

Higher Education Research and Development (HERD) Proposed COVID-19 Impact Questions Testing

Report and Recommendations

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prepared for

**National Science Foundation
National Center for Science and Engineering Statistics**

by



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Introduction

The National Center for Science and Engineering Statistics (NCSES), within the National Science Foundation (NSF) conducts the Higher Education Research and Development (HERD) Survey annually. The HERD survey collects information on the financial resources allocated to R&D by universities and colleges and is one of several surveys at NCSES that collect comparable information on R&D from different sectors of the economy (e.g., businesses, nonprofits, and government).

The closures and social distancing requirements resulting from the COVID-19 pandemic disrupted routine R&D at colleges and universities beginning in March 2020. At the same time, additional funding to address pandemic-related topics became available and some researchers pivoted their work to these topics. NCSES wanted to include questions on the FY 2020 HERD survey, due to launch in early November 2020, that would measure the impacts of the COVID-19 pandemic on higher education R&D activity. However, questions asking for detailed expenditure amounts would likely take too long to develop and would be too burdensome for universities and colleges to complete. For those reasons, NCSES proposed adding a few easy to complete, qualitative questions to assess impacts of the pandemic.

After initial question design, ICF conducted cognitive interviews with 15 higher education institutions to get feedback on the proposed questions. Additionally, during the annual HERD survey update webinar, attendees were asked through a poll how easy it would be to answer the questions should they appear on the FY 2020 HERD survey. This report summarizes the findings and recommendations based on the testing and webinar polls.

Methodology

Question Development

Three questions were initially designed by NCSES. These questions asked about the degree of disruption to the institution's FY 2020 R&D, and whether R&D funds were diverted or added as a direct result of the COVID-19 pandemic. ICF's survey methodologist reviewed the questions and provided feedback. The questions were then revised based on additional NCSES and ICF discussions.

Following the first nine cognitive interviews, ICF and NCSES revised the questions based on feedback before conducting six additional cognitive interviews. Minor revisions were also made prior to presenting the final questions at the annual survey update webinar.

Testing Timeline

Table 1 presents the timeline for testing.

Table 1. Timeline for Testing

Task	Timeframe
Round 1 Invitation E-mails Sent	August 20, 2020
Round 1 Interviews Occur	August 24-28, 2020
Round 2 Invitation E-mails Sent	September 11, 2020
Round 2 Interviews Occur	September 14-16, 2020
Polling of Respondents	October 7, 2020

Sample

The sample was limited to HERD standard form institutions from the three highest quartiles by total R&D expenditures reported for FY 2019. These institutions have higher levels of research activity and thus have a greater impact on total R&D. They also have greater insight into issues related to the R&D interruptions. Institutions that were part of other recent methodological work were excluded from the sample. Eligible institutions were randomly selected from the three quartile groups. ICF selected a sample of 60 institutions.

Recruitment

Sampled institutions were invited to participate in an interview to discuss the COVID-19 questions. Appendix A includes all contact protocols. The e-mail was sent to the HERD primary contact. In the invitation e-mail, institutions were asked to contact ICF if they were interested and available to complete an interview by August 28 (for round 1) and by September 16 (for round 2). If respondents said they were interested, we first sent them a copy of the questions and asked them to review. In the e-mail they were told, "If you are not the best person to answer these questions, we ask that you invite that person to the interview, or ask them to contact me to schedule an interview." Once institutions reviewed the questions and provided names and availability, we scheduled the interviews.

Table 2 includes the number of invited and interviewed institutions in each quartile.

Table 2. Number of Institutions Invited and Interviewed

Quartile	Type of Control	Invited	Interviewed
2nd	Public	12	3
	Private	8	2
3rd	Public	12	3
	Private	8	3
4th	Public	12	2
	Private	8	2
Total		60	15

Participants

Information on the participating institutions are presented in table 3.

Table 3. Information About Institutions That Participated in Interviews

Institution	Type of Control	Quartile	FY 2019 Total R&D (in thousands)
University of Pennsylvania	Private	4th	\$1,506,285
University of Southern California	Private	4th	\$909,683
Colorado State University, Fort Collins	Public	4th	\$398,477
University of Missouri, Columbia	Public	4th	\$278,793
Boise State University	Public	3rd	\$39,824
Illinois Institute of Technology	Private	3rd	\$34,334
Northern Illinois University	Public	3rd	\$26,570
Nova Southeastern University	Private	3rd	\$24,567
University of Tulsa	Private	3rd	\$18,648
Tennessee State University	Public	3rd	\$15,236
St. Edward's University	Private	2nd	\$9,650
Sam Houston State University	Public	2nd	\$9,445

Institution	Type of Control	Quartile	FY 2019 Total R&D (in thousands)
University of New England	Private	2nd	\$7,346
Florida Gulf Coast University	Public	2nd	\$5,907
University of North Carolina, Asheville	Public	2nd	\$4,602

Testing Format

As previously mentioned, participants were sent the COVID-19 questions prior to scheduling the interview (see Appendix B and C). During the interview, participants were asked questions about their interpretation of phrases and words of the questions and response options. Interview protocols are included in Appendix D and E. The interviews lasted approximately 30 minutes.¹

We offered a video conference option to participants, and none chose this option.

Detailed Findings

Before asking participants about the COVID-19 impact test questions, the interviewer asked the respondents to provide an overview of how research has changed at their institution since mid-March. Most of the participants said that the institution completely shut down or paused on-campus research activities for at least a few weeks, beginning in mid-March. Participants mentioned that even when the campus was closed, many researchers were able to pivot their work to things that could be done remotely, such as analysis and writing. By June, institutions were beginning to “ramp up” and begin limited on-campus research again. In many cases, faculty and staff could begin working in labs before students were allowed to access labs or other on-campus research spaces.

Participants were also asked if there were words or phrases that their institution was using to describe the effects of the pandemic on research. About half of the participants said that there were not, while the other half said that they were using words such as “shut down,” “paused,” “suspension of activities,” or “disruption.”

Below, we summarize the feedback provided by respondents for all test questions during both rounds of cognitive interviews.

Question A: Degree of Disruption to R&D Activities

Once participants were given a few minutes to read the question, they were asked what they thought Question A was asking in their own words. Most of the participants understood what this question was asking; however, during the first round of interviews, participants thought about varied types of R&D and timeframes. During round 1, Question A only referred to FY 2020 R&D activities, with no other clarifications about reference periods or types of R&D. Most of the participants in round 1 thought about on-campus or field research only. Two participants said that they thought about on-campus research first and then began thinking more broadly to “nonphysical” research that could be done remotely. Further, participants were asked what timeframe they thought of when reading this question,

¹ Round 1 participants were told that the interview would last 15 minutes, and we attempted to keep those interviews as close to 15 minutes as possible. However, most of these interviews lasted at least 20 minutes, and some were closer to 30 minutes. For round 2, all participants were told that the interview would last 30 minutes, and all were within that timeframe.

and answers varied from March through June, spring and fall, and the height of the shutdown at their institution.

During round 1, response options asked respondents to gauge the level of disruption (e.g., partially shut down). While some participants thought the response options were understandable, four participants thought that the categories needed clarification. One participant noted a change in response options from using *shutdown* to *disruption*, and three others commented that the use of “fully,” “partially,” and “minimally” made it harder to determine which response option to select.

Five of the respondents said that it would be easy to answer this question across the entire institution, but two said that it would be difficult. Both of these participants were the same participants who said that they thought of research activities that were not just in labs or field work.

Following the first round of interviews, we made the following changes to Question A. No changes were made after the second round of interviews.

- **Changed focus from FY 2020 to June 2020.** In round 1, most of the participants said that there was an initial shutdown of activities (beyond R&D) in March and April, but by June, the campus and R&D activities were “ramping up” again. During round 2, while this wording change caused some participants to ask, “why June,” participants felt that adding this specific timeframe made it easier to answer the question. One participant said that while it would be easier to answer, it would not reflect the entire picture of how R&D activities were impacted by the pandemic.
- **Added instruction to think about on-campus and off-campus activities.** Before the instruction was added, most participants initially thought of on-campus R&D activities only when answering this question. During the interviews, some participants said that as they thought about the question, they considered off-campus R&D, and some only thought about that when asked during the interview. After the second round of interviews, participants agreed that this clarification made the question easier to answer. Most of the participants in round 2 said that they would think primarily of on-campus R&D activities or would need to ask for more clarification if this instruction was not there.
- **Changed the response options to reflect performance of R&D activities versus disruption/shutdown of R&D.** Participants during round 1 did not think that selecting a response would be easy with the response options provided. During round 2, participants said that the new response options (e.g., “Could not perform any R&D,” “Could perform almost all R&D”) made sense and would make it easier to respond to this question.
- **Other minor changes were made for consistency with other questions on the HERD survey.** We moved the instruction “Your best estimate is fine” to the second bullet and changed “fine” to “acceptable” to be consistent with other questions on the HERD survey. We also changed and moved the instruction from the “check one” response option to “select one” directly above the response options.

Question B: Diverted R&D Funds

Diverted Funds (Question B1)

Most participants understood that diverted funds meant the intent of the original funds changed to something else, COVID-19 related in this case. There were a couple of participants who said that they were not sure how they would do this in the case of sponsored research, but they did understand the question and thought it would be easy to answer. Most of the participants said that they did not divert funds for this purpose.

During round 1, Question B1 did not contain information on types of R&D funds, so participants were first asked what R&D funds they thought of when reading this question. Five participants said that they thought of sponsored or externally funded research, two participants questioned whether they should include institutionally funded R&D, and two participants said that they thought immediately of both sponsored and institutionally funded R&D.

Five participants were asked if they tracked diverted funds (regardless of whether they diverted funds in this instance), and three participants said that they would be tracked, but two participants said that they would not be easily and/or consistently tracked.

Percentage of Diverted Funds (Question B2)

Four participants said that Question B2 (the percentage of funds diverted) would be easy to answer if they diverted funds, while three participants said it would be difficult. However, they also said that the instruction that “Your best estimate is acceptable” would help in answering the question.

Only one participant said that the response options did not make sense. This participant said that asking for percentages could be confusing, as it is not clear where the percentage of funds is from (e.g., all active awards and funds received to date or just expenditures for the fiscal year). This participant did not have diverted funds. All other participants in round 1 and in round 2 thought that the response options and ranges of percentages made sense.

Changes to Question B Between Rounds

Following the first round of interviews, we made the following changes to Question B. No changes were made after the second round of interviews.

- **Added instruction to think about all R&D funds including sponsored research, unrestricted gifts, and institutionally financed R&D to Question B1.** Before the instruction was added, five participants said that they only thought about sponsored research. During round 2, three of the participants said that without this added instruction, they would only think of sponsored research, and all noted that this instruction was important to include.
- **Moved response options yes and no under Question B1.** At the request of an NCSSES survey methodologist, these options were moved from the right of the question to directly below it to be more intuitive for the participants.
- **Minor changes were made to Question B2.** We moved the instruction “Your best estimate is fine” to a second bullet and changed “fine” to “acceptable” to be consistent with other questions on the HERD survey. We also changed and moved the instruction from the “check one” response option to “select one” directly above the response options.

Question C: New R&D Funds Received

Receiving New Funds (Question C1)

Participants understood this question to be asking about external funds received, however, there was confusion during round 1 on what type of R&D should be included and if funds other than R&D that were received because of COVID-19 should be included. Two participants asked if this was intended to include Coronavirus Aid, Relief, and Economic Security (CARES) Act funding or other funding that was received because of COVID-19 but may not have specifically been intended for R&D.

While not all participants said that their institution received R&D funding as a result of the COVID-19 pandemic, those that did said this would be tracked in their systems. A couple of others that did not

receive funding said that they thought this would be tracked, but they were not sure how well it would be tracked to be able to answer this question. While responding to this, one institution asked if the funds needed to be spent in FY 2020.

External Sources of New Funds (Question C2)

All participants understood this question asking for the funding agency or sponsor of the new funds received. Some participants said that the types of sources listed were familiar and similar to other HERD survey questions. They also said that this question would be easy to answer if they received new funds, because this is how their institution tracks new funds.

When asked if any sources of funding were missing, the only source that two participants said was international/foreign and one participant said gifts or donations.

Changes to Question C Between Rounds

Following the first round of interviews, the following changes were made to Question C.

- **Changed wording of Question C1 to clarify new funds for R&D could be added as *result of COVID-19* and added the instruction: “This could include R&D that is not specifically related to COVID-19.”** This phrasing was changed and added to because there was confusion during round 1 on what type of R&D should be included and if funds other than R&D that were received because of COVID-19 should be included. During round 2, there was more clarity because of these additions, but it did not completely clear up the intent of the question for respondents. Two round 2 respondents still thought that this could mean funds received because of COVID-19 but not related to R&D, while one thought that it was only referring to R&D specifically related to COVID-19. Therefore, an additional change was made following round 2.
- **Added clarity and examples to the instruction: “This could include R&D that is not specifically related to COVID-19.”** Adding this instruction before the second round of interviews helped participants understand that the new funds did not need to be for COVID-19 research. However, a couple of participants said that this instruction initially caused confusion and seemed to make them think about non-R&D funds. Participants from two institutions said that it would be useful to include an example of this type of research.
- **Added the timeframe of FY 2020 to Question C1 and added the instruction: “Funds need not be spent in FY 2020.”** The timeframe and instruction were added for clarity. This was in part because one institution asked if the funds needed to be spent in FY 2020 and because the FY 2020 survey is fielded during institutions’ FY 2021.
- **Moved response options yes and no under Question C1.** At the request of an NCSSES survey methodologist, these options were moved from the right of the question to directly below it to be more intuitive for the participants.
- **Removed the instruction to refer to Question 1 of the survey if more information is needed about the types of sources list as response options on Question C2.** NCSSES recommended removing this reference. Because the information in Question 1 includes a lot of text, we did not want to add it to this question. During round 2, participants were asked if a reference to Question 1 would be helpful in answering this question, and they all said that it would, even though some said that it was not necessary for their response. Therefore, this reference was added back to the final question.
- **Added “including foreign governments, other universities and gifts” to the Other sources option on Question C2.** During round 1, these were noted by two participants as missing from the list. During round 2, participants said that there were no sources missing from the list.

- **Changed and moved the instruction from “check all that apply” to “select all that apply” directly above the response options.** These changes were made to be consistent with other questions on the HERD survey.

Results from Webinar Polls

During the annual HERD survey update webinar, NCSSES presented the three questions and conducted a poll for each, asking attendees how easy or difficult it would be to answer each question should they appear on the FY 2020 HERD survey. See appendix F for the final questions presented during the webinar. Each proposed question was presented separately on a PowerPoint presentation. Attendees were given 1 to 2 minutes to read the question before a poll question appeared in a separate window on the screen. The poll question asked, “How easy or difficult would it be to answer Question [A] for the FY 2020 HERD survey?” Participants were given another minute to respond. For questions B and C, which both included two parts, attendees were asked to provide feedback about both parts of the questions.

There were 666 attendees from 483 institutions (390 standard form and 93 short form). Not all attendees responded to each poll question, but some institutions were represented more than once per poll. Appendix G provides full poll results for each question.

There were 565 attendees (85 short form and 480 standard form) that responded to Question A. Most participants said Question A would be easy (38.2%) or neither difficult nor easy (37.9%) to answer on the FY 2020 survey; more short form institutions said it would be easy (45.9%) while standard form institutions were still split between easy (36.9%) and neither difficult nor easy (39.6%).

There were 543 attendees (79 short form and 464 standard form) that responded to Question B. Participants were clustered between responding that Question B1 would be easy (29.3%), neither difficult nor easy (27.1%), or difficult (30.2%) to answer on the FY 2020 survey. Short form institutions were more likely to respond that it would be easy (38.0%), while standard form institutions were more likely to say that it would be difficult (31.3%). Institutions were most likely to respond that answering Question B2 would be difficult (39.2%).

There were 550 attendees (79 short form and 471 standard form) that responded to Question C. Nearly half (47.8%) responded that answering Question C1 would be easy, and 44.7% said that answering Question C2 would be easy.

APPENDIX A: Cognitive Interview Communications

Contact Materials for COVID-19 Question Interviews

Invitation

To: Primary contact

Cc: others normally included in survey contacts

From: NSF Higher Education R&D Survey

Re: HERD Survey: Tracking Impacts of the COVID-19 Pandemic on R&D ([[inst_id]])

Dear [[firstname]] [[lastname]]:

Thank you, again, for completing the FY 2019 Higher Education Research and Development (HERD) Survey. I appreciate your time and efforts.

I am writing today to request your assistance in our attempt to measure the impacts of the COVID-19 pandemic on higher education research and development (R&D). The National Center for Science and Engineering Statistics within the National Science Foundation is considering adding a few questions on this topic to the FY 2020 survey. Before we finalize the questionnaire, we would like to get feedback from current survey respondents about the questions and how impacts of the pandemic on research activities are being tracked at your institution.

If you are willing to help, we would ask you to do two things:

- 1) Review a draft of the COVID-19 questions and identify the best person(s) at your institution for us to interview.** Because these are not typical HERD survey questions, you may find that you are not able to answer these questions on your own. We will send you the questions to review before the interview, so you have time to discuss them with others at your institution.
- 2) Participate in a 15 minute virtual interview.** During the interview, we will ask you, and any others you would like to invite, about your ability to answer the potential survey questions and how your institution is tracking the impacts of the pandemic on research activities. We would like to complete the interviews by **August 28**.

If you, or someone else from your institution, is able to help, please contact Cameron Shanton from our survey staff at ICF at support@herdsurvey.org or 866-936-9376. If we do not hear from you by August 24, we will contact you again. Cameron will send you the questions to review and follow-up later to schedule a time for the interview.

Thank you for your help and for your continued participation in the NSF HERD Survey.

Sincerely,

Michael Gibbons

Project Officer, Higher Education R&D Survey

National Center for Science and Engineering Statistics

National Science Foundation

Invitation Additional Information – Sending Questions to Confirm Participation

To: Person(s) who volunteered to participate

Cc:

From: NSF Higher Education R&D Survey

Re: HERD Survey: COVID-19 Pandemic test questions ([[inst_id]])

Dear [[firstname]] [[lastname]]:

Thank you for agreeing to participate in a brief interview on potential new questions for the FY 2020 Higher Education Research and Development (HERD) Survey about the impacts of the COVID-19 pandemic on R&D activity.

The questions we'll be discussing during the interview are attached to this email. During the interview, we'll ask about your ability to answer the questions and your general understanding of the questions. We will also ask some questions about how the impacts of the pandemic on research activities are being tracked at your institution.

Please review the questions, discuss with your colleagues, and contact me to schedule a 15-minute follow-up interview. We would like to complete the interviews by August 28. You can contact me at support@herdsurvey.org or 866-936-9376.

If you are not the best person to answer these questions, we ask that you invite that person to the interview, or ask them to contact me to schedule an interview.

Thank you for your help and for your continued participation in the NSF HERD Survey.

Sincerely,

Cameron Shanton
Data Collection Specialist
Higher Education R&D Survey
ICF

Invitation – Reminder E-Mail

To: Primary contact

Cc: others normally included in survey contacts

From: NSF Higher Education R&D Survey

Re: Please reply: Tracking Impacts of the COVID-19 Pandemic on R&D in the NSF-NCSES HERD Survey ([[inst_id]])

Dear [[firstname]] [[lastname]]:

A few days ago, we sent you an e-mail asking for your assistance. We are considering adding a few questions to the FY 2020 Higher Education Research and Development (HERD) Survey about the impacts of the COVID-19 pandemic on R&D activity. We want to be sure we understand the impacts of the pandemic on the research endeavor and the abilities of universities to track these impacts. We would greatly appreciate your input on our question development.

If you would like to speak with us about the effects of the pandemic on R&D at your institution, we would ask you to do two things:

- 1) Review a draft of the COVID-19 questions and identify the best person(s) at your institution for us to interview.** Because these are not typical HERD survey questions, you may find that you are not able to answer these questions on your own. We will send you the questions to review before the interview, so you have time to discuss them with others at your institution.
- 2) Participate in a 15 minute virtual interview.** During the interview, we will ask you, and any others you would like to invite, about your ability to answer the potential survey questions and how your institution is tracking the impacts of the pandemic on research activities. We would like to complete the interviews by **August 28**.

If you, or someone else from your institution, is able to help, please contact Cameron Shanton from our survey staff at ICF at support@herdsurvey.org or 866-936-9376. Cameron will send you the questions to review and follow-up later to schedule a time for the interview.

Thank you for your help and for your continued participation in the NSF HERD Survey.

Sincerely,

Michael Gibbons
Project Officer, Higher Education R&D Survey
National Center for Science and Engineering Statistics
National Science Foundation

Round 2 invitation to those who expressed interest in round 1 but were not interviewed
[Send in reply to last e-mail from respondent.](#)

To: Primary contact

Cc: others normally included in survey contacts

From: NSF Higher Education R&D Survey

Re: HERD Survey: Tracking Impacts of the COVID-19 Pandemic on R&D ([[inst_id]])

Dear [[firstname]]:

In August you mentioned your willingness to help review some questions we were considering adding to the HERD survey about the impacts of COVID-19 (see e-mail string below). At the time, we had already scheduled all the interviews we could.

We made revisions to the questions after we completed the first round of interviews and we'd like to conduct a few more interviews about the questions before we finalize the FY 2020 questionnaire.

If you, or someone else from your institution, is still able to help, you may reach me by e-mail at support@herdsurvey.org or call toll-free at 866-936-9376. **We would like to complete this next round by September 16.**

Thank you for your help and for your continued participation in the NSF HERD Survey.

Sincerely,

Cameron Shanton
Data Collection Specialist
Higher Education R&D Survey
ICF

Round 2 invitation to those who were invited in round 1 but never responded

To: Primary contact

Cc: others normally included in survey contacts

From: NSF Higher Education R&D Survey

Re: HERD Survey: Tracking Impacts of the COVID-19 Pandemic on R&D ([[inst_id]])

Dear [[firstname]] [[lastname]]:

In August, we sent you an e-mail requesting your assistance in our attempt to measure the impacts of the COVID-19 pandemic on higher education research and development (R&D). In that e-mail, we said that the National Center for Science and Engineering Statistics within the National Science Foundation is considering adding a few questions on this topic to the FY 2020 survey.

We conducted several interviews already and made revisions to the questions. Before we finalize the questionnaire, we would like to conduct a few more interviews. If you are willing to help, we would ask you to do two things:

- 1) Review a draft of the COVID-19 questions and identify the best person(s) at your institution for us to interview.** Because these are not typical HERD survey questions, you may find that you are not able to answer these questions on your own. We will send you the questions to review before the interview, so you have time to discuss them with others at your institution.
- 2) Participate in a 30 minute virtual interview.** During the interview, we will ask you, and any others you would like to invite, about your ability to answer the potential survey questions and how your institution is tracking the impacts of the pandemic on research activities. We would like to complete the interviews by **September 16**.

If you, or someone else from your institution, is able to help, please contact Cameron Shanton from our survey staff at ICF at support@herdsurvey.org or 866-936-9376. Cameron will send you the questions to review and follow-up later to schedule a time for the interview.

Thank you for your help and for your continued participation in the NSF HERD Survey.

Sincerely,

Michael Gibbons

Project Officer, Higher Education R&D Survey

National Center for Science and Engineering Statistics

National Science Foundation

Confirmation of Interview – Sent in round 1 and round 2

To: Person(s) who volunteered to participate
CC: other attendees, including relevant NCSES and ICF staff
From: NSF Higher Education R&D Survey
Re: Confirming interview ([[inst_id]])

Dear [[firstname]] [[lastname]]:

Thank you for agreeing to talk to us about possibly adding questions to measure the effects of the COVID-19 pandemic on R&D for the FY 2020 Higher Education R&D (HERD) Survey.

The [teleconference/video conference] is scheduled for **DayoftheWeek, Month XX, at X:XX AM/PM (EDT/CDT/MDT/PDT)**. At that time please [*call our conference line at 1-855-423-6338, conference ID is 450349/click on the link below to join the Skype meeting*]. Sherri Mamon will be leading the interview. I would be happy to send you a Microsoft Outlook invitation, if you prefer.

In advance of the interview, we would like to request your agreement with the attached informed consent. Please either return a signed copy of the attachment or reply to this e-mail stating your consent.

If you have further questions or need to reschedule, you may reach me by email at support@HERDsurvey.org or call toll-free at (866) 936-9376.

Thank you very much for your help.

Sincerely,
Cameron Shanton
Data Collection Specialist
Higher Education R&D Survey
ICF

Reminder of Interview – Sent in round 1 and round 2

This will be sent to institutions one business day before their scheduled interview, but only if they received the first confirmation at least 2 days before the scheduled interview.

To: Person(s) who volunteered to participate
CC: other attendees, including relevant ICF staff
From: NSF Higher Education R&D Survey
Re: Interview Reminder ([[inst_id]])

Dear [[firstname]] [[lastname]]:

This is just a reminder about our interview scheduled for **DayoftheWeek, Month XX, at X:XX AM/PM (EDT/CDT/MDT/WDT)**. At that time please *[call our conference line at 1-855-423-6338, conference ID is 450349/click on the link below to join the Skype meeting]*.

You do not need to do anything to prepare for this meeting. *[add in if informed consent has not yet been received, However, please return a signed copy of the attached informed consent or reply to this e-mail that you consent.]*

If you have any questions or need to reschedule, you may reach me by email at support@HERDSurvey.org or call toll-free at (866) 936-9376.

Thank you very much for your help.

Sincerely,
Sherri Mamon
Qualitative Researcher
Higher Education R&D Survey
ICF

Consent Form

The National Center for Science and Engineering Statistics (NCSES), within the National Science Foundation (NSF), designs, conducts, and sponsors surveys on science, engineering, and technology. In order to produce the best information possible, NCSES routinely evaluates its surveys.

You have volunteered to take part in a study to improve one of the NCSES's surveys. In order to have a complete record of your comments, your interview session will be recorded (audio and/or video). We plan to use the recordings to improve the survey. Staff directly involved in this research project will have access to the recordings. In addition, a transcription service may have access to the recordings, to provide us with a written version of your comments. They may also be used for training others to conduct this type of research, and in presentations to professional audiences. Specific results or quotes will not be attributed directly to you in any summaries or reports.

This study is authorized by law (42 U.S.C. 1862 Section 3.a.6.). The OMB control number for this study is 3145-0174.

I have volunteered to participate in this study, and I give permission for my recordings to be used for the purposes stated above.

Researcher's Signature

Participant's Signature

Printed Name

Printed Name

Date

Date

APPENDIX B: Round 1 Cognitive Interview Test Questions

Question A.

To what degree were your institution's FY 2020 R&D activities disrupted due to the COVID-19 pandemic? Your best estimate is fine.

(check one):

- Fully shut down R&D
- Almost fully shut down R&D
- Partially shut down R&D
- Minimally disrupted R&D
- Did not affect R&D at all

Question B.

1. In FY 2020, were any R&D funds diverted from their originally-intended research focus as a result of the COVID-19 pandemic?

Yes → Go to Question B2

No → Go to Question C

2. About what percentage of R&D funds did your institution divert for this purpose? Your best estimate is fine. (check one):

- 81 – 100%
- 61 – 80%
- 41– 60%
- 21 – 40%
- 1 – 20%

Question C.

1. Did your institution receive new funds for R&D related to COVID-19?

Yes → Go to Question C2

No → Section complete.

2. What were the external sources of funds? (check all that apply)

If needed, see Question 1 of the survey for more information about what is included in each source.

- Federal government
- State or local government
- Business
- Nonprofit organization
- Other sources

APPENDIX C: Round 2 Cognitive Interview Test Questions

Question A.

In June 2020, to what degree were your institution's expected R&D activities disrupted as a result of the COVID-19 pandemic?

- Think about all R&D activities, including on-campus and off-campus activities.
- Your best estimate is acceptable.

(Select one)

- Could not perform any R&D
- Could perform very little R&D
- Could perform some R&D
- Could perform almost all R&D
- Could perform all expected R&D

Question B.

1. In FY 2020, were any R&D funds diverted from their originally-intended research focus as a result of the COVID-19 pandemic?

- Think about all R&D funds including sponsored research, unrestricted gifts, and institutionally financed R&D.

Yes → Go to Question B2

No → Go to Question C

2. About what percentage of R&D funds did your institution divert for this purpose?

- Your best estimate is acceptable.

(Select one):

- 81 – 100%
- 61 – 80%
- 41– 60%
- 21 – 40%
- 1 – 20%

Question C.

1. In FY 2020, did your institution receive new funds for R&D as a result of the COVID-19 pandemic?

- This could include R&D that is not specifically related to COVID-19.
- Funds need not be spent in FY 2020.

Yes → Go to Question C2

No → Section complete

2. What were the external sources of funds?

(Select all that apply)

- Federal government
- State or local government
- Business
- Nonprofit organization
- Other sources, including foreign governments, other universities and gifts

APPENDIX D: Round 1 Cognitive Interview Protocol

COVID-19 Questions to Add to FY 2020 HERD Survey - Interview Protocol

Introduction

[Interviewer introduces herself.] Thank you very much for talking to me today. As you know from our initial contact, we're considering adding some questions related to the COVID-19 pandemic and how this is causing disruptions to R&D activities at colleges and universities.

Before we begin our interview, I want to review some information with you.

- The interview should last approximately 15 minutes.
 - There are other people on the phone. Some work with me at ICF on the HERD team and [if appropriate] others are from NCSES at NSF. They are listening to our discussion today and you may hear from them towards the end of the interview. Is that okay with you?
 - I received your informed consent earlier. Any questions?
 - [If informed consent was not received, review form and obtain verbal consent.]
1. For the record, can you tell me your title(s) and your role(s) in the HERD Survey?

You should have received the proposed new questions in an e-mail. If you aren't viewing them already, please refer to that attachment for our discussion. If you need me to resend it, let me know.

Effects of the Pandemic

Let's start broadly.

2. Can you give us a brief sense of how research at your institution has changed over the past few months (since mid-March)?
3. What words are your institution using to describe the effects of the pandemic on research?
 - a. [If needed, suggest words] halted, shut down, disrupted, uncertain, decreasing, impacted, increasing, thriving?

Question A (degree R&D disrupted)

Now let's take a look at Question A.

4. In your own words, what do you think this question is asking?
5. What were you thinking of as "R&D activities" when reading this question?
6. How useful are the response options?
 - a. Would you have any trouble deciding between any of the specific options such as fully shut down, almost fully shut down, partially shut down or minimally shut down?
 - i. What do each of the categories mean to you?
 1. Shut down for a week, a month, some other time period? Currently still shut down?
 2. Or do the categories reflect a percentage of researchers continuing to work?
 3. What would have needed to happen to move to a higher or lower category?
 - b. Do you think it will be easy or difficult to generalize across your entire institution? Can you tell me more about that?
7. What time period were you thinking of?
8. How easy or difficult do you think it would be to report about FY 2020 R&D activity only?

Question B (R&D funds diverted)

Now let's move to Question B and start by looking at Question B1.

9. What R&D funds do you think of when reading this question?
 - a. Did you think about externally sponsored projects? Funds from unrestricted gifts? Departmental funding or other institutional funds.
10. How would you define "diverted funds" in your own words?
11. Would you find this question easy or difficult to answer? Please explain.
12. Are diverted funds tracked in your institution's systems?

Now let's look at Question B2.

13. How easy or difficult would it be to answer this question?
14. Did you see the instruction "Your best estimate is fine"? Would this help you answer the question?
 - a. If we did not have that instruction, would you assume to use your best estimate?
15. How would you go about answering this question?
 - a. Probe on whether or not records are available, who has access to them....
16. Did the ranges in the response options provided make sense to you?
 - a. Would it be easier with broader ranges of percentages? Smaller ranges of percentages? Or some other response categories?

Question C (new R&D funds)

Now let's move to Question C and start by looking at Question C1.

17. What specific funds or types of funds are you thinking about when reading this question?
 - a. Are you thinking about external funds only? Are you thinking of any unrestricted funds or just sponsored R&D?
18. What kind of R&D projects were you thinking about when reading this question?
19. What does "R&D related to COVID-19" mean to you?
 - a. Do you think your institution received any funding that would meet these criteria? [If yes] Can you tell me more about that?
20. Are these new funds tracked in your institution's systems?

Let's look at Question C2.

21. In your own words, what do you think this question is asking?
22. How would you answer this question for your institution?
23. (If respondent selected "other sources") What sources were you thinking of?
24. Are there any sources of funds that you think should be added to the list?
25. How easy or difficult do you think this question is to answer?

Wrap Up

26. Are there any questions that you think would be more appropriate to ask in our attempt to capture disruptions to R&D related to the COVID-19 pandemic?

Those are all of the questions I had for you today. Did you have any other comments for us, or things we should keep in mind?

Thank you for taking the time to meet with us to discuss the effects of the pandemic on research at your college/university. We will let you know as soon as we can if these questions (or versions of these questions) are added to the FY 2020 HERD Survey.

APPENDIX E: Round 2 Cognitive Interview Protocol

COVID-19 Impact Questions to Add to FY 2020 HERD Survey - Interview Protocol

Introduction

[Interviewer introduces herself.] Thank you very much for talking to me today. As you know from our initial contact, we're considering adding some questions related to the COVID-19 pandemic and how this is causing disruptions to R&D activities at colleges and universities.

Before we begin our interview, I want to review some information with you.

- The interview should last approximately 30 minutes.
 - There are other people on the phone. Some work with me at ICF on the HERD team and [if appropriate] others are from NCSES at NSF. They are listening to our discussion today and you may hear from them towards the end of the interview. Is that okay with you?
 - I received your informed consent earlier. Any questions?
 - [If informed consent was not received, review form and obtain verbal consent.]
1. For the record, can you tell me your title(s) and your role(s) in the HERD Survey?

You should have received the proposed new questions in an e-mail. If you aren't viewing them already, please refer to that attachment for our discussion. If you need me to resend it, let me know.

Effects of the Pandemic

Let's start broadly.

2. Can you give us a brief sense of how research at your institution has changed over the past several months (since mid-March)?
3. What words are your institution using to describe the effects of the pandemic on research?
 - a. [If needed, suggest words] halted, shut down, disrupted, uncertain, decreasing, impacted, increasing, thriving?

Question A (degree R&D disrupted)

Now let's take a look at Question A.

4. In your own words, what do you think this question is asking?
5. What does "in June 2020" mean to you?
 - a. Are you thinking about the entire month, parts of the month, end of the month?
 - b. Does the timeframe of June 2020 make it easier or more difficult to answer this question?
6. Does the instruction to think about all R&D activities including on campus and off campus activities make it easier or more difficult to answer this question?
 - a. Do you think it will be easy or difficult to generalize across your entire institution? Can you tell me more about that?
 - b. If we didn't have this instruction, what R&D activities would you think about in answering this question?
 - c. Does your institution have R&D activities happening both on-campus and off-campus?
7. How useful are the response options?
 - a. Would you have any trouble deciding between any of the specific options?
 - i. What do each of the categories mean to you?
 1. Do the categories reflect a percentage of researchers continuing to work?
 2. How do you determine which response option to choose?

8. How easy or difficult do you think it would be to report about June R&D activity only?

Question B (R&D funds diverted)

Now let's move to Question B and start by looking at Question B1.

9. Does the instruction to think about all R&D funds including sponsored research, unrestricted gifts, and institutionally financed R&D make it easier or harder to answer this question? Tell me more about that.
 - a. If we didn't have this instruction, what would you think should be included in this question?
10. How would you define "diverted funds" in your own words?
11. Are diverted funds tracked in your institution's systems?

Now let's look at Question B2.

12. How easy or difficult would it be to answer this question?
13. Did you see the instruction "Your best estimate is acceptable"? Would this help you answer the question?
 - a. If we did not have that instruction, would you assume to use your best estimate?
14. How would you go about answering this question?
 - a. Probe on whether or not records are available, who has access to them....
15. Did the ranges in the response options provided make sense to you?
 - a. Would it be easier with broader ranges of percentages? Smaller ranges of percentages? Or some other response categories?

Question C (new R&D funds)

Now let's move to Question C and start by looking at Question C1.

16. In your own words, what do you think this question is asking?
 - a. What does "R&D as a result of the COVID-19 pandemic" mean to you?
 - b. What does the instruction that "This could include R&D that is not specifically related to COVID-19" mean to you?
 - c. Do you think your institution received any funding that would meet these criteria? [If yes] Can you tell me more about that?
17. What specific funds or types of funds are you thinking about when reading this question?
18. What kind of R&D projects were you thinking about when reading this question?
19. The question currently asks about your institutions *receiving* new funds. Would this question be easier to answer if it asked if your institution was *awarded* new funds?
20. Does the instruction "Funds need not be spent in FY 2020" make it easier or more difficult to answer this question?
21. Are these new funds tracked in your institution's systems?

Let's look at Question C2.

22. How easy or difficult do you think this question is to answer?
 - a. Do you understand the types of funds included in each response option?
 - b. These sources are the same used in Question 1 of the HERD survey. Do you think more information about these sources or making a reference to Question 1 would be helpful in answering this question?
23. How would you answer this question for your institution?
24. (If respondent selected "other sources") What sources were you thinking of?

25. Are there any sources of funds that you think should be added to the list?

Wrap Up

26. Are there any questions that you think would be more appropriate to ask in our attempt to capture disruptions to R&D related to the COVID-19 pandemic?

Those are all of the questions I had for you today. Did you have any other comments for us, or things we should keep in mind?

Thank you for taking the time to meet with us to discuss the effects of the pandemic on research at your college/university. We will let you know as soon as we can if these questions (or versions of these questions) are added to the FY 2020 HERD Survey.

APPENDIX F: Final COVID-19 Impact Questions

Question A.

In June 2020, to what degree were your institution's expected R&D activities disrupted as a result of the COVID-19 pandemic?

- Think about all R&D activities, including on-campus and off-campus activities.
- Your best estimate is acceptable.

(Select one)

- Could not perform any R&D
- Could perform very little R&D
- Could perform some R&D
- Could perform almost all R&D
- Could perform all expected R&D

Question B.

1. In FY 2020, were any R&D funds diverted from their originally-intended research focus as a result of the COVID-19 pandemic?

- Think about all R&D funds including sponsored research, unrestricted gifts, and institutionally financed R&D.

Yes → Go to Question B2

No → Go to Question C

2. About what percentage of R&D funds did your institution divert for this purpose?

- Your best estimate is acceptable.

(Select one):

- 81 – 100%
- 61 – 80%
- 41– 60%
- 21 – 40%
- 1 – 20%

Question C.

1. In FY 2020, did your institution receive new funds for R&D as a result of the COVID-19 pandemic?

- This could include funding for R&D that is indirectly related to COVID-19 (e.g., effects of virtual learning on student performance, economic impacts of community job loss) or supplemental funding for ongoing R&D (e.g., modifications to support extended timelines or purchases of additional safety equipment).
- Funds need not be spent in FY 2020.

Yes → Go to Question C2

No → Section complete

2. What were the external sources of funds?

- If needed, see Question 1 of the survey for more information about what is included in each source.

(Select all that apply)

- Federal government
- State or local government
- Business
- Nonprofit organization
- Other sources, including foreign governments, other universities and gifts

APPENDIX G: FY 2020 HERD Survey Update Webinar Poll Results

Question A

Row Labels	All A Response	
Very easy	44	7.8%
Easy	216	38.2%
Neither difficult nor easy	214	37.9%
Difficult	86	15.2%
Very difficult	5	0.9%
Grand Total	565	100.0%

Short Form Respondents

Row Labels	Short Form A Response	
Very easy	6	7.1%
Easy	39	45.9%
Neither difficult nor easy	24	28.2%
Difficult	15	17.6%
Very difficult	1	1.2%
Grand Total	85	100.0%

Standard For Respondents

Row Labels	standard form A Response	
Very easy	38	7.9%
Easy	177	36.9%
Neither difficult nor easy	190	39.6%
Difficult	71	14.8%
Very difficult	4	0.8%
Grand Total	480	100.0%

Question B1

Row Labels	All B1 Response	
Very easy	33	6.1%
Easy	159	29.3%
Neither difficult nor easy	147	27.1%
Difficult	164	30.2%
Very difficult	40	7.4%
Grand Total	543	100.0%

Short Form B1 Response

Row Labels	Short Form B1 Response	
Very easy	6	7.6%
Easy	30	38.0%
Neither difficult nor easy	22	27.8%
Difficult	19	24.1%
Very difficult	2	2.5%
Grand Total	79	100.0%

Standard Form B1 Response

Row Labels	Standard Form B1 Response	
Very easy	27	5.8%
Easy	129	27.8%
Neither difficult nor easy	125	26.9%
Difficult	145	31.3%
Very difficult	38	8.2%
Grand Total	464	100.0%

Question B2

Row Labels	All B2 Response	
Very easy	14	2.6%
Easy	79	14.5%
Neither difficult nor easy	139	25.6%
Difficult	213	39.2%
Very difficult	98	18.0%
Grand Total	543	100.0%

Short Form B2 Response

Row Labels	Short Form B2 Response	
Very easy	5	6.3%
Easy	13	16.5%
Neither difficult nor easy	29	36.7%
Difficult	23	29.1%
Very difficult	9	11.4%
Grand Total	79	100.0%

Standard Form B2 Response

Row Labels	Standard Form B2 Response	
Very easy	9	1.9%
Easy	66	14.2%
Neither difficult nor easy	110	23.7%
Difficult	190	40.9%
Very difficult	89	19.2%
Grand Total	464	100.0%

Question C1

Row Labels	All C1 Response	
Very easy	69	12.5%
Easy	263	47.8%
Neither difficult nor easy	125	22.7%
Difficult	77	14.0%
Very difficult	16	2.9%
Grand Total	550	100.0%

Short Form C1 Response

Row Labels	Short Form C1 Response	
Very easy	14	17.7%
Easy	34	43.0%
Neither difficult nor easy	21	26.6%
Difficult	8	10.1%
Very difficult	2	2.5%
Grand Total	79	100.0%

Standard Form C1 Response

Row Labels	Standard Form C1 Response	
Very easy	55	11.7%
Easy	229	48.6%
Neither difficult nor easy	104	22.1%
Difficult	69	14.6%
Very difficult	14	3.0%
Grand Total	471	100.0%

Question C2

Row Labels	All C2 Response	
Very easy	54	9.8%
Easy	246	44.7%
Neither difficult nor easy	161	29.3%
Difficult	70	12.7%
Very difficult	19	3.5%
Grand Total	550	100.0%

Short Form C2 Response

Row Labels	Short Form C2 Response	
Very easy	14	17.7%
Easy	31	39.2%
Neither difficult nor easy	26	32.9%
Difficult	7	8.9%
Very difficult	1	1.3%
Grand Total	79	100.0%

Standard Form C2 Response

Row Labels	Standard Form C2 Response	
Very easy	40	8.5%
Easy	215	45.6%
Neither difficult nor easy	135	28.7%
Difficult	63	13.4%
Very difficult	18	3.8%
Grand Total	471	100.0%