifically ensuring trainees know they have access to multiple people during the program for support)
- Leading with honesty and transparency and taking responsibility of actions
- Engaging in self-care (sometimes as encouraged by the mentee)
- Mentoring from an asset/strength-based framework (recognizing, publicly applauding student strengths)
- Exhibiting follow through on expectations
- Leading from a thoughtful and non-burdening frame of reference

Desired trainings for future participation

The following list identifies key workshop or training sessions that mentors would find helpful for future participation:

- Strategies and tools for discussing race-related issues, discrimination and racism in academia and beyond

- Navigating power dynamics
- Strategies for early careerists mentoring URM undergraduates
- Tips for working with burnt out students, trainees that need to be reinvigorated about research
- Tools to help students identify personal strengths and what careers they are best suited towards
- How to terminate a mentorship where student interest and commitment has waned
- Dealing with conflict in the lab
- Helpful practices for setting expectations, developing and maintaining systems of communication

Helpful resources and tools

The following list identifies key workshop or training sessions that mentors have attended in the past and found useful in their role as mentor:

- Mentoring the Mentor
- UCSF FLARE Future leaders advancing Research in Endocrinology
- UCSF Dept of Medicine PIVOT training
- “Your Personal Sacred Path” presented by Landmark a personal/professional development company
- NIDDK Mentor Training Program
- CFAR (end of the year program)

One key take away was the fact that federal funding often places restrictions on what types of trainings are covered. These trainings are the ones that focus on “how we act” within academia but as one mentor put it : “this neglects the reality that academia was not structured for people who have been through trauma like URM and it creates a threat to thriving, we need to bring people in to train and develop us as human beings.” They stressed the importance of access to trainings that support the identification of purpose and the journey we take as human beings. The following quote expressed the nuance of a program like CFAR with its aims as having junior faculty serve as mentors for undergraduates and the balance of holding both the needs of the mentor and the trainee in perspective:

“Having individual consultation or perspective on how to keep going or try something new [was key] I think all of us were pretty junior. I think for me I would have loved to have had years of mentoring experience and I would have felt more comfortable. I get the importance of having URM as mentors who are early but it’s also a little nerve racking. While I know about some of the practical side of things for up-and-coming scholars it can benefit from its own training module of formalized support. Specifically mentoring students who are disadvantaged or underrepresented, and the approaches found to be successful.”

CONCLUSION

While this report focused largely on providing key recommendations for the upcoming CFAR program cycle, the richness of information and data provided by scholars and mentors attest to the impact the program had on both groups during its inaugural year. CFAR leadership should take pride in knowing that they have developed a well thought out program that provides multi-faceted and extensive layers of exposure to research career options, applied research experience and mentorship to a population of students who remain largely under-represented in the field of HIV research. The following take home exemplars solidifies this point:

“I feel like a lot of programs just kind of give the mentorship, and they just have to do like an abstract, and that’s it. but there were connections here to learn the science and get to know people and different kinds of science. CFAR was different in the sense that they actually have to give a talk, and they get

feedback, and the communities were there to support them. I thought that was really helpful. The training staff in the program was really valuable... and I think the fact that the program tried to provide career mentorship for this group of scholars was also great and gave high yields. And so I think it's a great program, and I hope that it can continue to grow and develop in new and different ways... It was really exciting to be a part of the program. And hopefully, I will be part of the program again in the future."