

Demonstrating the Value of Post-Graduate Fellowships for Physicians in Quality Improvement and Patient Safety

COREQ Checklist

| Checklist Item | Guide Questions | Fulfilled or Addressed? | Evidence/Comments |
|---|---|-------------------------|---|
| 1. Interviewer/facilitator | Which author/s conducted the interview or focus group? | Yes | Methods |
| 2. Credentials | What were the researcher's credentials? | Yes | Title page |
| 3. Occupation | What was their occupation at the time of the study? | Yes | Title page |
| 4. Gender | Was the researcher male or female? | No | Unclear how to word this, and it's unusual to include this in studies published in the medical literature |
| 5. Experience and training | What experience or training did the researcher have? | Partially | Methods: "Coding was supervised by an experienced qualitative researcher (MBL-F). An experienced research assistant (ARP) coded the data..." |
| 6. Relationship established | Was a relationship established prior to study commencement? | Yes | Methods: "Graduates were contacted via email by the fellowship program directors" |
| 7. Participant knowledge of the interviewer | What did the participants know about the researcher? | Yes | Methods: "Graduates were contacted via email by the fellowship program directors" |
| 8. Interviewer characteristics | What characteristics were reported about the interviewer/facilitator? | Yes | Methods: "trained research assistant" |
| 9. Methodological orientation and Theory | What methodological orientation was stated to underpin the study? | Yes | Methods: "This was a prospective cross-sectional cohort study using a qualitative descriptive approach." |
| 10. Sampling | How were participants selected? | Yes | Introduction and Methods: "All graduates from fellowship inception (2009 for Penn, 2012 for HMS) to June 2017 were eligible for the study." |
| 11. Method of approach | How were participants approached? | Yes | Methods: "Graduates were contacted via email..." |
| 12. Sample size | How many participants were in the study? | Yes | Results: "Twenty-eight out of 31 eligible graduates (90%) participated in the study." |
| 13. Non-participation | How many people refused to participate or dropped out? Reasons? | Partially | Results: "Twenty-eight out of 31 eligible graduates (90%) participated in the study." Reasons for non-participation are not included in the manuscript. We believe that scheduling conflicts explain our inability to capture 100% of the eligible group. |
| 14. Setting of data collection | Where was the data collected? | Yes | Methods: "All interviews were conducted by telephone..." |
| 15. Presence of non-participants | Was anyone else present besides the participants and researchers? | No | Not applicable |
| 16. Description of sample | What are the important characteristics of the sample? | Yes | Methods: "All graduates from fellowship inception (2009 for Penn, |

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| | | | 2012 for HMS) to June 2017 were eligible for the study.” |
| 17. Interview guide | Were questions, prompts, guides provided by the authors? Was it pilot tested? | Yes | Methods: “Two separate interview instruments were developed by the authors (JSM, MLF, ARP, AVT) for the graduates and their mentors. (see supplementary digital material) The instruments were pilot-tested with three graduates and mentors of a separate residency training pathway in QI at one of the sites and subsequently adjusted for clarity, efficiency, and to explore emerging ideas.” |
| 18. Repeat interviews | Were repeat interviews carried out? If yes, how many? | No | No applicable |
| 19. Audio/visual recording | Did the research use audio or visual recording to collect the data? | Yes | Methods: “All interviews were conducted by telephone, audio-recorded, de-identified, and professionally transcribed verbatim between February and June 2018.” |
| 20. Field notes | Were field notes made during and/or after the interview or focus group? | No | Not applicable (no field notes made) |
| 21. Duration | What was the duration of the interviews or focus group? | Yes | Results: “Graduate interviews lasted between 20 and 71 minutes and mentor interviews lasted between 8 and 36 minutes.” |
| 22. Data saturation | Was data saturation discussed? | Yes | Results: “Data saturation was achieved as determined by a consensus of the coding team.” |
| 23. Transcripts returned | Were transcripts returned to participants for comment and/or correction? | No | Not applicable |
| 24. Number of data coders | How many data coders coded the data? | Yes | Methods: “An experienced research assistant (ARP) coded the data using NVivo qualitative data analysis software (version 11.0, QSR International, Doncaster, Victoria, Australia). A second trained research assistant double-coded a random selection of 20% of the transcripts to ensure consistency.” |
| 25. Description of the coding tree | Did authors provide a description of the coding tree? | Yes | Methods: “A thematic analytic approach to coding qualitative data was iteratively applied to identify themes relevant to the value of physician fellowships in quality and safety. ^{13,14} Both deductive and inductive coding were used to balance the ability to map participants’ responses to an educational evaluation framework (Kirkpatrick) with the ability to discern important themes that were not represented in this model.” |

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| 26. Derivation of themes | Were themes identified in advance or derived from the data? | Yes | Methods: "Both deductive and inductive coding were used to balance the ability to map participants' responses to an educational evaluation framework (Kirkpatrick) with the ability to discern important themes that were not represented in this model." |
| 27. Software | What software, if applicable, was used to manage the data? | Yes | "An experienced research assistant (ARP) coded the data using NVivo qualitative data analysis software (version 11.0, QSR International, Doncaster, Victoria, Australia)." |
| 28. Participation checking | Did participants provide feedback on the findings? | No | Not applicable (member checking not conducted) |
| 29. Quotations presented | Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? | Yes | Results (quotations presented throughout the Results section) |
| 30. Data and findings consistent | Was there consistency between the data presented and the findings? | Yes | Results |
| 31. Clarity of major themes | Were major themes clearly presented in the findings? | Yes | Results |
| 32. Clarity of minor themes | Is there a description of diverse cases or discussion of minor themes? | Yes | Results |

COREQ Checklist reference:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349-357.

Supplemental Digital File

Interview Script for Graduates of Quality Improvement & Patient Safety Fellowships

Introduction:

As you know, my name is Angela and I'm a research assistant at XXX as a facilitator for this interview. I am working with Dr.X, Dr. Y, and Dr. Z to understand the impact of post-graduate training programs in health care quality and patient safety at X and X Universities. We are aware that there is more and more interest in post-graduate training programs in quality and safety and would like to understand the impact and value of these programs for the physicians that pursue them. The recommendations and suggestions that we learn will help inform planning for improving the learning experience for future physicians who pursue training in these programs.

The goal of this particular interview is to learn more about some aspects of your experiences as a Quality and Safety fellow at these programs. This interview is designed to help the research team pilot test questions that will be used in a larger study of graduates of these types of programs.

Before we start the interview, I want to let you know a few things:

- Participation in this study is entirely voluntary and you may withdraw at any time.
- This interview is confidential. We are taping and transcribing the session to help the note taking process since we never know whether similar themes might come up in subsequent interviews. If we have a transcript, we can go back to the previous discussions and retrieve all appropriate information. I will also be taking notes, so you may hear me typing during our conversation. Your personal information, including your name, will be removed from the transcript and notes before analysis, and all of the data will be saved in a password protected location. Only the research assistant and the co-investigator(s) from the other fellowship will have access to the voice recordings and transcripts. So your program director(s) will not have access to your voice recording or transcript. However, we'd like to stress that we will keep the sessions confidential and your responses will not be linked to your name in any way.
- The program director(s) will not take any criticisms personally, in fact they are very interested in learning what you believe should be done to enhance the training experience in this area in the future.
- We are interviewing the various stakeholders in these programs, including alumni, faculty members, and current employers of graduates. This information will be used to plan future funding efforts, and to establish the sustainability of these programs. At the end of this interview, I will ask for contact information for your fellowship capstone mentor and your current employer. You may still participate if you do not want us to contact your mentor or employer.
- I will also ask for a copy of your CV at the end of the interview. We are interested in learning more about the career paths of fellowship graduates. (also ok not to provide)
- We estimate this will take no more than about 30-45minutes in total.

- Should you have any questions now or in future, you can contact Dr. X or Dr Y at their email addresses: XXX.
- On behalf of all of our research team, thank you for making time for our conversation today.

Do you have any questions? Would you like to proceed? Okay, let's begin.

START RECORDING

Rationale for Pursuing Additional Training in QI/PS:

The first thing we would like to explore are some questions related to your reasons for pursuing this training program.

1. Why did you decide to pursue more formal training in the area of health care quality improvement and patient safety?
 - Can you tell me more?
 - What skills specifically were you hoping to gain
2. What in particular were you looking for or hoping to gain from the program?
3. Were you encouraged by others to pursue this training or is it something that you decided upon more on your own?
 - If they answer yes or no: please describe / tell me more.
4. Did the presence of this training program in QI/PS influence your decision to come to [Penn/Harvard] for your clinical training?
 - Please describe / tell me more.
 - What was it about the QI/PS training that influenced your decision?
 - What other factors influenced your decision?

Experiences in the Program:

There are two components of the QI/PS program. One is the formal curriculum, which is anything that's a class or course, and the second is hands-on experience. First, I would like to ask you about the formal curriculum.

1. What aspect(s) of the formal curriculum did you feel were most useful in advancing your knowledge and skills?
 - What skills in particular did the formal curriculum build?
 - What wasn't helpful?

Next I want to talk to you about your experiences in the program.

2. Was there a particular experience in the hands-on training that helped you build skills?
 - What skills in particular did this experience build?
3. OPTIONAL: OK thank you for sharing. Can you think of other ways in which the experiential component of the program benefited you?
4. Were there any other parts of the training program that you felt were particularly helpful (or not) as you began to shape your career goals in healthcare quality and safety? (If they are having trouble answering: This can be anything – a course, project, presentation, group that you formed or interacted with, etc.)

Perceived Value of the Training Program for the Learner:

Now I want to talk about where you are now in your career.

1. How would you describe your day-to-day work?
2. How does your current work draw on the skills you developed through the Q&S fellowship?
3. OPTIONAL: Looking back on this training experience and where you are now (or plan to be next year), do you believe that the program has brought value to your career?
 - What about the fellowship has brought value to your career?
 - If so, how?
4. Can you give a specific example of an experience after you left the training program where this value has been realized, either by you or by someone whom you work with?
5. Has going through the program assisted you in developing a network in quality and safety? How?
6. If one of your mentees expressed interest in the program, what would you tell them?
 - What factors might lead you to recommend that a mentee participate in the program?
 - What factors might lead you to suggest to this person that they reconsider their interest?

We're getting to the end now, but I'd like to ask if you have recommendations for improving the training experience at Penn/Harvard?

Please be as specific as possible and tell me why you think that would be helpful.

Further contacts and descriptive data:

As a part of our study, we would like to gather some broader information about fellowship graduates.

Fellowship program data:

- What was your major project during your fellowship program?
 - Do you consider that institutional, departmental, or divisional?
 - OPTIONAL: Where did your capstone have an impact?
 - Do you think your project is still having an impact?
 - Who was the mentor there?
 - Who is the institutional leader there?
- As a part of our study, we are interested gathering the perspectives of program mentors. Is it okay for us to contact your mentor? (Prompt for contact information)

CV/Current employment:

- Can you confirm what your first position was after your training?
- What is your current position?
- When did you graduate from medical school?
- Can you approximate how much time you spend on different tasks (for example clinical duties, operations, research, etc.)?
- We are also interested in gathering the perspectives of employers. Are you comfortable with us potentially contacting your employer in the future?
 - We are interested in hearing about the value of this training from the person who is most familiar with its impact in your workplace
 - Prompt for contact information
- We will let you know if we do intent to contact them in the future.

We are interested in promoting diversity in the healthcare workforce. If you feel comfortable, we would like for you to share with us your gender and race.

Is there anything that you would like to add before we conclude the interview?

THANK YOU for taking time out of your day to help us improve our program. I will be in touch to request a copy of your CV and will inform you if we choose to contact your employer.

Interview Script for Institutional Sponsors / Leaders

Introduction:

Hi, I'm [X]. I'm a research assistant here as a facilitator for this interview. I am working with Dr. X, Dr. Y, and Dr. Z to understand the impact of post-graduate training programs in health care quality and patient safety. We are aware that there is more and more interest in post-graduate training programs in quality and safety and are interested in understanding the impact and value of these programs for the physicians that pursue them. The recommendations and suggestions that we learn will help inform planning for improving the learning experience for future physicians who pursue training in these programs.

The goal of this particular interview is to learn more about some aspects of your experiences as a sponsor or mentor of a Quality and Safety fellow at the X University. This particular interview is designed to help the research team pilot test questions that will be used in a larger study of graduates of these types of programs.

Before we start I want to remind you of a few things:

- Participation in this study is entirely voluntary and you may withdraw at any time.
- This interview is confidential. We are taping and transcribing the session to help the note taking process since we never know whether similar themes might come up in subsequent interviews. If we have a transcript, we can go back to the previous discussions and retrieve all appropriate information. I will also be taking notes, so you may hear me typing during our conversation. Your personal information, including your name, will be removed from the transcript and notes before analysis, and all of the data will be saved in a password protected location. Only the research assistant and the co-investigator(s) from the other fellowship will have access to the voice recordings and transcripts. However, we'd like to stress that we will keep the sessions confidential and your responses will not be linked to your name in any way.
- The program director(s) will not take any criticisms personally, in fact they are very interested in learning what you believe should be done to enhance the training experience in this area in the future. The program director will not have access to these voice recordings or transcripts.
- We are interviewing the various stakeholders in these programs, including alumni, faculty members, and current employers of graduates. This information will be used to plan future funding efforts, and to establish the sustainability of these programs.
- You are participating as a faculty member or project sponsor. We estimate this will take no more than 30 minutes in total.
- Participation in this study is entirely voluntary and you may withdraw at any time. Should you have any questions now or in future, you can contact Dr. X or Dr. Y at their email addresses listed here:XXX. On behalf of all of our research team, thank you for making time for our conversation today.

Do you have any questions? Would you like to proceed? Okay, let's begin.

Please tell me your name, your role at [institution name], and your relationship to [trainee X].

Impact of their Work in the Institution

1. Can you describe one or more of the projects led by [trainee X]?
2. How has this work impacted the area that you oversee or lead?

Perceived Value of the Training Program

1. The number of training programs like this nationally are fairly small. Can you share what you believe is the value(s) of having such a program?
2. Culture is a word that is used frequently in the area of healthcare quality and patient safety. Do you think the culture of your [department/clinic/institution] has been impacted by [the trainee] and their work? If so, in what way?
 - Can you provide some specific examples?
3. We're getting to the end now, but I'd like to ask if you have recommendations for improving the training program? Please be as specific as possible and tell me why you think that would be helpful.

Is there anything that you would like to add before we conclude the interview?

THANK YOU. That concludes our session.