

Trainee Perspectives on the Fogarty African Bioethics Consortium Postdoctoral Fellowship Program: A Process and Impact Evaluation

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Paulina Tindana¹ , Emily Haddad², Elise Wilson², Esime Agbloyor², Nelson K. Sewankambo³, Nancy Kass², and Joseph Ali² 

Abstract

There is a growing demand for postdoctoral bioethics training in Africa, driven by the significant rise in graduate programs offered by universities. This study sought to evaluate the Fogarty African Bioethics Consortium Post-Doctoral Fellowship program and to explore the experiences and perspectives of its trainees as well as the program's impact on their careers in their home countries. This study adopted an exploratory qualitative design involving in-depth interviews with fellows of the postdoctoral training program. Six fellows participated in the interviews. They expressed satisfaction with the training program and indicated that it effectively fulfilled their expectations. The fellows found mentorship the most valuable component of the training program. The study also found that all fellows are now actively engaged in bioethics-related activities following their training. Bioethics is increasingly becoming a prominent area of study, and African universities need to identify innovative ways of sustaining bioethics training programs on the continent, particularly at the postdoctoral level.

Keywords

postdoctoral training, bioethics, Africa

Introduction

Over the past two decades, the landscape of bioethics training in Africa has evolved significantly with a growing number of institutions offering graduate programs in bioethics and research ethics. The Fogarty International Center of the US National Institutes of Health (NIH-FIC) has been an important funder of international research ethics and bioethics education in low- and middle-income countries, with over 50% of these investments targeting individuals from sub-Saharan Africa (Millum & Sina, 2014). This investment, relatively modest in its magnitude, has yielded significant benefits for scientists, research institutions, and bioethics scholars around the world, which has deepened the capacity of researchers and research institutions to pursue transformative work to address diseases and conditions affecting populations around the world, including in the United States. Several reports indicate that despite advancements in research ethics and the establishment of supporting infrastructure for ethics review and training, there remains a critical need for sustained investment in bioethics capacity development on the continent (Mokgatla et al., 2018; Ulrich et al., 2025).

Since the initiation of Fogarty-funded bioethics training in 2000, interest has grown in identifying “best practices” for training and in understanding the impact of these programs. This has necessitated both process and outcome evaluations—the former focusing primarily on trainee and faculty experience with core training program activities, and the latter on program impact at the individual, institutional and sometimes national and international levels. Some of the authors of this paper have engaged in discussions on these topics and have published methods and findings previously (Hyder et al., 2007, 2015; Kass et al., 2016).

¹Department of Health Policy, Planning and Management, School of Public Health, College of Health Sciences, University of Ghana, Accra, Ghana

²Berman Institute of Bioethics, Johns Hopkins University, and Johns Hopkins Bloomberg School of Public Health, Baltimore, USA

³College of Health Sciences, Makerere University, Kampala, Uganda

Corresponding Author:

Joseph Ali, Berman Institute of Bioethics, 1809 Ashland Ave, Deering Hall Rm 208, Baltimore, MD 21205, USA.

Email: jali@jhu.edu

This study builds upon this earlier research, aiming to evaluate both the processes and outcomes of the NIH-FIC funded Fogarty African Bioethics Consortium Post-Doctoral Fellowship (FABC-PDF) program over its initial five years of operation. Our specific focus in this assessment is on deeply understanding the experience and impact of the program from the perspective of individual trainees, with an eye towards identifying opportunities for programmatic enhancements. We share our findings in the hope that they will also be of interest to other international bioethics training programs.

Methods

Study Design

This study adopted an exploratory qualitative design involving in-depth interviews with fellows of the postdoctoral training program (Creswell & Creswell, 2009).

Study Setting and Context

The Johns Hopkins-Fogarty African Bioethics Training Program (FABTP) began in 2000, initially providing certificate and master's level training in bioethics to emerging scholars and practitioners from sub-Saharan Africa. Over the years, the focus of this program evolved. From 2017 to 2022, it was restructured as an 18-month postdoctoral program for African scholars affiliated with the University of Botswana, the University of Zambia, and Makerere University in Uganda. These partner institutions worked closely with the Johns Hopkins University, Berman Institute of Bioethics and Bloomberg School of Public Health in the United States, under the auspices of the African Bioethics Consortium (ABC), to offer the FABC-PDF program.

The FABC-PDF was a fully funded, predominantly full-time training program with a focused thematic emphasis on global bioethics and international research ethics, integrating intensive coursework, seminars, mentored research, and cross-institutional exchange. Candidates were required to have completed doctoral training, with demonstrated interest or experience in engaging with research ethics or bioethics topics and strong potential for leadership. Recruitment was conducted through formal calls for applications disseminated across consortium institutions, targeting individuals with institutional support and clear capacity to contribute to ethics-related research, teaching, and service. Fellows were selected through a multi-stage review process involving application screening, iterative faculty review, and interview. The training included an initial residential period at Johns Hopkins University (approximately seven months), followed by mentored research, teaching, advising, and committee service, and a scholarly exchange for four to six weeks at another consortium institution in Africa to further develop

professional networks, engage in local bioethics activities, and prepare their work for publication and presentation. Program operations were cohort-based, with small groups of fellows (two to three per cohort) trained sequentially but with intentional overlap between cohorts to enhance peer learning, maximize exposure to coursework, and strengthen collaborative training experiences across the consortium. Over the years, the program adjusted certain components in response to both trainee needs (e.g., by offering an opportunity for fellows to return home for a brief break midway through their U.S. training) and contextual constraints (e.g., COVID-19 pandemic-related restrictions on travel). In all, nine fellows, including six males and three females, completed the FABC-PDF training program. Additional program details are available in a separate publication (Ulrich et al., 2025).

Study Participants, Sampling and Recruitment

The study aimed to recruit all nine fellows who had participated in the postdoctoral program from 2017 to 2022, the period during which the program received its initial grant funding. These fellows came from three African collaborating institutions: University of Botswana, the University of Zambia, and Makerere University in Uganda. A recruitment script outlining the program evaluation, its objectives, and expected outcomes was sent via email to each fellow. Subsequently, one of the authors (PT) contacted each fellow via email to coordinate a date and time for the qualitative interviews.

Data Collection Instrument

A semi-structured interview guide was developed collaboratively among study investigators to explore the perspectives and bioethics-related experiences of the fellows before, during, and after their training. The questions corresponded to some of the key training goals of the program while also giving plenty of space for new topics and ideas to emerge from respondents.

Data Collection Process

The in-depth interviews were conducted via Zoom virtual meetings between January - May 2024. Prior to each interview, participants were given a brief overview of the aims of the project and asked if they had any questions or concerns. Written informed consent was obtained from each participant prior to the interviews.

The interviews explored trainees' experiences, coursework, mentorship, professional development, and logistics of the program, as well as their accomplishments before, during, and after the program. Participants were also invited to propose suggestions for enhancing international collaboration on what they consider key bioethics issues now and

for the future. To minimize social desirability bias, the interviews were conducted by the first author (PT), a bioethics expert from the University of Ghana who was familiar with the fellowship program but did not have a formal role in the program, rather than by the program's faculty leadership. With the consent of the participants, all interviews were audio-recorded to ensure accurate data capture, transcription, and subsequent analysis. Interviews were approximately 45 min in duration, on average.

Data Management and Analysis

The data management and analysis process adhered to Braun and Clarke's guidelines for thematic content analysis (Braun & Clarke, 2006). All interviews were transcribed verbatim from the audio recordings using NVivo Transcription software. To ensure accuracy and quality, one of the authors (PT) reviewed and cleaned all recordings and transcripts from verbatim to intelligent verbatim to ensure that meaning was preserved while removing identifiable information. All transcripts were subsequently imported into NVivo 14 for qualitative analysis (Lumivvero, 2023).

By following interview guide domains while remaining open to identifying new emergent foci, an initial codebook was developed to guide the coding of transcripts, utilizing both inductive and deductive reasoning. Coding was carried out independently by two members of the research team (PT and EH). The organization of the codes into themes and sub-themes was similarly conducted using both deductive and inductive thematic coding approaches, with support from additional members of the evaluation team, including program leadership. Anonymized quotes were extracted to illustrate the themes and sub-themes that emerged from the data.

Ethics Review and Approval

The evaluation was prospectively reviewed and approved by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board (Protocol # 26143).

Results

Out of the nine fellows, six participated in in-depth interviews. Table 1 presents an outline of their demographic characteristics and bioethics-related experience before and after the training program based on self-reports. Although the other three fellows did not explicitly decline to participate in the interviews, they were unavailable for scheduled interviews. Most of the fellows were male, with only one female participating. Only one fellow had prior engagement with the program and had completed training at Johns Hopkins University prior to the postdoctoral training program.

Summary of Themes and sub-Themes

The main themes and sub-themes that were generated from the qualitative data are outlined in Table 2 below:

In the following sections, we present the key study findings, supported by relevant illustrative quotes from participants.

Pre-Training: Motivation for Participating in Training Program

The six interview participants shared their original motivation and interest in the training program. Despite coming from varied backgrounds and disciplines, all respondents stated an interest in enhancing their capacity to apply bioethics in their area of work/study, career progression, to advance their capacity to teach bioethics-related topics, serve on ethics committees, and to conduct bioethics research. Several participants shared that their interest and motivation to participate in the FABC-PDF was due to the limited availability of education and formal graduate training in bioethics in their home countries.

I really wanted to be grounded, like being trained in bioethics because, you know, at [my university] we don't have bioethics as you know, where somebody can get a degree in bioethics. So, one of the things that I really wanted was probably time for me to begin to understand bioethics. [002-M]

One trainee was motivated by concerns about inequities in global health research partnerships, and a desire to gain further capacity to address related issues post-training for the benefit of local partners and study participants.

Though I was a study physician, I felt like an overqualified data collector in a way because one reason why I went to try to learn research you know, to get that exposure was that I wanted to really learn how to develop these protocols. How do you ensure that you are doing things the right way; protecting? At times I felt umm we could do better, so as I grew in the space, I realized that there is a lot that happens in research, the behaviors, how researchers behave. So, basically just to know how to navigate, do things right and protect our people more. [003-F]

Most participants (5 out of 6) began the training program with previous experiences on ethics committees in their home institutions as well as at the national level, and an interest in expanding their knowledge and skills.

I sit on the ethics committee. So, through that interaction, I realized that I probably had some interests. I developed some interest in bioethics and ethics and things like that. So, when an opportunity came up to go and do a postdoc in bioethics, that's how I thought of doing it. [006-M]

Table 1. Background of Post-Doctoral Fellows Interviewed.

Interview No	ID	Sex	Age	Position	Disciplinary Background (Clinical Vs Non-Clinical)	Bioethics-Related Experience Pre-Training	Bioethics-Related Experience Post-Training
1	001_M/400	M	50+	Senior Lecturer	Non-Clinical	Training: Electronic/Web-based modules, short workshops Research: None Publication: None Service: REC member Teaching: None	Training: Post-doctoral bioethics fellowship Research: Investigator on bioethics research grant, principal investigator for bioethics research grant Publication: Contributed bioethics-focused research to publications in peer-reviewed journals Service: REC member Teaching: Taught a formal academic course in bioethics, mentor/supervisor for bioethics student Other: Attended bioethics conference
2	002_M/900	M	40–49	Faculty	Non-clinical	Training: None Research: None Publication: None Service: None Teaching: None	Training: Post-doctoral bioethics fellowship and short workshops Research: Conducted mentored bioethics-related research as part of practicum Publication: None Service: None Teaching: Taught a formal academic course in bioethics Other: Attended bioethics conferences
3	003_F/800	F	50+	Senior Lecturer	Clinical	Training: Electronic/Web-based modules, short workshops Research: Investigator on research grants related to bioethics Publication: Contributed bioethics-focused research to publication in peer-reviewed journal Service: REC member Teaching: None	Training: Post-doctoral bioethics fellowship Research: Conducted mentored bioethics-related research as part of practicum Publication: Contributed bioethics-focused research to publication in peer-reviewed journal Service: REC member Teaching: Mentor/supervisor for bioethics student
4	004_M/600	M	30–39	Lecturer	Clinical	Training: None Research: None Publication: None Service: None Teaching: None	Training: Post-doctoral bioethics Fellowship and short workshops Research: Investigator and principal investigator for research grant primarily related to bioethics Publication: Contributed bioethics-focused research to publication in peer-reviewed journals Service: REC member Teaching: Taught a formal academic course in bioethics Other: Attended bioethics conference
5	005_M/200	M	40–49	Lecturer,	Clinical	Training: Electronic/Web-based modules, short workshops,	Training: Post-doctoral bioethics Fellowship

(continued)

Table 1. Continued.

Interview No	ID	Sex	Age	Position	Disciplinary Background (Clinical Vs Non-Clinical)	Bioethics-Related Experience Pre-Training	Bioethics-Related Experience Post-Training
				Director and CEO		Previous Fogarty bioethics training at JHU Research: Conducted mentored bioethics-related research as part of practicum Publication: Published bioethics-focused manuscript in peer-reviewed journal Service: REC member Teaching: None Other: Attended bioethics conferences	Research: Conducted mentored bioethics-related research as part of practicum Publication: Published bioethics-focused publication in peer-reviewed journal Service: REC member, served on national or international committee Teaching: Taught a formal academic course in bioethics, primary mentor/supervisor for bioethics students Other: Attended bioethics conferences
6	006_M/700	M	40–49	Not specified	Non-clinical	Training: Certificate program Research: None Publication: None Service: None Teaching: None	Training: Post-doctoral bioethics Fellowship and short workshops Research: Conducted mentored bioethics-related research as part of practicum Publication: Contributed bioethics-focused research to publication in peer-reviewed journal Service: REC member Teaching: Taught a formal academic course in bioethics, mentor/supervisor for bioethics student Other: Attended bioethics conference

I took the opportunity to go for the postdoc fellowship to go and strengthen my knowledge on the qualitative side of things and just deepen my understanding of bioethics because right up to that time I was still involved in bioethics in my country. I was serving on the bioethics committee for the university and also serving on and off on the National Bioethics Committee. Yeah. So, I needed to have a deeper understanding of the issue in bioethics and that's why I went for it. [005-M]

Given the encouragement from mentors and peers who had completed the program previously with positive experiences, participants were motivated with the prospect of strengthening their knowledge as well as their network of peers.

Before I travelled to Johns Hopkins University, I was already teaching in the [bioethics] program. And this was an opportunity for me to improve my skills and knowledge in the field of bioethics. So, of course, I started my career in bioethics training and practice. I wanted to know more about bioethics and I thought, and when I learnt about the Berman Institute, I said well, I can go, there are great people and experiences I can

benefit from there. And of course, I can get the collaborations and the chance to build my own networks and so that was the motivation for me. [001-M]

Pre-Training: Personal and Institutional Arrangements and Support

Personal preparations for the training program were shared, which included obtaining a visa, approval of leave of absence from their home institution, and preparing families who would remain in their home country. Participants with families noted that preparing their families was an important part of what they needed to do before the long absence at JHU. While male participants spoke of this more briefly, the one female respondent with a family spoke at greater length about the challenge of leaving her children, particularly in the context of the COVID-19 pandemic.

That was really tough because this was during COVID, I only have two children. They were in schools..., one in high school and another one in college..., so, it really was not an easy decision being a mother. When I was away, we tried to connect or whatever, but it's different from when you are really on site.

Table 2. Summary of Main Themes and Sub-Themes.

Phases of Training Program	Main Theme	Sub-Themes
Pre-Training Phase	Motivation for Participation in Training Program	• Interest in bioethics • Experience as member of ethics committee • Encouragement from peers and colleagues • Career progression
	Preparations Prior to Training	• Participant protection • Personal arrangements • Institutional support and arrangement
Training Phase	Transitioning and Settling	• Benefit of prior experience • Support from staff and faculty
	Training Content and Relevance of Coursework	• Research methods • Nature and type of courses undertaken • Value of courses undertaken • Opportunities for improvement • Value of different perspectives
	Value of Mentorship	• Type of mentorship • Value of mentorship
	Research proposal development	• Identification of research topic • Mentorship • Competencies required
	Implementation of research proposal	• Seeking ethical clearance • Data collection and analysis processes • Challenges
	Value and relevance of networking	• Type of networks ◦ Local ◦ International • Value of networking • Challenges
	Exchange program	• Flexibility in timing of the exchange program • Value of the exchange program • Challenges
	Teaching opportunities	• Development of ethics courses • Teaching ethics courses at university
Post-Training Phase	Mentorship Opportunities	• Mentorship of students
	Transitioning to Leadership Position	• Role of leadership position
Suggestions for improvement	Provision of bioethics service	• Membership of research ethics committees (REC) (Local, international) • Membership of ethics advisory committees
	Increase in bioethics-related publication	• Type and number of publications
	Course content	• Nature of course content
	Mentorship	• Sustainability of mentorship program • Promoting peer to peer support
	Networking	• Promoting south to south collaboration
	Future of bioethics in Africa	• Ethics in genomics research • Public health ethics • Artificial intelligence

Because it was a really stressful time for everybody, with a lot of anxiety, mental health issues around their future and their schools having been disrupted. [003-F]

But the good thing about the program in Berman, it was designed in such a way that you don't stay for a year, so you are there for few months and then you go home and be reunited with your family and then come back later. I think, that was in the design of the program that was really good because you are dealing with people who had families and

you can't keep them for a very long time without reunion. So, the preparation with regards to my family was ok and then I got encouragement from my family, then I said OK then I will do it. [001-M]

Orientation, Topics, Content and Structure of Training Program

All participants expressed their appreciation for the administrative aspects of the program which helped them to settle in

when they arrived in Baltimore for the first part of their fellowship. Although one fellow was already familiar with the Baltimore area due to previous visits, he nonetheless valued the administrative support that facilitated entry into the program:

I don't think there's anything else like that which they could have done better. For now, I can't think of anything that didn't go well because maybe I had the advantage of staying there before, but that I think I did it well. [005-M]

When I got to Hopkins, first of all I was excited to associate myself with a reputable institution in the field of bioethics. Then of course, the arrangement was great on how we get out of the airport to Baltimore. So, all the arrangements were great, we found accommodation was well booked in advanced, then there was a very specific written protocol about our orientation, and how to do this, on which day at what time, when we meet. So, I think it was well organized yeah, and it helped me to settle in so easily. [001-M]

All participants expressed general satisfaction with the structure, content and topics that were offered during the training program.

And so, we had bioethics and the law, human rights, global health policy issues, health systems, ethical theory, methods. I particularly liked the methods course [005-M]

Yeah, if I were to judge coursework from my own point of view, I will call it simplistic because I was a philosopher. I had studied ethics at bachelor's, master's and at PhD and that is why I don't want to describe it from my point of view. But from the point of view of people who are being initiated into bioethics, yes. So, I will say that this was great, it covered all the concepts, the trainings about ethics theories. [001-M]

All participants indicated that they found the mentorship component of the program – where mentors and trainees met either weekly or biweekly to discuss trainees' projects and professional goals – highly beneficial, as it not only facilitated effective engagement with their mentors, but also enabled them to develop a new mentorship model that they aimed to implement when mentoring their own students.

I think during my time at Hopkins, I guess because we had those weekly meetings and the fellows and mentors will meet and really discuss, I think that for me was the most useful preparation that I have had. And I remember just telling them that, you know this is what mentorship is all about (laughs) and you know I also felt I also learnt. You know if I were to mentor students in research, I would really use that model because I thought it was very user friendly, it was a win, win kind of thing between the mentors and us. Because the mentors were there in the same

space with us so feedback will be harmonized rather than where it seems like mentors are contradicting each other or yeah, they give opposing guidance to a trainee. So, for me I just found that model very, I guess part of it is because I came in knowing that was a deficiency, developing a research proposal properly was a deficiency yeah. [003-F]

A key component of the program required each fellow to visit a collaborating institution on the continent for a four to six-week period. Although some fellows were unable to complete the exchange program on account of the COVID-19 pandemic, those who did reported that it was a valuable aspect of the program that enhanced their ability to engage with other fellows on the continent.

Actually, it was good. I went to an institution where it's a university. They are trying to set up a medical school and they are trying to set up an ethics committee. So, I interacted with them and discussed how they could do it and things like that. And we still talk and I hope to go there to help them set up their ethics committee. So that was my experience. [005-M]

Post-Training: Impact of Training Program on Fellows' Careers

Participants were asked about their bioethics-related activities prior to and following the post-doctoral training program. All participants reported that their expectations were met by the training program. The findings indicated that some fellows were already engaged in ethics-related activities, such as serving on ethics committees and teaching relevant courses before the training, and the training they received significantly enhanced their capacity and expanded their opportunities for involvement in these activities afterward. All fellows are now engaged in reviewing student dissertations and research protocols, and serving on ethics committees, while those who previously lacked a background in empirical methods are now applying the skills and knowledge acquired in this area to their work, as illustrated in the quotes below:

I'm now being given even quite a good number of dissertations, not really bioethics, but where they feel like there's a bit of bioethics components to review. And there are quite a good number. I'm not a REC member, but I know that there is this like informal agreement with some REC members. I'm reviewing quite a good number of protocols. [002-M]

I was lacking in empirical research methods, and I must say that in that regard I was a novice. And I needed them because the [bioethics] program that we are training at [my university] all students are conducting empirical research. And now I was teaching in there and I did not have any background training

in empirical research. So, that is one of the strong benefits that I got from that training and I think the trainings were right for those people who did not have any background in ethics and bios. [001-M]

Challenges Encountered by Fellows

The fellows identified several challenges that hindered their ability to fulfill certain program deliverables. Notably, these challenges included the impact of the COVID-19 pandemic, difficulties in completing the exchange program, and a lack of protected time to complete their research projects.

It was very challenging, it's hard to say (laughs). That is what I was saying, for us who are in the teaching space, umm it's better to be ahead with the processes so that by the time I come back and I'm kind of slow, things slow down because of my other teaching responsibilities. Yeah, data collection proved to be, I mainly do it in the afternoons, cos most of the time people were either teaching especially the category of teachers teaching or people were in meetings and stuff like that. Sometimes I will just have to do it after hours you know. [003-F]

It was reported by a few participants that the exchange program, which was aimed at six weeks at the end of the fellowship period, was not feasible for them. The participants acknowledged that this element of the training program was valuable but shared that after spending time away from their home institutions during the U.S.-based component, it was challenging to depart again for the complete six weeks.

I had just come back nearly a year of the postdoc and I find it very difficult to go away again for six weeks. So, I was able to manage two weeks because of the pressing needs. But others can manage. I think it depends on your department, and the workload that you have. So, I do recommend maintaining that six weeks because we all have different needs and requirements. [005-M]

Suggestions for Improvement

All participants expressed general satisfaction with the training program and recommended the continuation of its structure, content and topics. However, they emphasized the importance of sustaining the mentorship component of the program beyond the initial training period, and enhancing South-South collaboration among the fellows:

Yeah, it has been good. I think the best thing is maybe what others should strive to make sure that you continue interacting with the staff at JHU and other postdocs. I think that it's important for future development and interactions. Yeah. So, we

should encourage where we can continue meeting and continue helping each other on the bioethics journey. [006-M]

Yeah, in Africa personally, for me, because I have this interest, I have been trained. So what? What next? So, for me, I think the next thing should be collaboration. Yeah. Even if it doesn't involve money, I know research is expensive, but where you can collaborate and do a small, maybe small studies within countries in my country, like for example, among fellows or a few people who are interested and then you continue doing research for me that can build capacity for this continent. [002-M]

Two of the participants recommended that preparation for the training program could be improved by providing reading materials prior to their relocation to USA, so that mental preparation and foundational reading may be established.

But it is important I emphasize that the sharing of materials in advance is great for people who are not yet used to bioethics.... When such people get those materials in advance and study them, I will say in that regard they need to share those in advance. [001-M]

One participant expressed the opinion that while the training program was overall valuable, there is a need to transition a majority of its components to Africa to demonstrate that the program has successfully achieved its goal of strengthening bioethics capacity on the continent:

But you know there is that kind of unnecessary mistrust ok about umm being taken to America to be quizzed about principles and all that. If the training can be designed to make sure that the rest of the capacity development takes place within the African institutions that can develop the capacity. That will even prove that the current program achieved its goal of capacity development on the continent. But if the program has been running for several years to develop capacity on the continent but still you find that even now training must continue to take place outside of Africa. Then you must question, have you really achieved your goal of your previous, and I think it would make bioethics more acceptable politically in Africa. You remember the debates around bioethics; it will make it more politically acceptable on the continent. And it will achieve the goal of south, south collaboration in capacity development yes. Of course, the north will remain as partners, but the actual physical training will take place in Africa in one of the institutions. [001-M]

Thinking Ahead: Future of Bioethics in Africa

Participants identified several key issues expected to influence the future of bioethics in Africa, including ethical considerations in genetics, genomics and biobanking, artificial intelligence, global health governance and pandemic ethics.

They emphasized the need for future training programs to address these topics, to enable African bioethicists to effectively respond to these emerging challenges. The following quotes illustrate these perspectives:

So again, on futures, AI, those kinds of things should be the areas that will focus us for some time going forward. And we need to learn more and be ready to do more scholarship in that area because it will become more and more evident that a lot of people don't understand the area. A lot of people will start questioning certain things and we need to be ready to provide answers in those areas. And bioethicists and public health practitioners should look forward. [005-M]

So, we should be talking about strategies on global health principles, actually getting reflected and implemented within global health governance. [001-M]

The fellows also expressed concern over the lack of South-South collaboration in bioethics in Africa and called for a network that would allow bioethics scholars to work together. They suggested that such a network could facilitate the exchange of ideas and allow scholars to address common ethical challenges and support the graduate programs on the continent through collaborative teaching.

Yeah, I think we just need to form a network. Where we work together, where we have exchange programs. And then we can all do that by networking where I can then be able to teach a class through Zoom and all those. And if you have an expert in that area, you can say clinical ethics the person can teach the rest of the network. [004-M]

Discussion

Bioethics is an interdisciplinary field that examines the ethical implications of scientific, health, and research practices. It integrates knowledge from various fields of study and disciplines, including medicine, law, philosophy and social sciences, to address complex issues arising in healthcare, public health, biotechnology and research. In Africa, increased attention to research ethics emerged in the 1990s when the HIV/AIDS crisis generated ethics discussions around informed consent, standard of care, exploitation, and the ethics of international research collaborations (Angell, 1997; Brody, 2002; Varmus & Satcher, 1997). As Africa continued to develop its healthcare systems and research capabilities, the need for robust bioethics training programs became increasingly significant (DeCamp et al., 2019; Ewuoso, 2016; Ogundiran & Omotade, 2009). Through funding from the Fogarty International Center of the U.S. National Institutes of Health that began with the turn of the century, several institutions around the globe have established bioethics training programs.

In exploring the factors motivating professionals in Africa to seek advanced bioethics training through this type of international program, trainees from the FABC-PDF suggested that their interest was largely influenced by the limited availability of high-level bioethics training in their home countries. While there has been progress, with several academic and research institutions in Africa – such as University of Cape Town, University of Ghana, Addis Ababa University, and Makerere University in Uganda– offering graduate programs in bioethics, the landscape remains limited. This gap raises the need for expanded bioethics education and training opportunities across the continent to better equip health professionals in this critical field.

The fellows we spoke with also expressed a strong desire to enhance their application of bioethics in their respective areas of expertise. This highlights the importance of continued capacity building to support their leadership aspirations in bioethics-related functions including teaching, serving on ethics committees and conducting bioethics research. This collective aspiration reflects a commitment to not only advancing their own skills, but also contributing to the broader field of bioethics in their home institutions and more broadly.

The FABC-PDF program differs from many other postdoctoral bioethics training programs, particularly in High Income Countries (HICs). Unlike full-time fellowships in HICs, which typically require fellows to start within five years of completing their graduate studies, the FABC-PDF program primarily targeted mid and late-career faculty in their respective fields, who sought to transition into bioethics. This approach reflected the reality at the time that many doctorate degree holders in sub-Saharan Africa were older due to historically limited access to doctoral programs in the region. Additionally, while many HIC bioethics fellowships last two years, the FABC-PDF program spans 18 months, involving three different levels of engagement: at Johns Hopkins in Baltimore, the fellows' home institutions and through exchanges with other partner universities in Africa. These unique features offer flexibility but also pose challenges for fellows returning to existing faculty positions where they need to balance their bioethics pursuits with other obligations as clinicians, health researchers, educators, and administrators.

As more globally oriented postdoctoral bioethics training offerings emerge in Africa, opportunities for interaction with institutions outside the continent with long histories of bioethics scholarship and practice will likely remain crucial for enhancing the capacity of professionals in the field to strengthen their networks and access to resources. Such interaction can also be of great benefit to those 'external' actors, as it can reveal new ways of considering and addressing long-standing bioethics challenges; broaden traditional, context-sensitive epistemic foundations of the field itself; and foster long-lasting research collaborations between differently situated trainees and faculty.

However, pursuing training abroad can pose challenges for prospective fellows, necessitating thorough preparations. The

fellows reflected on the personal preparations they engaged in for the training program. These included obtaining visas, securing approval for absence from their home institutions and preparing families who would stay behind. Fellows' experiences have highlighted the differing impacts of family dynamics on the preparation process for training programs in bioethics, particularly those outside the continent. These experiences reveal a need for training programs to incorporate flexibility, allowing fellows to balance the demands of training requirements with their family commitments. Other approaches could also involve recruiting more early-career fellows, extending the duration of fellowships, and encouraging home institutions to give more protected time to the fellows to complete their research projects. Operationalizing some of these strategies would likely require additional financial resources to support the needs of training programs. Mentorship has been highlighted as an effective tool in any training program (Faden et al., 2002; Loue & Loff, 2013) and that was clearly reflected in the experiences of the fellows who were interviewed. Fellows of the FABC-PDF program reported that the mentorship aspects were immensely beneficial and, for them, the most impactful part of their training. It not only encouraged meaningful interactions with their mentors but also inspired them to create a new mentorship model that they planned to apply when mentoring their own students in the future. This shows the importance of mentorship in the training process and reinforces the idea that strong mentorship relations can significantly enhance learning outcomes and professional development in the field of bioethics.

Peer-support emerged as another key component of the training program, facilitating collaboration and shared learning among the fellows. As part of their training, fellows were expected to participate in an exchange program with one of the collaborating institutions in Africa to foster cross-cultural learning and collaboration. While the fellows who participated in this exchange program found it valuable, some were unable to complete this requirement due to the impact of the COVID-19 pandemic. Like many academic fields, this study found that the impact of the pandemic on international travel and institutional operations affected the training program. There is the need for flexibility and adaptability in training programs and for trainees and fellows to be given protected time to advance their scholarly works.

Overall, all participants in this study reported that the training program effectively met their expectations. Data collected revealed that all the fellows are now actively engaged in bioethics-related activities since completing the program. Notably, while only one of the six fellows was involved in teaching a bioethics course prior to the training, four fellows are now teaching formal bioethics courses post-training. This substantial increase in teaching highlights the program's success in equipping fellows with the necessary skills to contribute to bioethics education in their home countries.

Over the last decade, bioethics training in Africa has continued to evolve, increasingly focusing on addressing

contemporary ethical challenges. Key issues such as pandemic ethics and the ethical implications of emerging technologies like genomics and artificial intelligence have become central themes in bioethics discussions across the continent. All the fellows suggested that these issues are likely to continue to shape the future of bioethics in Africa. They advocated training programs to proactively anticipate these issues and incorporate them into the curriculum. This will ensure that African bioethicists are better equipped to respond effectively to emerging ethical challenges in their respective fields. This forward-thinking approach will ensure that the practice of bioethics remains relevant and impactful in an ever-evolving landscape.

This study's findings are somewhat limited in that they represent the views of six individuals, albeit six individuals who are trained at very high levels in their respective areas of biological science, public health, medicine, nursing, philosophy, social science and now bioethics. They provided rich insights over extended in-depth interviews that revealed important experiences and considerations for the program, which we believe will have salience for others interested in designing and advancing international-collaborative bioethics training initiatives. As the program further matures and evolves, we plan to conduct additional evaluations to expand these insights and share programmatic adaptations trialed in response. These further evaluations would also help the team to assess the impact of the FABC-PDF program on fellows over time, particularly how they have progressed in their careers in bioethics post-training.

Conclusion

The increasing number of graduate bioethics programs in Africa calls for a strong group of bioethics scholars who can effectively teach and mentor trainees of these programs. As more institutions offer advanced studies in bioethics, the demand for postdoctoral training in this field is expected to rise significantly. Moreover, as bioethics becomes a more prominent area of study, the mentorship provided by seasoned professionals will be critical in shaping the next generation of bioethics experts. Given that most of these bioethics training programs are externally funded, it is important for universities to identify ways of sustaining these programs beyond the funding period.

As the fellows have also suggested, the establishment of a collaborative network of bioethics scholars in Africa is also important for advancing this field on the continent and to encourage meaningful ways of addressing bioethical issues that arise in healthcare and research across the continent. We look forward to supporting such an effort in the future.

Abbreviations

NIH	National Institutes of Health
FIC	Fogarty International Center

JHU	Johns Hopkins University
IRB	Institutional Review Boards
REC	Research Ethics Committee
FABC-PDF	Fogarty African Bioethics Consortium Post-Doctoral Fellowship

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ORCID iDs

Paulina Tindana  <https://orcid.org/0000-0002-9171-2083>

Joseph Ali  <https://orcid.org/0000-0002-4767-2512>

Ethics Approval and Consent to Participate

The study protocol was approved by the Johns Hopkins School of Public Health Institutional Review Board with protocol number 00000287. Written informed consent was obtained from all study participants, and permission to record the audio was also obtained from all participants.

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Authors Biographies

Paulina Tindana is Associate Professor of Bioethics and Global Health at the University of Ghana School of Public

Health. Her bioethics research and scholarship focus on global health bioethics, international research ethics and the ethical, legal and social issues in genomics research. Her role in this manuscript has been to contribute to the conceptualization, development of the research protocol and data collection tools, data collection, data analysis, writing the first draft and providing a critical review of the overall content.

Emily Haddad completed a Master of Bioethics at the Johns Hopkins Berman Institute of Bioethics and Johns Hopkins Bloomberg School of Public Health. She studies global partnerships within pediatric surgical collaborations. She is a licensed clinical social worker who specializes in chronic illnesses. She has contributed to the development of multidisciplinary programs within the pediatric setting for complex congenital conditions. Her role in this manuscript has been to contribute to the data analysis and providing a critical review of the overall content.

Elise Wilson is the Research Program Manager for the Global Bioethics programs at the Johns Hopkins Berman Institute of Bioethics. As program manager, Elise manages several NIH Fogarty-funded international bioethics training programs, with partners in Africa and Southeast Asia. Her role in this manuscript has been to contribute to development of the research protocol and data collection tools, data analysis and to provide a critical review of the overall content.

Esime Agbloyor is a clinical ethics fellow at The Ohio State University Wexner Medical Center. Prior to this, she was Master of Bioethics student at the Johns Hopkins Berman Institute of Bioethics and Johns Hopkins Bloomberg School of Public Health. Her role in this manuscript has been to contribute to the development of the research protocol and data collection tools and to provide critical review of the overall content.

Nelson K. Sewankambo is Professor Emeritus at Makerere University College of Health Sciences. His bioethics scholarship has focused on the ethical challenges of global health partnerships and building bioethics capacity. He is Principal Investigator of the Makerere University International Bioethics Research Training Program (supporting PhD training of junior faculty in Bioethics) and SUSTAIN: Advancing Makerere University Master of Health Sciences in Bioethics. His role in this manuscript has been to provide critical review of the overall content.

Nancy Kass is Phoebe R. Berman Professor of Bioethics and Public Health at the Johns Hopkins Berman Institute of Bioethics and Johns Hopkins Bloomberg School of Public Health. Dr. Kass conducts empirical work in bioethics and health policy. Her publications are primarily in the field of U.S. and global research ethics and in the ethics of public health. She is an elected member of the National Academy of Medicine and the Hastings Center. She worked previously in the Ethics Secretariat of the World Health Organization and was Ethics Advisor to the Commissioner, U.S. Food and Drug Administration (through an Intergovernmental Personnel Act agreement). Her role in this manuscript has been to contribute to the conceptualization, development of the research protocol and data collection tools and to provide critical review of the overall content.

Joseph Ali is Associate Professor of Bioethics and International Health at the Johns Hopkins Berman Institute of Bioethics and Bloomberg School of Public Health. His research and scholarship focus on the ethics of research and public health practice; research ethics training program evaluation; responsible development and use of digital health technology, particularly for global disease surveillance; and, ethical and regulatory aspects of pragmatic clinical trials. His role in this manuscript has been to contribute to the conceptualization, development of the research protocol and data collection tools and to provide critical review of the overall content.