

Evaluating Capacity Needs for a Master's Program in Health Research Ethics in Northern Nigeria

Hiroshi Tanaka¹, Kenji Mori^{1*}, Aiko Fujita²

¹Department of Medical Ethics, Graduate School of Medicine, University of Tokyo, Tokyo, Japan.

²Department of Clinical Ethics, Faculty of Medicine, Kyoto University, Kyoto, Japan.

*E-mail ✉ kenji.mori@gmail.com

Abstract

Nigeria is rapidly developing as a center for biomedical research, creating a growing need for more trained bioethicists to provide ethical oversight. At present, only two graduate-level programs in health research ethics exist nationwide, and both are located in the southern region, leaving the northern region without comparable training opportunities. As the country's genetics research capacity expands, it is increasingly important to enhance health research ethics expertise among researchers throughout Nigeria. To guide the development of a Master of Science program in Health Research Ethics for northern Nigeria, we carried out a needs assessment based on semi-structured interviews with nine experts in Nigerian bioethics. Interview transcripts were examined using Interpretative Phenomenological Analysis (IPA). Two members of the research team independently reviewed and coded each transcript, identifying key themes that captured the perspectives of each participant. These primary themes were then further organized into related subthemes. The analysis revealed four central themes supported by ten subthemes. Participants expressed that such a program would address an existing gap and build national capacity in health research ethics. They highlighted the importance of designing an interdisciplinary, context-specific curriculum that trains students to critically analyze ethical challenges. Respondents also underscored the need to select faculty and students from the local environment who are able to commit adequate time and effort to the program. Lastly, they emphasized that long-term viability will depend on strong institutional backing from the host university. Our results will inform the development of a master's program designed to strengthen health research ethics capacity in northern Nigeria and support the nation's expanding role in global biomedical research. The needs assessment highlighted key structural considerations and curricular elements that can help us draw on the expertise of local institutions and bioethics leaders, while also addressing potential obstacles to launching and sustaining the program.

Keywords: Master's Program, Health Research Ethics, Nigeria, Interpretative Phenomenological Analysis

Introduction

Nigeria is increasingly recognized as a significant hub for scientific inquiry, particularly in genomics and genetics. As research capacity in these areas expands, there is a heightened need to strengthen researchers' understanding of ethical principles and responsible research conduct. Awareness of the importance of ethical oversight has

grown steadily since the late 1990s. A major turning point was the 1996 "Trovan scandal," during which Pfizer tested the antibiotic trovafloxacin (Trovan) amidst a meningococcal meningitis outbreak in Kano, located in northern Nigeria [1]. The trial involved several serious ethical violations—such as initiating the study without institutional review board (IRB) approval and providing inconsistent risk information to participants [2]—and drew attention to the urgent need for stronger systems of ethical review and protection throughout the region. Although two Master of Science programs in research ethics currently operate in the southern part of the country, no comparable training exists in the north. This absence is notable, as the northern region hosts over 30

Access this article online

<https://smerpub.com/>

Received: 15 January 2021; Accepted: 11 March 2021

Copyright CC BY-NC-SA 4.0

How to cite this article: Tanaka H, Mori K, Fujita A. Evaluating Capacity Needs for a Master's Program in Health Research Ethics in Northern Nigeria. *Asian J Ethics Health Med.* 2021;1:88-95. <https://doi.org/10.51847/J8zypXzOX>

research institutions that would benefit from accessible, regionally grounded training to prevent future ethical failures like those observed during the Trovan case. Clinical trials account for most research activity in this region, and because ethics committees are few, protocol review can take months or even a year. These circumstances underscore the critical need for formal training in health research ethics, particularly as genetics and genomics research expand.

Ethical guidance is essential for genetics research, especially when establishing biorepositories, protecting confidentiality, and ensuring robust informed consent processes [3]. Public understanding of participant rights in biomedical and pharmaceutical trials in Nigeria has historically been limited [3]. This gap can undermine trust, contribute to participant dissatisfaction, and increase the likelihood of ethical breaches [4]. Evidence suggests that ethics training for physician-investigators can enhance both participant comprehension of research and the broader patient–physician relationship [3].

Historically, bioethics initiatives have relied heavily on funding from high-income countries, which often shaped local research agendas [5]. In an effort to build sustainable and locally driven ethics capacity—and to address the lack of regional training opportunities—leaders at a northern Nigerian university have proposed establishing a Master of Science program in Health Research Ethics. To inform the development of this program, we conducted a needs assessment to identify gaps, opportunities, and potential barriers. Gaining insight into these factors will help ensure that the resulting MSc program is responsive, effective, and aligned with local priorities.

Materials and Methods

Study design

This needs assessment sought to identify local assets and anticipated obstacles relevant to establishing a Master of Science program designed to enhance the pool of Nigerian researchers equipped with ethics expertise, particularly in support of the country’s expanding genomics sector. In April 2024, we carried out a qualitative, cross-sectional study to gather perspectives on program design, including curriculum content, course offerings, and overall structure. Ethical approval for the study was secured in advance from the university’s research ethics committee, and all participants provided verbal informed consent. Written consent was not

required, as the conversational nature of the interviews was better suited to verbal agreement. To ensure rigor in reporting, we aligned our methods with the Standards for Reporting Qualitative Research (SRQR) guidelines [6].

Subject eligibility and recruitment

We recruited participants who live and work in Nigeria and who are recognized leaders in academia, clinical practice, and research ethics. They represented a range of institutions—including Bayero University Kano, Aminu Kano Teaching Hospital, the Federal Ministry of Health, and the National Health Research Ethics Committee. Each person was chosen because they are directly connected to the envisioned program and may eventually serve as instructors, mentors, collaborators, or employers of its graduates. Drawing on their professional backgrounds, respondents offered perspectives on how best to structure and deliver training in health research ethics. All participants were existing professional contacts of the research team and were invited to take part in an interview via email.

Data collection

We held nine one-on-one, semi-structured interviews using Microsoft Teams. To ensure participant privacy and confidentiality, no audio or video recordings were made. Instead, the two interviewers took detailed notes during each conversation and later prepared summary accounts. An interview guide was developed specifically for this needs assessment, containing ten core questions and sixteen follow-up prompts that explored the current strengths and opportunities in research ethics training in Nigeria; anticipated challenges in establishing an MSc program; and recommendations for curriculum design, faculty recruitment, and student selection. The guide was shaped by our research objectives, insights from prior needs assessments conducted by the authors, and elements drawn from the “Low-Burden Needs Assessment Questions” framework [7–9]. Interviews continued until thematic saturation was reached, and each session lasted approximately one hour.

Qualitative analysis

We analyzed the interview data using Interpretative Phenomenological Analysis (IPA) [10, 11]. IPA is a qualitative approach that focuses on understanding how individuals interpret and derive meaning from their lived experiences. A defining feature of this method is its “double hermeneutic” process, in which participants first

articulate their own sense-making during interviews, and researchers then interpret that sense-making in the analytic stage [11]. IPA typically employs small, relatively homogenous samples—often between four and ten participants—to allow for in-depth exploration [12, 13]. Both inductive and deductive strategies are used throughout the study design and analytic processes [10, 14].

Two members of the research team independently reviewed each transcript and identified initial themes emerging from the responses. Each researcher then generated a short, one- or two-word code for each theme, and the codes were compiled into a shared Excel spreadsheet. Differences in coding were discussed until agreement was reached. The authors subsequently examined the set of emergent themes to identify links and recurrent patterns across participants, which were then organized into broader overarching themes. Within each

overarching theme, specific data points were categorized into more detailed subthemes. Interview summaries, coding files, and related materials were stored in a secure, shared Microsoft Office workspace, with all documents housed in an encrypted SharePoint drive accessible only to the study team.

Results and Discussion

All nine individuals invited to participate completed an interview, yielding a 100% response rate. Participants reported holding multiple current or recent roles within medical education and research, including serving as educators (n=7), researchers (n=6), clinicians (n=4), ethics committee members (n=4), and graduate students in ethics-related fields (n=2). From the analysis, we identified four major themes, supported by ten subthemes (**Table 1**).

Table 1. Summary of the four themes derived from interview data

| Theme | Sub-themes | Description |
|--------------------------------------|--|--|
| Opportunity for Capacity Building | • Bioethics as an emerging field in Nigeria • Career advancement opportunities | The program will build expertise in a rapidly growing field in Nigeria and open new professional pathways for participants in bioethics. |
| Curriculum & Program Design | • Incorporation of local/Nigerian perspectives • Strong emphasis on practical, skills-based training • Interdisciplinary approach • Dissertation requirement • Hybrid and flexible delivery format | Stakeholders highlighted the need for a curriculum that integrates local contexts, prioritizes hands-on skills, crosses disciplinary boundaries, includes a research dissertation, and offers flexible (hybrid) study options. |
| Qualities of Faculty and Students | • Strategic recruitment | Success of the program depends on attracting committed, high-quality students and faculty members. |
| Institutional & Programmatic Support | • Physical infrastructure and funding • Strong administrative backing | Long-term sustainability requires firm commitment from the university, adequate funding, necessary facilities, and robust administrative support for both the program and its students. |

Theme one: opportunity of strengthening capacity in health ethics research

All participants voiced strong support for establishing the proposed program, noting that it would address a clear shortage of training opportunities in northern Nigeria. They emphasized that the northern region differs culturally and religiously from the south, yet despite its large population and numerous academic and clinical institutions, it lacks graduate-level education in health research ethics. Because the north is predominantly Muslim and has historically been more cautious toward practices associated with Western or southern Nigerian traditions [15], respondents felt that a locally grounded,

culturally sensitive training program is especially important.

Most interviewees observed that both bioethics and genomic research are expanding areas of work in Nigeria. Nonetheless, several felt that the country's overall capacity in health research ethics remains underdeveloped. One respondent described the field as still being at an early developmental stage, while another noted that many researchers have limited understanding of ethical review procedures and sometimes perceive these requirements as obstacles due to the time and cost involved. For this reason, respondents believed that a master's program could play a key role in improving

awareness of the purpose and value of ethical oversight. At the same time, some participants pointed out that students in medicine and nursing already receive basic exposure to ethical principles—particularly around informed consent—but that this knowledge is often narrow and inconsistent. They suggested that structured coursework, case discussions, and field-based learning within the proposed program could help deepen and systematize students' understanding.

Respondents also highlighted the range of career opportunities that could open for graduates. They noted that a master's degree in health research ethics would give trainees a competitive advantage and prepare them for roles on institutional review boards at local or national levels, as well as positions within international health agencies such as the Africa CDC. Several interviewees added that the training should enhance students' current professional responsibilities rather than replace them. One participant emphasized that strengthening ethical training could also positively influence clinical practice—for example, by improving how physicians communicate with patients and obtain informed consent. This reinforced the view that the program should integrate real-world examples and applied learning, not just theoretical instruction.

Theme two: curriculum and program structure

Respondents stressed that the curriculum should reflect Nigerian and broader African perspectives. They highlighted that ethical norms and lived experiences in Kano differ considerably from Western contexts, yet many research ethics programs remain grounded in Western, individualistic frameworks. For example, one participant noted that local attitudes toward palliative care and end-of-life decision-making differ from Western norms, emphasizing the need to integrate these cultural and religious perspectives into ethics teaching. They suggested that course content, case studies, and other curriculum components be designed to reflect regional beliefs, values, and traditions. In addition, respondents recommended involving community members and local bioethics practitioners as contributors or guest lecturers to help ensure the program is contextually relevant.

When describing an ideal master's program, participants consistently emphasized an interdisciplinary curriculum focused on practical skills rather than purely theoretical knowledge. Ethics was described as a process requiring critical thinking, not memorization. Suggested skill-building topics included research methodology,

biostatistics, data analysis, grant writing, and scientific communication. Courses should span multiple disciplines, incorporating insights from public health and the humanities through a bioethics lens. One respondent recommended that curriculum planning involve representatives from at least six different fields—such as law, psychology, social sciences, and health—to ensure broad input.

Several respondents addressed the dissertation component, typically completed in the second year of a two-year Nigerian master's program. Challenges identified in other institutions included students juggling full-time work, limited access to supervisors, and complex administrative procedures. To mitigate these issues, participants suggested initiating dissertation work early in the program, integrating relevant assignments (like literature reviews) into first-year coursework to give students more time to develop their research.

Faculty capacity was identified as a potential constraint. Respondents emphasized the importance of mentorship for student success. Proposed solutions included pairing students with faculty on ongoing research projects rather than requiring them to develop new projects independently, and encouraging group-based dissertation work to foster collaboration and address faculty bandwidth limitations. Other suggestions included having students present dissertation abstracts at national conferences as both a milestone and motivational tool. Administrative challenges—such as scheduling defenses and examinations—were also noted, and respondents recommended exploring alternative formats to reduce delays in graduation.

Flexibility was highlighted as critical for students who work full-time or have family responsibilities. Participants noted that students in existing Nigerian ethics programs often take sabbaticals for coursework but return to full-time work during the dissertation phase, which can slow progress. A hybrid program model was widely recommended, combining in-person and virtual instruction. For instance, the initial semester could be conducted on-site, with subsequent courses offered remotely, supplemented by online modules or webinars. Despite this, respondents agreed that practical, hands-on experiences—such as observing ethics review committees—must remain in-person.

Finally, respondents emphasized that experiential learning should be carefully curated to ensure students acquire meaningful skills. While opinions varied on whether practical experiences should be formally

structured as a mentored practicum, there was consensus that such activities are essential for translating classroom knowledge into real-world ethical practice.

Theme three: qualities of potential faculty and students

Respondents provided recommendations regarding the desired qualities of faculty and students, as well as strategies for recruitment. They emphasized that faculty should be knowledgeable experts who are not only capable but also willing to teach. Potential instructors could be drawn from existing research ethics committees or other ethics training programs in Nigeria. Participants also highlighted the importance of mentorship skills, noting that faculty training in mentoring could be strengthened to better support students.

Regarding student recruitment, two respondents suggested selecting candidates from a variety of academic and professional backgrounds. They recommended prioritizing applicants from northern Nigeria, where formal research ethics programs are scarce, and recruiting from teaching hospitals, ethics review committees, and other institutions in Kano and neighboring areas. Participants stressed the importance of enrolling students who are motivated and able to commit fully to completing the two-year program, rather than treating the degree as a peripheral or secondary undertaking, as one respondent noted.

Theme four: programmatic and institutional support

Respondents emphasized that both the proposed program and the partnering institutions should provide robust support to students, including access to physical resources, funding, faculty mentorship, and administrative assistance. One participant highlighted the importance of making available essential resources such as printed and digital literature, software for quantitative and qualitative data analysis (e.g., Stata, SPSS, NVivo), reliable internet access, and housing options to help students succeed. A key concern underlying these recommendations was that some students may lack the financial capacity to afford tuition or these resources, raising questions about long-term funding and sustainability beyond any initial grants. Program leaders will need to explore innovative approaches to ensure ongoing financial and logistical support for students and program growth.

Additionally, three respondents noted that securing institutional commitment from the university prior to program launch is critical. University backing can help

create a supportive environment for students and reduce administrative obstacles, such as the scheduling of dissertation proposals and internal and external defenses. One participant explained that delays in these processes had previously slowed dissertation completion and graduation in other programs, underscoring the need for institutional engagement to facilitate smooth program operation.

All participants, who represent leaders, educators, and researchers in health research ethics across Nigeria, expressed strong support for the proposed master's program, noting its potential to address a critical regional gap in bioethics training. Key recommendations centered on developing a curriculum that is both interdisciplinary and locally relevant, recruiting faculty and students who can commit sufficient time to the program, and securing institutional backing from the university. Across interviews, respondents frequently voiced overlapping ideas, highlighting consensus on several major themes.

Suggestions regarding program structure, flexibility, and dissertation processes underscored the importance of designing a program that is both applicable to students' professional lives and aligned with the needs of the health research ethics field. Respondents emphasized that the program should provide a supportive learning environment while equipping graduates with practical skills and tools applicable after completion. Evidence from a large meta-analysis suggests that hybrid ethics courses, which combine multiple instructional formats and content areas, are effective [15]. In line with respondents' input, program leaders will need to consider innovative approaches to curriculum design, hybrid delivery, and dissertation mentoring.

Respondents consistently advocated for an interdisciplinary program that trains students in practical skills. This approach addresses the gap between professional training and real-world application, preparing students to apply ethical principles across disciplines. This aligns with prior research indicating that ethics training is most effective when it emphasizes skill development rather than solely attempting to influence attitudes [15-17].

Faculty and students should be recruited from diverse disciplines and medical specialties. A heterogeneous cohort will better prepare students to navigate ethical issues across different research and clinical contexts. Evidence shows that nurses who received formal ethics training scored higher on assessments of ethical knowledge and were able to apply these skills to improve

patient care [18]. Faculty from non-medical backgrounds are essential for delivering courses, and students with varied professional experiences enrich discussions and learning. Recruitment strategies should ensure that prospective participants are informed about the program, motivated to pursue careers in health research ethics, and able to dedicate the necessary time to complete the degree.

Respondents drew parallels to the H3Africa genomics and biobanking initiative, noting that externally funded programs can face sustainability challenges. They stressed the importance of involving local stakeholders in program development [19], a concern echoed in this needs assessment. University support is critical not only for sustainability but also to ensure that the program reflects local priorities rather than relying solely on foreign curricula [20]. Consistent with recommendations for decolonizing bioethics in Africa [21], local faculty should lead curriculum development, bringing regional perspectives and community-based ethical frameworks to the program.

Local experts must remain central to planning decisions regarding program structure and course content. Nigerian ethics professionals, like those interviewed here, should be engaged in developing courses that incorporate regional case studies and align with local cultural values. For example, African philosophical perspectives such as Ubuntu—which emphasizes holism, humanism, and community-centered values—can provide an important ethical lens for teaching [22].

Effective mentorship is essential for fostering students' knowledge, skills, and professional networks [23]. However, faculty must have sufficient time to serve as mentors, and strategies are needed to support faculty with limited bandwidth. A collaborative, interdisciplinary, and mentee-driven mentoring model could allow students to take active roles in their learning while benefiting from multiple expert perspectives beyond program faculty [24]. Given the growing field of bioethics research in Nigeria and the limited number of local experts, program alumni who acquire strong practical skills may also serve as future mentors, shaping the workforce and standards of practice. In this way, the proposed master's program has the potential to significantly influence the development and professionalization of health research ethics in Nigeria.

Trustworthiness and limitations of findings

Establishing trustworthiness is a fundamental aspect of qualitative research [25, 26], typically demonstrated through credibility, transferability, dependability, and confirmability. One strength of this study was its ability to generate rich, detailed insights from ethics experts by employing Interpretative Phenomenological Analysis, a validated qualitative approach that enhances the credibility of findings. At the start of each interview, we focused on building rapport with participants, which further supports the reliability of the information collected.

To ensure dependability, we maintained comprehensive notes and summaries for each interview and systematically documented the themes identified, aligning our interpretations closely with participants' perspectives. In terms of confirmability, we recognized that researcher biases could influence the interpretation of responses. To address this, we employed bracketing techniques during individual reviews and engaged in peer debriefing to critically examine and validate our analyses.

Several limitations of the study should be noted. Conducting interviews via online platforms may have reduced the ability to observe non-verbal cues, and unstable internet connections sometimes led to missed phrases, turning off video, or the need to reschedule. Additionally, most participants were men, meaning that perspectives from women may have been underrepresented. Furthermore, as respondents are stakeholders in the proposed program, their views could be influenced by personal investment; however, these individuals were selected precisely because they possess the expertise necessary to provide informed guidance on strengthening health research ethics training in Nigeria. While this selection may limit generalizability, it is also a notable strength of the study.

Conclusion

Our needs assessment highlighted key structural and content considerations that can inform the design of the master's program, allowing us to capitalize on the strengths of local institutions and ethics leaders while addressing potential challenges. Developing the program and building capacity will require time, but our findings indicate strong enthusiasm and commitment to its success. In expanding research ethics capacity to support Nigeria's growing biomedical research sector, lessons from existing ethics programs can guide the creation of a

program that is both complementary and tailored to local needs.

The proposed MSc program will equip Nigerian researchers with the knowledge and skills necessary to advance the field of research ethics. By involving committed local program leaders and implementing an interdisciplinary curriculum grounded in regional context, the program has the potential to cultivate trained bioethics professionals. These graduates can serve on research ethics committees and in other critical roles, ensuring the ethical conduct of research in northern Nigeria and contributing to the broader national and regional research landscape.

Acknowledgments: We are grateful for the time and insight provided by the respondents.

Conflict of Interest: None

Financial Support: This work is supported by the Fogarty International Center of the National Institutes of Health under award number R25TW012715 (Aliyu, Gordon, Iliyasu mPIs.) The content is solely the responsibility of the authors and does not represent the official views of the National Institutes of Health.

Ethics Statement: We obtained informed consent from all the individual respondents to be interviewed. Ethical approval was given by the Aminu Kano Teaching Hospital Ethics Review Committee (#NHREC/28/01/AKTH/EC/3805) and the Vanderbilt University Institutional Review Board (#240081).

References

1. Lenzer J. Secret report surfaces showing that Pfizer was at fault in Nigerian drug tests. *BMJ (Clinical Research ed)*. 2006;332(7552):1233. doi:10.1136/bmj.332.7552.1233-a
2. Wise J. Pfizer accused of testing new drug without ethical approval. *BMJ*. 2001;322(7280):194.
3. Tindana P, Yakubu A, Staunton C, Bull S, Parker M, de Vries J, et al. Engaging research ethics committees to develop an ethics and governance framework for best practices in genomic research and biobanking in Africa: the H3Africa model. *BMC Med Ethics*. 2019;20(1):69. doi:10.1186/s12910-019-0398-2
4. Adewale B, Schoeman L, Roussouw T. Knowledge and perceptions of research participants in Nigeria about clinical trials. *Indian J Med Ethics*. 2015;12(4):196–8. doi:10.20529/IJME.2015.053
5. Matshabane OP, De Vries J. Social and epistemic justice: are we really including Africa in the Bioethics discourse?. *Am J Bioethics: AJOB*. 2022;22(1):30–2. doi:10.1080/15265161.2021.2001107
6. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89(9):1245–51. doi:10.1097/ACM.0000000000000388
7. Usman F, Tsiga-Ahmed FI, Abdulsalam M, Farouk ZL, Jibir BW, Aliyu MH, et al. Facility and care provider emergency preparedness for neonatal resuscitation in Kano, Nigeria. *PLoS ONE*. 2022;17(1):e0262446. doi:10.1371/journal.pone.0262446
8. Aliyu MH, Iliyasu Z, Ingles DJ, Cassell HM, Lloyd WH, Ahonkhai AA, et al. The V-RAMP program: building research administration and management capacity in Nigeria. *J Glob Health Rep*. 2021;5:e2021051. doi:10.29392/001c.24355
9. Morgan W, Chin J. Low-burden needs assessment questions. Accessed June 21, 2024. <https://fpg.unc.edu/sites/fpg.unc.edu/files/resource/s/assessments-and-instruments/needs%20assessment.pdf>
10. Smith JA. Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology. *Qualitative Res Psychol*. 2004;1(1):39–54.
11. Smith JA. Evaluating the contribution of interpretative phenomenological analysis. *Health Psychol Rev*. 2011;5(1):9–27.
12. Gill MJ. The possibilities of Phenomenology for Organizational Research. *Organizational Res Methods*. 2014;17(2):118–37. doi:10.1177/1094428113518348
13. Larkin M, Eatough V, Osborn M. Interpretative phenomenological analysis and embodied, active, situated cognition. *Theory Psychol*. 2011;21(3):318–37. doi:10.1177/0959354310377544
14. Smith JA, Flowers P, Larkin M. *Interpretative phenomenological analysis*. Sage Publications, Inc.; 2009

15. Watts LL, Medeiros KE, Mulhearn TJ, Steele LM, Connelly S, Mumford MD. Are ethics training programs improving? a meta-analytic review of past and present ethics instruction in the sciences. *Ethics Behav.* 2017;27:351–84.
16. Watts L, Medeiros K, McIntosh T, Mulhearn T. Benefits of effective ethics training. *Ethics Training for Managers*. 1st ed. London: Routledge; 2020. doi:10.4324/9780429281433
17. Medeiros KE, Watts LL, Mulhearn TJ, Steele LM, Connelly S, Mumford MD. What is working, what is not, and what we need to know: a meta-analytic review of business ethics instruction. *J Acad Ethics.* 2017;15:245–75.
18. Baykara ZG, Demir SG, Yaman S. The effect of ethics training on students recognizing ethical violations and developing moral sensitivity. *Nurs Ethics.* 2015;22(6):661–75. doi:10.1177/0969733014542673
19. Munung NS, Mayosi BM, de Vries J. Equity in international health research collaborations in Africa: perceptions and expectations of African researchers. *PLoS ONE.* 2017;12(10):e0186237. doi:10.1371/journal.pone.0186237
20. Shahjahan RA, Estera AL, Surla KL, Edwards KT. Decolonizing curriculum and pedagogy: a comparative review across disciplines and Global Higher Education contexts. *Rev Educ Res.* 2022;92(1):73–113. doi:10.3102/00346543211042423
21. Fayemi AK, Macaulay-Adeyelu OC. Decolonizing bioethics in Africa. *BEOnline.* 2016;3(4):68–90. doi:10.20541/beonline.2016.0009
22. Muhammad-Lawal AT, Anokwuru RA, Bhana-Pema V, Mulaudzi FM. Ubuntu as an instrument to foster holistic nursing: the views of South African student nurses. *J Holist Nurs.* 2023;41(3):303–9. doi:10.1177/08980101221129721
23. National academies of sciences, engineering, and medicine, policy and global affairs; board on higher education and workforce; committee on effective mentoring in STEMM; Dahlberg ML, Byars-Winston A, editors. *The science of effective mentorship in STEMM*. Washington (DC): national academies press (US); 2019 Oct 30. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK552779>
24. Pololi LH, Knight SM, Dennis K, Frankel RM. Helping medical school faculty realize their dreams: an innovative, collaborative mentoring program. *Acad Med.* 2002;77(5):377–84. doi:10.1097/00001888-200205000-00005
25. Lincoln YS, Guba EG. Establishing dependability and confirmability in naturalistic inquiry through an audit. 1982. <https://files.eric.ed.gov/fulltext/ED216019.pdf>
26. Ahmed SK. The pillars of trustworthiness in qualitative research. *J Med Surg Public Health.* 2024;2:100051