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A scoping review

Moll, T.; Gerrits, T.; Hammarberg, K.; Manderson, L.; Whittaker, A.

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REVIEW

Reproductive travel to, from and within sub-Saharan Africa: A scoping review

Tessa Moll^{a,*}, Trudie Gerrits^b, Karin Hammarberg^{c,d}
Lenore Manderson^{a,e}, Andrea Whittaker^e

^a School of Public Health, University of the Witwatersrand, Parktown, South Africa; ^b Amsterdam Institute for Social Science Research, University of Amsterdam, Amsterdam, the Netherlands; ^c School of Public Health and Preventive Medicine, Monash University, Melbourne, VIC, Australia; ^d Victorian Assisted Reproductive Treatment Authority, Melbourne, VIC, Australia; ^e School of Social Sciences, Faculty of Arts, Monash University, Clayton, Melbourne, VIC, Australia

* Corresponding author at: School of Public Health, University of the Witwatersrand, Parktown, South Africa. E-mail address: tessa.moll@wits.ac.za (T. Moll).



Tessa Moll is a medical anthropologist and Postdoctoral Research Fellow at the School of Public Health at the University of the Witwatersrand. Her research interests concern reproduction, assisted conception technology and postgenomics, with a focus on the circulation of knowledge and technology in South Africa. She is currently involved in a project on cross-border reproductive travel in sub-Saharan Africa, and working on a monograph on fertility care and race in South Africa.

Abstract Scholarly interest in reproductive travel has increased in recent years, but travel within, to and from the African continent has received much less attention. We reviewed the literature on cross-border reproductive travel to and from countries of sub-Saharan Africa in order to understand the local forms of this trade. Access to fertility care remains deeply stratified, which is an ongoing concern in a region with some of the highest rates of infertility. We found a wide variety of reasons for reproductive travel, including a lack of trusted local clinics. Destinations were chosen for reasons including historical movements for medical treatment broadly, diasporic circulations, pragmatic language reasons, and ties of former colonial relations. We describe the unique tempos of treatment in the region, ranging from some intended parents staying in receiving countries for some years to the short-term contingent support networks that reprotravellers develop during their treatment and travel. Unique to the region is the movement of medical professionals, such as the ‘fly-in, fly-out’ clinic staff to deliver fertility care. Future research should include practices and movements to presently neglected ‘reprohubs’, particularly Kenya and Nigeria; the impact of pandemic-related lockdowns and border closures on the movements of intended parents, reproductive assistants and reproductive material; and the impact of low-cost protocols on treatment access within the region. This scoping review provides insight into the relevant work on cross-border reproductive care in sub-Saharan Africa, where a unique combination of access factors, affordability, and sociocultural and geopolitical issues fashion individuals’ and couples’ cross-border reproductive travel within, to and from Africa.

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KEYWORDS: Assisted reproductive technology, Reproductive travel, Cross-border reproductive care, Sub-Saharan Africa

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Introduction

Scholarly interest in reproductive travel has increased in recent years, but travel within, to and from the African continent has received much less attention (Gerrits, 2018; Inhorn and Gürtin, 2011). Sometimes referred to as 'cross-border reproductive care' (CBRC) or 'reprotravel' (Inhorn, 2015), these terms refer to the movement of people – including patients, staff and reproductive assistors (i.e. gamete donors and surrogates) – and biological materials between countries to enable treatment with assisted reproductive technology (ART). This review highlights scholarship on incoming and outgoing reproductive travel from countries of sub-Saharan Africa (SSA) in order to understand the local forms of this trade.

The number of ART clinics operating in SSA is increasing, according to a recent international survey (International Federation of Fertility Societies, 2019). The International Federation of Fertility Societies (IFFS) survey noted at least 110 clinics in the region, including clinics in many countries that had not reported fertility centres previously.¹ Fifteen countries in the SSA region have clinics registered with the regional monitoring body – the African Network and Registry for ART (ANARA) – and the countries with the largest proportion of clinics are South Africa, Nigeria and Ghana (Dyer et al., 2020; International Federation of Fertility Societies, 2019). The annual number of cycles registered by ANARA grew from 24,317 in 2013 to nearly 30,000 in 2017 (Dyer et al., 2020). It is not known how many of these cycles involved cross-border travel.

With no or limited access to ART services in some SSA countries, South Africa and, to a lesser extent, Ghana (Gerrits, 2018; Moll, forthcoming; Namberger, 2019) have become known in the region as 'reprohubs' (Inhorn, 2015) to which people travel for fertility treatments and where

¹ There are more ART clinics than listed in the IFFS. See Inhorn (2015: 114) for discussion of why several countries are 'lost for follow-up' on this list. The total of 110 clinics reported here from the IFFS does not include the figure for ART clinics reported in Senegal, which reported 100 clinics alone, as we believe this figure is potentially inflated.

fertility staff are trained. Increasingly, these reprohubs have also attracted people from countries outside of Africa. South Africa has a long-standing reputation for high-quality private medical care, including ART, and has a developed medical travel trade, especially within southern Africa (Crush and Chikanda, 2015). For fertility care, South Africa is known internationally as a hub for assisted reproduction, particularly among intending parents who need donor oocytes (Moll, 2019; Namberger, 2016; Pande, 2020).

The regional trade in cross-border reproductive travel may, in part, be due to the high demand for ART from the so-called 'infertility belt'. In SSA, having children carries a high cultural value, but simultaneously, infertility – mainly secondary – is reported to be higher than 30% in some countries (Mascarenhas et al., 2012; Rutstein and Shah, 2004). The burden of infertility is largely attributed to infections and complications from poor birth and postpartum care (Egbe et al., 2020). With the exception of some publically subsidized treatments in South Africa, no SSA countries provide financial support for ART, and access to treatment is stratified by economic status.

To date, most academic work on reproductive travel has concentrated on travel to or within Europe, North America and, to a lesser extent, countries in Asia and the Middle East (Whittaker et al., 2019). In this article, we review the available literature on reproductive travel to, from and within SSA to examine existing empirical and theoretical insights. We consider the various themes in the studies, and the common and unique characteristics of CBRC in the region, and propose a research agenda on reproductive travel to be addressed in relation to SSA.

Materials and methods

Search

We undertook a systematic search of academic databases, combined with additional searches from the authors' collec-

tions of academic material to produce a narrative overview of research on CBRC in SSA. Studies were included if they had been published: (i) in a peer-reviewed journal, dissertation, academic book or report; (ii) between 2010 and 2021; and (iii) in English, French or Portuguese. Scopus, PubMed, Google Scholar and Proquest databases were searched using the keywords ('cross border' OR 'reproductive travel') AND ('fertility' OR 'assisted reproductive technology') AND ('Africa'). Searches were also conducted for key authors who were known to have published works in this field. The reference lists of all identified publications were assessed for further sources.

Study inclusion

Titles and abstracts were screened independently by two authors (KH and TM). Discrepancies were discussed and resolved. In the next step, full-text articles were assessed against the inclusion criteria, specifically that the articles, dissertations or chapters offered empirical information on

reproductive travel in Africa. Articles that addressed purely clinical or biomedical aspects of assisted reproduction in SSA were excluded, as were articles that were strictly pertaining to legal systems or bioethics. Papers that only briefly mentioned CBRC or incidentally mentioned SSA, or were not available in English, Portuguese or French, were excluded.

Data analysis and synthesis

The characteristics of the studies were tabulated. Key findings of the included studies were analysed thematically by all authors using an inductive approach, where the study findings determined the themes. Findings are reported in a narrative synthesis to allow exploration of similarities and differences between studies (Popay et al., 2006).

The search generated 70 items of which 12 were duplicates (see Fig. 1). The authors collated an additional 11 items from personal libraries. After title and abstract screening, 64 full-text papers were reviewed for inclusion.

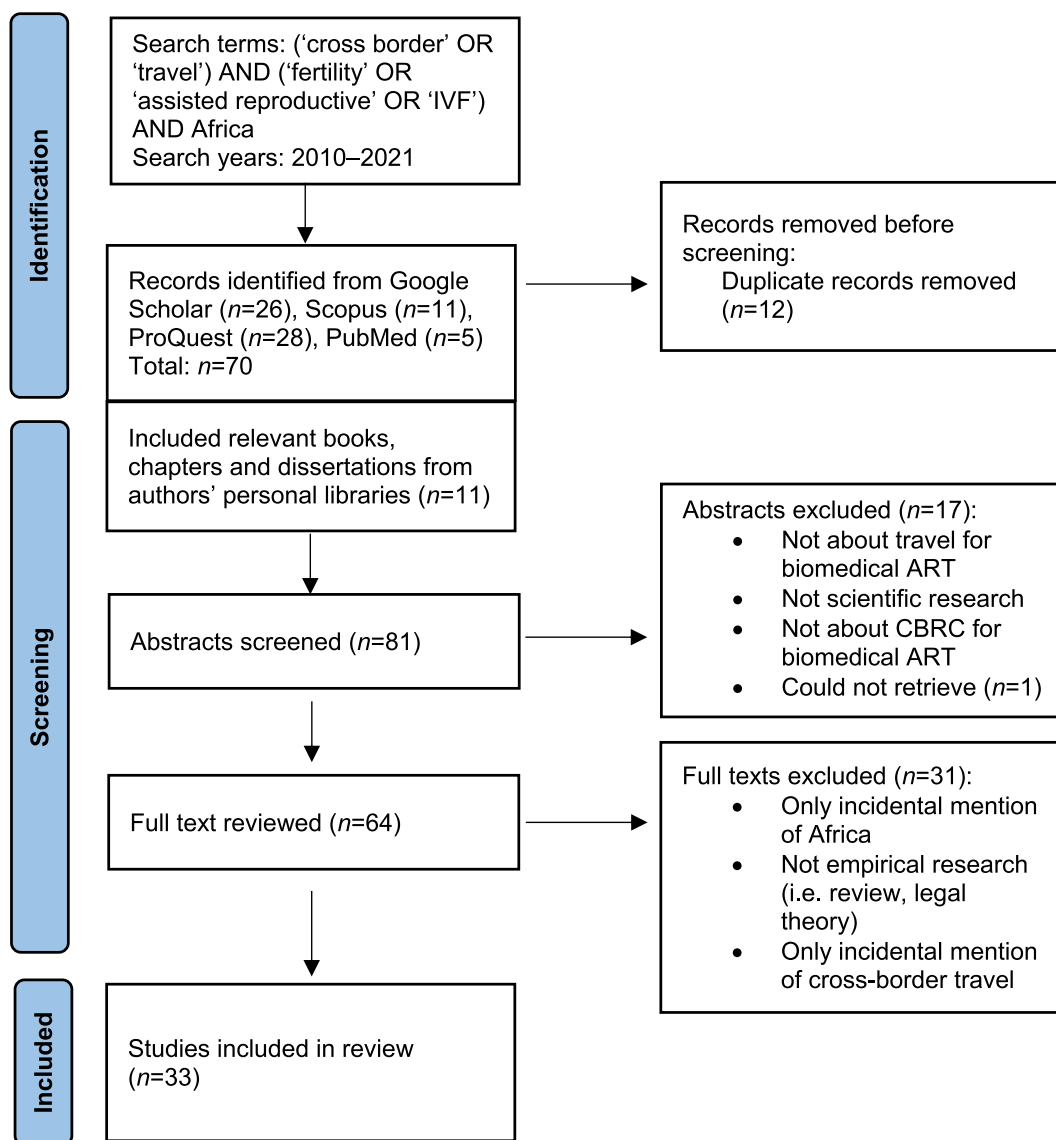


Fig. 1 Identification of studies related to reprotravel to, from and within sub-Saharan Africa.

Table 1 Study characteristics and main findings of 33 included studies.

Author(s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Bergmann (2011a) PR	Germany/Spain and Czech Republic (SA mentioned)	Describe transnational circumvention practices	Ethnographic fieldwork and interviews	36 patients (29 heterosexual couples, seven women)	<ul style="list-style-type: none"> • SA referenced as a destination for reprotravellers from Germany. • 'Multilayered strategies' employed to circumvent local restrictions, described as 'circumvention routes of reproduction'
Bergmann (2011b) PR	Germany/Spain and Czech Republic (SA mentioned)	Explore German CBRC	Ethnographic fieldwork and interviews	36 patients (29 heterosexual couples, seven women)	<ul style="list-style-type: none"> • Mentions Germans travelling to SA for ova donation • Circumvention of national laws and restrictions reasons for CBRC • Logic of phenotype donor matching discussed
Culley et al. (2011) PR	UK/various destinations, including SA	Explore patients' CBRC motivations, experiences and outcomes	Interviews	41 women, 10 men who had or planned CBRC from UK	<ul style="list-style-type: none"> • Motivations were donor shortages, cost, perceived better success rates, and previous poor care in UK • Few left to avoid local regulations • Reasons for choosing SA were to access donor gametes and having relatives there
Hörbst (2012) BC	Mali and Togo/various destinations	Describe transnational social fields involved and activated in the ART process	Participant observation and interviews	Fieldwork and focus groups, 24 Malian and 5 Togolese patients	<ul style="list-style-type: none"> • ART access depends on financial resources and social capital • Infertility the 'disease of the poor' • Doctors establish clinics in Togo and Mali via colonial and postcolonial networks and guided by training gained in other countries • Patients informed about ART by family abroad, word-of-mouth and informal popular discourses
Bonnet and Duchesne (2014) PR	1. Central Africa/ Cameroon 2. West Africa/France	Explore norms that inform fertility quests for middle-class African couples	Ethnographic observations and interviews	Two case studies from fieldwork in two locations	<ul style="list-style-type: none"> • CBRC allows privacy and avoids accusations of sorcery, family pressure and gossip • When treatment failed, women stayed on for 5 and 2 years, respectively, took leave or left job, sold assets to pay for ART • The extended stay caused marital conflict, as the men did not share the women's determination to conceive

Table 1 (continued)

Author (s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Rodino et al. (2014) PR	Australia and New Zealand/ various destinations, including SA	Explore the motivations and experiences of Australian and New Zealand reprotravellers	Online survey	137 Australian and New Zealand participants aged 23–53 years	<ul style="list-style-type: none"> • Most were high-income earners, had experienced pregnancy loss, and were seeking donor egg or surrogacy • Motivations were long waiting times, treatments not available or permitted, and lower success rates in home country • USA, India, Thailand and South Africa were most common destinations • Themes: donor gamete shortage, importance of donor information and disclosure, personal impact of legislation, and support needs after reprotravel
Bochow (2015) BC	Botswana/various destinations	Describe the use of ART among educated professionals in Botswana	Ethnographic observations and interviews	Reproductive histories of 70 women	<ul style="list-style-type: none"> • Compared two generations of infertile women seeking care in early 1990s and 2009–2011 • First generation travelled to Europe or USA for ART (where they had to go for work or study) • Some first generation sought low-tech care in private clinics in Botswana, unaware of the existence of ART abroad • Most second generation travelled to SA for ART, felt better informed about reproductive health and able to act on their wishes
Faria (2015) BC	Mozambique/SA	Describe ideas of kin-making by people experiencing infertility and using ART	Ethnographic observations and interviews	24 ART users, mostly women. Four case studies illustrating kin-making ideas presented	<ol style="list-style-type: none"> 1. Sought a surrogate, but wanted own gametes – biological determinants of kin 2. Considered donor eggs but not donor sperm despite male infertility – power struggle over infertility management and disclosure 3. Husband refused to use donor sperm – importance of genetic relatedness 4. Needed sperm donor, suggested egg donor too – maintaining equality
Hörbst (2015) BC	Mali/various destinations	Explore how ART navigation embeds users in transnational networks	Ethnographic observations and interviews	Several women's ART stories collected during fieldwork 2004–2012	<ul style="list-style-type: none"> • Reasons for CBRC: only private ART in Mali, costly, not regulated or standardized, quality considered low • CBRC depended on personal (financial) circumstances and connections at home and in the destinations • Inability to get a visa was a barrier to CBRC • Finding information about clinics challenging

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Table 1 (continued)

Author(s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Inhorn (2015) B	African countries/Dubai (United Arab Emirates)	Trace the stories of reprotravellers and how their quest for conception takes them to Dubai	Ethnography and interviews	20 African reprotravellers (out of 220 interviewed)	<ul style="list-style-type: none"> • Came from Djibouti, Eritrea, Ethiopia, Somali, Sudan, Tanzania, Nigeria and SA • Most women highly educated with age-related infertility; half of the men had male infertility • Felt 'forced' to travel due to critical 'failures' in home countries to provide ART, infertility low priority due to 'war, poverty, poor medical infrastructure and life-threatening diseases' • Pull factors included ease to obtain visa to Dubai, being there for work anyway, and 'foreign physicians' • Internet and 'word-to-mouth referrals' from friends, relatives and physicians
Duchesne (2016a) BC	Francophone Africa/France	Explore experiences and mobility of Africans seeking ART in France	Ethnographic interviews	21 women and seven heterosexual couples	<ul style="list-style-type: none"> • Childlessness stigmatized • Women did not speak to family about ART because of lack of biomedical literacy • ART access depends on socio-economic status; those who can access ART 'belong to a new African middle class' • Social networks used to find doctors, arrange appointments and accommodation • Women stayed alone in France during treatment • Cost of ART exhausts available resources • Donor eggs the last option when all else fails • The complexities of seeking donor eggs discussed, including paradoxes around the voluntary, free and anonymous nature of the donation
Duchesne (2016b) BC	Africa/France	Describe African women's experiences of ART and views on donor eggs	Ethnographic observations and interviews	Seven women	<ul style="list-style-type: none"> • Long delays before starting fertility treatment • Challenges include finding accommodation, financial cost, access to and comprehension of information, legal status and work. • Women often socially isolated during treatment • Social consequences of infertility less pronounced for urban than rural women
Epelboin (2016) (BC)	Africa/France	Examine challenges of seeking ART in France	Ethnography	Clinics and couples seeking treatment in Paris	<ul style="list-style-type: none"> • Long delays before starting fertility treatment • Challenges include finding accommodation, financial cost, access to and comprehension of information, legal status and work. • Women often socially isolated during treatment • Social consequences of infertility less pronounced for urban than rural women
Faria (2016) BC	Mozambique/SA	Explore how patients use transnational networks to access ART abroad	Ethnographic fieldwork and interviews	24 infertile couples, five of whom travelled to SA	<ul style="list-style-type: none"> • Use both traditional and biomedical treatments • Word-of-mouth and social networks used to find clinics • CBRC part of intracontinental health travel • 'Medicoscapes' are class based • Peer networking through clinical encounters • Use loans and savings, sell assets to meet cost • Clinics viewed as cold and profit-oriented

Table 1 (continued)

Author(s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Gerrits (2016) PR	Ghana	Describes transnational connections and their role in the establishment of local ART services	Ethnographic observation and interviews	Two private ART clinics in Ghana	<ul style="list-style-type: none"> • Doctors trained internationally • Embryologists brought from UK monthly, treatments scheduled to these visits • Egg sharing common, anonymous like surrogacy • People from West African countries and Ghanaian diaspora come for infertility care • Pull factors are supporting relatives, matching donor material and surrogates, and 'patriotic' pride
Hartman (2016) PR	Global travel	Analysis of website content of clinics advertising cross-border care	Content analysis	35 clinic websites, including two in SA	<ul style="list-style-type: none"> • Content not commensurate with US ethical standards (ASRM) for patient information • Most listed success rates without age reference • 45–55% success rates quoted on SA websites • Price not mentioned • Many do not mention psychosocial support
Hörbst and Gerrits (2016a) PR	Ghana and Uganda	Explore the transnational mobility of ART providers	Comparative ethnography using interviews and observations	Fieldwork in four private clinics in Ghana and Uganda	<ul style="list-style-type: none"> • The concept of 'medicoscapes' used to describe transnational connections between ART providers, institutions, medical practices, artefacts and medical knowledge • Networks develop along colonial and postcolonial links, integrate south–south relationships • Clinic directors are entrepreneurs who capitalize on their transnational professional network • Frictions between doctors' entrepreneurial interests, medical concerns and cultural values
Hörbst and Gerrits (2016b) BC	Ghana and Uganda	Describe how travel for embryologists is facilitated	Comparative ethnography	Fieldwork in four private clinics in Ghana and Uganda	<ul style="list-style-type: none"> • ART in Africa often depends on travel of professional experts (particularly doctors and embryologists) • Treatments need to be timed according to specialists' presence • ART also depends on appropriation of artefacts, guidelines, practices and ideas
Hudson et al. (2016) PR	UK/various destinations, including SA	Explore patients' experiences of care and logistics	Interviews	41 (41 women, 10 men) UK residents who had or planned CBRC	<ul style="list-style-type: none"> • More favourable experiences than in UK, including better and more personalized care • Lower cost in SA a reason for travel • Concerns included uncertainty about safety, trusting clinic, future wellbeing of children, and cultural dissonance and language barriers

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Table 1 (continued)

Author(s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Massou, (2016) BC	Clinic and donor agency websites in Burkina Faso, Togo, Mali, Cote d'Ivoire, Cameroon, SA	Compare communication strategies and information provided on clinic websites	Content analysis	24 clinic and nine donor agency websites	<ul style="list-style-type: none"> • Clinic credibility, validity and precision emphasized • Images of operating theatres juxtaposed with photographs of mothers with newborns • SA clinics emphasized the technical capacity of clinics, psychological support and counselling, financial and logistics support
Namberger (2016) BC	SA	Describe the bio-economic aspects of normalizing egg donation and travel to SA	Interviews	24 interviews with egg donors, agency owners, fertility specialists and clinic staff	<ul style="list-style-type: none"> • Theorizes egg donor agencies as non-biomedical bio-economic actors and relations and affective social ties are key to 'maturing' market in SA • Economic rationales shape normalizing and shifting technologies, moralities and legislations • US egg donation business model triggered normalization and regulation of egg donation
Faria (2018a) PR	Mozambique/SA	Explore situational social networks formed during ART treatment seeking	Ethnography	25 women seeking ART in Maputo and SA	<ul style="list-style-type: none"> • Situational social networks play a critical role in facilitating CBRC • Family and friends, religion and biosocial networks are activated through careful disclosure, solidarity and circumstances
Faria (2018b) PR	Mozambique/ Mozambique and SA	Explore infertility treatment seeking and uptake in Mozambique and SA	Socio-anthropological interviews and participant observations	Two Mozambican practitioners and 25 women seeking infertility treatment	<ul style="list-style-type: none"> • Economic circumstances determined therapeutic opportunities • Poorer women could only access traditional healers or attend a public hospital with limited treatment options • Richer women could access ART at private fertility clinic in Maputo or SA
Gerrits (2018) PR	Various locations and countries/Ghana	Explore CBRC to Ghana	Ethnographic interviews	36 informants, 16 had travelled across borders for treatment	<ul style="list-style-type: none"> • Motivations for travel included the perceived high quality of treatment (based on testimonies); the circumvention of restricting regulations in home country; lower treatment costs; and the availability and affordability of matching donor eggs and surrogates
Machin et al. (2018) PR	Angola/Brazil	Explore transnational mobility by investigating Angolan couples' search for infertility treatment in Brazil	Ethnographic interviews and survey	Seven Angolan infertile couples, Angolan community leaders living in Brazil, and key medical professionals	<ul style="list-style-type: none"> • Since 2005, many Angolans have travelled to Brazil for infertility treatment • Some stay and become facilitators • Success stories and recommendations important in deciding where to go • Women stayed in Brazil for up to 4 years for ART and postnatal care • Stayed in shared housing called 'Angolan Republics' • Pentecostal churches play role in circulation of success stories by word-of-mouth

Table 1 (continued)

Author(s) (year) type	Country (ies) from/ to	Aim	Method	Participants ^a	Main findings
Pande and Moll (2018) PR	SA/ India	Explore the framing of travelling egg providers' 'bioresponsibilities'	Ethnographic observations and interviews	10 health professionals and 11 egg providers	<ul style="list-style-type: none"> • Provision framed as 'good' biocitizenship • Framing has moralistic tones • Competing gendered powers drive the industry: matriarchal egg donor agencies and patriarchal medical providers • Egg providers want to travel for holiday, money and doing good
Moll (2019) PR	SA	To explore donor 'matching' and the process of mediating racial similarities	Ethnographic observations and interviews	Fieldwork in three clinics and three donor agencies; 41 patients, 15 medical professionals, 13 egg donors	<ul style="list-style-type: none"> • Agency system for donor eggs was instigated by an American in early 2000 and is key to SA ART industry • SA is a donor hub due to its racial diversity, pulling in white people from the Global North and black people from Africa • Local industry views the lack of ethnic particularity among SA whites (argued as a product of settler colonialism) as a pull factor, particularly for Australians
Moungala et al. (2019) PR	Gabon	Ascertain availability of infertility treatment and feasibility of establishing an intrauterine insemination programme in Gabon	Survey	17 gynaecologists in private and public hospitals	<ul style="list-style-type: none"> • Each gynaecologist consulted with more than 50 patients monthly, 45% of consultations infertility related • Male patients referred to laboratories in Libreville for sperm analysis • Due to lack of service, 13/17 referred patients for infertility treatments abroad, mainly Cameroon and Ghana
Namberger (2019) B	SA	Explore relations between the body, value production and labour in the bio-economy of 'egg donation' in SA	Observation and interviews	36 interviews with egg donors, owners of egg donation agencies and medical practitioners	<ul style="list-style-type: none"> • Labour of egg donors key to thriving egg donor industry in SA • Donors should be viewed as 'fertility workers' through their labour of filling in forms, liaising with clinics, taking hormones and undergoing egg retrieval • Discusses historical, structural and racial barriers to egg provision

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Table 1 (continued)

Author(s) (year) type	Country(ies) from/to	Aim	Method	Participants ^a	Main findings
Moll (2020) D	Various countries/SA	To explore articulations of potentiality in ART in SA	Ethnographic interviews	Fieldwork in three clinics and three donor agencies; 41 patients, 15 medical professionals, 13 egg donors	<ul style="list-style-type: none"> • Reports of CBRC to SA from 1980s • Clinics estimated 20–40% of their patients are from other countries • Egg donor agencies estimated that half of recipients are from other countries • Patients come from Botswana, Swaziland, Zimbabwe, Cameroon, Zambia, Uganda, Angola, Namibia, UK, Germany, Australia, USA and Switzerland • Reasons included coming for donor eggs (Cameroon, Australia, Germany); cheaper fertility medicine (UK, USA); no clinics in home country or existing clinics untested (Angola, Zimbabwe, Zambia, Namibia, Swaziland)
Pande (2020) PR	SA	Explore motivations for egg provision abroad	Observation and interviews	21 women who regularly travel to provide their eggs to fertility clinics around the world, 16 from SA	<ul style="list-style-type: none"> • Use their bodies to participate in a world otherwise not accessible to them as women raised in conservative families in SA • Biolabour built on the young women's aspirations for cosmopolitanism • Women's aspirations are contingent on reframing the embodied pain of egg provision as well as their own maternity
Stuhmcke et al. (2020) PR	Australia/various destinations, including SA	Analyse online peer forum content for reprotravellers seeking donor eggs	Content analysis	3653 threads on Bubhub by reprotravellers seeking donor eggs	<ul style="list-style-type: none"> • SA the main destination as use fresh eggs, is cheaper and has high success rates • Concerns about anonymity and safety (of city) • Peer forums are support systems
Pande (2021) PR	Transnational, SA egg providers	Understand how transnational ART changes racialization	Mobile ethnography, observations and interviews	15 fertility professionals, 21 egg providers, 28 intended parents	<ul style="list-style-type: none"> • Racial matching and strategic hybridization – but whiteness is the goal • Emphasis on genetic relatedness • Race is a resource for intended parents and clinics • Heterosexual white intended parents seek monoraciality, but single and same-sex intended fathers subvert assumed ideal of matching • 'Choice' depoliticizes inequality

ART, assisted reproductive technology; ASRM, American Society for Reproductive Medicine; BC, book chapter; B, book; CBRC, cross-border reproductive care; D, dissertation; PR, peer reviewed publication; SA, South Africa.

^aParticipants broadly covers the terms 'patients', 'infertile men or women', 'intended parents' or 'donors'. We use the term used by the authors in the article in question.

In total, 33 items were included. Study characteristics and main findings are shown in [Table 1](#).

Results

Intended parents' decisions to travel

There are many reasons why people decide to travel across borders for reproductive care, and many shifting considerations for the destinations they choose. Within SSA, factors driving travel abroad for ART include a lack of ART services in their home country ([Bochow, 2015](#); [Inhorn, 2015](#); [Machin et al., 2018](#); [Moungala et al., 2019](#)), and mistrust over the quality of ART clinics available in their home country ([Faria, 2018a](#); [Gerrits, 2018](#); [Hörbst, 2015](#); [Inhorn, 2015](#); [Moll, 2020](#)). Many studies, particularly looking at CBRC from highly regulated European countries and Australia, noted that reprotravellers' decisions to travel sought to circumvent restrictions in their home country, such as prohibitions on egg donation, the non-anonymity of donors, or age restrictions for using ART ([Bergmann, 2011a,b](#); [Gerrits, 2018](#); [Moll, 2020](#); [Rodino et al., 2014](#); [Stuhmcke et al., 2020](#)).

Even where ART clinics existed in their home country, perceived quality of services elsewhere was a motivation to travel. In her study of the complexities of decision-making for people in Mali, [Viola Hörbst \(2015\) and Hörbst and Gerrits \(2016a,b\)](#) noted that ART was only available in the private sector, very costly, and neither legally regulated nor standardized; one local clinic had no successful pregnancies in 4 years of her fieldwork ([Hörbst, 2012](#)). Hence several ART users in the study by [Hörbst \(2012\)](#) questioned the expertise and quality of ART treatment in Mali, and preferred to travel abroad for treatment. Likewise, [Marcia Inhorn's](#) informants mainly travelled to Dubai for ART because of the lack of clinics in their home country or lack of trust in newly opened clinics ([Inhorn, 2015: 115](#)).

More affordable ART treatment is often cited in the literature as motivating reprotravel ([Whittaker and Speier, 2010](#)). However, this was not necessarily a factor for SSA couples travelling to Dubai ([Inhorn, 2015](#)). Despite the greater expense in Dubai than at home, couples went overseas, often following unsuccessful efforts at a home clinic that were explained as due to poor quality of services. One Tanzanian couple, for example, who first engaged with local practitioners in their home country, was advised by their doctor to go to India for ART. As Muslims, however, they were wary of their reception in a 'Hindu nation'. They considered South Africa because it was 'technologically advanced', but were concerned about personal safety. Finally, they decided to go to Dubai, where the man had travelled regularly for business; they felt a 'common connection' between the two countries, and they knew Tanzanian people living there ([Inhorn, 2015: 120](#)).

Desires for increased privacy and related concerns may further drive CBRC within the region. [Epeboin \(2016\)](#), describing the experiences of West African women seeking reproductive assistance in France, emphasized the shame and stigma associated with infertility for individuals and families. This influences the desire to ensure privacy as

ART users resort to gamete donations and medical interventions. [Moll \(2020\)](#) also encountered an ART user from East Africa who, following a failed in-vitro fertilization (IVF) attempt in her home country, came to South Africa to avoid further stigma and perceived mistreatment at the local clinic. As [Duchesne \(2016\)](#) illustrated, in France, women may choose between an anonymous donor or donation from a sister, cousin or other female kin. For those who can afford it, CBRC offers women (and men) a choice of donor, knowledge or not of a donor's background, and a measure of privacy. A study on British reprotravellers, including to South Africa, found that many also reported favourable experiences abroad in contrast to UK clinics, where they felt 'like a number' or 'on a conveyer belt' ([Hudson et al., 2016: 103](#)).

Sources of information for reprotravellers

Several studies emphasize the internet as an important source of information on ART services, clinics, support networks and recruitment. [Massou \(2016\)](#) compared six websites in Francophone Africa (two in Cameroon; one each in Mali, Togo, Côte d'Ivoire and Burkina Faso) with the websites of 18 clinics and nine biobanks for ova donation in South Africa, commenting on the credibility, validity and specific data provided on these sites. The French sites, [Massou](#) noted, juxtaposed images of operating theatres with photographs of smiling mothers with newborn infants; the South African clinics emphasized the technical capacity of the clinics, psychological support and counselling, financial aid and logistic support ([Massou, 2016: 46](#)). [Massou](#) also noted that while the emphasis is on the couples' experience of infertility, the presumption is that the person suffering infertility is the woman. [Hartman \(2016\)](#), in her description of 35 websites advertising to patients to travel cross-border, including two in South Africa, found misleading claims about success rates, little information about treatment prices, and – in contrast to [Massou's](#) analysis – little mention of psychosocial support for patients.

In [Inhorn's](#) study, while the internet remained an important source of information with over half of her informants using online research, 'global networks of mouth-to-mouth referrals', including from friends, relatives and doctors, continued to play a vital role in people's choice of reprotravel destination ([Inhorn, 2015: 66](#)). Similarly, for Ghanaian clinics, word-of-mouth advertisements 'travelled' through the internet, and transnational clients communicated with clinic staff through email and telephone calls to discuss their situation and treatment options long before entering the clinics ([Gerrits, 2018](#)).

The importance of the internet for recruitment of reproductive assistors, such as ova donors from South Africa, was also noted by [Namberger \(2019\)](#), who argued that this contributes to inequalities in access to become donors as internet access is structured by race and class. [Stuhmcke et al.'s \(2020\)](#) research on online peer forums in Australia showed that nearly half of all threads from ART users travelling overseas discussed South Africa, including services available, the country's system of anonymous donation, and the safety of destination cities.

Patterns of travel and choice of destination

'Outgoing reprotravel' (Inhorn, 2015: 58) by citizens of various SSA countries has been documented for treatments in the USA (Bochow, 2015), Brazil (Machin et al., 2018), France (Duchesne, 2016a,b; Epelboin, 2016; Hörbst, 2012, 2015; Hörbst and Gerrits, 2016a,b), and destinations in the Middle East, including Dubai and Kuwait (Inhorn, 2015). Travel by African citizens across borders also occurs within SSA, such as to Ghana (Gerrits, 2018), South Africa (Faria, 2018a,b; Moll, 2020) and Uganda (Hörbst and Gerrits, 2016a,b). Hörbst noted that in 2010, people from Chad, Burkina Faso, Ghana, Ivory Coast, Cameroon and the Democratic Republic of the Congo, as well as Malians living in Spain and France, travelled to Mali for ART, particularly after its first successful IVF/intracytoplasmic sperm injection (Hörbst and Gerrits, 2016a,b: 110). Hörbst also pointed to a highly international ART clientele in Uganda, consisting of people from neighbouring countries, such as Rwanda, Congo, Tanzania and Sudan, as well as expatriates from India, Lebanon, Pakistan, Europe and the USA (Hörbst and Gerrits, 2016a,b: 111). Reproductive travellers have been studied in their country of origin (Bochow, 2015; Hörbst, 2015; Hörbst and Gerrits, 2016a,b); at the CBRC destination (Duchesne, 2016a,b; Epelboin, 2016; Gerrits, 2018; Inhorn, 2015; Hörbst and Gerrits, 2016a; Machin et al., 2018); and in both places by following reproductive travellers from their place of origin to the CBRC destination (Faria, 2016, 2018; Pande, 2020, 2021). People from SSA also 'return home' for treatments, as illustrated in research on diasporic Malians (Hörbst, 2015), Ghanaian expatriates (Gerrits, 2016), and South Africans living in Australia (Rodino et al., 2014).

South Africa is a major destination, both for the region and globally. The South African ART industry benefits from the prestige of the country's earlier medical success (such as in heart transplants) and sophisticated private medical and tourist infrastructure, particularly in Cape Town and Johannesburg. South Africa has at least 18 ART clinics (at time of writing), but the majority of these are in the private sector, and cost is a major barrier for local patients for whom attempts to access ART may result in 'catastrophic' costs (Dyer et al., 2013). In Faria's (2015) study, Mozambican couples travelled to South Africa because there was, at the time, no local clinic offering ART, whereas in South Africa, several public and private clinics provided IVF services (Faria, 2018b). Mozambique borders South Africa, and the country is a common destination for Mozambicans to shop, seek various medical and related treatments, and to holiday. According to Tessa Moll (2019, 2020), clinics in South Africa estimate that 20–40% of their patients are from other countries, and egg donor agencies report that approximately 50% of their clients are foreigners. This includes patients from central, east and southern Africa, including from Mozambique (Faria, 2015, 2016, 2018a,b); Swaziland, Zimbabwe, Cameroon, Zambia, Uganda, Angola and Namibia (Moll, 2020); the UK (Culley et al., 2011; Hudson et al., 2016); Germany (Bergmann, 2011a,b); and Australia (Moll, 2019; Namberger, 2019; Rodino et al., 2014; Stuhmcke et al., 2020).

As documented for medical travel more broadly (Whitaker et al., 2017), the choice of destination for CBRC often

follows historical patterns featuring a former colonial power, reflecting opportunities afforded through trade, language, visa access and diasporic networks (Bochow, 2015; Faria, 2016; Gerrits, 2016; Hörbst, 2012). For Malian respondents going, 'outside the continent' usually – but not exclusively – refers to France, with networks linked to postcolonial connections between the two countries (Hörbst, 2015); this was echoed by other researchers based in France, who traced numerous Francophone African ART users (Epelboin, 2016; Duchesne, 2016a,b). Many of the Angolans studied by Machin et al. had visited ART clinics in Portugal or South Africa prior to seeking care in Brazil, with travel to Portugal and Brazil explained in terms of 'the cultural proximity of the language' (Machin et al., 2018: 10). On the other hand, 'geographic proximity', the use of Portuguese in some clinics, and the lower cost of ART were mentioned as motivations to go initially to South Africa for treatment (Machin et al., 2018: 10). When treatments in Portugal or South Africa failed, all Angolan couples in their study opted to go to Brazil.

The ease of obtaining visas and the geopolitics of mobility also shaped choice of destination. Inhorn (2015) noted that sub-Saharan Africans have no difficulties getting a visa to travel to Dubai for treatment, in contrast to obtaining a visa in the global North. Several of Hörbst's (2015) respondents were unable to travel for ART because they could not get a visa, despite contacts and financial support. This was illustrated in reference to a woman with family in France. A brother-in-law, whose child the woman was fostering, offered to pay for her infertility treatment in Paris. While she was willing to travel to France, she was unable to get a visa. However, she could not afford the costs for treatment and travel to have ART 'at home' in Mali or in neighbouring Senegal, and her relatives were unwilling to pay for treatment in either place as they doubted 'the quality and the chance of success' (Hörbst, 2015: 159). She eventually gave up hope for a child. Gerrits (2018) reported the case of a Ghanaian couple having a transnational relationship – the woman residing in the USA and the man in Ghana. The main reason for this couple attempting IVF in Ghana, instead of the man travelling to the USA (which would have been more convenient for the woman), was the difficulty for the man to obtain a visa for the USA.

Many patients also take advice from medical providers on where to go. A survey of Gabonese gynaecologists in private and public practice found that, due to a lack of services in Gabon, 13/17 specialists regularly referred patients for infertility treatments abroad, mainly to the three clinics in Cameroon and Ghana (Moungala et al., 2019). Namibians were referred to clinics in South Africa by their local gynaecologists (Moll, 2020). Destination decisions may be revisited, as women and couples often move from one clinic and country to another in the search to conceive, as finances and medical prognoses change and shift (Hörbst, 2012). These insights relate to the 'multilayered strategies' that infertile couples employ, a notion introduced by Bergmann (2011b: 602), emphasizing that most people are 'not going directly from point A to point B', and travel patterns and choices of destination are 'intertwined with biographical reasons, gender and identity, social networks and imagination'.

Bonnet and Duchesne (2014), using two case studies of cross-border treatment for infertility, showed how fertility quests by middle-class African couples are informed by gender, faith, education, income, generation and relationship norms. Their case studies were a central African couple, whose infertility was the result of azoospermia and who sought care in Cameroon; and a west African couple, whose infertility was the result of blocked fallopian tubes and ovarian insufficiency, and who travelled to France for treatment. In both cases, CBRC allowed the couples to avoid accusations of sorcery and family pressure, maintain some privacy, and helped families to avoid gossip; and enabled women to seek ART treatment without criticism from in-laws or pressure to accept polygamy or divorce. In the face of failure with the first intervention, the women stayed on, taking extended leave without pay or leaving employment, in one case selling inherited property and in the other case emptying her bank account and selling her car in order to help fund treatment. At the time of writing, the woman in Cameroon had spent 5 years seeking to conceive; and the woman in France had been there for over 2 years and, having been told that – as a foreigner – she was not entitled to ova donation, she was exploring assisted reproduction in Belgium. Meanwhile, the men had returned to their home countries to continue their work and to maintain family responsibilities; eventually, they spent limited time with their spouse while she sought treatment. Women's extended stays led to marital conflict, largely because the men did not share the women's determination to conceive.

The availability of particular phenotypes also structures the choice of destination. Gerrits (2018), for example, found that Ghanaian women living in Europe returned home because there were no 'matching' donor eggs available. South Africa has gained status as a reprohub due to its racial heterogeneity which allows clients seeking donors a choice of racial phenotype. Pande (2021) viewed the strategic mobilization of race in South African clinics as a resource and market advantage for intended parents and clinics. She observed that heterosexual white intended parents largely insist on monoracial phenotypes in their donated ova, whereas same-sex fathers and singles are willing to subvert racial matching. Moll (2019) argued that the South African industry views its popularity with Australians – in contrast with other reprohubs for ova donors, such as Spain and Greece – as the lack of ethnic particularity, seemingly 'placeless' among white ova donors, a relic of shared settler colonial history.

The movements of 'reproductive assistors'

There has been an increase in patterns of 'hybrid' (Whittaker, 2018) reproductive care in which treatments occur across several jurisdictions to circumvent either legal restrictions on treatment options or because of a shortage of ova. Thus, several regions, nationalities and reproductive assistors, such as egg and sperm donors and surrogates, are involved. Reproductive assistors, particularly ova donors from South Africa, have been traced travelling to India (Pande and Moll, 2018) and Cambodia (Pande, 2021). Pande and Moll (2018) described travelling South African

ova donors; media and medical professionals characterized them as either 'naïve' or 'greedy' 'girls', but the travelling donors presented themselves, in contrast, as responsible altruists, combining economic compensation and the desire to help others. At the same time, regular travel overseas to provide ova, including to clinics in India and Cambodia, offers women from small conservative South African communities the chance to travel and participate in a cosmopolitan lifestyle (Pande, 2020). In her work in South Africa, Namberger (2019) argued that the labour involved for such travelling donors obscured the promised adventure associated with travelling and exploring foreign countries. She noted this work involves: enduring stress; adapting to unfamiliar environments; the treatments and physical aspects of side effects; and, in some cases, hiding the purpose of the travel from family and friends (Namberger, 2019: 109).

Several studies have also documented the movement of medical staff either involved in clinical procedures, in which they act as 'fly-in, fly-out' staff (Whittaker, 2018: 172), or involved in training or setting up clinics in SSA. Hörbst (2012) described and compared how doctors in Togo and Mali activate their transnational networks to set up clinics in their respective countries. In Togo, a doctor trained in France established clinic networks between the two countries to facilitate movement of knowledge and clinical materials. In Mali, a doctor was trained in Kiev (a throwback to the country's legacy of socialist transnational networks) and worked with Dutch colleagues to evaluate and move second-hand equipment. Here, Hörbst (2012) also considered the bioethical paradigms that move between regions, as African jurisdictions, with the exception of South Africa, often lack legislation on ART practice.²

Gerrits (2016) found that ART doctors in Ghana mobilized their transnational networks that had been established through overseas training. Here, she documented 'fly-in, fly-out' embryologists from the UK who travelled regularly to Ghana for a week to assist with IVF cycles and train Ghanaian laboratory staff; and an embryologist based in Germany (with an Iranian background) who travelled to Ghana annually to advise and support on laboratory issues. Parts of the patients' cycles were timed and adapted to these visits. Hörbst and Gerrits' (2016a) comparative study, between Ghana and Uganda, employed the concept of 'medicoscapes' (Hörbst and Wolf, 2014) to analyse the transnational connections and circulations between ART providers, institutions, medical practices and materials. The authors argued that networks, connections, and the flows of actors and materials develop along colonial and postcolonial links. Their research demonstrates that these movements circulate not only along more established north–south connections, but also south–south connections. They give the example of a Belgian embryologist helping a Ugandan doctor through a meeting in Kuwait. In

² There is no comprehensive survey of all countries in the region. South Africa has federal regulations dating back to 1983 (Moll, 2020; van Niekerk, 2017) and, according to the IFFS, Botswana and Namibia also report federal regulations on ART. A handful of other countries (e.g. Kenya and Senegal) note only professional society standards and/or licensing of fertility specialists as regulatory systems, and many have no reported systems in place at all (International Federation of Fertility Societies, 2019).

another case, a Ugandan clinic was established with the assistance of an Indian doctor, and staffed with Ugandan and Filipino nurses. Similarly, [Machin et al. \(2018\)](#) showed how recent clinics had been established in Angola with the help of Brazilian medical colleagues who had received reprotravellers from the Lusophone country for years. [Hörbst and Gerrits \(2016a\)](#) emphasized the importance of international conferences of specialized professional organizations, such as the European Society for Human Reproduction and Embryology, as places to initiate and strengthen international networks.

Stratified reproduction

Access to ART is stratified by class and the capacity to pay for private services. The concept of stratified reproduction, originally coined by [Colen \(1995\)](#), is used by several authors ([Faria, 2016, 2018a,b](#); [Gerrits, 2018](#); [Inhorn, 2015](#)). The lack of national health insurance schemes to cover ART reproduces and reinforces inequalities within African countries. Only members of the upper-middle class can travel and, even for them, as noted above, access to treatment abroad is constrained for financial and structural reasons, such as difficulties accessing visas.

[Bochow \(2015\)](#) examined and compared two generations of middle-class and elite women in Botswana – one generation facing fertility problems in the early 1990s, and another generation facing fertility problems at the time of her fieldwork (2009–2011). Although ART was not available in clinics in Botswana in either period, different opportunities existed between the two generations, and between two distinct groups within the first generation. In the first generation, ART was accessible only for a limited and privileged number of Tswana women able to access care when they travelled for work- and/or study-related reasons to Europe or the USA. Second-generation middle- and upper-class Tswana women facing fertility problems were much better informed about available biomedical fertility treatment options, and proactively sought ART treatment abroad, mostly in South Africa. In addition to improved financial abilities due to economic progress in Botswana, this generation of women had grown up with a more biomedically-centred view than women in previous generations ([Bochow, 2015: 149](#)).

[Inhorn \(2015: 61\)](#) characterized the couples in her study (from Africa and elsewhere) as ‘global cosmopolitans’ or ‘global mobiles’ – mostly middle to upper-middle class, highly educated professionals, committed to their careers, comfortable with international travel, with friends and co-workers from many countries. The UK residents who travelled in the study by [Culley et al. \(2011\)](#) were also of a ‘professional class’, as were the majority of surveyed Australian reprotravellers ([Rodino et al., 2014](#)).

[Faria](#), who studied the ‘therapeutic navigations’ of Mozambican women facing fertility problems, followed eight of her 25 study participants from Maputo, the Mozambican capital, to South Africa in their search for ART ([Faria, 2016, 2018a,b](#)). All women/couples were middle or upper class ([Faria, 2016](#)). Despite this, most had problems finding sufficient funds to cover the cost of treatment and expenses associated with travel and accommodation. One couple, for example, took a loan and received financial support from the woman’s relatives, and still had to plan their trips and

treatments carefully to be close to payday. Having a relative to stay with in Johannesburg influenced their choice of a clinic in this city, as this reduced the indirect costs ([Faria, 2018b](#)).

Likewise, in Ghana, [Gerrits \(2018\)](#) noted how primarily well-off and privileged couples, living abroad, access ART in Ghana. To fulfil their reproductive desires, they used the bodies of ‘bioavailable’ ([Cohen, 2005](#)) Ghanaian woman and men who provide ova and sperm or gestational services to generate income. Wealth and economic status, within and between nations, determines who benefits and who serves the ART industry.

Tempos of treatment and networks

The research we reviewed demonstrated interesting spectrums in terms of treatment stays, from long-stay diasporas for Angolans in Brazil ([Machin et al., 2018](#)), Central Africans in France ([Bonnet and Duchesne, 2014](#)) or long periods of medical surveillance in Ghana ([Gerrits, 2018](#)), to several weeks in South Africa or repeated short border crossings between neighbouring countries ([Faria, 2016](#)), through to some travellers from the global North combining their treatment with holidays ([Culley et al., 2011](#); [Moll, 2020](#); [Namberger, 2016](#)) to egg providers taking quick trips to India ([Pande and Moll, 2018](#)) or Cambodia ([Pande, 2020, 2021](#)).

Angolan citizens seeking treatment in Brazil had particularly long stays away from home ([Machin et al., 2018](#)). In Angola, where high fertility is deemed very important, the public healthcare system does not include ART services, and once economic development improved and the government stabilized, many Angolan citizens started to travel to Brazil, searching for better health care and fertility treatment. In most cases, the Angolan women resided in Brazil for long periods while their partners stayed for shorter periods, primarily when doing the first tests and consultations. Women stayed for the duration of treatment and – when successful – often through pregnancy, delivery and during infancy to take advantage of the free antenatal and postnatal care provided for foreigners in the Brazil public health system. Women staying alone in Brazil for ART depicted this as a ‘very lonely’ undertaking. Adding to these difficulties, the extended family in Angola was often unaware of the reason for their long stay as women did not openly share this due to the stigma of infertility. Some women were able to stay with relatives in Brazil, while others stayed in so-called ‘Angolan Republics’ in ‘shared housing’ with other Angolan women ([Machin et al., 2018: 11](#)). Similarly, [Gerrits \(2018\)](#) found that some reprotravellers to Ghana had chosen a particular clinic because it offered the opportunity to remain for a large part of their pregnancy, sometimes even up to delivery. This created a sense of security for them, despite increasing the costs tremendously.

Situational support networks

A conceptual innovation emerging from the literature is that of ‘situational support networks’ ([Faria, 2018a](#)). This concept describes how infertile people find support with fellow reprotravellers in their search for reliable information about

clinics and procedures, but also emotional and instrumental support, and, as noted above, shared accommodation. In the absence of dedicated infertility support organizations in most SSA countries, this points to emergent biosocialities around infertility. In her study of Mozambican couples, Faria distinguished three types of situational networks: 'pre-existing,' 'religious' and 'clinical connection' networks (Faria, 2018a: 347–52). All of these enable women to undergo infertility treatments, at home and abroad, but they gain a particular flavour and meaning in transnational reproductive travel.

Mozambican women in the study by Faria carefully managed the relationships in their different networks, particularly because infertility is highly stigmatized in Mozambique (Faria, 2018a: 349). The importance of pre-existing networks is well illustrated in one example: a woman's boss who had undergone successful ART treatment in South Africa recommended her to a particular clinic. Due to her limited English, her boss telephoned the clinic and made the appointment. When visiting the clinic, the woman and her husband were accompanied by a woman from their church, who was fluent in English and acted as an interpreter. In this case, the pre-existing network – the boss and a church member – provided advice, and practical and interpreting support. In other cases, members of pre-existing networks provided financial support and/or helped find accommodation in South Africa. Members of the women's birth families were often part of these networks and provided emotional support, unlike in-laws and sometimes even husbands.

In addition, networks resulting from clinical connections were important, as women rarely disclosed their fertility problems except to people 'who had the same problem' (Faria, 2018a: 348). These networks started either at the clinic sites (particularly in waiting rooms) or on the bus journey home when women recognized each other as they were carrying the same bag from the clinic: 'In both clinic and mobile sites, women met and bonded due to their shared affliction and treatment' (Faria, 2018a: 351). In these networks, based on their shared experience and out of sight of in-laws and husbands, women could share their emotions, bodily and other experiences, complaints, and so on. Faria (2018a: 352) considered 'situational social networks' as key in managing CBRC and the 'social stigma, fear, and emotional erosion often triggered by fertility treatments' (Faria, 2018a: 352). However, these networks are often temporary, rather than enduring or reciprocal, and tend to end when women stop treatment or achieve pregnancy.

Like Mozambican women in the study by Faria (2018a), Machin et al. (2018) drew attention to how Angolan women in Brazil come to know each other in the waiting rooms of the clinics. These women functioned as important sources of 'support and solidarity' for each other (Machin et al., 2018: 15–6), and were able to provide practical support. For example, when women needed extra money from their husbands in Angola, they knew who was travelling from Angola to Brazil and could ask them to bring the money. In addition, the networks created by Angolans in Brazil – which included Pentecostal churches – played an important role in the circulation of success stories by word-of-mouth. Women who had been advised by pastors to visit a particular clinic tended to return to the church after successful treat-

ment to give 'testimony', so guiding others in their search for reproductive assistance (Machin et al., 2018: 16–7). Additionally, research by Gerrits (2018) explored reproductive travel among those 'returning home'. Some Ghanaians living in the diaspora found comfort undergoing treatment 'at home' where language and customs were familiar and where there were kin.

At the same time, one can see an emergent although anonymous biosociality among the readers of patient blogs and web forums. Stuhmcke et al.'s (2020) content analysis of online peer forums shows the scale and variety of information shared among anonymous biosocial groups. There, participants discussed everything from differing success rates, the use of fresh or frozen eggs and embryos, and the varying costs between clinics.

Race and racialization

Race and racial imaginaries shape the movements and flows of CBRC, particularly in using third-party donor gametes and surrogacy arrangements (Deomampo, 2016; Moll, forthcoming; Pande, 2021).

In South Africa, white women are disproportionately represented in the ova donor group (40–57%), even though they only represent 8% of the population (Namberger, 2019). This reflects the market demand for white phenotypes, both in the population in South Africa seeking infertility treatment and in the 'export' ova market. Namberger (2019) suggested one barrier to entry for black women as ova donors is the lack of access to a computer, which is a barrier to completing the application forms and communicating with facilitation companies. She also noted that South African agencies lack advertising and application forms in isiXhosa or isiZulu: English is the hegemonic language for agencies and clinics, and used as a marker of class and education status.

In Gerrits' (2018) ethnographic study of two private clinics in Ghana, 16 of the 36 informants had travelled across borders: five from neighbouring countries, eight from Europe, and three from the USA. She noticed two key differences to reproductive travel in Ghana compared with other settings in the global South, such as in Asia. First, all study participants coming from Europe or the USA already had a connection with the country (i.e. they were black Africans born in Ghana). At the time of fieldwork, no white couples travelled to the Ghanaian clinics she studied for ART. Gerrits speculated that stereotypes about the African continent as poor, lacking functional healthcare systems and adequate facilities, and suffering a human immunodeficiency virus (HIV) pandemic may affect perceptions of clinics in much of SSA.

In contrast, South Africa receives many reproductive travellers from the global North, particularly coming to the country for donor eggs from white women. Moll's (2019) research on the practices of donor matching showed how the process legitimates historically rooted ideas of race and racial likeness. South Africa's apartheid-era categorization of race as a distinct biocultural substance that coheres in familial likeness is reproduced anew in ART's practices of racial matching in donor IVF cycles. Like Namberger (2019), Moll showed how class-based distinctions based on educa-

tion and language replicate structural hierarchies that privilege 'global whiteness' (Moll, 2019: 593). Pande's (2021) work on racial matching in the transnational ART industry further demonstrates how the transnational mobility and desire for whiteness is legitimated and reproduced in the practices of racial matching, framed as natural and normalized.

Discussion and conclusion

Studies of cross-border reproductive travel to the USA and, more recently, ethnographies from hubs such as in India and Thailand provide an incomplete impression of CBRC. Although there has been relatively little research on ART, SSA is an important site of reproductive mobilities (Speier et al., 2020) for infertility treatments in a region where having children is highly valued, infertility is socially stigmatized, and there is extensive secondary infertility. This scoping review provides insight into the relevant work on CBRC in SSA, where a unique combination of access factors, affordability, and sociocultural and geopolitical issues fashion individuals' and couples' cross-border reproductive travel within, to and from Africa. The findings we present here reflect the research record. This does not signify the definitive existence of reproductive travel in some sites and not in others, but rather reflects the presence of social scientists doing research (see also Gerrits et al., 2022). For instance, despite the extended presence of ART clinics and very large populations, we found no research on CBRC to Nigeria or Nigerians reprotravelling, nor literature related to Kenya.

Across Africa, travel involves regional movements across borders; at times, long overseas trips; and the mobilization of finances and support networks to facilitate travel. Exploring reproductive travel in SSA emphasizes the stratification of infertility care where most infertile couples have little or no access to effective treatments. The advent of low-cost ART protocols may, in time, allow more people access to treatment, but presently the vast majority have little choice but to travel (Chiwere et al., 2021). Not all infertile people benefit equally from globalization; reproductive travel does not resolve, but rather confirms and exacerbates the inequalities that exist between rich and poor people suffering from infertility (Gerrits, 2018).

Although confirming the relevance of existing concepts such as stratified reproduction, this review reveals new conceptual tools and new social settings in which to explore the circulation of global technologies of IVF and offers productive avenues for comparative research. The notion of 'situational networks' (Faria, 2018a) neatly captures the contingent biosocialities resorted to by patients in settings where the stigma of infertility precludes discussion of treatments, and where there are few counsellors in clinics or infertility support groups. Namberger (2019) utilized the term 'pharming' to refer to the systems through which egg donors are produced through clinical labour in South Africa, drawing parallels with the agricultural export industries that also form the backgrounds of many donors. Moll (2019) repurposed the concept of 'curature' to describe the work of 'matchers' in the processes and infrastructures of racial matching of gamete donors in South Africa.

The long-term nature of reproductive travel of Angolan patients travelling to Brazil is another previously undocumented pattern of care (Machin et al., 2018). The combination of a lack of services at home, language affinities, and social networks providing support infrastructures in Brazil allows women to stay for 2–3 years to complete treatment and ensure medical care for their newborns. This highlights the growing significance of ART for family formation in the region, and the inequities in access to reproductive and maternal health care for people where medical infrastructure is lacking.

The categorization of racial phenotypes is ubiquitous across the industry, and some phenotypes are considered more 'valuable' than others, depending on the location. Reprohub countries such as South Africa provide clients with access to ova donor banks and phenotypic choices. In addition, across Africa, clinics offer intending parents from the diaspora opportunities to access gametes of shared phenotype, an important consideration because this ensures clients some privacy around their resort to assisted reproduction. At the same time, the overrepresentation of white donors in South Africa highlights the enduring racial hierarchies and stratification of reproduction that are themselves confirmed and replicated within global reproductive travel.

This review also suggests topics for future research. We have identified some nascent research on mobile medical staff and reproductive assistors, but there is little on the movement of gametes and embryos across borders. The notion of 'fly-in, fly-out' reproductive workers and biological materials (Whittaker, 2018: 172) draws attention to the movements of clinical staff such as fertility specialists and embryologists between clinics to provide services in settings where there is a shortage of such expertise, or to accompany frozen embryos or gametes across borders to ensure safe transit. This term also carries connotations of their roles within an extractive industry that draws upon bodily reproductive potentials and, in this way, is riven with questions of reproductive justice. A focus upon the experiences of these workers, and the experiences of reproductive assistors, such as the travelling ova donors who see their travel as one of the rewards of donation as described by Pande (2020, 2021), is needed to capture the changing 'hybrid' forms of the reproductive industry and reproductive travel.

The coronavirus disease 2019 (COVID-19) pandemic has dramatically shifted and interrupted flows and mobilities of reproductive travel. The impacts upon the global surrogacy market have been documented (König et al., 2020). Prior to the pandemic, Australian reprotravellers were an important group seeking treatment in South Africa. The closure of Australian borders since March 2020 effectively cut off Australians from South Africa for services and frozen reproductive material. Likewise, the closure of clinics due to lockdowns and restrictions on elective procedures at hospitals for periods in South Africa has affected access to all forms of fertility treatments. Across SSA and globally, the pandemic has affected fertility desires and choices, potentially affecting fertility among infected people, and created enduring knock-on effects from restricted mobility. Future research and analysis should, and will undoubtedly, trace the altered movements of material and people in relation to CBRC in 'post-pandemic' life and further explore how these altered movements endure in the future. How COVID-19 modified fertility care and timelines due to the shifting drain on

medical infrastructure are also fruitful and grounded questions considering the varying burdens of infections, local responses and temporalities of the pandemic.

The development of new, albeit smaller, regional reprohubs [or 'repronubs' (Whittaker et al., in preparation)] – as, for example, in Ghana, providing services sensitive to particular cultural and religious commonalities, convenient for local transport routes and with historical or diasporic connections – deserves closer investigation. Also, largely invisible in the research, are the potential reprohubs of Kenya and Nigeria, where the IFFS survey (*International Federation of Fertility Societies, 2019*) indicated several dozen clinics within globally and regionally connected urban centres. Additional research on the experiences and potential exploitation of other women collaborating in reproductive assistance; the regulation of clinics; and treatment and facilitation companies across the continent remains a challenge. Research to understand the innovations in organization and practices in these settings, and community understandings of infertility and acceptance of assisted reproduction, is needed to address the stigma and secrecy surrounding childlessness and reproductive travel. The rich and varied settings across SSA offer important understandings of the transfer and localization of global technologies and the forces shaping the future of fertility in the region.

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