BMJ Global Health

An exploration of practices affecting research integrity in global health partnerships

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ABSTRACT

Background Research integrity is central to good research practice yet it is under-researched in global health.

Aim To identify and explore factors which promote or constrain adherence to research integrity principles in global health research partnerships, specifically at a UK higher education institution (HEI) and its low-to-middle-income country (LMIC) partners.

Methods Qualitative study using key informant interviews among researchers at a HEI and a number of its LMIC partners exploring their understanding of the principles of research integrity and experience of its implementation in relation to research.

Results Thirteen interviews, five from HEI and eight from partner organisations, were conducted. Analysis found that understanding of research integrity focused on issues relating to rigour and did not include 'care and respect'. Barriers to research integrity included, supra institutional factors such as funding flows, inequitable power relations, the competitive culture of the global health ecosystem and institutional psychosocial safety. Most respondents had direct or indirect knowledge of incidences of research misconduct.

Conclusion Improved recognition of the importance of care and respect is key to improving the integrity of research conduct within global health partnerships.

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WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Much of the discussion about research integrity has focused on study-level factors and on high-income settings; research integrity in the context of research partnerships between high-income and low-to-middle-income settings remains understudied.

WHAT THIS STUDY ADDS

⇒ Understanding of the core principles of research integrity is limited and neglects aspects such as care and respect. Factors operating at institutional, inter-institutional and suprainstitutional levels, particularly pressures arising from the competitive culture of the global health research ecosystem, and the current structure of funding flows, adversely affect the application of the principles of research integrity.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ This study provides further evidence of the need to embed values such as 'care and respect' into research conduct and partnerships. It also highlights the potential harms arising from the power and reward structures of the current research ecosystem and the dangers they may pose to researchers, to communities and to science itself.

INTRODUCTION

Research integrity is central to good research practice.[1] It has been defined by the UK universities concordat as conducting research in accordance with the principles of honesty, transparency, rigour, accountability and care and respect.[1] Several UK higher education institutions (HEI) work in global health research, and while many reports and papers have examined the factors affecting research integrity in the UK and Europe,[2–5] research examining research integrity in UK HEIs, in relation to their global health research partnerships, is limited. Given the growing number of such partnerships and the additional complexity arising from differences in institutional and national environments, more research in this area is needed.

We present a study involving respondents from a UK HEI and its Global South partners, which aims to identify and explore factors which promote or constrain adherence to research integrity principles in these different settings and in the context of partnerships between research institutions based in high-income countries (HICs) and low-to-middle-income country (LMIC).

METHODS

Study participants and design

The study took place between December 2019 and February 2020, within a UK HEI where over 90% of research involves overseas partnerships with LMIC institutions, the majority of which are located in Africa.
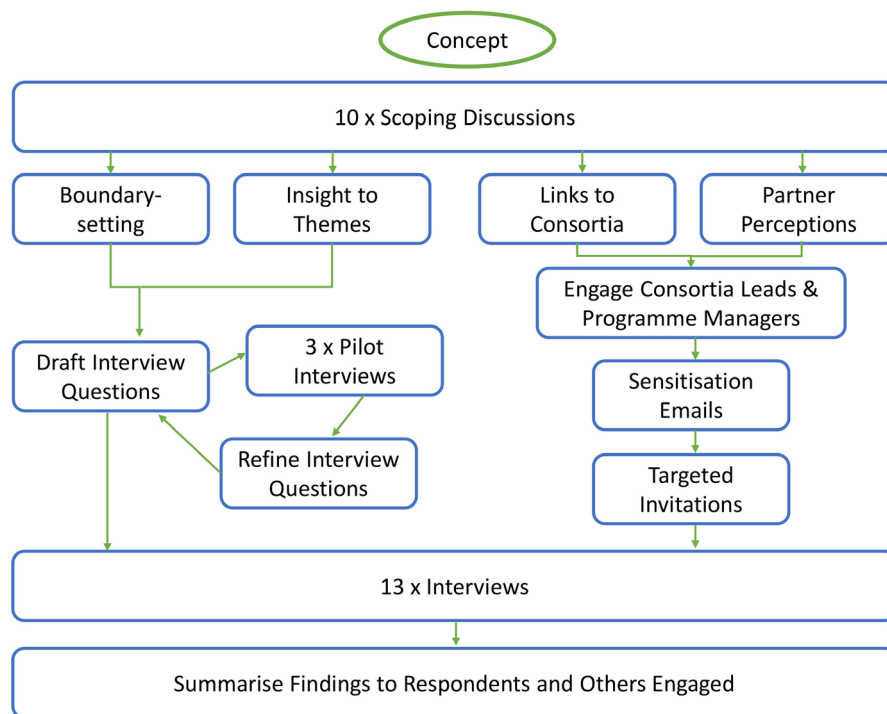
Figure 1 Application of research integrity principles (LT).

Key informant interviews (KIIs) were conducted with staff directly employed by the HEI or LMIC institutions actively involved in research collaborations with the HEI. We explored environmental and organisational constraints to promoting research integrity.

Prior to interviews, the study concept was discussed with a range of HEI and partner colleagues. This was intended to aid development of the interview questions, as well as actively engage a broad spectrum of stakeholders (see figure 1).

Both HEI and LMIC key informants (KIs) were purposively selected to include representation from senior and junior researchers and from research management and support professionals at both the HEI and partner organisations. All LMIC KIs were members of consortia led by the HEI. A target figure of 14 KIs was identified as the maximum achievable within the given time frame.

Data collection
Five KIIs with HEI colleagues took place face to face, while eight with Partners were online through Zoom, WhatsApp or Skype. KIIs were conducted in two parts. Part 1 sought to understand participants' knowledge and attitudes, exploring institutional and organisational factors affecting research integrity adherence. The language in part one aimed to elicit multiple perspectives, opening up space for dialogue. We asked about respondents' roles, the context in which they work, what they understand by 'research integrity' and the related challenges they encounter in their field. Part two began by offering a definition of research integrity, to ensure common understanding of the concept. We then asked about institutional practices, and what training was offered. We

also asked how collaboration and competition intersect with research integrity. While questionnaire design and analysis focused on the definitions of research integrity as an overarching framework,[1] considerations were given to other frameworks such as the Development Management Framework,[6 7] which considers issues such as the overall orientation of the HEI and partnerships towards 'progressive change' relative to the historical context of colonial relations, which is highly relevant in global health research partnerships (see figure 2).

All participants consented to interviews being audiorecorded. Each interview was transcribed verbatim, anonymised, and recordings were deleted post analysis.

Data analysis
Data were analysed via textual analysis (LT). Responses to each interview question were analysed and grouped by HEI and partner. Themes arose by breaking down responses and discovering relationships, and an Excel spreadsheet was used quantify responses. Data were evaluated and analysed by extrapolating themes based on patterns and judgement. These analyses were verified (AO). KII transcripts where respondents are members of the same research consortia as AO (n=4) were not shared with AO to obviate any chance of the respondents' identity being exposed. χ^2 analysis was performed to explore demographic differences between responder and nonresponder groups.[8]

RESULTS
Altogether, 148 individuals were invited to participate. Invitations were sent to 142 individuals via three Consortia
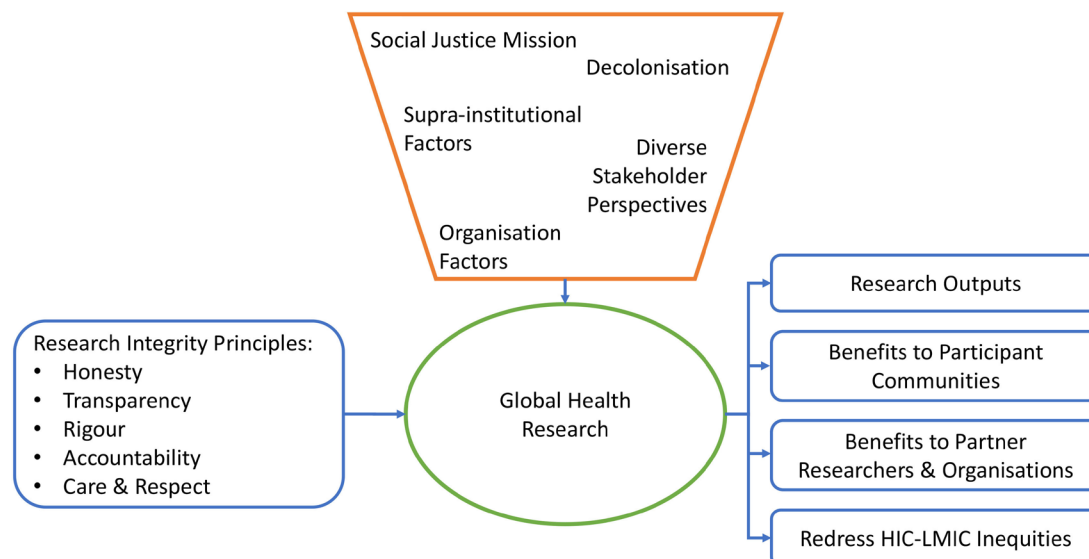
Figure 2 Study design (LT).

led by the HEI (40 HEI staff, 102 from partners; 78 of the total were female and 64 male). From this pool, 11 partners accepted the invitation compared with one HEI colleague. Ultimately, 8 of the 11 partners were interviewed to ensure distribution of input across institutions. A further six HEI colleagues were contacted directly, of whom, four agreed to participate. Both those who declined to participate were female. Of 13; 5 were from the HEI and 8 from partner organisations. Four participants were female; nine were male. Five were senior academics, five mid-career, two early-career researchers, plus one programme management respondent. Most respondents (n=11) originated from Africa (East, West and Southern) while four respondents were European. The overall participation rate was 11%. This varied by HIC versus LMIC (19% vs 8% p=0.056 (0.108 with Yates correction)) and gender (6% among females vs 16% among males p=0.046 (0.083 with Yates correction)).

Baseline understanding of research integrity

Doing research without cheating.

When asked to define research integrity in their own words, a number of respondents referred to ethics or ethical conduct of research. More commonly, integrity was understood in the context of following the 'rules' that is, implementing the research according to a pre-agreed protocol. In particular, being seen not to have deviated from the agreed protocol in an attempt to get desired results. Integrity as 'reflecting the truth' or truthfulness also emerged in responses to later questions in a number of cases.

I think yes, yes, yes, yeah yes it is very relevant.

All respondents thought that research integrity was relevant to their research practice, and gave concrete examples of why, ranging from data management to building and maintaining trust in the communities. However, only three were aware of any specific integrity

training provided by their organisation. HEI respondents could identify an individual with designated responsibility for research integrity in their institution. This was not the case at LMIC organisations, though Partner respondents felt that they knew where they would go to report an integrity issue. Most respondents had direct or indirect knowledge of instances of questionable research practices or research misconduct.

Factors affecting research integrity

Thematic analysis found that factors and practices perceived to affect adherence to the research integrity principles operated at suprainstitutional, institutional and interinstitutional levels.

Suprainstitutional factors affect research integrity at organisational level

Challenges in global health research practices beyond the institution were seen to have important impacts on the application of research integrity principles.

The competitive culture of academia

Several respondents spoke of 'competition' and 'pressure' as potential barriers to research integrity. This pertained particularly to winning grants and authorship on research publications.

Four of 13 respondents (2 HEI, 2 partners) highlighted how pressure to win grant applications challenge the principles of honesty, transparency and rigour.

I have no doubt at all that (that) means people cut corners to bring in a grant because they need to demonstrate income generation.

The high value placed on the number of authored publications and authorship position was seen as an important challenge to integrity. Reference to 'cut(ting) corners' recurred consistently. Nine respondents (five HEI, four LMIC Partners), felt that the pressures to

succeed experienced by many researchers may lead some 'to get results quickly or… fabrication of results'.

Authorship position was considered an important factor by both partners and HEI researchers:

It encourages you to claim credit rather than share credit.

Disagreements over fair attribution of authorship can lead to friction within the HEI and in partner relationships.

I've never seen it done based on contribution.

I have been in a group… that almost got totally destroyed over [authorship] because some people wanted to be everything when they contributed zero.

However, early-career researchers in LMIC partner institutions were more optimistic, stating that pressure to publish is motivational, affecting aspirations 'in a positive manner, not negatively.'

The short-term nature and flow of research grant funding

Typically, HIC HEIs competitively submit grant applications to HIC funders; many grants have a short-term duration.

Short-term funding is really detrimental to what we're trying to achieve here.

Four of 13 respondents highlighted how grant applications bring the principles honesty and transparency into question, for example, 'because they need to demonstrate income generation' . The evidence suggests that short-termism is a by-product of the funding process, affecting the principle rigour across both the HEI and partners.

The longest contract you can have is only 2 years… people would not be paying attention to quality issues, because their mind is elsewhere, they are thinking about tomorrow.

Institutional culture affects research integrity
Institutional culture and psychosocial safety

At the HEI, pressures on researchers were felt to affect their well-being, especially those early in their careers.

The challenges people are facing with mental health in this very competitive research [environment].

It can be a really toxic environment.

In my capacity as a mentor… I am sometimes shocked by the behaviour of some of our senior staff… Power dynamics definitely affect research integrity.

Short-term contracts also negatively impact the ability to conduct research in line with positive values:

You need time to get into the culture of the place and you need an assurance that you have a long-term stay to be able to embed yourself in the culture.

It was acknowledged that change is needed in the form of a cultural shift:

[It's] about raising consciousness… normalising good behaviour.

In contrast, several LMIC partner respondents were positive about their contexts, emphasising openness, robust training provision, informal monitoring through regular meetings, proactive remedial action when errors are exposed, and formal reports to Research Ethics Committees (RECs).

People get into those positions of leadership because of their integrity and their openness and their honesty.

If you have any complaint, you just write to the administration… and they will call half-time to know what exactly is happening and try to solve it.

Several LMIC respondents reported positive effects of organisational culture on research integrity such as clear lines of accountability, while some referred to other barriers in their workplaces, competitive pressure did not appear to be a factor.

Institutional capacity and training affects appreciation of integrity principles

Six of nine respondents of African nationality reported issues such as lack of resources and training about the value of research affecting data collection and quality.

They [field workers] just make up things and that—sometimes it might be very difficult for you to really assess that this was made up.

Due to time pressures or situational factors, research integrity principles may be sacrificed to a perceived need to mislead participants into participation in research.

Sometimes, some people need to not to say exactly the truth… you try to give them a different reason of why you wanted to take their blood.

However, two of five HEI respondents (both senior researchers) indicated that misconduct was most likely to occur during analysis of results.

One of the major integrity issues of research is the way in which we handle information, analyse it… it's more subtle when you're dealing with numbers.

Interinstitutional practices
Capacity strengthening

Capacity strengthening of partners is an important element of global health research and is aligned with the integrity principle of care and respect. However, the majority of respondents reported that capacity strengthening was lacking in their research partnerships with HIC partners:

Collaborations are not even, and you don't get as much technology transfer or skills-building as you would want to. *Partner Respondent*

People that will write grants and not include any element of any sort of infrastructure, or replacement equipment or training of students… it should be banned. *HEI Respondent*

Lack of skills was also felt to be a barrier to data quality:

Lack of knowledge [was] the biggest challenge I had in terms of my integrity. So then I should have… a mentor… and then now I become a mentor for lots of people.

The data collector… was not basically trained to do this sort of work … you can discuss with that person and get them on the same page… And that, that one takes some time.

Research governance and contracting conventions

UK HEI and partner RECs review all research studies involving human participants. Most respondents appreciated RECs for their role in protecting participants and promoting transparency, rigour, accountability and care and respect. However, some LMIC respondents view RECs as a barrier, due to delayed reviews and untransparent fee structures, 'the burdensome issues of ethics' which may undermine trust in the REC process.

Research integrity was felt to be important in relation to contracting between the HEI and its partners, particularly in the way that currently, risk can be deflected onto Partners.

Is it ok to load all of the risk onto our partners, when obviously our contracts are designed to mean that we're not at risk as an institution, but it can lead to uncomfortable situations for our partners?

The true extent of this practice is unknown, as this was only mentioned by one participant. However, it was deemed important to note it, because, if widespread, this would undermine the equity of partnerships and the principle of care and respect.

DISCUSSION
Key findings

This case study aimed to gain in-depth understanding of 'research integrity' within a specific real-world context. We found that respondents described research integrity in terms of ethics and the principles of honesty and rigour, but no respondents spontaneously referred to integrity in terms of 'care and respect'. We further found that research integrity is affected by the wider challenges of the global health research ecosystem; by institutional factors such as psychosocial safety, and by interinstitutional factors such as contracting and availability of capacity strengthening.

Suprainstitutional factors affect research integrity at organisational level

Our study suggests that the broader global health research ecosystem affects research integrity at organisational level, by constraining organisations' capacity to apply research integrity principles (figure 3).

The negative impacts of the competitive research cultures are well documented.[2 4 9 10] This environment can reduce the scope of individual agency, enabling behaviours which contravene research integrity principles of honesty, transparency and rigour. The resulting perverse incentives encourage poor practice,[11] such as
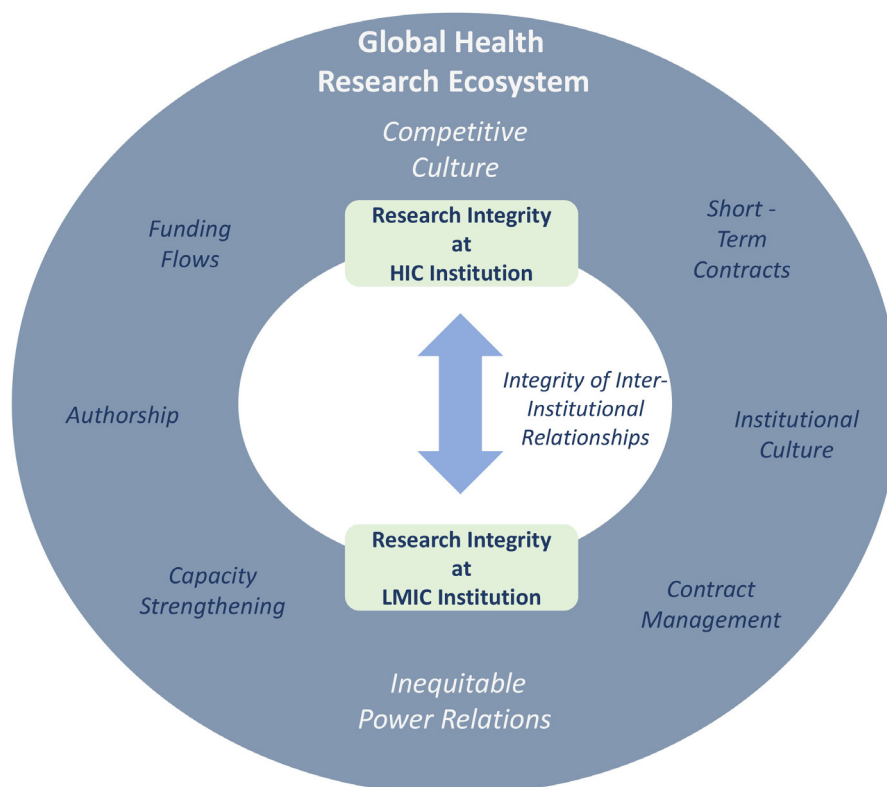

Figure 3 Factors affecting adherence to research integrity principles (AO). HIC, higher education institution; LMIC, low-to-middle-income country.

'cutting corners.' It was notable that HEI respondents reported being directly affected by the pressurised competitive environment, whereas Partners reported more constructive and collaborative learning environments. Insecurity arising from short-term contracts adds further pressure in all settings. This is in line with previous work that has found that researchers are more likely to adhere to research integrity principles when they feel their positions are secure.[9 10]

Figure 3 demonstrates how organisational cultures are affected by the research ecosystem. Organisations must acknowledge that these pressures exist in order to mitigate perverse incentives, and instead cultivate a constructive response through policy and practice, in which adherence to research integrity principles is incentivised and principles of integrity are modelled or disseminated through mentorship and training.[12] Applied over time, improved organisational processes may contribute to ecosystem change.

Promoting care & respect is key to increasing equity in global health research partnerships

Research organisations ought to carefully consider how current practices affect the way in which care and respect, towards both partners and research populations, can be upheld. Much of the recent literature relating to global health research partnerships has focused on 'research fairness' and justice,[13–15] which map onto the research integrity principle of care and respect of participants, users and beneficiaries of research. This aspect of research integrity is fundamental towards attaining equity. Using the language and tools of research integrity to promote care and respect would be beneficial to the broader goal of equity.

However, aspirations of equity are undermined by realities at supra-institutional and institutional level. This study supports existing observations[11] that the HIC 'lead partner' inevitably holds the power in these partnerships. Furthermore, this aligns with assertions that the most significant failings in global research partnerships relate to 'inequity in the control of funding, research agendas, outputs, training and infrastructure'.[16]

Participants' observations regarding lack of engagement with Partners at study inception as well as perceived injustice at publication mirror recent criticisms of equity in global health[17] suggesting that HIC-led research disproportionately benefits HIC, not LMIC, researchers.[18–20]

Some respondents in this study reported data quality issues in fieldwork, which appear to stem from lack of resources and training. This adds to existing reports that fieldworkers have been found to pressure prospective participants to satisfy recruitment targets,[20] and concerns that participants consented often do not well-understand the studies.[21 22] Partners experience day-to-day challenges of resources[23] that do not affect the work of HEI colleagues. These differing experiences may affect adherence to research integrity principles and the quality of the research.

Strengths and limitations

The study represents an in-depth exploration of both HEI and partner experiences with a focus on research integrity. Detailed scoping and piloting sought to optimise the data collection process. In order to limit biases, eligibility was inclusive and care was taken to protect the identity of participants. Nevertheless, the sample is very small, and centres a small number of networks of one HEI; the results cannot, therefore, be generalised. Furthermore, researcher positionality may have made some potential respondents reluctant to participate. Given the small numbers and the purposive sampling of some respondents, statistical inferences cannot be conclusive, but the univariate responder analysis does suggest that male respondents and those from HIC settings were more likely to respond. Despite considerable efforts to counter this, only four respondents were female.

Given the increasing evidence that women and ethnic minorities are especially vulnerable to adverse cultures in academia in general,[24] and increasing concerns about racism and lack of trust in global health research institutions in particular,[25–27] it is possible that women and LMIC researchers, (who were mostly black Africans), may have felt less able or willing to participate in this research. However, the low response rate could also have been driven by several other factors, including competing priorities on researcher time. Conversely, among those who did participate, the substantial number of disclosures of awareness of incidents of misconduct does not suggest high levels of fear of reprisal among those who did respond. Of note, the research conducted here predates the recent enquiries into racism at UK Global Health Institutions[25–27] so is unlikely to have been affected by the publication of the reports themselves. However, the racism documented in the reports is highly relevant to both research integrity and to concerns that minoritised groups may have about the safety of participating in related research.

Implications

Despite these limitations, the research suggests that, barriers to full adherence to the principles of research integrity may be detrimental to the quality of research and hence the HEI's overall mission—'to break the cycle of poverty and poor health'.

Incentives, positive or otherwise, have the power to cultivate or inhibit behaviours. Negotiating these within organisations, and in the wider environment, is essential in promoting adherence to research integrity in global health research. This, in turn, ought to positively impact partnerships, protection of participants and data quality. Partners said they would appreciate more information about research integrity, however, it was clear that the HEI can also learn from Partners. In this small cohort, the LMIC-based respondents reported that their institutions have a positive approach to training, good systems in place for learning from error, and working environments distinguished by lower stress than their HEI partners. Mutual learning must be an important way ahead to authentically shape research integrity discourse in global health.

The study has led to ongoing dialogue within the HEI and with partners and action to improve institutional research integrity measures such as more training, and an appointed focal person. However, given the lack of attention paid to this issue that is suggested by our data, we feel it is important to highlight emergent recommendations specifically to promote care and respect in global health research partnerships:

1. Engage partners at the very inception of a research projects to show respect for partners and their communities.
2. When developing partnerships, make conscious efforts towards building shared values, reciprocal knowledge exchange, and discuss what will happen regarding publications and impact at an early stage.
3. Institute capacity strengthening as a fundamental component of research grants to maximise development opportunities for partner organisations and individuals.

We hope this work can contribute to the promotion cultures of reflection and transparency that are needed to inform progress,[28] and to an increased recognition of the importance of the principles of care and respect to the quality and integrity of the research for which partnerships have originally been developed.

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REFERENCES

1. Universities UK. *The concordat to support research integrity*. Universities UK, 2019.
2. Vitae. *Research integrity: a landscape study*. Vitae, 2020.
3. Peels R, van Woudenberg R, de Ridder J, *et al*. Academia's Big Five: a normative taxonomy for the epistemic responsibilities of universities [version 2; peer review: 2 approved]. *F1000Research* 2020;8.
4. Wellcome Trust. *What researchers think about the culture they work*. Wellcome Trust, 2020.
5. Aubert Bonn N, Pinxten W. Rethinking success, integrity, and culture in research (part 1) — a multi-actor qualitative study on success in science. *Res Integr Peer Rev* 2021;6:1–18.
6. Thomas A. What makes good development management? (Quels sont les éléments nécessaires pour une bonne gestion Du développement? / O que define uma boa gestão de desenvolvimento? / Qué hace a Una buena gerencia del desarrollo?). *Development in Practice,* 1999;9:9–17.
7. Thomas A. What is development management? *J Int Dev* 1996;8:95–110.
8. Chi-square test calculator, 2020. Available: https://www.socscistatistics.com/tests/chisquare2/default2.aspx [Accessed 7 Jul 2022].
9. Nuffield Council on Bioethics. *The culture of scientific research in the UK*. Nuffield Council on Bioethics, 2014.
10. UK Government. House of commons, science and technology committee: research integrity, sixth report of session 2017-19 2019.
11. Fransman J, Newman K. Rethinking research partnerships: evidence and the politics of participation in research partnerships for international development. *J Int Dev* 2019;31:523–44.
12. Bukusi EA, Manabe YC, Zunt JR. Mentorship and ethics in global health: fostering scientific integrity and responsible conduct of research. *Am J Trop Med Hyg* 2019;100:42–7.
13. TRUST. Global code of conduct for research in resource-poor settings 2018.
14. Daniel W*et al*. Bridging research integrity and global health epidemiology (BRIDGE) statement: guidelines for good epidemiological practice. *BMJ Global Health* 2020;5.
15. Pratt B, Wild V, Barasa E, *et al*. Justice: a key consideration in health policy and systems research ethics. *BMJ Glob Health* 2020;5:e001942.
16. Mutapi F. Africa should set its own health-research agenda. *Nature* 2019;575:567.
17. Abimbola S. The foreign gaze: authorship in academic global health. *BMJ Glob Health* 2019;4:e002068.
18. Pai M. Global health research needs more than a Makeover. *Forbes Online* 2019.
19. Chatfield K, Schroeder D, Guantai A, *et al*. Preventing ethics dumping: the challenges for Kenyan research ethics committees. *Research Ethics* 2021;17:23–44.
20. Kombe F, Anunobi EN, Tshifugula NP, *et al*. Promoting research integrity in Africa: an African voice of concern on research misconduct and the way forward. *Dev World Bioeth* 2014;14:158–66.
21. Lawrence DS, Hirsch LA. Decolonising global health: transnational research partnerships under the spotlight. *Int Health* 2020;12:518–23.
22. Ngwenya N, Luthuli M, Gunda R, *et al*. Participant understanding of informed consent in a multidisease community-based health screening and Biobank platform in rural South Africa. *Int Health* 2020;12:560–6.
23. Bezuidenhout L, Chakauya E. Hidden concerns of sharing research data by low/middle-income country scientists. *Glob Bioeth* 2018;29:39–54.
24. Wellcome Trust. What researchers think about the culture they work in 2020.
25. Arday J. Equity and inclusion at LSTM: improving racial equity in global medicine—an independent report 2022.
26. Obasi AI, Barley A, Khan M. Racism in two UK global health institutions. *Lancet* 2022;399:1287–8.
27. The Nous Group. *Independent review to address discrimination and advance anti-racism: London school of hygiene and tropical medicine*. London: The Nous Group, 2021.
28. Storeng KT, Abimbola S, Balabanova D, *et al*. Action to protect the independence and integrity of global health research. *BMJ Glob Health* 2019;4:e001746.