Ethical precepts for medical volunteerism: including local voices and values to guide RHD surgery in Rwanda

Marilyn E Coors,1 Thomas L Matthew,2 Dayna B Matthew3

ABSTRACT
At the invitation of the Rwandan Government, Team Heart, a team of American healthcare professionals, performs volunteer rheumatic heart disease (RHD) surgery in Rwanda every year, and confronts ethical concerns that call for cultural sensitivity. This article describes how five standard bioethical precepts are applied in practice in medical volunteerism related to RHD surgery in Rwanda. The content for the applied precepts stems from transcribed conversations with the authors, two Rwandan cardiologists, a Rwandan nurse and a Rwandan premedical student. The conversations revealed that the criteria for RHD surgical selection in Rwanda are analogous to the patient-selection process involving material scarcity in the USA. Rwandan notions of benefit and harm focus more attention on structural issues, such as shared benefit, national reputation and expansion of expertise, than traditional Western notions. Harm caused by inadequate patient follow-up remains a critical concern. Gender disparities regarding biological and social implications of surgical valve choices impact considerations of justice. Individual agency remains important, but not central to Rwandan concepts of justice, transparency and respect, particularly regarding women. The Rwandan understanding of standard bioethical precepts is substantively similar to the traditionally recognised interpretation with important contextual differences. The communal importance of improving the health of a small number of individuals may be underestimated in previous literature. Moreover, openness and the incorporation of Rwandan stakeholders in difficult ethical choices and long-term contributions to indigenous medical capacity appear to be valued by Rwandans. These descriptions of applied precepts are applicable to different medical missions in other emerging nations following a similar process of inclusion.

INTRODUCTION
Although rheumatic heart disease (RHD) is virtually eradicated in the USA, it is the most common cardiovascular disease among children and young adults in sub-Saharan Africa.1 2 In the Republic of Rwanda, the most densely populated nation on the African continent, approximately 1.4% of its population of 11 million dies from RHD annually. Even though for over 50 years, low-cost, proven antibiotic prophylaxis has been effective in eliminating the disease throughout the West, it remains largely unavailable in Rwanda. Since 2007, a development team of US healthcare professionals named ‘Team Heart’ has partnered with the Rwanda Heart Foundation, the Rwandan Ministry of Health and the people of Rwanda to address RHD. Team Heart is one of four Western surgical teams that collaborate to build surgical capacity in Rwanda. Although Team Heart has performed over 100 open-heart procedures, the long-term goal is to support Rwandan professionals as they build an independent, comprehensive heart programme to address RHD and the nation’s other cardiac needs. The programme aims to include cardiac screening, preventative treatment and surgical capacity delivered through Rwandan professionals.3 4

Prior to the American team’s arrival in the host country, Rwandan cardiologists in the capital city and in rural districts evaluate patients who have been referred by Rwandan physicians and healthcare workers, typically presenting with ‘shortness of breath’. For these patients, no treatment is locally available in the district hospital outside the capital city of Kigali. Thus, primary care providers refer patients with RHD to Rwandan cardiologists for assessment. In this way, the Rwandan healthcare system, enhanced by a growing in-country screening programme, identifies patients eligible for surgical consideration. Approximately 1 week before the entire medical team arrives, a Team Heart cardiologist and echocardiographer arrive in the country to review the Rwandan referrals. The American cardiologist screens between 75 and 80 patients in the clinic to identify the best surgical candidates to propose to the team. Together, on the first day of the team’s arrival, Rwandan and American cardiologists and the Team Heart cardiovascular surgeons meet to review the 20–25 patients referred and select those who will receive surgery. Following a lengthy and difficult meeting, patients are selected, their referring physicians are contacted and the surgeons meet the chosen patients for final preparation for surgery.

The setting of medical volunteer work in Rwanda shares many contextual features with work in other low-income and middle-income countries, including limited medical resources and personnel,5 6 inadequate access to preventative healthcare,7 8 harsh living conditions and limited access to clean water,9 10 sexism,11 language barriers12 and the history and threat of political violence.13 In addition to these challenges, the team confronts ethical concerns or questions that are likely to be unique to Rwanda. For example, the Rwandan value placed on communal rather than individual and autonomous medical decision-making, and the
essential value placed on a woman’s ability to bear children, especially in rural Rwandan communities, presents unique ethical issues seldom confronted in the American context.

The objective of this article is to describe how five familiar bioethical precepts can be applied in practice to medical volunteerism related to RHD surgery in Rwanda. This description incorporates voices of Rwandan healthcare professionals to clarify meaningful content for traditional precepts, for example describing the harms and benefits of RHD surgery from the Rwandan perspective. This article takes the position that ethical decision-making and analysis of impact on the host community should incorporate cultural values and practices important to the host community. This task requires intellectual honesty, self-scrutiny, cultural humility and inclusion of local voices. This article adds a new dimension to ethical decision-making and analysis of impact on the host community that entails cultural awareness and sensitivity to Rwandan moral traditions, values and practices as an exemplar of one developing nation.

The literature calls for guidance for short-term medical volunteers through the culturally appropriate understanding of ethical precepts used in Western nations. The ethics of medical volunteer trips is neither a ‘well-developed’ field nor an area of ‘intense debate’, reflected in a paucity of literature, especially when compared with international research ethics. This article seeks to initiate a discussion by exploring the ways in which five long-acknowledged bioethical precepts, which are traditionally defined for the therapeutic relationship, are applied in and informed by the Rwandan context. This, in itself, is a difficult task. Frequently, we assume that Westerners understand fundamental bioethical precepts. Yet, on further examination, it becomes apparent that these precepts are complex, and interpretations are debatable when applied to technologies in America. The imperative to understand a traditionally Western principle in the context of medical volunteerism takes on greater urgency when seeking to develop a full partnership and collaboration with partners in a developing nation.

METHODS
To better understand the Rwandan context, the authors asked Rwandan professionals to respond to scripted queries designed to explore the ethical precepts that guide their participation in the partnership with the American team. The authors participated in individual, semiscripted and transcribed conversations with Rwandan professionals, including two Rwandan cardiologists, a Rwandan nurse and a Rwandan premedical student, which lasted for approximately 45 min. The conversations were held in Rwanda with the exception of a phone conversation with the Rwandan medical student who was studying in the USA. These semiscripted conversations were inspired by prior informal conversations that arose as one author accompanied the team, and worked to improve the medical volunteer programme. Although the conversations were not a part of a research project, each person gave his/her permission. The Colorado Multiple Institution Review Board approved the permission form for the conversations.

The authors separately analysed the transcripts of the interviews, and coded them for common themes pertaining to each precept. Then the authors jointly examined and summarised the results. For each precept, themes that were comparable were merged to avoid redundancy, and those themes that expressed a different perspective were included separately. Differences among the authors regarding the themes were resolved by consensus building after rereading the transcripts. The combined themes are identified as specific indicators in Table 1. The results of these conversations are summarised below with an explanation of the traditional meaning of five ethical precepts followed by a description of each of those precepts applied in the Rwandan context. We include pertinent quotes from Rwandan professionals to further illustrate the applied precepts.

Table 1 Summary of applied ethical precepts for the Rwandan context

<table>
<thead>
<tr>
<th>Precept</th>
<th>Applied indicators</th>
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<tbody>
<tr>
<td>Benefit</td>
<td>Save more lives</td>
</tr>
<tr>
<td></td>
<td>Share benefit; contribute financially to family and community</td>
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<tr>
<td></td>
<td>Advance local medical professionals’ expertise</td>
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<tr>
<td></td>
<td>Develop international professional network</td>
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<tr>
<td></td>
<td>Enhance nation’s reputation for medical expertise and leadership in East African region</td>
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<tr>
<td>Harm</td>
<td>Cause patients and families to smile</td>
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<tr>
<td></td>
<td>Poor outcomes, including death</td>
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<tr>
<td></td>
<td>Demand for surgery exceeds available resources</td>
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<tr>
<td></td>
<td>Inadequate access to postoperative services</td>
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<tr>
<td></td>
<td>Divert limited operating-room time to RHD surgery</td>
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<tr>
<td></td>
<td>Limited opportunities for postoperative jobs, education</td>
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<tr>
<td></td>
<td>Prescribed medications incompatible with traditional diet</td>
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<tr>
<td>Justice</td>
<td>Selection criteria exclude certain groups</td>
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<tr>
<td></td>
<td>Consider patient productivity in selection process</td>
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<tr>
<td></td>
<td>Assist with copay</td>
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<td></td>
<td>Inability to address background injustices</td>
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<tr>
<td>Transparency</td>
<td>Openly disclose selection criteria</td>
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<td></td>
<td>Include multiple stakeholders in designating criteria for RHD surgery</td>
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<tr>
<td>Respect</td>
<td>Refer patients who are not chosen</td>
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<tr>
<td></td>
<td>Follow-up and console patients not selected</td>
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<tr>
<td></td>
<td>Honour family and community roles in patient-directed choice of treatment</td>
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<tr>
<td></td>
<td>Respect choices of women to prioritise childbearing over longevity</td>
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RHD, rheumatic heart disease.

Defining and applying traditional ethical precepts
The conversations with Rwandan healthcare professionals revealed that their understanding of standard bioethical precepts is substantively similar to the traditional interpretation with important contextual differences.

Benefit
Benefit entails the obligation to do or promote good, to remove harm and to prevent harms in order of priority with other things being equal. An ethical imperative in volunteer medical work is ensuring that the individual, family and community truly benefit from the intervention. That is to say, the intervention must be feasible with a reasonable potential for benefit that outweighs the risks. The precept of benefit also requires that as many people as possible receive care, with a focus on achieving the best possible outcomes. Benefits can include short-term or long-term goods that are medical, financial, educational or contributive to individual and community well-being. Benefits also include international expressions of mutual caring or solidarity that stem from global outreach. While benefits that accrue to American stakeholders, including volunteer professionals, are easier to identify—cultural competency in medical work, increased medical knowledge, professional and personal satisfaction—and can be included in the benefit-risk calculation if they align with the purpose of improved health and caring, benefit as defined by the local participants should take precedence in assessing the process.

Global medical ethics

Benefit applied

Rwandan professionals regard saving the life of a patient who would, otherwise, die as the primary benefit of the team’s RHD surgery. Another benefit of this programme is that the screening process identifies patients who can be treated medically, before the need for surgery arises. A greater number of patients receive this benefit than receive surgery by ‘delivering evidence-based care to our patients. We are making them smile’. In other words, Rwandan culture places high value on alleviating pain, delivering sound medical care and bringing happiness to patients by relieving their symptoms.

Rwandans regard the medical benefit of the programme to accrue to individuals as well as a communal benefit; in Rwanda, a successful individual provides material and non-material benefits to his/her family and community. The benefit may be intangible—such as the inspiration that a patient who resided in an orphanage provided to other children when he returned to his residence following a successful operation. In this case, administrators at the home reported that other students increased their usage of healthcare and other public services once they saw that patient’s life and health improve. Alternatively, the benefit may be more concrete, such as the patient who recovered, completed college and enrolled in medical school, with the aspiration to complete a cardiology residency and return to Rwanda and treat other patients who have heart diseases. Often, patients have leveraged the exposure to the Team Heart to find educational sponsors, and begin training in textile work, cooking or law. This type of training benefits the family to which that patient belongs, and the cultural commitment apparently causes these patients to translate their individual health benefits into community-wide contributions.

The norm is that a successful individual is responsible for those who are less fortunate: ‘if you have a chance to go to school, and a chance to have money, your money is going to be shared’.

The Rwandan calculation of benefits also encompasses national medical advances, including education, international contacts, professional growth and participation in medical conferences. ‘The screening program will help us help more people throughout the country’. Professional benefits are produced directly from building a network of professionals through the programme who are learning what should be ‘done in real time, not in books’ and building ‘friendship with the team’. Rwandan physicians cite improvements to their healthcare delivery as a benefit of sustained collaboration with the team. ‘We are reducing the number of pain, not only pain, [but the] number of cost to transport this farthest abroad. So, it is matter of fact, material benefits’. Moreover, national benefits include building a reputation for medical and ethical expertise and providing leadership regionally. The Rwandan values of communal benefit, professional development and reputation building drive the notion of benefit. However, the authors did not find these values reflected in the literature.

Harm

Despite conscientious preparation and the best intentions, harm can result from RHD surgery and follow-up. Harm entails causing injury, committing wrongdoing or eliciting an adverse effect on the interests of the patient or community served. The strain on local resources when postoperative complications occur after the team departs constitutes harm for professionals, patients and the host community alike. Harm can include poor outcomes from lack of continuity of care, expired supplies and/ or failed medical equipment. All professionals have an obligation to refrain from inflicting harm and to minimise foreseeable harm.

Harm applied

The authors found that harm is a difficult concept to discuss with Rwandans due, in part, to the nation’s postgenocidal culture, which prioritises unity, reconciliation and solidarity, and discourages overt judgement and criticism. When asked about harms from RHD surgery, the Rwandans who participated in these conversations seemed to prefer to alleviate embarrassment, offence or shame for others rather than speak negatively. Admittedly, the description of harm should be read through the lens of a Rwandan commitment to emphasising the positive. According to one health professional, for Rwandans, ‘harm is a very strong word’. Another Rwandan professional proposed we ‘probably should rephrase our question about potential harms saying, “What are the advantages and disadvantages.” There are of course some disadvantages, a few, but when you compare in the … long line, I don’t see any harm’.

Nonetheless, Rwandans did identify several harms during the discussions. First, the obvious medical harms are complications following RHD surgery, including death or other impairments that have occurred. Harm also occurs when a patient with RHD is not selected for surgery, as this is likely a life-or-death decision. The Rwandans explained, however, that there is a cultural acceptance of death in Rwanda as part of life that differs from the developed world.

‘It is perhaps easier in Rwanda to accept the difficult message that there is no hope. The ‘no-hope’ message is difficult to deliver, but the people in this culture have been through so much, the genocide, that they more readily accept when there is nothing that can be done. We don’t have to place blame’.

A Rwandan’s sense of personal loss when turned down for even a life-saving surgery is a loss seen in the context of other life-and-death challenges.

A second harm, especially in some rural areas, is that the team’s medical treatment may ‘outpace’ the individual patient’s opportunity for meaningful work and education post surgery. Some patients may return to a life characterised by improved health, but no improvement in overall economic, career or educational circumstances. Third, when patients are returned to deficient healthcare infrastructure, they may ultimately be harmed by the surgery they received. The team relies on a follow-up process that entails referral to a local physician who may or may not have adequate training to manage patients postoperatively over the long term. For some patients who lack proximity to a physician and/or uneven distribution of medical services and infrastructure available for postoperative care, RHD surgery could result in poor outcomes or death if patients cannot travel from their home for critical follow-up because it is too burdensome or expensive. Thus, the team may unintentionally visit harm by exacerbating divisions that exist between urban and rural locations, though in reality, these disparities are largely beyond the reach of the team. Fourth, follow-up medications, particularly the anticoagulants, are incompatible with the traditional Rwandan diet. When surgical patients and their caregivers are told to avoid green vegetables, it can be both financially and socially difficult, resulting in non-compliance. Fifth, when the team performs RHD surgeries, their work diverts the operating room resources from other elective surgeries, which then must be postponed.

Finally, Rwandan professionals mentioned repeatedly that the RHD programme is not large enough, and the surgeons do not
stay long enough to perform a sufficient number of surgeries to meet the national need. Thus, ‘turning some patients away’ represents harm to some patients. As expressed by Rwandans, the need for RHD surgery far outstrips the number of cases addressed by the team, and the long-term solution must lie in developing Rwandan capacity.

Justice as fairness
The principle of justice holds that persons should be treated fairly without consideration of social worth, that is, without consideration of age, gender, health, ethnicity or socioeconomic status. Justice is commonly understood as the allocation of equal resources for equal needs and unequal resources for unequal needs. Thus, justice requires providers to treat like cases alike, and treat different cases differently (difference principle). For a precept of justice to have meaning, it must be articulated in a way that is applicable to a fair allocation of RHD surgery when opportunities for treatment are limited.

The notion of distributive justice is commonly understood to mean achieving a fair distribution of burdens and benefits. Distributive justice argues that medical missions and research should, whenever possible, provide treatment and benefits equal to those received by their counterparts in the developed world, and distribute treatment fairly. Within Rwanda, where there are great disparities in resources and access between urban and rural settings, there are serious challenges to equitable distribution generally. This raises the question of the role of medical volunteerism programmes in Rwanda with regard to their ability to meet standards for equitable distribution of benefits, burdens and access to RHD care when background injustices exist.

Justice applied
There are potential harms related to the team’s RHD surgery programme in Rwanda. At the very least, in this context, justice requires providing equitable criteria for RHD surgery and effective follow-up to all patients equally. Rwandan professionals assessed the team’s criteria for RHD surgery as ‘fair’. Yet, they acknowledged that the programme is ‘unfair’ in that not every one in Rwanda who has need of surgery has access to surgical treatment or postoperative care. For example, some rural patients referred do not have the same access because they live farther from health centres, and have few transportation resources.

To identify the criteria that are medically appropriate and ethically just is a humbling challenge and a continuous concern for the team. Conversations with Rwandan health professionals revealed that the criteria for RHD surgical selection in Rwanda are analogous to the patient-selection process involving material scarcity that is standard in the USA. The team cardiologist prioritises those patients who can be helped by surgery and have the greatest chance of survival, while also considering the pedagogical value of each case to meet short-term and long-term programme goals. Additional psychosocial assessments in Rwanda are only slightly different from those asked in the USA. For example, the Rwandan and American physicians seek to determine who has the education level to comprehend, support structure and resources needed to participate in medical follow-up.

The team’s American cardiologist admits that in allocating the scarce, precious surgical resources, she asks herself, ‘Who has the education level to comprehend the magnitude of the surgery and the importance of post-operative follow-up? Who will have the family or other resources to support the requisite commitment to follow-up that may involve a nine-hour bus ride to the district health clinic in order to regularly manage their Coumadin? Who has access to a physician who can follow the patient after surgery? Who has the funds to pay for their own care such as Coumadin testing later?’

Sadly, answers to these threshold questions may eliminate some patients from further consideration, particularly rural patients, while safety-net supports would not likely require Western programmes to eliminate similarly situated patients from consideration. Another issue that would warrant fuller exploration is the extent to which patients with physician advocates close to the capital city of Kigali may be advantaged during the patient-selection process. A patient whose cardiologist is present for the selection meeting may be well represented. ‘This patient is going to school, has a goal, or has children they have to raise. So those are the kind of things I think they put into their considerations, making the decisions’. If the patient has a particularly skilled advocate, this could be to his/her advantage. Moreover, selection criteria may result in some who are over-represented among the poor and disadvantaged Rwandan populations, such as the Twa people, being disproportionately likely to be eliminated from selection, raising justice concerns.

Background injustices
The Team Heart programme comes to Rwanda to operate within a society with unique structural inequities. We call these background injustices that were raised with regard to RHD surgery. Inequities in social and socioeconomic status resulting in structural stratification are among the fundamental determinants of access to care for RHD. Widespread poverty, especially in rural areas, limits the extent to which a just distribution of health services can be achieved. Rwandan professionals also perceived an inequity associated with the lack of international focus on RHD in Africa. The Rwandans cited the wealth of Western resources dedicated to some diseases and conditions as compared with a disproportionate lack of resources for treating heart disease in Africa. In their view, Western funding for HIV/AIDS treatment is more available than funding to treat African patients who have heart diseases. This inequity was due, in part, to the fact that this disease has an analogous constituency of patients in the West, while RHD has almost no Western presence. ‘HIV/AIDS is popular in the west because they share the illness. There is no RHD in the west, so there is no interest in this disease and the need in Africa’. In Rwanda, funding for HIV/AIDS represented 24% of the healthcare budget in 2006, compared with <1% of health spending from international agencies on non-communicable diseases.

Another consideration of injustice stems from the Rwandan Government’s requirement that a patient must have both national health insurance and the ability to pay a 10% copay in order to be eligible for surgery by the team. The government has made a collective moral judgement that individual contribution is important. However, there are exceptions to the copay policy, in some cases, if a patient obtains confirmation from his/her home district regarding his/her inability to pay. One Rwandan estimated the cost to cover the copay for surgery on all 16 patients the team treated during each trip: ‘it’s worth one ticket for one person to come here from the states’. Justice should entail culturally appropriate assistance with the copay for those patients who would, otherwise, be eligible for surgery, but for their indigence.

Transparency
Most individuals are interested in knowing the reasons behind decisions that significantly affect their lives. To achieve
transparency in the Rwandan setting, the rationale for treatment decisions related to RHD must be publicly accessible, and must be discussed broadly with relevant family or community members. The transparency principle requires that a decision-making process be clearly described, as accountable as possible, and free of political or other social interference.

Transparency applied

Rwandan professionals stated that the criteria on which patients are chosen for RHD surgery should be clearly stated and consistent. They would like multiple stakeholders included in the designation of those criteria, which should be shared openly with patients and families. The Rwandan professionals reported that administrative decision-making for this international undertaking must receive input from ‘every angle’. This includes receiving input from Rwandan physicians and nurses to the Ministry of Health officials and, at times, members of the medical school and public health faculties. Thus, transparency and inclusiveness among all levels of the medical decision-makers are highly valued.

The conversations reflected different viewpoints regarding how well the programme is achieving full transparency where some topics are concerned. For example, as described earlier, in Rwanda, the RHD programme focuses on some values for patient selection, such as patient productivity, that are different from those in the USA, and others that are very similar. However, those with whom we conversed did not evince agreement on the extent to which this consideration factored into patient selection. One professional’s stated goal is that everyone has an equal chance to receive RHD surgery based on medical triage criteria, regardless of socioeconomic status. ‘We discourage actually the [western] surgeons and the team to come back [to Rwanda] if they know there is a selection according to the financial or the economical (sic) status’. Nevertheless, accounts from other Rwandan professionals were inconsistent with that statement. Also, no one suggested these economic concerns were shared with patients. Although, the issue of patient productivity came up repeatedly in conversations with Rwandan professionals, the topic appeared to be publicly discouraged and unacknowledged in contrast to the value placed on openness. Indeed, it is possible that a patient with an opportunity for job training may fair better than one who does not, and the impact of these differences is not often transparent.

Respect for persons

At the core of respect for persons is the obligation to treat each individual as an end in himself or herself, and not merely as a means to an end. Treating each person as his or her own end takes into account a person’s unique social and medical circumstances and needs. This precept can be especially challenging in cultures that are patriarchal or favour the community over the individual.

Respect for persons in developed countries functions though the process of informed consent for medical treatment. Clear standards for informed consent are in place in developed countries, and even so, the process is fraught with problems. Informed consent entails disclosure of potential risks and benefits and alternatives to the proposed treatment, comprehension of the disclosure, lack of coercion and permission of the patient to conduct the intervention. If this process is frequently unsatisfactory in one’s own culture and language, the difficulties are compounded in international medical work.

Respect for persons applied

Concerns regarding respect for persons are multifaceted. In a programme dedicated to didactic training, the team is sometimes challenged not to attempt cases that are ‘of interest’ from a training perspective, but present a futile clinical burden for the Rwandan healthcare and family communities after the team’s departure. Respect for persons required the team to decline a complex case that might have been intellectually and surgically interesting, but unlikely to improve the health or life chances for the patient in the Rwandan setting. A second related facet of respect in RHD surgery addresses the way in which those who do not qualify for surgery are treated. The standard practice is to refer those who can postpone surgery to the next surgical team that comes to Rwanda. The very sick whose disease is too advanced for surgical intervention are referred to a local physician. Professionals should share with patients the medical assessment and reasons why they were not chosen. ‘So, we’ve explained and they understand; they accept why they are left out. Of course, nobody likes to be left out when they’re dying’. Professionals do attempt to console patients and their families.

A third respect for persons issue arises when patients are consulted to choose the type of valve to be used for each RHD surgery. This is a recurring concern for female patients because the social stigma related to childbearing and a woman’s value and cultural considerations can cause undue influence on some women’s medical decisions. Therefore, some young women of childbearing age do not have the same surgery options as men. Over time, the team has found that young Rwandan women tend to choose less sustainable tissue valves in order to preserve their childbearing options, while most men in similar medical circumstances are at liberty to choose longer-lasting mechanical valves. The social stigma implications of a woman’s choice of valve loom large. ‘In the rural communities, if a woman is unable to bear children, a man will not marry her. If a woman has neither a husband nor children, then her reputation is very bad and she will have no life’. On the one hand, mechanical valves offer greater longevity, but require a lifelong Coumadin regimen that severely complicates pregnancy. On the other hand, postoperative childbirth following the choice of a tissue valve is less restricted, although they last for considerably fewer years. For this reason, tissue valves have been the overwhelming choice of women of childbearing age. The team respects the autonomy of women (and men) to make these surgical choices, notwithstanding the longevity implications or conflicting values providers may have.

Overall, the team has adapted to the Rwandan value placed on communal medical decision-making. The team often experienced extensive family discussions before a patient agrees to surgery, and sometimes will delay surgery or other treatment until family members or trusted advisors can travel to Kigali to participate in discussions.

DISCUSSION

The voices of Rwandan healthcare providers in the description of the applied precepts enable a more comprehensive understanding and analysis of the impact of volunteer missions that perform RHD surgery. Several themes emerged. The communal importance of improving the health of even a small number of individuals may have been underestimated in previous literature. Also, the Rwandan value placed on building long-term professional relationships and a regional reputation for medical service may also have been overlooked. The conversations stressed the value of incorporating Rwandan stakeholders when making
difficult ethical choices to contribute understanding and context to the traditional understanding of ethical precepts. The long-term commitment to developing in-country medical capacity appears to be highly valued by Rwandans. Nevertheless, harm caused by leaving patients to inadequate follow-up or training remains an important concern. Overall, Rwandan contributions to the applied precepts of benefit and harm focus attention more on structural issues such as shared benefit, national reputation and expertise than the traditional Western notions of these precepts. Individual agency remains important, but not central to Rwandan concepts of justice, transparency and respect, particularly regarding women.

The authors acknowledge that the proposed application and, in some cases, expansion of familiar ethical precepts appropriate for RHD surgery in Rwanda will not solve all challenges or mitigate potential harms that result from medical volunteerism in Rwanda or in other developing nations. Rather, this paper will extend the discussion regarding the ethics of medical volunteerism through the inclusion of local voices in the ethical discourse to make a constructive contribution to a daunting undertaking. Despite the small number of local voices and the inclusion of mainly healthcare professionals in discussions reported here that are limitation of this article, these conversations offer additional insight into ethical precepts may be applied in practice to medical missions in other emerging nations following a similar process of inclusion, collaboration and long-term engagement.

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REFERENCES