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Combatting neo-colonialism in health research: What can Aboriginal health research ethics and global health research ethics teach each other?

Abstract: The ethics of research involving Aboriginal populations and low and middle-income country populations each developed out of a long history of exploitative research projects and partnerships. Commonalities and differences between the two fields have not yet been examined. This study undertook two independent literature searches for Aboriginal health research ethics and global health research ethics. Content analysis identified shared and differently emphasised ethical principles and concepts between the two fields. Shared ethical concepts like 'benefit' and 'capacity development' have been developed to guide collaborations in both Aboriginal health research and global health research. However, Aboriginal health research ethics gives much greater prominence to ethical principles that assist in decolonising research practice such as 'self-determination', 'community-control', and 'community ownership'. The paper argues that global health research ethics would benefit from giving greater emphasis to these principles to guide research practice, while justice as approached in global health research ethics may inform Aboriginal health research practice. With increasing attention being drawn to the need to decolonise global health research, the lessons Aboriginal health research ethics can offer may be especially timely.

Key Words: Aboriginal health research, global health research, ethics, decolonisation, exploitation

INTRODUCTION

Global Health Research Ethics (GHRE) and Aboriginal Health Research Ethics (AHRE) in Australia have emerged from similar contexts of colonisation and exploitation. Here, global health research is (GHR) defined as research being conducted in low- and middle-income countries that is funded by high-income countries and focuses on health. Aboriginal health research (AHR) refers to research conducted with Aboriginal populations in Australia that focuses on their health. GHR and AHR thus encompass the spectrum of types of health research, e.g. clinical, public health, health systems research. Ethical guidance developed for the two fields has articulated a variety of ethical principles and concepts to combat neo-colonial models of research. Neo-colonialism means unfair power relations (often deriving from colonialism) are used to produce colonialism-like exploitation, e.g. using low and middle-income country resources to generate high-income country benefits (Lyons, 2008).

However, to date, GHRE and AHRE have not strongly informed one another about how to address shared ethical concerns and problems. What similarities and differences exist between their approaches to combat neo-colonial models of research have not been examined. This is problematic because, where GHRE and AHRE share principles and concepts, one field may have more comprehensively defined how to uphold them in practice. Hence, this can inform the other field. Additionally, GHRE and AHRE may have identified different principles and concepts to combat neo-colonial models of research, which can inform the other field and add to its array of principles and concepts.

This paper aims to start building links between AHRE and GHRE and to promote mutual learning between the fields. It has three main objectives:

- To synthesis the body of GHRE and AHRE literature relevant to combating neo-colonial models of research.
- To articulate the main ethical concepts and principles discussed in that literature.
- To critically analyse the ethical concepts and principles in the AHRE and GHRE literatures for similar and different emphases.

Based on these analyses, the paper will identify areas where the two fields' approaches to combating neo-colonial models of research can inform one another. With increasing attention being drawn to the need to decolonise GHR, the lessons AHRE can offer may be especially timely (Büyüm et al., 2020; Lawrence & Hirsch, 2020). We, however, acknowledge that differences exist between the settings of AHR and GHR and that some principles and concepts may thus need to be applied in a nuanced way relative to the other field in certain host country settings, especially given the diversity of GHR contexts and frequency of multi-site studies. It is beyond the paper's scope to consider what such a nuanced application might entail, but the value of exploring such questions in the future is recognized.

BACKGROUND

Global Health Research Ethics

Globalisation has led to substantial growth in externally-funded health research in low and middle-income countries (Kauffman, Jonkman, & Connor, 2016). However, considerable concern exists over a variety of ethical issues that arise

when researchers from high-income-countries (HICs) conduct research in low- and middle-income countries (LMICs) (Yassi, Breilh, Dharamsi, Lockhart, & Spiegel, 2013). They include:

- LMIC researchers' lack of decision-making power,
- the failure of studies to address local health needs and priorities,
- the brain drain of LMIC researchers,
- inequities in partnerships between high-income country and LMIC researchers,
- inequities in what care (if any) is offered to control groups,
- the lack of benefits accruing to host communities and countries, and
- the exploitation of LMIC communities and researchers by high-income country funders and researchers.

These ethical issues commonly arise as a result of power and resource imbalances between HICs and LMICs, which largely stem from a history of colonialism (Brisbois & Plamondon, 2018). As affirmed by Pinto and Upshur (2013), "it is precisely because global health […] has emerged from a history of colonialism and imperialism that we must be mindful of how this legacy influences relationships between communities and organisations".

For many post-colonial nations, true independence has not been forthcoming (Kim, Oleribe, Njie, & Taylor-Robinson, 2017). Enduring legacies from colonial rule have seen former colonial powers continue to exert economic and political dominance on former colonies (Kim et al., 2017). They are able to do so because post-colonial states remain dependent on them for healthcare, infrastructure, investment, trade, and aid (Kim et al., 2017). This pattern of exploitation and

scientific colonialism has persisted within GHR practices, where LMICs remain largely dependent on HICs for research funding (Kim et al., 2017). Even where LMIC researchers receive research funds, most of the funding is channelled through HIC institutions, which creates a dependency relationship (Tucker & Makgoba, 2008). These power imbalances are then used to produce colonialism-like exploitation, i.e., LMIC resources are used to generate HIC benefits. Costello and Zumla (2000) highlight that GHR has less visible but nonetheless neo-colonial features, including agenda-setting and management being dominated by foreigners, foreign salaries comprising the vast majority of budgets, dissemination emphasizing international journals and conferences, drawing the best and brightest away from national research institutions in LMICs, and low likelihood of outputs being translated into policy and practice in LMICs.

In response, several ethical guidelines have been revised to include additional considerations. The current iteration of the World Medical Association's *Declaration of Helsinki* states that "medical research with a vulnerable group is only justified if the research is responsive to the health needs or priorities of this group" and that the study population must stand to benefit from the research. It further affirms that "sponsors, researchers and host country governments should make provisions for post-trial access for all participants who still need an intervention identified as beneficial" in a given trial (World Medical Association, 2013). The most recent iteration of the Council for International Organizations of Medical Sciences' (CIOMS) *International Ethical Guidelines for Health-related Research Involving Humans* provides a number of recommendations for conducting research in low-resource settings, including ensuring an equitable

distribution of benefits and burdens, responsiveness to the health needs or priorities of host communities, community engagement, collaborative partnerships and capacity building, and post-trial availability for host communities and populations. (World Health Organization Council for International Organizations of Medical Sciences, 2016). In addition, UNESCO's *Universal Declaration on Bioethics and Human Rights* includes requirements for responsiveness, capacity building, and sharing the benefits of scientific research amongst others. Benefits to share include access to health care; new products stemming from research; scientific and technical knowledge, research capacity-building; other forms of benefit (United Nations Educational Scientific and Cultural Organization, 2005).

Aboriginal Health Research Ethics

Like GHR, the history of AHR in Australia is inseparable from colonisation and exploitation (Dudgeon, Kelly, & Walker, 2010). Too often, research with Aboriginal populations has been poorly conducted, lacking in collaboration with communities and providing them with little benefit (Farnbach, Eades, & Hackett, 2015). Furthermore, non-Indigenous researchers have commonly retained control of Indigenous research (Farnbach et al., 2015). A general distrust of non-Indigenous researchers has arisen in response to these practices and a history of Australia's colonisation of Aboriginal and Torres Strait Islander people (Farnbach et al., 2015). To combat these issues, there has been a concentrated effort to decolonise research practices and methodologies in recent decades (Farnbach et al., 2015). This has seen a shift toward a more Indigenous-focused approach, with emphasis on practices such as community benefit, collaboration,

capacity strengthening, knowledge transfer, and relationship building that is informed by the needs and priorities of the community (Farnbach et al., 2015; Mayo & Tsey, 2009).

Indigenous health research priorities and ethics guidelines were developed between 1986 and 1991 by key stakeholders, including representatives from the Aboriginal community and Australian research organisations, and have since been revised (Johnstone, 2007). In 1986, a national conference convened by the Menzies Foundation and the National Health Medical Research Council (NHMRC) persuaded the NHMRC Medical Research Ethics Committee that special consideration was warranted for Aboriginal communities (Johnstone, 2007). This saw the development of the NHMRC (1991) *Guidelines on ethical matters in Aboriginal and Torres Strait Islander Research*. These guidelines encouraged transformation of research practices with Indigenous people and communities (Dudgeon et al., 2010). The NHMRC (2003) *Values and Ethics: Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research* explicitly acknowledges the impact of colonisation and assimilation policies on Indigenous people (Dudgeon et al., 2010; National Health Medical Research Council, 2018). The guidelines encourage researchers to "make particular effort to deal with the perception of research held by many Aboriginal and Torres Strait Islander communities as an exploitative exercise" and to "demonstrate through ethical negotiation, conduct, and dissemination of research that they are trustworthy and will not repeat the mistakes of the past" (National Health Medical Research Council, 2003). The guidelines describe research practices required to improve Indigenous health in contemporary Australia and led to the development of six

criteria, referred to as the Darwin Criteria, which include community engagement, benefit, sustainability and transferability, building capability, priority, and significance (Leon de la Barra, 2007). They state: "that where possible, Indigenous people should be part of the research planning, that the research should benefit the community, that Indigenous knowledge systems and processes should be respected, that Indigenous researchers and community members should be an active part of the research, and that informed understanding and consent is a necessary characteristic throughout the research project" (Dudgeon et al., 2010). In 2006, the NHMRC also published *Keeping Research on Track: A guide for Aboriginal and Torres Strait Islander peoples about health research ethics*, which was designed as a companion resource to its 2003 guidelines. It is for use by Indigenous people when making decisions regarding health research within their communities. A further update to the NHMRC guidelines was published in 2018, *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders* (National Health Medical Research Council, 2018). Also in 2018, the South Australian Health and Medical Research Institute (SAHMRI) developed the *Aboriginal and Torres Strait Islander Protocols* to provide advice and guidance for appropriate communication, relationships, and activities with Aboriginal and Torres Strait Islander people and to foster culturally competent and respectful working environments within SAHMRI (The SAHMRI Indigenous Collective, 2017).

METHODS

This study involved two independent literature searches in June 2018 - one for Aboriginal health research ethics (AHRE) and another for global health research ethics (GHRE). Two searches were conducted because two separate bodies of literature were being investigated and largely do not overlap.[1] GHRE literature looks at the global experience and the ethics of research done in LMICs; AHRE literature looks at the Indigenous experience and the ethics of research done with Aboriginal populations in Australia. The two bodies of literature both focus on the ethics of health research but on different populations in different countries. The two searches each sought to identify ethics literature from both fields that discussed combatting neo-colonial models of research, using the key terms related to combatting such models used in each field. Content analysis of that literature was then employed to classify the various ethical concepts and principles described and any other themes in that emerged. Identified ethics principles and concepts and their definitions were then compared between the two fields in order to identify those principles and definitions they share, those they do not, and those they define or emphasise differently.

For the AHRE literature review, the databases searched were Medline (Ovid), Embase, and Informit (Aboriginal & Torres Strait Islander combined Informit Indexes). For the GHRE literature review, Medline (Ovid), Embase, and Scopus were searched. Databases were chosen through consultation with reference

[1] Combining both searches on Medline Ovid using the AND operator returns one paper. This means that if the AHRE and GHRE literatures are directly compared in one search, very few results are returned. The majority of relevant literature would be missed.

218 librarians and included those commonly indexing biomedical, health, and
219 Aboriginal health literature. Inclusion criteria for the review were:
220 1. Being journal articles published from 1998 to present (June 2018)
221 2. Being published in English
222 3. Discussing ethical principles or concepts that combat neo-colonial models
223 of research in substantial detail
224
225 A number of key concepts within AHRE that relate to combatting neo-colonial
226 models of research were drawn upon for the AHRE search strategy. These
227 concepts were identified in Aboriginal research ethics guidelines and key articles
228 from the AHRE literature where there was implicit discussion of decolonisation
229 or rhetoric relating to deconstructing colonial legacies. AHRE search terms,
230 therefore, included 'community-control', 'decolonising', 'collaboration',
231 'partnership', 'participation', and variations on these. A full list of search terms is
232 listed in *Supplemental File 1*.[2] Key concepts from GHRE related to combatting
233 neo-colonial models of research were identified in international research ethical
234 guidelines and in key GHRE articles specific to combatting neo-colonial models of
235 GHR. They were used to develop the search terms for the second literature
236 review and included 'decolonising', 'equity', 'justice', 'collaboration' and
237 'partnership'. A full list of terms for GHRE search strategies is listed in

[2] Terms for health research ethics included "health", "ethics", and "research". The term 'colonial' and variations upon it were not included as search terms due to a large pool of quantitative biomedical literature relating to 'bacterial colonisation' and similar themes. Therefore, the main search term used concerning colonialism was 'decolonising'.

Supplemental File 2. As the key concepts we identified differed to some extent for AHR and GHR, the two literature reviews used slightly different search terms relative to one another. Search terms were also slightly varied where the variations served to better pick up relevant literature (e.g., inequal in Medline versus inequit in Scopus).

The final AHRE search produced 202 articles through Medline (Ovid), 262 via Embase, and 258 in Informit. Once the search results were combined, the total number of articles, with duplicates removed, was 565 (Figure 1). The final GHRE search produced 447 articles through Medline (Ovid), 460 via Embase, and 241 in Scopus. Once the search results were combined, the total number of articles, with duplicates removed, was 404 (Figure 2).

Additional literature was located in the form of guidance documents relating to ethical practice in either Australian Indigenous or GHR. These consisted of seminal documents: the *Declaration of Helsinki* (World Medical Association, 2013), CIOMS' *International Ethical Guidelines for Health-related Research Involving Humans* (World Health Organization Council for International Organizations of Medical Sciences, 2016), NHMRC's *Guidelines on Ethical Matters in Aboriginal and Torres Strait Islander Research* (National Health Medical Research Council Medical Research Ethics Committee, 1991), and NHMRC's *Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research* (National Health Medical Research Council, 2018).

During full article screening, many articles from each field did not provide sufficient discussion on principles and concepts of research ethics and were excluded from the final analysis (Figures 1 and 2). In general, normative, conceptual and philosophical articles provided a comprehensive level of discussion regarding ethics principles and concepts and made up the majority of included articles. Those empirical articles that discussed ethics principles and concepts in sufficient depth were also included. Within the AHRE search, 34 papers met inclusion criteria, whilst the GHRE search identified 40 papers that met inclusion criteria (Figures 1 and 2). The full set of included papers are provided in *Supplemental Files 4 and 5*.

The original search was supplemented in November 2020. This was to ensure that relevant AHRE and GHRE articles had not been missed due to our having slightly different search terms for the two literature reviews. In the 2020 supplemental search, the same databases were searched as in the original 2018 search. The search strategy and full list of search terms is provided in *Supplemental File 3*. After duplicates were removed, the AHRE search yielded 34 articles. Four articles underwent full-text review and were included (Figure 1). After duplicates were removed, the GHRE search yielded 162 articles. 38 were included after screening abstracts and titles. As eight had been identified in the original search, 30 articles underwent full-text review and 24 were included (Figure 2). Three discussed AHRE and were included with the AHRE literature. Thus, the supplemental search found 7 AHRE articles and 21 GHRE articles in total. One additional article was also added to the GHRE literature through handsearching based on reviewer recommendations. As per the original search,

287 articles were excluded during full text screening where they did not discuss
288 principles and concepts of research ethics in substantial detail (Figures 1 and 2).
289
290 Qualitative inductive content analysis was used to identify categories and
291 subcategories within the 103 AHRE and GHRE articles. As per conventional
292 content analysis, this process involved familiarisation - reading through all data
293 to achieve immersion and obtain a sense of the whole - and categorisation and
294 abstraction - a process of identifying key categories and subcategories (Elo &
295 Kyngas, 2008; Hsieh & Shannon, 2005). During abstraction, two main categories
296 emerged: 'ethical concepts and principles' and 'ethical concerns and problems'.
297 Within these two categories, numerous subcategories were identified that
298 corresponded to terms describing particular ethical principles/concepts or
299 concerns. These subcategories directly emerged from terms used in the
300 literature, e.g., closing the gap, collaboration, mutual benefit.[3] The final coding
301 framework was applied to code both the AHRE and GHRE literature using NVivo
302 Version 11.
303
304 In addition, a variant of manifest content analysis was used. Manifest content
305 analysis refers to analyzing for the appearance of a particular word or content in

[3] We kept the terms 'equity' and 'closing the gap' separate during content analysis because equity typically referred to reducing health inequities, whereas closing the gap referred to reducing gaps in not only health but other elements of wellbeing. We were also interested to see if the GHRE literature talked about inequities beyond health. But we kept the term 'knowledge democracy' together with 'ways of knowing' during content analysis because their definitions were so similar.

306 textual material. The analysis is quantitative, focusing on counting the frequency
307 of specific words or content (Hsieh & Shannon, 2005). In our case, the presence
308 or absence of each subcategory in each article was recorded and quantified in
309 Tables 1 and 2. All articles identified by the literature review were coded by AH.
310 BP reviewed 5% of coded articles. In general, there was high consistency
311 between AH and BP's coding of full-text articles.
312
313 **RESULTS**
314 A range of ethical principles and concepts intended to combat neo-colonial
315 models of research were discussed across the AHRE and GHRE literature
316 identified by this review. *Table 1* lists all identified principles and concepts for
317 each of the two fields, their frequency of citation, and their definitions. This
318 section first reports principles and concepts that were shared between the two
319 research fields and describes similarities and differences in how they are
320 defined. Those principles and concepts discussed represent a subset of those
321 identified. They were selected based on their frequency of discussion in the
322 literature. Next, principles and concepts are reported that were more
323 prominently or commonly discussed by either the AHRE literature or the GHRE
324 literature. Those selected were discussed much more commonly in one literature
325 over the other and were discussed frequently in that literature.
326
327 A range of ethical problems and concerns were also discussed in the literature
328 identified by the review. *Table 2* summarises the top ten cited ethical concerns
329 and problems in the AHRE and GHRE literature identified by this review. This

section concludes by comparing what ethical concerns and problems were commonly described in the AHRE and GHRE literatures.[4]

Shared Principles and Concepts

Benefit

'Benefit' is the most frequently discussed ethical principle in both the identified AHRE and GHRE literature (Azetsop & Rennie, 2010). Benefit is discussed across the two fields in several ways, including 'community benefit', 'fair benefit', 'benefit sharing', and 'mutual benefit. 'Community benefit' is the most frequent term used in AHRE to describe benefit, with twenty-seven articles using the term compared to ten GHRE articles. Interestingly, research ethics guidelines from LMICs focus on benefits to the community and the individual, in contrast to most international research ethics guidelines, which focus on individual benefits (Lairumbi et al., 2011). A more diverse range of terminology for benefit is used within GHRE literature, including the terms 'fair benefit' and 'benefit sharing' (Table 1). Fair benefit is defined as benefit that is commensurate to the level of burdens born by individual participants and their communities (Pratt & Loff, 2015), whilst benefit sharing refers to a mutual and ideally equal exchange between research sponsors and participants (Dauda & Dierickx, 2017; John, Ayodo, & Musoke, 2016). The GHRE literature highlights that benefits may be health and/or non-health related (Kamuya et al., 2014; Lavery et al., 2010). A fair level of benefits includes adequate compensation for indirect costs and adequate humanitarian responses to need (Njue et al., 2014).

353

354 *Collaboration*

355 Collaborative research is the practice of researchers and other stakeholders
356 cooperating to achieve a common goal of producing new scientific knowledge
357 (Katz & Martin, 1997). In the AHRE literature, collaboration between researchers
358 and local Indigenous people is considered an important approach for
359 communities to undertake research where they may not have the experience or
360 resources to conduct it on their own but have better insight in determining the
361 needs and priorities to be addressed by the research (Mayo & Tsey, 2009). Core
362 values of community research collaborations include recognition of reflexivity,
363 commitment, trust, respect, patience and flexibility (Mayo & Tsey, 2009). They
364 are considered crucial for allowing Indigenous Australians to identify community
365 research needs and priorities, thereby enabling self-determination and
366 community benefit (Dunne, 2000).

367

368 In the AHRE literature, the most common description of collaboration is that of
369 'collaborative participatory research', which describes collaboration between
370 researchers and an Indigenous community. Collaborative participatory research
371 places equal importance on both partnership and participation: "collaborative
372 participatory research can help bring the concepts and models used by health
373 professionals closer to the concepts and perspectives of community members,
374 and close the gap between research, policy development and practice" (Pyett,
375 2002). This suggests that collaborative participatory approaches are successful
376 when there is a merging of concepts from researchers and that of the local
377 Indigenous community. It recognises the direct link between power and

knowledge and addresses a history of dominance of 'scientific' knowledge, particularly in the context of colonisation in Australia (Pyett & VicHealth Koori Health Research Community Development Unit, 2002). Collaborative participatory research is considered an appropriate methodology to generate a shift to a more Indigenous-focused research agenda that is consistent with community goals and values (Dudgeon et al., 2010). The approach stands to address the failures of top-down research approaches, with a focus on bottom-up approaches, in order to deliver sustainable benefits to Indigenous communities (Dudgeon et al., 2010).

In the GHRE literature, collaboration between high-income country and LMIC researchers is recognised as a critical component for addressing growing health inequities (Godoy-Ruiz, Cole, Lenters, & McKenzie, 2016) and to ensure research outcomes provide shared benefits (Mayo & Tsey, 2009). Collaboration and partnership are the most commonly used terms. (These terms' use was common in the AHRE literature too.) Historically, LMICs have been considered the 'receivers' of health research programs and HICs the 'providers' (Banjara, 2009). As such, the concept of partnership is generally discussed as aiming to achieve 'equal' partnership, where researchers from LMICs have a more balanced influence on setting research priorities, conducting studies, disseminating their findings, and informing local policy, whilst resulting in more financially sustainably projects and strengthening of local academic infrastructure (Costello & Zumla, 2000; Glew, 2008; Emanuel et al., 2004). This comes back to the idea of mutuality, which "requires transparency, honest and open communication between the North-South partners, and the establishment of clear and specific

and mutually agreed upon goals, expectations and responsibilities" (Glew, 2008). Emanuel et al. (2004) suggest equal partnerships also entail awareness and respect of cultural differences and a fair distribution of benefits to research partners, including sharing intellectual property and authorship. However, Sariola and Reynolds (2018, p. 265-266) suggest that unequal partnerships may also be necessary:

> *Effective partnerships must explicitly acknowledge and aim to redress historically shaped structures of inequality in North– South collaborations. To do so will often require 'unequal' partnerships, where more opportunities and support are offered to some partners than others in order to redress existing inequalities*.

Collaborative partnerships with field workers and communities are also discussed in the GHRE literature (Molyneux et al., 2009; Kamuya et al., 2014; Nyirenda et al., 2019).

Capacity Development

Capacity development is identified as a key benefit of undertaking collaborative GHR partnerships (Murphy, 2015). However, current approaches to capacity development were cited as insufficient due to the often short-term nature of partnership arrangements (Murphy, 2015). Edejer (1999) emphasised the need for a long-term approach to capacity development in GHR. A shift in the approach to capacity development is also required in order to move away from the attitude that HICs build LMIC's capacity. As Jentsch and Pilley (2003) affirm, there is broad scope for LMIC researchers to build the capacity of HIC researchers. Within the GHRE literature, existing ethics frameworks call for

undertaking capacity development at the individual, institutional, and/or systems levels. For example, capacity development in the *Fair Benefits Framework* ("Fair Benefits for Research in Developing Countries," 2002) is concentrated on individuals, whereas in the *Research for Health Justice Framework* (Pratt & Loff, 2014) capacity development must be carried out at the systems, institutional, and individual levels. Beyond researchers, capacity development at the individual level can develop the capacity of community members, practitioners, policymakers, and academics to participate in research partnerships (Sariola & Reynolds, 2018). At the systems level, it might focus on the health research system and/or the health system (Emanuel et al., 2004).

Capacity development has been emphasised as a feature within the Australian Indigenous research model over the last two decades (Clapham, 2011). Building research capacity not only equips Aboriginal and Torres Strait Islander people to undertake research on specific projects but can also build knowledge and skills that translate to other areas of research (Kelly et al., 2012). Dudgeon et al. (2010) suggests past and present power imbalances need to be acknowledged in order to build capacity within Indigenous communities. To overcome this, non-Indigenous researchers are recommended to include roles and *appropriate funding* for Indigenous researchers on all Indigenous research proposals in order to build capacity within Aboriginal and Torres Strait Islander communities (Pyett & VicHealth Koori Health Research Community Development Unit, 2002). This approach to capacity development is outlined in national health frameworks for Aboriginal and Torres Strait Islander people (Wand, 2008).

Community Engagement

Community engagement is a process of working collaboratively with local community members to achieve active participation, mutual respect and identify local needs and priorities (Dauda, Denier, & Dierickx, 2016). In AHRE guidelines, 'community engagement' is included as a key principle for researchers (National Health Medical Research Council, 2018). Researchers working with Indigenous communities are recommended to demonstrate evidence of respectful engagement prior to the commencement of research (Bandler, 2015). This encourages greater uptake of research findings and relevance and value of the research for Aboriginal and Torres Strait Islander people (Dudgeon et al., 2010). Likewise, 'community engagement' is identified as an important principle for improving the ethics and practice of GHR (King, Kolopack, Merritt, & Lavery, 2014).

However, questions remain for both fields such as what is considered meaningful and appropriate engagement and who is the community? (Grove, Brough, Canuto, & Dobson, 2003; Parker & Bull, 2009). In AHRE, different Indigenous communities can have diverse expectations regarding involvement and outcomes of research that can create multiple challenges for researchers attempting to move to a community engagement model of research (Grove et al., 2003). Numerous ethical goals spanning the instrumental, intrinsic, and transformative have been identified for community engagement in GHR but there is no consensus on which goals should apply generally or in the various types of GHR (MacQueen et al. 2015; Pratt & de Vries, 2018; Sariola & Reynolds, 2018). Brisbois and Plamondon (2018) suggest community engagement to be as

much an art as it is a science and what constitutes meaningful engagement is one of perspective. The inclusion of community engagement within ethics guidelines in GHRE may assist in defining what constitutes an appropriate level of engagement within collaborative research.

However, Nyirenda et al. (2019) contend that the current guidance is insufficient. Models of "participatory" and "equity-oriented" community engagement have thus been proposed in the GHRE literature (Nyirenda et al., 2019; Pratt & de Vries, 2018). These models purport that engaging groups considered to be disadvantaged or marginalised is essential and call for engagement, where communities are partners or decision-makers, to begin from priority-setting and to occur throughout research projects (Nyirenda et al., 2019; Pratt & de Vries, 2018; Gopichandran et al., 2016). Compensation is also likely required. Brunger and Wall (2016) highlight how ethical guidelines' requirements for community engagement may contribute to exploitation of Indigenous people through free labour and lack of reimbursement for their role in the research process.

Variation in Principles and Concepts

Certain ethical principles and concepts that are more strongly emphasised the AHRE articles identified by this review relative to the GHRE literature (Table 1). These principles and concepts relate to decolonising research methodologies, which decentre the focus from researcher to Indigenous people, engaging those who previously colonised in the research process (Prior, 2007). They encourage the researcher to take a more critical understanding of the underlying

503 assumptions, motivations, and values that inform their research perspective
504 (Smith, 2012). They include 'self-determination', 'community control',
505 'community ownership', 'dual lens approach' – also referred to as 'ways of
506 knowing' or 'Indigenous knowledge'. Each is discussed below. Brisbois and
507 Plamondon (2018) note that a decolonising approach is yet to be adopted in
508 GHRE but shows promise for informing researchers in global health. In addition,
509 'justice' and 'equity' emerged as somewhat more developed and discussed key
510 principles and concepts within the GHRE literature (Table 1) compared to AHRE
511 literature, where the related concept of 'closing the gap' was discussed much
512 more prominently (Table 1).
513
514 *Self-determination*
515 The concept of self-determination was discussed frequently in AHRE articles but
516 emphasised much less in the identified GHRE literature (Table 1).[5] In the AHRE
517 literature, self-determination is described as "an on-going process of choice to
518 ensure that Indigenous communities are able to meet their social, cultural and
519 economic needs" (Anderson, 2007) and counters a history of non-Indigenous
520 people determining the lives of Indigenous people (Johnstone, 2007). Self-
521 determination enables Indigenous people to construct and control their
522 knowledge systems and identity (Johnstone, 2007). It means Aboriginal and
523 Torres Strait Islander people have the right to decide for themselves what

[6] In the GHRE literature, four identified articles provided detail or recommendations for upholding the principle of self-determination (see Azetsop & Rennie, 2010; Cole et al., 2011; Ravinetto et al., 2010).

524 constitutes appropriate research and whether research is likely to benefit their
525 communities (Backhouse, 1999). Self-determination may be achieved through
526 other principles unique to AHR. As Kendall, Sunderland, Barnett, Nalder, and
527 Matthews (2011) state, the concept of decolonisation should be the primary
528 concern when conducting AHR as it "simultaneously engages the processes of
529 self-determination, transformation, healing, and mobilisation." In the GHR
530 literature, none of the articles identified by the literature review discussed the
531 concept of self-determination in any sufficient depth or proposed how it may be
532 achieved within GHR.
533
534 *Community Control*
535 'Community control' was discussed more frequently in the identified AHRE
536 literature than in the identified GHRE literature (Table 1). When it was discussed
537 in the GHRE literature, it was in relation to how Indigenous health research
538 practices could inform GHRE (Brisbois & Plamondon, 2018). The principle of
539 'community control' is a model within Indigenous health research that promotes
540 giving control to those being researched through community-based or
541 participatory approaches (Couzos, Lea, Murray, & Culbong, 2005). However,
542 Pyett (2002) suggests that although community control is ideal, commonly
543 Aboriginal communities frequently do not have the experience or resources to
544 complete research on their own. To overcome this challenge, community control
545 is employed in a collaborative participatory approach model whereby
546 Indigenous people take the lead and work with researchers and funding bodies
547 to establish the community's needs and priorities (Grove et al., 2003; Pyett,
548 2002). In a community-controlled participatory approach, the community

549 contributes, guides, and monitors the research at all stages of the project,
550 ensuring it remains consistent with community objectives and values (Pyett,
551 Waples-Crowe, & Van der Sterren, 2009).
552
553 Although this principle was not articulated in the identified GHRE literature, the
554 concept of control was inferred to varying degrees by a number of principles that
555 were. 'Equal relationships', discussed throughout the GHRE literature,
556 encourages greater control and influence by LMIC partners within the research
557 process (Chu, Jayaraman, Kyamanywa, & Ntakiyiruta, 2014; Glew, 2008).
558 Knowledge democracy privileges voices that historically have been
559 underrepresented (Sariola & Reynolds, 2018), and consequently, results it these
560 voices having greater control over the direction of research. Equally, 'sharing and
561 reciprocity' address control by encouraging respectful relationships between
562 research partners and stakeholders (Anderson, 2007). Therefore, the principles
563 of 'equal relationships', 'knowledge democracy', and 'sharing and reciprocity'
564 assist in shifting the balance of control towards LMIC partners. The GHRE
565 literature affirms that power imbalances contribute to researchers from HICs
566 controlling the research agenda (Banjara, 2009; Chu, Jayaraman, Kyamanywa, &
567 Ntakiyiruta, 2014; Jentsch & Pilley, 2003; Murphy, 2015; Pratt, Zion, & Loff,
568 2012; Rabbani et al., 2016). A lack of control for LMICs partners in relation to
569 priority setting was cited as perpetuating inequity and imbalances in shared
570 benefits (Murphy, 2015).
571
572 *Ownership*

In the identified AHRE literature, the primary form of ownership discussed is that of 'community ownership'. This is described as a form of ownership belonging to Aboriginal and Torres Strait Islander communities, rather than individuals, research partners, or non-Indigenous groups (Kwaymullina, 2016). Like community-control, community ownership of the whole research process is identified as being crucial because it ultimately improves relevance and benefit to Indigenous communities (Bullen, 2004). Community ownership of data permits Indigenous people to disseminate results in a culturally sensitive and appropriate way to a wider audience (Grove et al., 2003).

In the identified AHRE literature, 'community ownership', was discussed in nearly 71% of articles. Whilst in the GHRE literature, 'local ownership', which may be considered an equivalent to 'community ownership' in GHR, was only discussed in 8% of articles. 'Local ownership' was recommend as a means for promoting greater ownership by LMICs researchers and communities in health research to increase the likelihood of research being relevant to local contexts (Pratt & Hyder, 2015). However, 'local ownership' was not discussed to the same level of depth that 'community ownership' is discussed in the AHRE literature and no clear strategy appears to exist on how it could be achieved.

Ways of Knowing and Knowledge Democracy

The term 'knowledge democracy' involves the co-construction of knowledge and is considered a means of decolonising knowledge and respecting the knowledge and values of local people (Hall et al., 2016). It acknowledges the existence of multiple epistemologies or ways of knowing (Hall & Tandon, 2017). It accepts

598 the value of merging community-based knowledge with academic, scientific
599 knowledge (Tandon, Hall, Lepore, & Singh, 2016). In the AHRE literature,
600 knowledge democracy is described as 'ways of knowing'. It places particular
601 importance on Indigenous ways of knowing as a means for decolonising research
602 practices and acknowledging Indigenous sovereignty (Kwaymullina, 2016).
603 Indigenous epistemologies are important for collaborative practice in AHR and
604 must be considered before non-Indigenous epistemologies. Humphery (2001)
605 provides a suggestion on how this may be employed in Indigenous health
606 research: "Indigenous researchers have sought […] to treat 'Western research'
607 traditions as a 'tool box' from which they can take whatever methods are
608 deemed appropriate to Aboriginal knowledge production". This enables a new
609 paradigm to be established, one governed by Aboriginal Terms of Reference
610 (Humphery, 2001) that puts "Indigenous peoples' interests, experiences, and
611 knowledge at the centre of research methodologies" (Aveling, 2013). Although
612 'ways of knowing' was prominently emphasised in the identified AHRE
613 literature, Prior (2007) reports that awareness of Indigenous people's
614 differences has not translated to Indigenous cultural values shaping the health
615 research agenda or research methodologies in practice.
616
617 In AHRE, knowledge democracy is also an important aspect of collaboration
618 (Bainbridge et al., 2015). The concept of knowledge democracy is related to ways
619 of knowing and means of employing epistemologies from both traditional
620 Aboriginal and modern scientific perspectives (Robertson et al., 2017).
621 Approximately 63% of the selected literature discussed the concepts of ways of
622 knowing and/or knowledge democracy.

623

624 In the identified GHRE literature, knowledge democracy was less frequently
625 discussed relative to ways of knowing, with 18% of articles referring to the
626 concept, which most commonly discussed it by reflecting between the terms
627 'local' knowledge and 'universal' knowledge. Caceres and Mendoza (2009)
628 suggest that knowledge democracy is commonly overlooked in GHR. This is
629 despite the potential for knowledge democracy to address the persisting power
630 imbalances between external and host country researchers that perpetuate
631 epistemic injustice in GHR (White, 2007). Epistemic injustice, in the context of
632 GHR, commonly occurs when HIC researchers do not provide appropriate
633 respect for the knowledge and information held by LMIC researchers.
634 Acknowledging the complementarity of perspectives between HICs and LMICs
635 researchers can improve the quality of research and ensure protection and
636 benefit to host country participants and populations (Ravinetto et al., 2010).
637 Caceres and Mendoza (2009) suggest this may be achieved by encouraging
638 researchers to think critically and independently and reflect local knowledge and
639 understanding, breaking free of the model of universal knowledge encouraged
640 by international research centres. This, in turn, promotes greater respect of
641 differing epistemologies and is likely to generate more contextualised, locally
642 relevant research (Caceres & Mendoza, 2009)

643

644 *Justice, Equity, and Closing the Gap*

645 'Justice' is a key principle in GHRE and was the fourth most discussed concept in
646 the identified GHRE literature (Table 1). Traditionally, justice has been defined
647 as ensuring a fair distribution of burdens and benefits in GHR (van Delden & van

der Graaf, 2017). Ethics scholars have also argued that justice goes farther and demands addressing global inequities in health and health research between HICs and LMICs (Pratt & Loff, 2015; Kamuya et al., 2014; Njue et al., 2014). Bhutta (2002) notes "inequities in global health and resource allocation are incompatible with the goals of justice", which suggests the important role justice plays in addressing inequity – the second highest ranked ethical concern in this review for GHRE (Table 2).

Inclusive priority-setting that addresses the needs of the worst-off, capacity building, community-wide benefits (e.g. health system strengthening and addressing non-medical areas of unmet needs), and research translation have all been identified as key elements that can help GHR to promote justice (Pratt & Hyder, 2016; Kamuya et al., 2014; Njue et al., 2014; Lavery et al., 2010). Pratt and Hyder (2016) note that global health justice is not only achieved by directly aiding LMICs but also by building capacity of public health, health care, and health research systems. The *Human Development Approach* and *Research for Health Justice Framework* both provide guidance on how to link GHR to the promotion of global justice (Pratt & Loff, 2015).

In the identified AHRE literature, 'justice' was less frequently discussed, but still acknowledged as an important principle (Table 1). Privileging Indigenous voices and epistemologies, developing trust, equal relationships, and ensuring the realisation of Aboriginal research priorities are all essential components to achieving justice in AHR collaborations (Bainbridge et al., 2015; Wand, 2008). Conceptions of justice in AHRE may thus encompass a relational understanding

673 of justice, which is discussed in the public health ethics literature (Baylis, Kenny,
674 & Sherwin, 2008). Even so, when the principle of justice was discussed in the
675 AHRE literature, it was not given the same depth of discussion as the principle of
676 justice in GHRE. This may be because the decolonising principles developed in
677 AHRE are embedded within a social justice perspective (Bainbridge et al., 2015).
678
679 Equity was also more frequently discussed in the identified GHRE literature than
680 the identified AHRE literature (Table 1) and typically referred to reducing the
681 health equity gap between LMICs and HICs. In the AHRE literature, the concept of
682 'closing the gap' was discussed in 59% of articles and refers to closing the equity
683 gap between non-Indigenous and Indigenous Australians, including life
684 expectancy, mortality rate, early childhood education access, and employment
685 (Gardiner-Garden, 2012). Thus, closing the gap is defined in relation to more
686 than health.
687
688 ***Ethical Concerns and Problems***
689 In the AHRE literature, colonisation was by far the most cited concern (Table 2),
690 which is consistent with the fact that this review identified several ethical
691 principles and concepts aiming to combat that particular issue. Health research
692 has played a role in colonisation, raised concerns over ownership of Indigenous
693 knowledge, and has prevented Indigenous people having a say in determining
694 their lives (Dudgeon et al., 2010; Dunne, 2000). As Prior (2007) notes,
695 "colonisation is perpetuated when the research process marginalises rather than
696 involves the people of concern, and when research outcomes appear not to
697 benefit the Indigenous people". Furthermore, Prior (2007) suggests "the

698 conventions of scientific research methods emulated the practice of colonialism
699 by their epistemology, which upholds objectivity, anonymity, and the control of
700 human variables". Colonisation was discussed in only five (8%) GHRE articles
701 (Table 2) and was not generally discussed in the same depth as it was in AHRE
702 literature. However, the concept of semi-colonialism was discussed in more
703 depth in twelve (19%) GHRE articles. Semi-colonialism was commonly
704 considered to be active practices that take advantage of the power imbalances
705 associated with a legacy of colonisation. In contrast, colonisation is considered to
706 be a past practice that has left a legacy of ethical concerns and problems yet to be
707 rectified.
708
709 In the GHRE literature, the top ethical concern or problem was vulnerability and
710 exploitation, with thirty-one articles (50%) referring to it. Inequity was the
711 second most discussed concern, with twenty-nine (47%) articles referring to it
712 (Table 2). In contrast, the AHRE literature only discussed inequity in nine (22%)
713 articles. Power imbalances emerged as the second and fourth ranked ethical
714 concern for the AHRE and GHRE literatures respectively. In GHRE, power
715 imbalances were generally acknowledged to exist between LMICs and HICS
716 researchers and between HIC funders and LMIC researchers, whilst in AHRE it
717 was between non-Indigenous researchers and Indigenous communities. An
718 additional prominent ethical concern in the AHRE literature was Aboriginal
719 people's mistrust of research, due to the history of exploitation by non-
720 Indigenous researchers and lack of benefits for Indigenous peoples. This and
721 other ethical concerns were shared between both research fields, with varying
722 rankings between them.

An ethical concern articulated in the identified AHRE literature was 'differences within community', which acknowledges that Indigenous Australians are not a homogenous community, and therefore, research methodologies appropriate to one community may not be so for another. This concern was not raised within the identified GHRE literature, despite the commonly heterogeneous nature of host country contexts.

DISCUSSION

This paper has synthesised the body of GHRE and AHRE literature relevant to combating neo-colonial models of research. It then critically analysed the ethical concepts and principles in the identified AHRE and GHRE literature for similar and different emphases in order to investigate how the two fields might learn from one another.

Shared Principles Understood Differently

The results from comparatively analysing GHRE and AHRE articles indicate that there are a number of shared ethical principles and concepts between the two fields that are intended to combat neo-colonial models of research. This includes the principles of 'benefit', 'capacity development', 'collaboration' and 'community engagement'. However, the two fields approach these shared principles in diverse ways that reflect the differing priorities regarding ethical concerns and problems. This provides opportunity for AHRE and GHRE to interrogate the meanings of their principles and to learn different approaches regarding these principles' definitions from one another, bearing in mind that differences exist

748 between the settings of AHR and GHR. In effect, some principles and concepts
749 may be inappropriate to apply or should be applied in a nuanced way relative to
750 the other field in certain host country settings.
751
752 Benefit is the most commonly stated principle in both the AHRE and GHRE
753 literatures. However, the approach to benefit varies between the two fields. In
754 AHR benefit is often discussed as being primarily for Aboriginal and Torres Strait
755 Islander communities and researchers, rather than non-Indigenous researchers.
756 When undertaking research in an Indigenous setting, benefit for the Indigenous
757 community is considered the foremost concern and is most commonly judged by
758 the local community. This contrasts with GHR where 'benefit sharing' and 'fair
759 benefits' for all partners and host communities are commonly discussed. While
760 emphasis is often on shifting the balance in who benefits towards communities,
761 calling for sharing benefits or making things mutually beneficial also places
762 emphasis on benefits accruing to external funders and HIC researchers. There is
763 danger that this can be co-opted in practice such that many more benefits go to
764 them relative to LMIC researchers and communities. Benefit in GHRE could,
765 therefore, be informed by taking an AHRE approach, whereby the priority when
766 undertaking research in global health partnerships is for host country partners
767 to assess and accept what is appropriate benefit from research. This approach
768 could also potentially help assist in achieving a shift in the balance of power and
769 encouraging decolonising practices such as self-determination and community
770 control, as espoused in AHRE literature. This approach is exemplified in the *Fair*
771 *Benefits Framework,* which suggests host communities define the benefits they
772 receive in GHR (Participants in the Conference on Ethical Aspects of Research in

773 Developing Countries, 2004). However, in GHR contexts where substantial
774 power disparities exist between LMIC researchers and communities and HIC
775 researchers, there may be limitations to what this approach can achieve (London
776 and Zollman, 2010).
777
778 The collaborative participatory research relationships commonly used in AHRE
779 provide additional ways of moving toward more equitable partnerships in GHR.
780 Collaborative participatory research promotes an equal partnership between
781 researcher and community (Pyett, 2002). This is particularly due to the
782 researchers' acknowledgement that the community has a greater understanding
783 of their needs and perspective than researchers do (Pyett, 2002). As Provenzano
784 et al. (2010) state, "cross-cultural research methods that involve greater
785 community collaboration and participation are more likely to provide long-term
786 benefits to the community". Therefore, moving toward participatory research
787 collaborations in GHR, may not only enable more equitable partnerships, but
788 potentially could ensure host country benefits that are appropriate to the needs
789 of the community.
790
791 The approach to capacity development in AHR is focused on building Indigenous
792 people's capacity to undertake their own research with a view to enable self-
793 determination and control of the research agenda. The rhetoric within the AHRE
794 literatures is how capacity development can be implemented to achieve
795 sustainability of Indigenous peoples' own research agenda. Drawing on this
796 principle in GHR would support great focus on capacity development to facilitate
797 LMIC researchers control and independence in the research process. In the

identified GHRE literature, capacity development is commonly discussed in terms of HIC researchers developing LMIC researchers' and institutions' capacities. Capacity development in GHR often appears to overlook the potential bidirectional nature of capacity development (Jentsch & Pilley, 2003). Acknowledgement of this fact may enable a shift from considering capacity development as something HIC researchers and institutions must build for LMIC researchers and institutions to a practice of sharing and reciprocity, where equal relationships contribute to learning from both sides. Similarly, a social justice approach to AHR is identified as enabling reciprocal capacity strengthening between Indigenous and non-Indigenous researchers (Kelly et al., 2012). Therefore, both fields are likely to benefit from a greater shift away from unidirectional approaches to capacity development. This may be achieved in GHR by integrating principles exemplified in AHR, such as 'self-determination', 'community ownership', and 'ways of knowing', which encourages more equitable partnerships.

Community engagement within AHR requires the researcher to engage with Indigenous people and their communities in a respectful manner that demonstrates understanding of cultural protocol and concepts (Jackson-Barrett, 2002). This provides opportunity for consultation and negotiation and encourages the researcher to implement research methodologies that are culturally appropriate. This includes research that is grounded in Indigenous epistemology, privileges Indigenous voices, explicitly aims to decolonise, observes cultural protocols, and respects traditional knowledge (Aveling, 2013). In GHR, 'community engagement' is considered an important principle, which is

reflected in guidelines and frameworks. However, contention remains over what constitutes meaningful engagement (King et al., 2014). GHR could benefit from employing culturally appropriate approaches to community engagement as applied in AHR, such as developing research processes grounded in host country culture's epistemologies and respectful of traditional knowledge and cultural practices. This may contribute to more meaningful engagement, whilst helping to decolonise research methodologies. Therefore, GHR can potentially benefit from an approach to community engagement as established in AHR.

Differently Emphasised Principles

As the review's findings suggest, many of the principles and concepts within the AHRE literature aim to promote a decolonising approach to research. These principles and concepts were emphasised more prominently in the identified AHRE literature than in the identified GHRE literature. Although colonisation is cited as a contributor to global health inequities and harmful research practices (Brisbois & Plamondon, 2018), it emerges as a less emphasised concern in the identified GHRE literature (Table 2). Brisbois and Plamondon (2018) note, "the colonial roots […] are often glossed over in celebratory portrayals of global interconnectedness" and the implications of 'colonial' relationships or associated economic inequities that persist are ignored.

An opportunity exists for GHRE to draw on AHRE principles and concepts for decolonising research practices and methodologies, particularly those of 'self-determination', 'community-control', 'community ownership', and 'ways of knowing'. This may assist in addressing prominent ethical concerns in GHR, such

as inequity, power imbalances, vulnerability and exploitation, and dominant partner priorities and perspectives and in the process counter persisting scientific colonialism (Edejer, 1999). Self-determination and community control in AHR enable Indigenous people to design and carry out research that is sensitive to their identities, values, and cultural history (Thomas, Bainbridge, & Tsey, 2014) (Johnstone, 2007). Self-determination and community control empower communities to take control of the research agenda to address local priorities and ultimately guide their communities to improved health outcomes (Thomas et al., 2014).

The AHRE literature primarily discusses ownership in the form of 'community ownership' and is consistent with the principle of 'self-determination' (Adams, 2002). Community ownership in AHRE enables greater understanding of the needs and priorities of Indigenous communities (Bullen, 2004) and is consistent with an Indigenous perspective of community over the individual (Kwaymullina, 2016). However, it is also essential for recognition of traditional ownership of Indigenous cultural and intellectual property (Doyle, Cleary, Blanchard, & Hungerford, 2017) due to their rights, interests, and concerns being ignored or exploited (Jamieson et al., 2012). In the GHRE literature, host country ownership is commonly lacking and research often has little relevance to local contexts (Pratt & Hyder, 2015). This is associated with the ethical concerns of power imbalances and dominant partner priorities and perspectives identified in the screened GHRE articles. Ravinetto et al. (2010) assert that greater work needs to be done to increase ownership of research in LMICs. Yet, little in the GHRE literature suggests how this may be achieved. By adopting ethical principles of

873 ‘self-determination’, ‘community ownership’, and ‘control’ within GHRE, the
874 opportunity exists to shift power from dominant external partners and facilitate
875 LMIC researchers and communities to frame research in ways appropriate to
876 local contexts that are likely to achieve more equitable benefits for LMIC
877 research partners and host communities.
878
879 Epistemic injustice occurs when proper respect is not afforded to individuals as
880 knowers and sources of information (Fricker, 2007). In GHR, the orientation of
881 research towards construction of a universal knowledge largely ignores the
882 presence of alternative epistemologies (Caceres & Mendoza, 2009). However, as
883 Brannelly (2016) states, “assuming expertise from a Western perspective is
884 assuming a dominant and colonizing position, one which fails to recognise the
885 expertise and worldview of colonized societies, and subsequent implications”. In
886 AHRE, the concept of ‘ways of knowing’ views research practices through both
887 traditional Aboriginal and modern social and natural science perspectives
888 (Robertson et al., 2017). As Humphery (2001) notes, Indigenous knowledge
889 production is prioritised in the research process with Western research
890 methodologies used as a “toolkit” that can be applied as appropriate in the
891 production of Indigenous knowledge. This acknowledges the value of using
892 Indigenous epistemologies in AHR and, in the process, assists in decolonising
893 research practices (Kwaymullina, 2016). It is an approach relevant to GHR,
894 where the concept of ‘ways of knowing’ could be enshrined within ethics
895 guidelines and/or frameworks that acknowledge the expertise and alternative
896 knowledge systems of LMIC partners. Such an approach can likely help improve
897 the balance of power by giving respect to other systems of knowledge in global

898 health partnerships and assist in addressing the fourth most frequently cited
899 ethical concern in the GHRE literature of power imbalances.
900
901 In GHRE, the top concerns of inequity and exploitation have similarly shaped
902 research ethics principles and concepts. The analysis suggests that one of the
903 primary means of addressing inequity in GHR is through the principle of justice
904 (Bhutta, 2002). Promoting health justice specifically is considered crucial for
905 addressing the power imbalances associated with current and historical
906 exploitation of LMIC populations by HIC funders and researchers (Brisbois &
907 Plamondon, 2018). In the context of GHRE, various justice frameworks have
908 been developed to guide international research on selecting research targets,
909 ancillary care, capacity building, and post-trial benefits (Pratt & Loff, 2015). The
910 development of multiple frameworks provides insight on the different strengths
911 and content of each framework and enables further clarity on how the principle
912 of justice may be interpreted that can inform AHRE.
913
914 Although justice is stated to be a core value of AHRE, how to uphold it is not
915 explored in the depth that it is in existing GHRE frameworks. Principles such as
916 'closing the gap' could be interrogated in light of GHRE concepts of justice,
917 leading to more robust understandings linked to reducing power disparities and
918 structural injustices. Considering GHR justice frameworks in the context of AHR
919 may benefit AHRE by addressing key ethical concerns and problems, including
920 power imbalances, vulnerability and exploitation, and inequity. It may help more
921 strongly connect AHR to reducing health disparities between Indigenous and
922 non-Indigenous populations in Australia.

923

924 ***Strengths and Limitations***

925 The ethical concerns of colonisation, exploitation, and inequity identified in the
926 AHRE and GHRE literatures respectively appear to have influenced the two
927 fields' development of and emphasis on specific principles and concepts. A key
928 strength of this review is that it identified articles relating to combating neo-
929 colonial models of research in the AHRE and GHRE literatures for the first time
930 and compared the ethical principles described in those literatures. A limitation of
931 this review is that it was limited to Australian Aboriginal and Torres Strait
932 Islander health research ethics literature. There may be additional ethical
933 principles and concepts that are described in the ethics literature on health
934 research with other Indigenous populations in HICs, such as in the US and
935 Canada, that are effective or complementary for combating neo-colonial models
936 of GHR. Future research could examine health research ethics literature from
937 other Indigenous populations to identify further approaches for combating neo-
938 colonial models of research. The review also focused on the literature describing
939 ethical principles or concepts that combat neo-colonial models of research in
940 substantial detail. As such, papers that solely focused on describing ethical
941 concerns were not included.

942

943 Another potential limitation of this review is that ethical principles and concepts
944 it identified may not directly translate between the fields. The differences
945 between the settings of AHR and GHR may mean that some principles and
946 concepts are inappropriate to apply within the other field, particularly in global
947 health where diverse research settings exist. Future work could explore these

948 issues. Finally, concepts about power were missing from our search terms.
949 However, despite that omission, power imbalances were identified as a top
950 concern in both literatures (see Table 2) and principles related to control and
951 shifting control were identified, so we nonetheless identified literature
952 discussing/related to power.
953
954 **BEST PRACTICES**
955 The paper identified a range of ethical principles and concepts relevant to
956 combating neo-colonial models of research (Table 1). These principles are an
957 instructive resource for health researchers seeking to undertake projects in
958 ways that do not produce colonialism-like exploitation. Upholding the various
959 principles will generate studies that are less likely to reinforce such unfair power
960 relations and distributions of burdens and benefits.
961
962 The paper also identifies ways in which the fields of GHRE and AHRE can learn
963 from one another and enhance their approaches to combat neo-colonial models
964 of research. Principles described in both the AHRE and GHRE literatures include
965 'benefit', 'capacity development', 'collaboration', and 'community engagement'.
966 However, the two fields interpret these shared principles somewhat differently,
967 providing an opportunity for each field to interrogate its conception of these
968 principles and to learn from the other's approach to their definition.
969
970 The fields can further learn from principles that are differently emphasised
971 between them. AHRE has common principles that centre on decolonising
972 research and include 'self-determination', 'community-control', 'community

ownership', and 'ways of knowing'. With increasing attention being drawn to the need to decolonise GHR, greater emphasis on such principles in GHR may be especially timely. The principles provide an opportunity to consider specific approaches to begin to decolonise GHR practices. Additionally, GHRE has a more formalised approach to justice that may provide additional ways of improving health outcomes for Indigenous Australians and ultimately helping to close the gap that persists despite a wealth of research to date. Thus, it is likely that each ethics field will benefit from considering the principles found more prominently in the other field and those shared principles that are approached in diverse ways.

RESEARCH AGENDA

This paper identified a range of principles from AHRE developed to decolonise research practices that may be applied to GHRE. The development of ethical principles and concepts centring on decolonising research in global health would assist researchers to design research that combats neo-colonial models of research and to move to more equitable partnerships. Future research could explore how these principles and concepts used in AHRE could be specified and operationalised for GHRE in order to develop similar, yet contextually appropriate decolonising approaches to GHR. In addition, the principle of justice as applied in GHRE may inform on approaches for strengthening justice in AHRE. Further research could evaluate how justice frameworks developed in GHR may be adapted and applied in the context of AHR.

EDUCATIONAL IMPLICATIONS

The review demonstrates that ethics principles and concepts have been developed between the two research fields to address similar ethical concerns and problems. Nevertheless, opportunity for each to learn from the other field has been overlooked. AHRE and GHRE each have the opportunity to draw on the other to consider new ethical approaches to research collaboration to promote equity and decolonise health research. In GHRE, the development of specific frameworks regarding decolonising research may address persisting neo-colonial models of research. They also provide opportunity for researchers to be more aware on how colonisation continues to influence GHR. In AHRE, the adoption of justice frameworks as developed in GHRE may provide further opportunity to expand upon what's needed to uphold the principle of justice in AHR.

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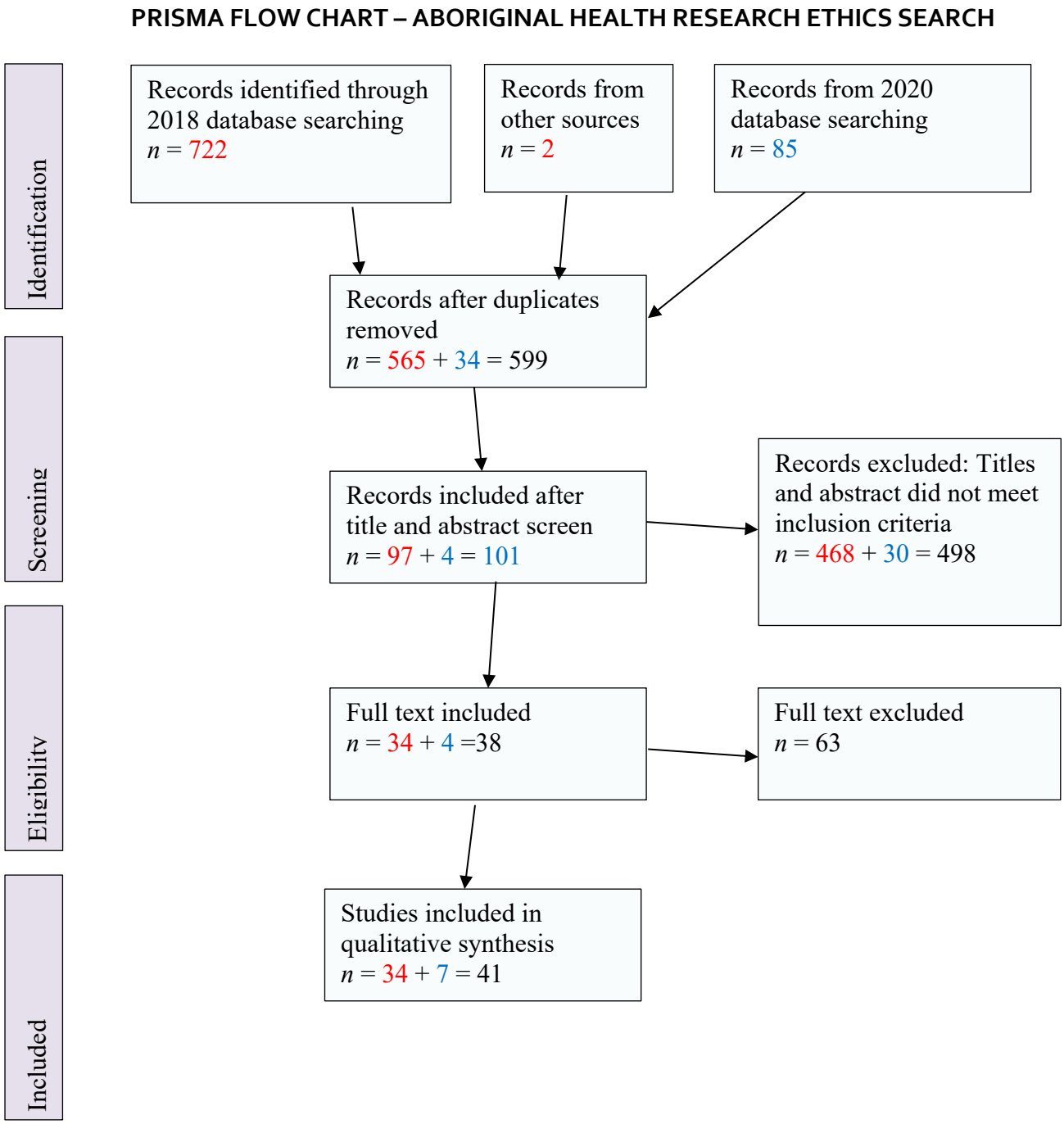

Figure 1: PRISMA Flow Chart – Aboriginal Health Research Ethics Literature Review

Legend: Red text refers to 2018 original search; Blue text refers to 2020 supplemental search

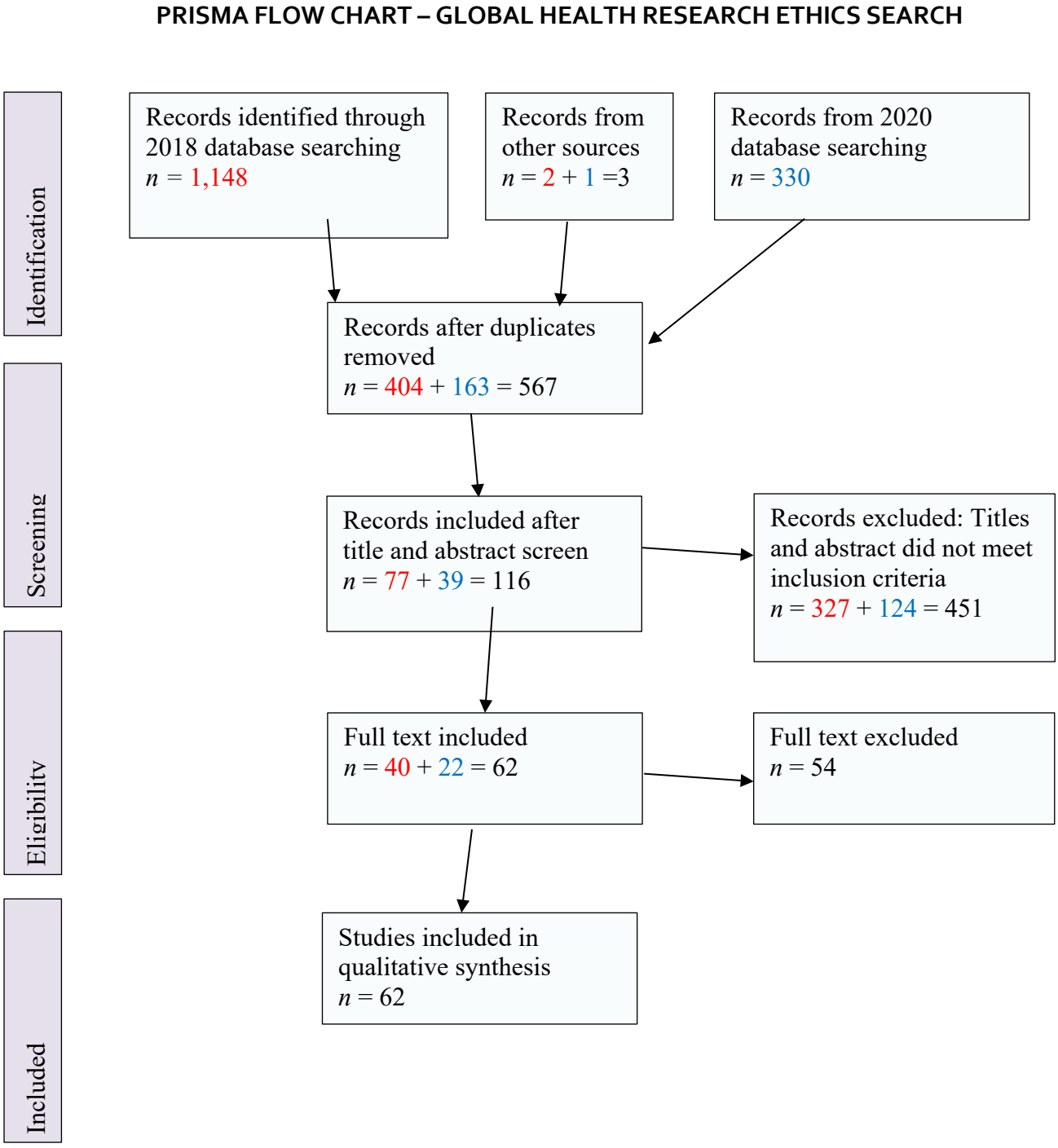

Figure 2: PRISMA Flow Chart – Global Health Research Ethics Literature Review

Legend: Red text refers to 2018 original search; Blue text refers to 2020 supplemental search

Principles and Concepts	Number of citations in AHRE literature	Number of citations in GHRE literature	Principles and Concepts Definitions *- Shared refers to definitions common across AHRE and GHRE; AHRE or GHRE refers to definitions unique to that field*
Appropriate Methodology	28 (68%)	10 (16%)	**Shared:** The use of research methodologies that are culturally appropriate to the local community, whilst remaining suitable to answer the research question (Dunne, 2000). **AHRE:** It includes the use of methodologies that are responsive to the needs of the local community, enabling choice and community-control, localised decision making, capacity building, and accountability (Kendall et al., 2011). **GHRE:** When social science methods are used, good quality research depends on the work of well-trained fieldworkers who are best positioned to conduct interviews and observations (Molyneux et al., 2009).
Authorship	3 (7%)	10 (16%)	**Shared:** The practice of giving credit to individuals who provide significant contribution to design, conduct and/or reporting of research (E. Smith, Hunt, & Master, 2014). **GHRE:** A range of factors may influence authorship credit in global health research, including varying roles and responsibilities between LMICs and HICs (E. Smith et al., 2014).
Benefit			
· *Benefit*	32 (78%)	39 (63%)	**Shared:** Three forms of benefit are identified in both the Helsinki Declaration and the CIOMS Guidelines and include: "1) the responsiveness of research to host country needs and health care priorities; 2) the contribution of research to capacity building; 3) benefits to participants and host communities during and after a study is completed" (White, 2007).
· *Benefit Sharing*	2 (5%)	11 (18%)	**Shared:** The fair allocation of profits and fruits from research between research sponsors and participants (Dauda & Dierickx, 2017). Benefit sharing is considered fair when there is an equal exchanged between research sponsors and

			participants and is acknowledged as essential in collaborative research between for-profit research sponsors conducting research in resource-poor settings (Dauda & Dierickx, 2017).
· *Community Benefit*	27 (66%)	10 (16%)	**Shared:** Benefit to the community from either their direct involvement in the research process or due to the outcome of research (Pyett, 2002). In **AHRE**, it is considered a principle for appropriate research design, where research must have demonstrated benefit and sustainable outcomes for the community (Kendall et al., 2011).
· *Fair Benefit*	2 (5%)	14 (23%)	In **GHRE**, a 'fair level' of benefits delivered to participants and their communities through the conduct of international research (Pratt & Loff, 2015). Benefits should be comparative to the level of burdens born by individual participants and their communities, the level increasing as benefits for sponsors and researchers increase (Pratt & Loff, 2015).
· *Mutual Benefit*	3 (7%)	4 (6%)	Mutual benefit is considered benefit that is equitable within a collaborative research relationship (John et al., 2016).
Capacity Development	21 (51%)	39 (63%)	**Shared:** Capacity development is considered a key benefit of undertaking collaborative global health partnerships (Murphy, 2015). It has the ability to strengthen capacity across individual, institutional, and health system and may be bidirectional, with benefits to capacity extending to all partners (Murphy, 2015). Benefits of capacity development may extend to all research partners and may include improvements across competencies, research design and methodologies, mentorship and pedagogical capacity (Murphy, 2015).

Closing the Gap	24 (59%)	3 (5%)	In **AHRE**, *Closing the Gap* is an initiative by the Council of Australian Governments and approved by the National Indigenous Health Equality Summit to close the equity gap between non-Indigenous and Indigenous Australians, including life expectancy, mortality rate, early childhood education access, and employment (Gardiner-Garden, 2012). In **GHRE**, there is no formalised initiative, but there is acknowledgement in the GHR literature of the need to close the research capacity gap between LMICs and HICs (Akinremi, 2011; Ravinetto, Mbonile, & White, 2010; Walker, Ouellette, & Ridde, 2006).
Collaboration			
· *Collaboration*	26 (63%)	39 (63%)	**Shared:** Collaborative research is the practice of researchers cooperating to achieve a common goal of producing new scientific knowledge (Katz & Martin, 1997). In **GHRE** it is recognised as a critical component for addressing growing inequity in health (Godoy-Ruiz et al., 2016), whilst in **AHRE** it is considered crucial for allowing Indigenous Australians to identify community needs and priorities, thereby enabling self-determination (Dunne, 2000).
· *Participation*	28 (68%)	11 (18%)	**Shared:** Meaningful participation and engagement with key vulnerable groups is considered vital for addressing mutual collectively (Pratt & Hyder, 2017). Research methods that include greater community participation are shown to have more long-term benefits to the community (Provenzano et al., 2010) and is considered key in partnership development for research (Cole et al., 2011). Collaborative participatory research places equal importance on both partnership and participation (Pyett, 2002). In **AHRE** it is considered an approach that can bring concepts and models used by researchers closer to the concepts and perspectives of those of the community (Pyett, 2002). It recognises the direct link between power

			and knowledge and addresses a history of dominance of 'scientific' knowledge, particularly in the context of colonisation in Australia (Pyett & VicHealth Koori Health Research Community Development Unit, 2002).
· *Partnerships*	21 (51%)	30 (48%)	**GHRE:** Collaboration between researchers from LMICs and HICs (Banjara, 2009) where a genuine partnership is considered to be one where both partners have an equal influence on setting the research agenda, even when funding is from one partner (Glew, 2008). **AHRE**: Partnerships are typically collaboration between Indigenous and non-Indigenous researchers and community members (Pyett & VicHealth Koori Health Research Community Development Unit, 2002) and have been championed as crucial for *closing the gap* (Dudgeon et al., 2010). They should be transparent, involve appropriate representative bodies, acknowledge historical and current power imbalances to achieve improved capabilities and capacity for Indigenous people (Dudgeon et al., 2010)..
Community Control	29 (71%)	0 (0%)	**AHRE:** A process that enables the Aboriginal community to be involved in its affairs as determined appropriate by the community in accordance with Aboriginal peoples' right to self-determination (NACCHO, 2014). Collaborative participatory research may enable community-control where communities do not have resources or capacity to undertake research on their own (Pyett, 2002).
Community Engagement	25 (61%)	19 (31%)	**Shared:** The process of working collaboratively with local community members to achieve active participation, mutual respect and identify local needs and priorities (Dauda et al., 2016).

Community / Local Ownership	29 (71%)	5 (8%)	**GHRE:** Most commonly referred to as 'local ownership', it is the process of host communities owning intellectual property with the research process and findings (Parker & Bull, 2009). **AHRE:** Ownership of Indigenous intellectual and contextual property associated with the research process and findings that is owned by the community, rather than individual (Kwaymullina, 2016; Prior, 2007).
Consultation + Negotiation	23 (56%)	13 (21%)	**GHRE:** Negotiating involves reaching an agreement of the rights and responsibilities in partnerships, including data ownership (Parker & Bull, 2009; Gopichandran et al. 2016). However, limitations may exist in the ability of host communities to negotiate due to existing power imbalances (White, 2007). **AHRE:** The process of consulting with community leaders and stakeholders to assess risk and benefits of research to the community (Harrowing, Mill, Spiers, Kulig, & Kipp, 2010). It is considered a fundamental step in the development of research with Indigenous communities and enables issues to be addressed relevant to Aboriginal people and with appropriate community benefit (Dunne, 2000).
Cultural Understanding	14 (34%)	5 (8%)	**Shared:** The process whereby a researcher demonstrates familiarity or a willingness to learn about the local region or community where the research will take place, which can then inform research design that is appropriate to local needs and contexts (Harrowing et al., 2010)

Decolonisation	10 (24%)	0 (0%)	**AHRE:** A process toward appropriate epistemology, where Indigenous ways of knowing are used for undertaking research (Kendall et al., 2011) and Indigenous sovereignty is acknowledged (Kwaymullina, 2016). It decentres the focus from researcher to Indigenous people, engaging those who previously colonised through research methodologies (Prior, 2007). It is a collective process that should involve both the colonised and coloniser (Prior, 2007).
Equal Relationships	12 (29%)	12 (19%)	**Shared:** Relationships that are equally balanced between partners – where both have equal ability to negotiate and influence on setting the research agenda (Glew, 2008). **GHRE:** Where partners from LMICs are treated like equals, even where funding is coming from HICs (Chu, Jayaraman, Kyamanywa, & Ntakiyiruta, 2014; Glew, 2008). **AHRE:** When Indigenous people and communities are engaged as equal participants or partners in all phases of the research process (Jamieson et al., 2012; Kwaymullina, 2016)
Equity	7 (17%)	28 (45%)	**Shared:** Equity in health is "the absence of unfair and avoidable or remediable differences in health interventions and outcomes among groups of people" (World Health Organization, 2018).
Justice	12 (29%)	30 (48%)	**Shared:** Health and social justice have a central focus on equality guided by normative principles, such as the equal treatment of people in society. **GHRE:** Social justice in health aims to reduce inequalities across public health throughout the world, as well addressing the health disparity between populations in HICs and LMICs (Pratt and Loff, 2014).
Knowledge Democracy /	26 (63%)	11 (18%)	**Shared:** The co-construction of knowledge that acknowledges the existence of multiple epistemologies or ways of knowing (B. L. Hall & Tandon, 2017) and is consider a means of decolonising of knowledge and respecting the knowledge and

Ways of Knowing			values of local people (B. Hall et al., 2016). It recognises that many modes and forms of knowledge production exist and recognises the value of merging community-based knowledge with academic, scientific knowledge (Tandon, Hall, Lepore, & Singh, 2016). **AHRE:** Knowledge democracy is often referred to as 'dual lens' approach or 'different ways of knowing' where the theme is explored through both traditional Aboriginal and modern social and natural science perspectives (Robertson et al., 2017). **GHRE:** Calls for privileging voices that have historically been unrepresented and undervalued Sariola & Reynolds, 2018).
Knowledge Translation	20 (49%)	24 (39%)	**Shared:** Knowledge translation is the process of putting knowledge into action and involves the synthesis, dissemination, exchange, and application of knowledge in order to improve health systems (Straus, Tetroe, & Graham, 2009). Alternative terms for knowledge translation include implementation science, research utilization, dissemination and diffusion, research use, and knowledge transfer and uptake are commonly used (Straus et al., 2009)
Leadership and Governance	10 (24%)	19 (31%))	**GHRE:** Leadership is important to achieve the objectives of global health and can be carried out on both the individual and institutional level to influence actors and achieve objectives (Gostin & Mok, 2009). Governance is the actions and methods employed to reach solutions to shared goals. It takes on many forms of collective behaviour to achieve this, such as community groups, corporations, institutions, and intergovernmental organisations (Dodgson, Lee, Drager, & Organization, 2002). Health governance is concerned with the actions and means adopted by a society to achieve protection and promotion of population health (Dodgson et al., 2002)

Priority Setting	10 (24%)	15 (24%)	Shared: Priority setting enables access to medical products and improved health systems for the worst off in order to achieve health equity (Pratt & Hyder, 2017). It may occur at the local, national, and international level with two main approaches for priority setting including the use of technical analysis or quantifiable data, and the use of interpretive assessments based upon consensus views of participants (Kaplan, Wirtz, Mantel, & Béatrice, 2013).
Reflexivity	11 (27%)	4 (6%)	**Shared:** Reflexivity in practice includes the acknowledgement of the ethical dimension of typical, everyday research practice, awareness of 'ethically important moments' in research practice, and being able to be responsive to any ethical dilemmas or concerns that may arise through the research process, thereby allaying ethical issues before they arise (Chenhall, Senior, & Belton, 2011).
Self-Determination	20 (49%)	4 (6%)	**AHRE:** Self-determination is described as "an on going process of choice to ensure that Indigenous communities are able to meet their social, cultural and economic needs" and a Commonwealth policy framework for Aboriginal affairs established in 1973 (Anderson, 2007) that acted as a catalyst for addressing the issues of ownership, control, and interpretation of Aboriginal intellectual and cultural property (Adams, 2002).
Sharing and Reciprocity	23 (56%)	14 (23%)	**Shared:** Reciprocity is the respectful nature of relationships and exchanges within research across diverse communities. Reciprocity is considered vital to health promotion (Maiter, Simich, Jacobson, & Wise, 2008). Sharing in research practice may involve sharing of benefit, resources, knowledge, and results between research partners (Abrahams, 2004; Solbakk, 2011; Walker et al., 2006).

Transparency	4 (10%)	20 (32%)	**Shared:** Transparency is the practice of honest, accurate and transparent interactions, agreements and reporting of research results and enables maximum value from health research (Altman & Moher, 2013). It means explaining how research participants were selected to demonstrate fairness in participant selection (Molyneux et al., 2009). It demands that information about the benefits experienced by other populations in similar research study contexts be made available to prospective research populations (Pratt & Loff, 2015).
Trust and Mutual Respect	23 (56%)	17 (27%)	**Shared:** Mutual respect is considered the practice of each party displaying respect for each other's values, culture, and social practices, even where cultural diversity may impact upon research (Cole et al., 2011). Importantly, mutual respect does not mean uncritical acceptance of practices that might be oppressive or coercive (Emanuel et al., 2004). **AHRE:** Trust and mutual respect are particularly important due to the long history of exploitation of Indigenous participants by non-Indigenous researchers and is a key component of the research process for non-Indigenous researchers carrying out research with Indigenous communities (Pyett & VicHealth Koori Health Research Community Development Unit, 2002).

Table 1: Principles and Concepts in AHRE and GHRE, Number of Citations and Definition

TOP TEN CITED ETHICAL CONCERNS AND PROBLEMS						
Aboriginal Health Research Ethics	**Number of Citations in AHRE Literature**		**Examples of Citing Articles**	**Global Health Research Ethics**	**Number of Citations in GHRE Literature**		**Examples of Citing Articles**
1. Colonisation	36	(88%)	Doyle *et al.* 2017; Dudgeon *et al.* 2010; Dunne 2000; Prior 2007.	**1. Vulnerability and Exploitation**	31	(50%)	Harrowing *et al.* 2010; Murphy *et al.* 2015; Ravinetto and White 2010.
2. Harm and Risk	15	(37%)	Hardcastle 2007; Pyett 2002.	**2. Inequity**	29	(47%)	Caceres and Mendoza 2009; Edejer 1999; Rabbani *et al.* 2016.
2. Power Imbalances	14	(34%)	Doyle *et al.* 2017; Dunne 2000; Pyett 2002.	**2. Harm and Risk**	29	(47%)	Brisbois and Plamondon 2018; Chu *et al.* 2014.
2. Dominant Partner Priorities/Perspectives	14	(34%)	Dudgeon *et al.* 2010; Dunne 2000.	**4. Power Imbalances**	26	(42%)	Brisbois and Plamondon 2018; Jentsch and Piley 2003.

TOP TEN CITED ETHICAL CONCERNS AND PROBLEMS						
Aboriginal Health Research Ethics	**Number of Citations in AHRE Literature**		**Examples of Citing Articles**	**Global Health Research Ethics**	**Number of Citations in GHRE Literature**		**Examples of Citing Articles**
5. Semi-Colonialism	13	(32%)	Prior 2007; Kaufert and Lavoie 2003	**5. Dominant Partner Priorities/Perspectives**	16	(26%)	Brisbois and Plamondon 2018; Smith *et al.* 2014; White 2007.
5. Vulnerability & Exploitation	13	(32%)	Bandler 2015; Kwaymullina 2016; Pyett 2002.	**6. Cultural Differences**	14	(23%)	Harrowing *et al.* 2010; McIntosh 2008; Meslin *et al.* 2013.
5. Cultural Differences	13	(32%)	Adams 2002; Grove *et al.* 2003; Prior 2007.	**7. Semi-Colonialism**	12	(19%)	Brisbois and Plamondon 2018; Jentsch and Piley 2003.
8. Mistrust of Research	12	(29%)	Adams 2006; Hardcastle 2007; Pyett 2014.	**8. Epistemic Injustice**	10	(16%)	Bhutta 2002; Caceres and Mendoza 2009; Smith *et al.* 2014.

TOP TEN CITED ETHICAL CONCERNS AND PROBLEMS						
Aboriginal Health Research Ethics	**Number of Citations in AHRE Literature**		**Examples of Citing Articles**	**Global Health Research Ethics**	**Number of Citations in GHRE Literature**		**Examples of Citing Articles**
9. Western-Oriented Research Practices	10	(24%)	Doyle *et al.* 2017; Kwaymullina 2016.	**8. Western-Oriented Research Practices**	10	(16%)	Caceres and Mendoza 2009; Harrowing *et al.* 2010.
9. Differences within Community	10	(24%)	Backhouse 1999; Bandler 2015; Doyle *et al.* 2017; Jamieson *et al.* 2012.	**10. Colonisation**	5	(8%)	Brisbois and Plamondon 2018; Caceres and Mendoza 2009;.

Table 2. Top Ten Cited Concerns and Problems