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### Health Systems and Health Care in Fragile Settings: Insights from Burundi<sup>1</sup>

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*The debate on the integration of indigenous medicine and biomedicine in Sub-Saharan Africa has so far mostly concentrated in contexts characterised by relative economic and political stability. This study contributes to such debate by exploring the use and practice of indigenous medicine in the so far rarely documented case of post-conflict Burundi.*

*We adopt a mixed-methods approach involving a survey of 6,690 individuals, and interviews and focus groups with 121 indigenous healers, biomedical staff, and patients, conducted in 2013-2014. The findings reveal pluralistic patterns of health care seeking behaviour, which are not primarily based on economic convenience and partly reflect the conceptualisation of illness and danger induced by the recent conflict. Traditional healers' diagnosis and practice are shown to both revolve around the concept of 'enemy' and the need of protection against it. Finally, biomedical staff display ambivalent attitudes towards healers, and informal cross-referrals were found to occasionally take place between healers and health-centres.*

*These findings are interpreted in light of the debate on health systems integration in Sub-Saharan Africa. In particular, we discuss healers' engagement in helping communities deal with trauma, as well as healers' accreditation and training policy options. We argue that the experience of conflict in Burundi and the resulting conceptualisations of illness and healing need to be taken into account when devising appropriate public or international health policy responses.*

Keywords: health systems, health integration, indigenous medicine, Burundi, post-conflict.

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## 1. Introduction

In Sub-Saharan Africa, indigenous medicine (IM)<sup>5</sup> use is widespread and co-exists with biomedicine. Such medical pluralism has been linked to inequality in health care access (1); but it also hinges on aetiology of disease classifications which separate illnesses of natural origin from those of spiritual and psycho-social origin (2,3). The debate on the coexistence of indigenous and biomedical health systems has often revolved around the latter separation and asked the question of whether an integration of the two systems is, in practice, possible or useful. The present article seeks to advance this debate by contextualising it in the post-conflict country setting of Burundi.

The discussion on health systems integration has often focused on Sub-Saharan African countries that enjoyed relative economic or political stability in recent years, such as South Africa, Tanzania, Ghana or Nigeria (4–6). These are countries that have been able to develop a more advanced regulatory framework for the interactions between IM and biomedicine. By focusing on Burundi, the objective of the study is two-fold: the first is to fill into the existing gap on the use and role of IM in the country. Apart from a few exceptions (7–9), this has, in fact, rarely been documented in the recent social science and public health literature. The second is to gain practical insight into the debate on health systems integration and health-service provision in Sub-Saharan Africa, in a socio-political setting characterised by high instability, and low state capacity and income levels.

The study relies on original survey material collected in eight Burundian provinces and on qualitative research conducted among biomedical staff (nurses and doctors), health care users, and indigenous healers in Eastern Burundi. We will use the term ‘healers’ throughout, to refer to the various types of indigenous practitioners in Burundi. These include herbalists, diviners, rain makers, sorcerers, and priest healers (7).

The findings suggest that economic convenience factors are not the key determinants of medical pluralism in Burundi, while healers are often attended due to their role of protection against ‘the enemy’. We link this concept to the recent experience of violence and conflict in the country, and highlight the policy relevance of indigenous healers’ community support role. These findings complement the policy recommendations of recent studies by Ventevogel et al. (10,11). Further, we discuss healers’ accreditation as an uncertain regulatory route. We also suggest that targeted training of both biomedical staff and healers could improve the management of cross-referrals and herb-drug interactions, and could help to address biomedical staff and health care users’ concerns on the safety of healers’ practice in the country.

The remaining of the study is structured as follows: the next section traces a historical summary of IM practice and use in Burundi. Subsequently, sections three and four describe our methodological approach and results. Finally, section five discusses the findings against the debate on health-systems integration in Sub-Saharan Africa and section six concludes.

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<sup>5</sup> By indigenous medicine, we hereafter refer to the local system of indigenous medical knowledge and practice. We chose such conventional terminology for practical reasons. We do, however, fully acknowledge its limitations and that it summarises a very heterogeneous body knowledge in a rather reductive way.

## 2. Burundi: Context and IM system

The small landlocked Republic of Burundi is one of the poorest countries in the world. It has witnessed recurrent outbreaks of violence since its independence in 1962, including a civil war that killed around 300,000 people and displaced over a million between 1993 and 2005 (12).

There are few accounts of the current use and practice of IM in Burundi. The research by Zuure (13) and Rodegem (14) used to be a reference point, but it now refers to a disused pre-independence theoretical paradigm (7). The only more recent accounts are found in Barancira (9) and Mbonimpa (8), both of which were published locally in Burundi, and in few copies only.

The history of IM in Burundi is also rarely documented, especially for the pre-colonisation period. The ethno-pharmacological study by Bigendako et al. (15) reports that German and later Belgian colonial administrations in Burundi had some interest in local medicinal plants. They otherwise broadly supported medical missionary efforts to equate IM with witchcraft, and pushed healers to *de facto* clandestinity (15,16).

The health authorities of independent Burundi revived interest in indigenous medical knowledge and practice, and, in the 1980s, sought the United Nations Development Programme's support to develop quality control and new research on pharmaceuticals based on medicinal plants. At that time, healers created the Burundi Association of Traditional Practitioners (ATRADIBU), joined governmental efforts in setting up the Centre for Research and Promotion of Traditional Medicine in Burundi (CRPMT), and supported CRPMT's attempt to set up a pilot a clinic jointly operated by healers and biomedical doctors (17).

The start of the civil war in 1993 put a halt to these efforts and left the public health system in ruins (18). With the 2000 Peace Agreements, integration efforts resumed with the establishment, through private initiative, of facilities such as the St Michael's Centre and the Centre for IM in Buta. Between 2002 and 2004, a IM unit was developed within the Ministry of Health (19) and the legal practice of IM was recognised.

In 2014, a decree for the regulation of IM and the healer profession in Burundi was promulgated [Decree n. 100/253/2014]. The decree establishes training and registration conditions for accessing the profession of healer (French: *tradipraticien*) and is mostly concerned with the regulation of medicinal plants use, specifically banning the use of secret remedies or remedies not registered in the national list. The enforcement of the decree is, however, weak, and few organisational and financial measures have been taken to implement its prescriptions.

International aid flows have often supported the biomedical public health system but have not engaged with IM. An exception is the training programme for traditional birth attendants (TBAs), whose activity is now subsidised and integrated in the official health system.

## 3. Methodology

The study combines a quantitative survey and a qualitative analysis. The survey uncovers a series of correlations between the use of IM, socio-economic variables, and the use of biomedical health care. In this way, it tries to describe and typify the average IM user profile in Burundi. The

qualitative analysis uses the case of the Eastern district of Gihofi to present an in-depth account of IM use and practice in Burundi.

The survey was conducted in eight of the seventeen provinces of Burundi (Bubanza, Bujumbura rural, Bururi, Makamba, Ruyigi, Rutana, Cankuzo, and Karusi) in September-November 2013. A total of 7,383 people were interviewed, with 30 respondents per health centre. The data was collected according to a stratification based on age, gender, and residency based on the 2010's national census. For each hill of a health centre catchment area, and based on the population of the hill relative to the size of the catchment population, randomly selected individuals were interviewed based on their belonging to one of six categories defined by age (16-30; 30-45; 45+) and gender. In total, 6,690 people answered the question on IM, and the results were re-balanced to ensure representativeness in terms of gender and age, based on the 2010's national census.

To enquire about health care users' perception of IM, trained enumerators asked the question: "In the last year, do you think the use of healers by you and people around you has been 1) on the rise, 2) declining, 3) stable, 4) do not know". A dummy variable "acquaintance with healers" was created, which takes the value of one for all those who did not answer "do not know" to the question. A Logit model is used to explore the correlation between this variable and basic socio-demographic factors as well as variables reflecting socio-economic status and access to health.

The qualitative research was conducted in the Eastern district of Gihofi, in the Rutana province, in April 2014. To ensure avoidance of culture bias, interviews were conducted in Kirundi by the Burundian co-author (male, 26) of this study, who also transcribed and translated them into French. In total, 12 healers, 36 biomedical professionals (nurses and three biomedical doctors), and 73 health care users were interviewed. The sample of healers was recruited using snowballing sampling techniques, based on healers' indication of their acquaintance with other healers. The interviewed biomedical staff had some knowledge of IM and was balanced in terms of age, gender, health centre within Gihofi district, and qualification level. The health care users were selected within the areas of practice of the interviewed healers, and again we ensured a balance in terms of age, gender, and occupation. They were interviewed during 10 focus groups of five to ten participants each.

The interview guide was developed following a literature review and updated following a thematic analysis of preliminary interviews. This helped identify additional concepts to be included. The final interview guide included questions on IM use and practice, and on relations between healers and the biomedical health system. Interviews were based on semi-structured and open questions; they lasted between 15 minutes and one hour and were carried out until data saturation. Data saturation was reached when no additional concepts emerged from the thematic analysis. The responses were analysed following a grounded theory and constant comparative method approach, to identify themes for common patterns and differences across individuals, as well as patterns of relationships among themes (20).

#### **4. Results**

i. Survey data analysis

The table below shows the correlation between a set of individual and regional level characteristics and “having visited or having a relative who visited a healer, during the past year”. Overall, 49% of the respondents indicated they (or their family/relatives) had attended a healer during the previous year. This is associated with age, social capital, professional activity, attendance of biomedical health facilities, and well-being.

In terms of basic demographic characteristics, age is positively correlated with healer attendance, albeit in a low marginally decreasing way. A possibility is that the association of biomedicine with ‘modernity’ makes younger generations less likely/willing to use IM or report its use. Pouliot (21) also finds that IM use is more common among middle aged people and less common for old people, in Burkina Faso. Social status seems to matter more than economic status, although the boundary between the two categories is not clear-cut. We find that people with higher social capital are more likely to know healers, perhaps because of their larger social network. Importantly, professional occupation is not linked to healer attendance, with the sole exception of teachers and civil servants. This might be the result of their wider exposure and access to ideas of biomedical health care.

*Table 1 Association between acquaintance with healers, individual, and regional characteristics*

		(1)
		Logit
Basic demographics	Age (years)	0.039** (0.012)
	Age (years) squared	-0.00003* (0.000)
	Education (0-5)	-0.007 (0.035)
	Female	-0.105+ (0.056)
Social and economic status	Member of an association <sup>1</sup>	0.226** (0.070)
	Ex-combatant	-0.202 (0.168)
	Displaced person or returnee <sup>2</sup>	-0.047 (0.114)
	Vulnerable or disabled person	0.002 (0.101)
<i>Religion (reference: Catholic)</i>	No religion/animist <sup>3</sup>	0.174 (0.133)
	Protestant <sup>3</sup>	-0.111 (0.069)
	Muslim <sup>3</sup>	0.489 (0.736)
	Number of meals per day <sup>4</sup>	0.058 (0.083)
<i>Profession (reference: farmer)</i>	Teacher and civil servant <sup>5</sup>	-0.650*** (0.134)

Access to biomedical health care	Has visited a health clinic in the last six months	0.359*** (0.103)
	Knows the Health Facility Committee <sup>6</sup>	0.194* (0.083)
	Has heard of family planning <sup>7</sup>	0.196+ (0.117)
	Well-being (health –family; 1-5) <sup>8</sup>	-0.142** (0.047)
	Constant	-0.609 (0.416)
District Fixed Effects		YES
Observations		6690

Standard errors in parentheses +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  - standard errors were clustered to account for the survey design (svyset on Stata). It is not possible to calculate a pseudo R<sup>2</sup> in the case of weighted survey data.

1. Any (social, religious, sport) proxy for social capital | 2. Accounts for mass displacements during the civil war | 3. Reference category: Catholic (main religious group) | 4. Proxy for wealth | 5. Reference category: farmer – other categories such as police and military, shopkeepers, and students were also included but are not significantly different from farmer and not reported in this table | 6. Measure of social proximity to the health centre | 7. Proxy for modern medical knowledge/level of awareness of preventative health care | 8. Answer to: “Generally speaking, how is your family health?” (5-item Likert scale 1: very bad to 5: very good).

Conversely, the main proxy for wealth, the number of meals eaten per day, is not significant. This is consistent with other studies on IM use in West Africa showing that middle or upper class educated users and wealthier households also consult healers (21,22). Finally, having visited (or having a friend or relative who visited) a healer is not predicted by affiliation to a specific religion, including animistic beliefs. In Burundi, 90% of the population is Christian and the type of religious affiliation is not necessarily related to the use or practice of IM, as our qualitative analysis below will show.

Looking at access to health care indicators, we find that a negative self-evaluation of one's family health is associated with a higher likelihood of visiting a healer. Furthermore, knowing the local health facility committee (i.e. elected citizens' committee in charge of co-managing health centres) is a measure of familiarity with the health system and it is positively associated with respondents' visits to healers. This, combined with the positive correlation between knowing a healer and having visited a health centre, suggests a pattern of medical pluralism in health care seeking behaviours. In other words, there is evidence that health care users attend both systems in the event of illness. The effect is small, (0.08 marginal effect after Logit) but strongly significant.

The results are robust to alternative specifications, such as removing district-level fixed effects, removing some of the covariates, or using a Probit or OLS model.

The data also shows that 43% of the respondents thought that healer attendance in the country was declining, while only 3.5% believed it was rising. Regional differences exist: people in the south and south-west of the country are less knowledgeable or willing to disclose information about

healer attendance (see map below). A hypothesis is that this reflects the higher provision of public health infrastructure received by the districts of and around Bururi, in the decades before the 2000s’ return to democracy (many in the elite that ruled Burundi between 1965 and 2000 were from this area ) (23) . In Gihofi district, where our qualitative enquiry took place, 51.7% of the respondents had (a relative/friend who) visited a healer during the previous year.

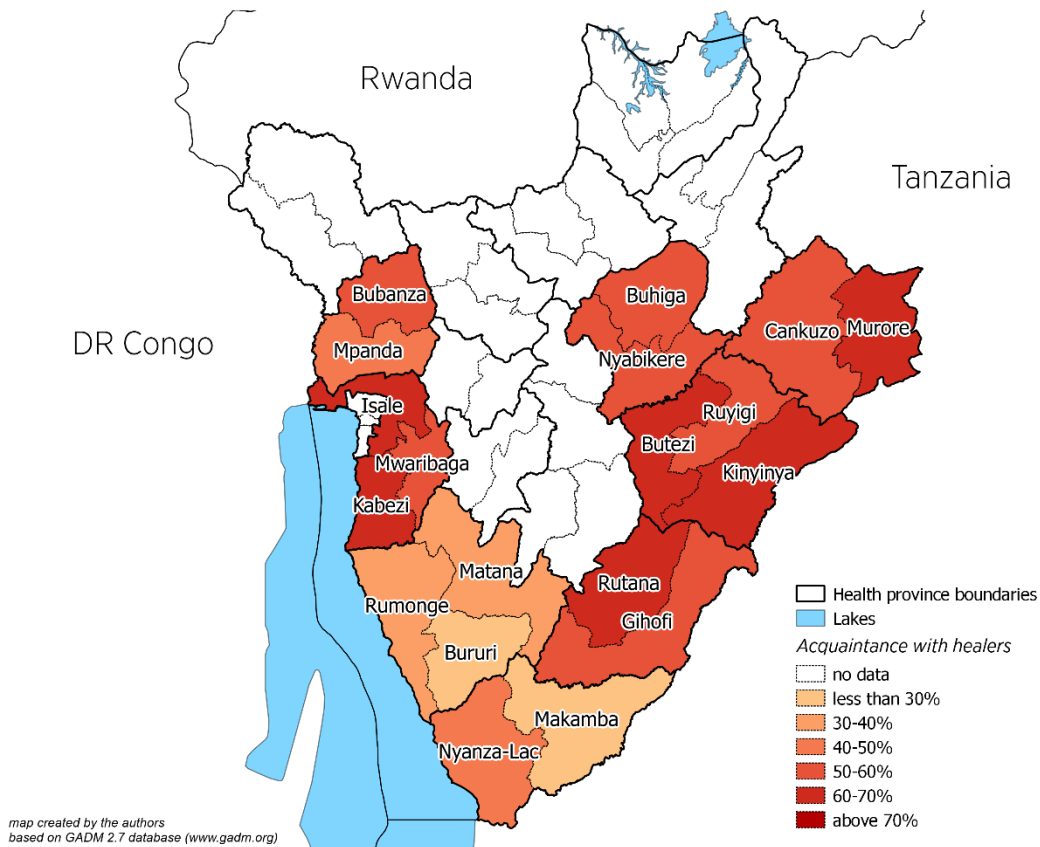


Image 1 Acquaintance with healers, average per health district

ii. Qualitative analysis: Traditional Medicine in the Gihofi district

*Profile and role of healers.* A majority of healers described themselves as *umuvuzi w'imiti kama*, a common and generic term that refers to the profession of healer (see also (7)); while four introduced themselves specifically as herbalists (*umuvuzi w'imiti kama akoresha ibiti*). Most stated that the community and the territorial administration knew about their practice, but only one was a registered member of ATRADIBU. Only two healers were women, but healers' wives were often assisting their husbands' practice.

Healers indicated that they learn their practice in three ways: apprenticeship, self-teaching, and revelation. The most common is apprenticeship, which often takes place within the family, as one healer recalls "when I was young, my father initiated me to the therapeutic qualities of some plants (...), and, as you can see, I am now practising in the company of my two sons". Less frequently, the 'master' is from outside the family circle and can even be a foreigner: "when I was in exile in Tanzania, it was difficult to survive without protection against the enemies (*abansi*). I had eight children, and it was my responsibility to protect them, so I went to a Tanzanian healer to receive initiation. The condition for receiving it was that I brought him money and a goat".

The relationship between IM and the dominant Christian churches is ambivalent (90% of Burundians are Christians). The churches sometime accuse IM of paganism, but there are often also forms of syncretism. One healer recalls: "Recently, the Catholic Church organised a parade led by a cross of Jesus, the aim was to wipe out healers and their practices. I am surprised. The priest-healer of Bururi, is he not Catholic? And is he not healing people himself?". The priest-healer mentioned in the comment is also the head of ATRADIBU. In addition, three quarters of the interviewed healers identified themselves as Catholics.

*Access to and use of indigenous health services.* Healers typically see only few patients in a day, on average three in our sample, and often seem to know their patients personally also outside of the medical context. Health care users emphasise that, when compared to visits at health centres, consultations with healers are friendlier and concerned with a broader aspect of well-being, that is, not only physical, but also social, spiritual, and psychological well-being (see (24), for similar results).

With regards to cost, prices are not fixed and healers establish them based on patients' living standards or the gravity of the disease. Sometimes, they give free consultations in acknowledgment of friendship or other services, or accept payment in kind (e.g. with bananas or beans), as a healer explains: "... I give antidotes against bad spells. I am not asking for any payment in return. However, if the threat is avoided, people bring me beans to express gratitude. Some colleagues hate me for that". When IM is not the only source of income for healers, they seem more flexible with payment. The focus groups nevertheless revealed that, as in the case of biomedical care, patients sometime contract debt or sustain catastrophic expenditures to pay for healer consultations. People also mentioned the danger of being cursed by healers if they failed to pay.

*Disease.* Healers are consulted for a variety of conditions, especially for the diseases of children (*iz'abana*) and women (*iz'abayeyi*). A non-exhaustive list includes poliomyelitis, anaemia, diarrhoeal disease, dietary troubles, poisoning, inflammation, venereal diseases, dermatologic conditions, hypertension, back pain, and pneumonia. Healers also treat psycho-social and spiritual



conditions such as being the victim of sorcery or unfounded hate (*iveyi*), misfortune in business, and other personal, social, or professional problems.

Most of the biomedical staff we interviewed differentiated three categories of illnesses: those that can only be treated by health centres, those mostly treated by health centres but which IM can also treat, and those that can be treated by IM only. For example, a hospital nurse explains that IM can be effective against chronic diseases such as diabetes, hypertension, and back pain: “We have a tendency to believe that IM does not heal, but it is wrong. For example, I am diabetic, and if I feel a crisis is coming, I go to an indigenous healer in Rumonge. He gives me herbs and I feel better”. While the chief-nurse of another health-centre says: “it is clear that there are some diseases we cannot treat [...]. When I arrived here, in Rutana province, 15 years ago, I was the victim of witchcraft myself. I went to an indigenous healer, who gave me charcoal and milk. I vomited and then the poison was destroyed”.

Healers also believe that some conditions can only be cured by biomedicine, as one explains: “I am totally incompetent for some diseases, such as malaria. If I think I have malaria myself, I rush to the health centre, and I would advise anybody coming to see me to do the same”. At the same time, another healer says: “... if somebody was the victim of poisoning, do you think the health centre is going to cure them? If you have been poisoned and they give you an injection at the health centre you die straight away”. The powerful symbolism associated with injections is well-known in the literature (25,26). Bierlich’s findings among the Dagomba of Northern Ghana are similar to the views expressed by our respondent, and interpreted as an attempt to preserve local understandings of psycho-social aetiology of disease from the invasiveness of foreign therapy (26).

*Diagnosis.* The diagnosis relies on a discussion with patients on their social, spiritual, and psychological background, and on their treatment expectations, as well as income related concerns. Direct observation of symptoms with a variety of tools complements this information: “...I put this drug in the patients’ nose, if they do not sneeze, it means they are sick”. Yet, low quality of diagnostic, poor technical knowledge, and absence of dosage remained among the most common complaints emerging in the focus groups with health care users.

The interviews with healers and health care users revealed that the basis of diagnosis in Burundian IM is a disturbance coming from an ‘enemy’ (*abansi*). The ‘enemy’ can be a malevolent person or supernatural forces in the environment surrounding the patient, as a healer explains “...you apply these ashes on your arms, then if somebody comes to your party and, when they give their present [AN: people typically touch each other’s arms at that moment], they start shaking, you know it is an enemy”. The focus groups exposed a feeling of omnipresence of the *enemy* among the population, against which constant protection from the healers is required. The healers we met also introduced themselves as the protectors of their community.

The concept of *abansi* was sometimes also referred to as the animal (*igikoko*) or snake (*ikiyokai*). The idea of internal snake (*nyoka*) in Bantu ethno-medicine has been extensively explored by Green (27), who interprets it as a powerful protective life force. He notes that, in certain medical cultures, this force has a positive connotation, while in others it is mainly linked to disease.

*Treatment.* Treatment always includes two elements: the cure and some behavioural prescriptions. The remedy is administered orally or via application to the incisions: “if somebody suffers from

rib or chest pain, we burn this feather and apply the ashes on the incisions”. In case of incision, a topaz stone (*urwembe*) is used on the skin (*indisango*) of the affected body part, regarded as the point of contact with the ‘enemy’. Psycho-social or spiritual conditions are treated in a similar way: “for the victim of unfounded hate, we give *intumberi* (stone for fortune in business), *urugaru* (plant for enhancing attraction), *umuhamagaro* (incantation for a vocation), which protect the person; for a fisherman who looks for a good catch, or somebody looking for fortune in trade, we have other remedies”. Treatment also involves behavioural prescriptions, typically: keeping treatment secret, sexual abstinence, recitation of texts, or walking around the plot of land before using the remedy. The efficacy of treatment is judged by whether the problem has disappeared and by whether the patient is satisfied: “if a patient tells us they feel good [...] what more can we ask? Then we have the feeling of having done our work properly”.

*Traditional medicine and the official health system.* The interviewed biomedical professionals in Gihofi revealed ambivalent attitudes towards IM. Although 50% had consulted a healer and over 75% had used herbal self-medication, they also often discouraged patients from attending healers: “it is hard to prevent people from going to healers. I have been a nurse for 10 years and children often come with thin ropes tied around their waist. At the beginning we were removing them, but people were complaining and asked us to put them back, they needed them for protection against the enemies” (see (28) for more discussion on the ropes tied to children waists for the treatment of childhood ‘abantu illness’).

Transfer of patients from one system to the other happens in an informal manner. As one doctor points out: “one day, a couple came to me because they could not have children, I tried different things in vain, so I told them to see a healer in Tanzania”. More often, patients organise this transfer by themselves, as one doctor recalls: “a few days ago, we had twin brothers in the paediatric department, their health was not improving and the parents asked whether they could take them to a healer. Of course, we refused. So, they ran away with the children. I bumped into their father in the street, recently, and he told me his sons are now in good health thanks to the healer”.

In addition, healers often faced hostility from health centres’ citizen committees, community health workers, and schools. As one healer explains: “...nowadays, children go to school and they get taught that IM does not heal. And they have a bad image of IM. But they are wrong.” Healers indicated that an important problem is the existence of ‘charlatans’, who discredit the whole profession by means of financial abuse of patients or harmful practices. In this sense, the definition of charlatan was found to at least partly coincide with that of sorcerer (*umurozi*), who uses spiritual powers to harm rather than heal (29).

Healers were found to be strongly in favour of integration between their practice and the official health system, as they believed that this would help limit charlatanism and grant recognition to competent practitioners: “that way people who come to us can do it without fear”. Some nurses and doctors support this idea: “...one day I was in Tanzania, I saw that the systems were integrated. Before using the healers, they do medical check-ups to find out the disease, and then they know which medicine to choose”. Others are, however, more sceptical, as they believe IM practices can be dangerous or even fatal.

## 5. Discussion

Before discussing the findings, it must be noted that both the qualitative and quantitative methodologies come with limitations. The survey was carried out on a large and representative population of eight of the 17 provinces of Burundi. However, it only included one question on IM, which prevents triangulation. The question was asked after a few on biomedicine, which might have biased subsequent responses (30). No evidence in support of such hypothesis was reported by the enumerators, but the survey findings need to be interpreted carefully, as the overall level of IM use could have been underestimated.

The qualitative analysis is based exclusively on interviews, as no observation could be conducted. The enquiry covers one of 43 districts in Burundi, Gihofi, which was an accessible region where the researchers could mobilise access to usually hard-to-reach healers. While the case-study was not meant to be representative of the entire country, there is no reason to believe that IM use and practice in Gihofi are significantly different from those of other districts. The quantitative results confirm that exposure to healers in the district stands at around the sample average. In addition, being at the border with Tanzania means Gihofi has been influenced by its neighbour's IM practice. However, Burundi is a small landlocked country and Congolese, Rwandan, and Tanzanian IM influences are present everywhere, and have increased with the recent mass displacements of populations caused by civil conflict in the last decades.

Coming to the findings, the typical profile of a IM user seems that of a middle-aged man who is involved in local social life; is himself, or has somebody in his family, who is ill; has visited a biomedical health centre recently; and is not unfamiliar with the local health committee and preventative care. A central result of both the qualitative and quantitative analyses is the confirmation that patterns of medical pluralism exist, with patients attending, often in parallel, both health centres and indigenous healers.

As anticipated, such medical pluralism has been at the centre of the research and policy debate on health integration in Sub-Saharan Africa. The debate conventionally revolves around a spectrum of policy options for the regulation of the interactions between health systems, which go from the co-existence of mutually ignoring systems to informal recognition or partial collaboration (31). We use the evidence of this Burundian case study to argue that the appropriateness and feasibility of such policy options cannot be evaluated in abstract. This type of analysis can also help to uncover the type of systems collaboration which best provides for health care users' demand in similar post-conflict settings in sub-Saharan Africa. With this objective in mind, we will interpret our findings against a number of themes that frequently underpin the debate on health systems integration.

### *Cost and accessibility*

The World Health Organisation (WHO) emphasises that integrating IM in the public health system can widen health care provision in Sub-Saharan Africa, thanks to the financial and physical accessibility of herbs and healers (32). We did find evidence that healers accept more flexible payment modalities than health centres, such as delayed or in-kind payment, which is similar to findings in Ghana, Cameroon, and Burkina Faso (21,33,34). However, the advantage of health systems co-existence cannot be convincingly or entirely justified by the economic convenience

factor alone in Burundi: we also found evidence that people sometimes sustained catastrophic expenses to attend healers (see (35) for similar evidence in South-Africa and (36) for a systematic review). In addition, we found that healers' reward was linked to efficacy, with patients risking to fall ill again or be cursed by healers if they did not pay (see also (37,38)). What is more, distance and access to health care facilities in Burundi may be better than in other Sub-Saharan African countries: it was estimated at just over one hour in 2005-06 (39).

### *Accreditation*

The healers in our study advocated for a public regulation effort against charlatanism to improve their credibility. This finding has already been documented in other contexts: healers often support formal accreditation and collaboration with the official health system as they associate it with increased recognition, reputation, and income (27,33,37,40,41). In the specific context of Burundi, the phenomenon is complicated by the general low level of interpersonal trust resulting from decades of ethnic and political violence (11,12).

Forms of accreditations are already in place in Burundi through ATRADIBU. The question is whether strengthening the role of such organisation could be useful towards the goal of identifying and excluding charlatans. Indeed, we found that the definition of charlatan was unclear and at least partly coincided with that of sorcerer (who uses spiritual powers to harm). This, combined with the fact that discriminants such as treatment effectiveness and professional qualifications are inapplicable, makes it difficult to establish objective and reliable requirements for healers' accreditation. More research would be needed to understand whether such accreditation system could lead to practical improvements in health care quality and rigour, or just to a proliferation of bureaucracy.

### *Technical training and cross-referrals*

The study highlighted a general concern with the technical quality of healers' practice, on the part of both health care users and biomedical staff. This issue has long been debated in the literature. On the one hand, some studies described the benefits of providing healers with training in anatomy, diagnostic methods, infection and germs theory (33,42); and stressed that training in hygienic preparation and conservation methods can enhance herbs' potency, preserve it for longer, and reduce the risk of toxicity (43). On the other hand, Tsey points out that herbal remedies become quickly unaffordable when biomedical standards of practice apply to their preparation (44). Moreover, van der Geest warns against the risk that this type of interactions might turn into an annexation of IM into biomedicine due to the skewed power dynamics between the two systems (45). More fundamentally, some studies argue that there are irreconcilable differences in the epistemological tenets of IM and biomedicine (3,36,44,46,47). In this respect, a question that arises is what utility training can have in instances where, for the purpose of healing, the ritual matters more than the actual composition of the remedy (see also (37,48)).

In the specific context of Burundi, the usefulness of training could be justified in light of our findings, which show that health care users are indeed concerned about the safety of healers' remedies and the poor quality of diagnostic they offer. Similar complaints were also the reasons biomedical staff refused to collaborate with healers. In addition to this, recent research on Burundi finds established patterns in the use of herbs for the treatment of a range of microbial diseases (i.e.

dermatologic conditions, diarrheal and venereal diseases), poisoning, and for the management of diabetes (49). This contradicts early 1990s' evidence suggesting that healers used plants as a placebo, as it was found that only 7% of the known herbs were utilised by more than 10% of the healers for the same disease (50,51).

An upgrading of healers' methods could, thus, improve the herbal practice' safety and toxicity profile, reassure health care users, and improve the quality of herbal medicine offered to them. Herbalists can more easily fit into this type of technical training,<sup>6</sup> and an example of such programme is the recent initiative funded by the World Intellectual Property Organisation in Ghana. The initiative offered innovation and upgrading training to herbal practitioners, on preparation, testing, and conservation of herbs. This even enabled some of the participants to patent their remedies (43).

An upgrading of healers' diagnostic knowledge may also prove beneficial for certain cases of cross-referral, such as acute conditions that require immediate referral from healers to biomedical facilities. In addition, the biomedical staff we interviewed also reported that informal cross-referrals from health centres to healers existed for a variety of conditions. In fact, given the scarcity of resources in the public health system, this type of referrals may be beneficial for less severe conditions that are known to be effectively managed or treated with herbs. A possibility is that increasing biomedical staff's exposure to and knowledge of IM might facilitate identification of such useful cross-referrals opportunities (27).

Finally, consistently with other studies in Sub-Saharan Africa (52–54), our findings confirm that in Burundi patients may hide or misreport their use of IM due to fear of doctors and nurses' disapproval. This carries the risk of dangerous or mutually neutralising instances of herb-drug interactions. Training provided to biomedical staff could help them engage with patients in a non-judgemental way and better manage such substance interactions (55).

### *Community Support*

The study also suggests that healers may be supplying important functions of mental health care provision in post-conflict Burundi. The findings revealed that the very basis of diagnosis in Burundian IM is rooted in the concept of 'enemy' (*abansi*). During our focus groups, the threat from the 'enemy' was presented as omnipresent in society, something which echoes the prolonged fear and insecurity the Burundian population has endured (7,56,57). While we found that the concept of 'enemy' pre-dates the civil war, it does not appear in Barancira's analysis (1990). It is possible that the conflict has reinforced its utilisation in diagnosis as well as the role of healers, due to the population's encompassing need for protection and psychological support.

It is interesting to put these results in perspective with the policy recommendations of Ventevogel et al. (10,11), who draw a distinction between severe psychiatric conditions characterised by behavioural and cognitive impairment and non-psychotic conditions characterised by sadness and social withdrawal. They find that, in the first case, people in Burundi recognised the need to seek

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<sup>6</sup> Even if divination or other rituals are employed by herbal practitioners, a difference can be drawn between these and healers whose practice is predominantly spiritual. The first, in fact, tend to use a more scientific approach to healing, to take personal responsibility for the failure of their cure, and to be formed through technical apprenticeship (Green, 1980).

biomedical health care, but this was often not available; while, in the second case, people did not see these conditions as 'medical' disorders and thought the support of communities was the most appropriate response to deal with them. Such community support can take the form of targeted interventions, or it can rely on pre-existing structures.

On the one hand, sociotherapy, a modern psychotherapeutic approach relying on community support and involvement, was successfully used in Rwanda; in a context that bears resemblance to Burundi in terms of pervasive mistrust due to the destruction of social fabric and extensive psychological trauma (61).

On the other hand, our results highlight that indigenous healers already provide psychological support to their communities in Burundi. Cultural proximity to their communities and a shared understanding of values and symbolic meaning may be at the basis of this engagement (27,58). A hypothesis is that this important role could be preserved, while also equipping healers willing to engage in collaboration with biomedical knowledge on how to distinguish non-psychotic disorders from psychiatric illness with a strong biological basis (59). In the first case, they could treat patients themselves. In the second case - where health care users, too, consider biomedical intervention as a first line treatment - healers could refer patients to health centres. This would not prevent them from collaborating with the health-centres in the management of the culture-specific psychological manifestations of such psychiatric conditions (27,59).

Read (60) adds to this argument the idea that community support is also crucial in facilitating treatment compliance when patients take psychiatric medications that carry several side effects and often cannot prevent relapses. Ventevogel et al. (10,11) have also emphasised the need to both scale-up public psychiatric health care capacity and support the engagement of healers, churches, and communities in the management of non-psychotic conditions. They have, however, warned that such community engagement may only be able to provide a basic level of support. Thus, they suggested that a more specialised level of psychosocial assistance should also be in place, to which community structures can refer for more complicated cases.

## 6. Conclusion

This study highlighted the specific nature of health systems co-existence and medical pluralism in the fragile post-conflict context of Burundi, characterised by protracted violence and population displacement. We showed that the use and practice of IM in the country has been heavily shaped by its changing socio-political environment, and is not simply driven by economic convenience considerations. This led us to conclude that the experience of conflict in Burundi and the resulting conceptualisations of illness and danger need to be taken into account when devising appropriate public or international health policy responses.

We discussed our findings in light of the debate on health systems integration in Sub-Saharan Africa and identified some practical policy implications. Specifically, we linked the basis of diagnosis in Burundian IM - the concept of 'enemy' - to the recent experience of violence and conflict in the country. This allowed us to explore the policy relevance of a psychological community support role for indigenous healers. We also presented considerations on healer accreditation procedures, given the pervasive lack of trust prevailing among the population, and we described it as an uncertain regulatory route. Furthermore, we explored the potential of targeted

training for biomedical staff and healers, and suggested this could improve the management of cross-referrals and herb-drug interactions; and address concerns regarding the safety and quality of healers' herbal practice. These policy implications could also be relevant for the discussion on health systems co-existence and health care provision in other post-conflict realities in Sub-Saharan Africa.

Further investigation is needed in this largely uncharted area of research, to explore the broader effects of conflict on the practice and use of IM in other country contexts. In addition, more research is necessary to determine which circumstances need to be in place to ensure a successful implementation of the policy options presented in this study

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