



# **Structural Barriers to Health-provider Training Programmes for Ethnic Minorities: The Case of the Katu and Diabetes Management in Vietnam**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. Author CB designed the study, conducted fieldwork, analysed the data and wrote the first draft of the article. Author GJW supported the data analysis and helped structure the article. Author JJS supported Caroline during her fieldwork in Vietnam and provided inputs regarding the data analysis. Authors GJW and JJS proofread and commented every draft of the article. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/ARJASS/2020/v12i130182

### Editor(s):

(1) Dr. David A. Kinnunen, California State University Fresno, USA.

### Reviewers:

(1) Majid Mohammed Mahmood, Mustansiriyah University, Iraq.

(2) Pravin Yerpude, Chhindwara Institute of Medical Sciences, India.

(3) Molalegn Mesele, Wolaite Sodo University, Ethiopia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/61381>

**Original Research Article**

**Received 18 July 2020**

**Accepted 23 September 2020**

**Published 08 October 2020**

## **ABSTRACT**

**Background:** Training of primary care practitioners is one of the most implemented interventions in medical international development programmes targeting non-communicable diseases (NCD). Yet in many cases their effectiveness is below expectations. One potential cause of this is that they struggle to account for local context, especially when working with ethnic minorities. Here we begin to address this gap through a qualitative case-study of how local contextual factors have impacted the success of a World Health Organization (WHO) healthcare training programme on Type 2 diabetes with an ethnic minority group in rural central Vietnam.

**Design:** A qualitative case-study collected data during 2018. We conducted 25 semi-structured interviews, two focus groups, and participant observation with patients, healthcare professionals, and members of a local non-governmental organisation involved in the programme. We used

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thematic coding to identify important contextual factors and how they helped or hindered programme delivery. Next, we synthesised each of these themes in a narrative style, drawing on the rich detail provided by respondents.

**Results:** We found that, despite using a notionally decentralised approach, the effectiveness of the training was hindered by social, political, and economic determinants of health which influenced the inhabitants' relations to healthcare and diabetes. Particular barriers were the political perceptions of minorities, their economic access to services, the healthcare prejudices toward ethnic rural populations and the rigidity of medical training.

**Conclusions:** Given the similarity of our case with other WHO NCD programmes, we view that our findings are of wider relevance to global public health policy and practice. We suggest that better recognising and addressing local contextual factors would make such programmes more polyvocal, grounded, and resilient, as well as enabling them to better support long-term transformative change in public health systems. We conclude by discussing methods for implementing this in practice.

*Keywords: Vietnam; non-communicable disease; diabetes; primary care; global health; development health; ethnic minority; determinants of health.*

## ABBREVIATIONS

*CHW* : Commune Health Worker.  
*CPRGS*: Comprehensive Poverty Reduction and Growth Strategy.  
*DHP* : District Health Practitioners.  
*NCD* : Non-Communicable Disease.  
*NGO* : Non-Governmental Organisation.  
*VHW* : Village health Worker.  
*WHO* : World Health Organisation.

## 1. INTRODUCTION

Primary care is a first point of contact for patients. It enables primary care providers to diagnose non-communicable diseases (NCD) and to enlist patients in NCD management and follow-up programmes. Primary care therefore needs to include approaches for NCD management, diagnosis, treatment, and care over time [1]. In developing countries, especially in rural areas, primary care lacks the requisite resources and training needed to efficiently provide such care [2]. This is why the World Health Organisation (WHO) launched the Package of Essential Non-communicable (PEN) disease intervention for primary health care in low resource settings in 2010 [3]. The package aims to train local primary care actors in the diagnosis, treatment, and provision of continuous care for NCDs. This training uses a decentralised approach where an external facilitator coaches district primary care doctors who in turn will train village-level primary care practitioners. Decentralisation is often a very successful training approach as it relies on existing healthcare hierarchies and communication channels, and avoids increasingly criticised top-

down interventions [4-6]. There are several studies showing that community-based programmes are impactful for diabetes management [6-10]. Our study focused on a diabetes management programme, but the PEN training has a similar organisation structure for all NCDs [11].

In the past ten years, diabetes has become increasingly prevalent in Vietnam [12-15]. Little data is available on the prevalence of diabetes, but some researchers have shown that it may be higher in rural areas [16]. Diabetes has a large economic impact on the Vietnamese public health system which is exacerbated by the low diagnosis and treatment capacity of rural health services as well as the lack of awareness of the disease across the population [15,17]. Strengthening primary care has become paramount for many health organisations acting at local to global scales.

Tailoring a programme to local cultural, health, and belief systems remains a challenge for non-governmental organisations (NGOs) [8,18,19]. Most broadly, peoples' diverse socioeconomic contexts influence their behaviours, and this diversity needs to be accounted for if public health programmes are to provide agency for patients and improve the impact of interventions [20-22]. These challenges are compounded in the low-resource settings of rural areas in developing countries where there is sometimes divergent knowledge about health between participants, and where populations are dispersed and use several different indigenous languages [23,24]. Providing NCD management training to ethnic minorities through a

decentralised approach may represent a particularly challenging case. In addition to the aforementioned challenges, existing societal views and structures may bias how trainers and primary care practitioners perceive the local ethnic population and their needs. Biases with social, political, and economic origins may also need to be addressed before implementing such programmes. Better dealing with local context and biases may thus be central to more successful NCD programmes with ethnic minorities.

Here we begin to address this gap through a qualitative case-study of how local contextual factors have impacted the success of a WHO healthcare training programme on Type 2 diabetes with an ethnic minority group in rural central Vietnam. We document the experiences of patients, healthcare professionals, and NGO staff members through semi-structured interviews, focus groups, and participant observation. We then use thematic coding to learn how local context has helped or hindered the programme. We find that, despite the best efforts of some local practitioners, a number of

existing structural barriers hinder the programme, including the political perception of ethnic minorities, the local peoples' access to goods and local economy, the existing healthcare prejudice toward ethnic rural populations, and the rigidity of medical practice. Based on our findings, and given the similarity of our case to other WHO NCD programmes in rural areas, we argue that a decentralised primary care practitioner-training approach is not enough to provide long-term transformative change for NCD primary healthcare in an ethnic minority setting, which instead needs to be tailored to local context.

## 2. METHODOLOGY

### 2.1 Case-Study Setting

Our case focuses on the Vietnam Health Improvement Project (VNHIP) in the Ta Bhing commune of the Nam Giang district, located in the wider Quang Nam province in central Vietnam bordering Laos to the west and the South China Sea to the east (Fig. 1).

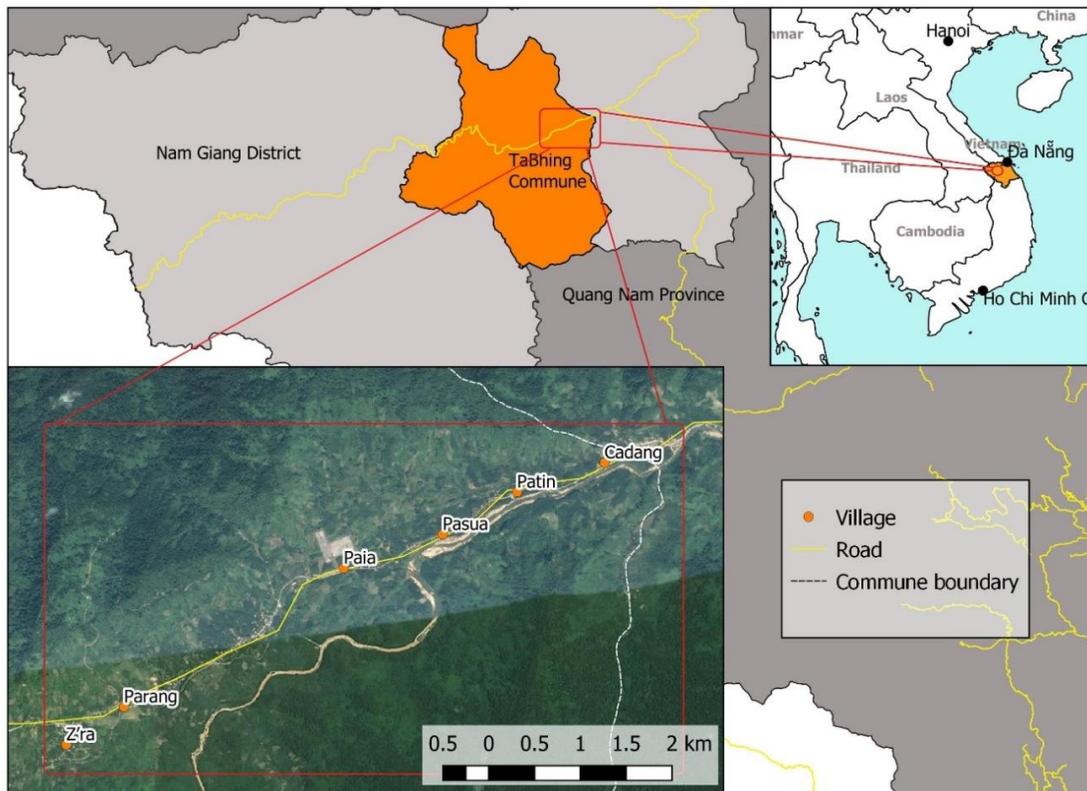


Fig. 1. Map of the study area

The country organisation is as follows: Vietnam is divided into 58 provinces, provinces are divided into districts, districts are divided into communes and communes are divided into villages. The inhabitants of Ta Bhing are from the Ka Tu ethnic group. The Ka Tu, the largest Katuic speaking group, mainly live in the mountainous woodlands on both sides of the Vietnam and Laos border [25]. VNHIP worked with the WHO to launch its NCD management programme in 2016, which aimed to strengthen primary care systems and raise awareness about diabetes in the commune—in a context where very few people were aware of the existing disease. WHO provided training and materials while VNHIP delivered the programme by working with existing district and commune health services. VNHIP works with three types of health workers: district health practitioners (DHP), commune health practitioners (CHW), and village health workers (VHW). DHPs and CHWs are formally trained doctors and nurses, while VHW are local part-time staff with basic medical training (most are full-time farmers). CHWs have been trained to diagnose, provide advice, determine posology, and follow up with patients. VHW were also trained to detect early signs of diabetes and their role is related to those of community health workers in low- and middle-income countries [26]. Awareness raising was conducted with village inhabitants through village meetings and diabetes screening events.

Our case represents a typical structure for decentralised NCD programmes run by the WHO, where services are delivered through existing healthcare structures. Additionally, while typical in its structure, the location of the programme in an ethnic minority community with a different local context to neighbouring areas, makes it a good candidate for examining how differences in local context impact programme delivery. Thus, we argue that our case study, in addition to providing rich details and insights on localised primary care in rural south-central Vietnam, also provides broader insights on the complex issues arising when delivering programs with rural ethnic minority communities.

## 2.2 Qualitative Study and Analysis

We chose a qualitative method based on an inductive and interpretative research approach to gain an in-depth, rich understanding of the local context. We sought this from several stakeholders to give participants a voice in the description of their experience, and to enable

themes to emerge inductively [27-30]. We used an embedded single-case design with the experiences of individual people as our units of analysis [31]. We chose an in-depth multiple stakeholder approach to highlight the intricate relationships between stakeholders and social determinants of health.

Data were generated during fieldwork in May and June 2018. Fieldwork in Ta Bhing took place over three weeks in May, where we conducted 25 semi-structured interviews, two focus groups and participant observations. We also conducted interviews and participant observations with VNHIP staff members before and after fieldwork. Participants were contacted directly by both the local government and the NGO to attend to the meetings. Given the hierarchical nature of the diabetes programme and local health system, stakeholders were initially grouped and selected accordingly:

- Five DHPs were selected due to their role in training commune health actors;
- All CHWs (three participants) and VHWs (seven participants) were chosen due to their role in dealing with diabetes patients at different levels;
- All patients (13 participants) diagnosed with diabetes in the commune were interviewed.

To recognise and minimise biases from language interpretation, and the multiplicity of individual experiences and cultural identities [2,32], we utilised flexible interview protocols which were organised by themes, allowing for changes to interview flow and probing depending on the type of validation deemed necessary [33,34]. We first asked participants to relate their story of how they became involved in the programme, their journey so far, their feelings about its impact and their current needs. We then asked specific thematic questions on health and disease in the commune, on access to public health services, and on individual experience of health. We further sought to verify results through triangulating with information from informal conversations and observations of daily experiences [35,36]. To avoid systematic exclusion of, we sought to talk to all patients with diabetes regardless of their personal background, sex, or links to the health system (though diabetes sufferers not diagnosed by the primary health system were likely excluded). Interviews and focus groups were audio recorded and then transcribed, while participant

observations were recorded in the primary researcher's fieldnotes. The themes arising from our data collection with the different groups (DHW, CHW, VHW, patients, and NGO staff) were analysed inductively. We then used the experiences of study participants and observations on the local context to develop narrative-style synthesis of each of these themes to provide a rich description of how local structural and contextual factors have affected the programme.

### **3. RESULTS: NARRATIVE SYNTHESIS OF STRUCTURAL AND CONTEXTUAL BARRIERS TO SUCCESS**

Here we present a narrative-style synthesis of the main structural and contextual factors that help or hindered the delivery of the NCD programme. We argue that, although the programme attempted to implement a decentralised approach, four main structural and contextual issues hindered the programme: political perceptions of minorities; economic barriers to health service access; health care prejudices towards the local population; and the rigidity of medical practice.

#### **3.1 Political Perception of Minorities**

##### **3.1.1 Development rhetoric from local government and the NGO**

Patient experiences and the community context highlighted that the political perception of the Ka Tu ethnic minority deeply influenced local dynamics and created a power imbalance which disregarded the existing healthcare perceptions of the inhabitants. The government is a powerful force in the Ta Bhing commune. Prominent in the community landscape, the government offices are simply unmistakable: uniform buildings looking strong, resistant, and impressive compared to the locals' stilt wooden houses. The remote location of the commune led to its inclusion in the Vietnamese government's Comprehensive Poverty Reduction and Growth Strategy (CPRGS) which targets ethnic minorities (2002). The CPRGS aims to introduce a national-level vision of Vietnam's socio-economic life to replace what it perceives to be traditional practices:

*“Ethnic minority people are geographically and culturally isolated, and lack favourable conditions for developing infrastructure and basic social services; Mountainous, remote, isolated areas [...] are negatively*

*affected by backward customs and practices”* [25].

The government rhetoric affects the perception that Ka Tu inhabitants have about their own culture and traditions. By attacking what the government characterised as nonmodern life habits, the Ta Bhing inhabitants are reduced to a community needing development. Development in this case means healthcare access, urbanisation, services, and facilities [25]. While the government delivers services, this seems to disregard existing dynamics, local values, and knowledge, and to have made some traditional practices illegal where government objectives and existing customs could have co-existed. The government's top-down and hierarchical approach, which aims to make uniform ethnic cultures, has impacted the local belief system and even the language. For example, several participants described that while they used to believe in gods, now they believe in the government. Additionally, the rhetorical argument used by the Vietnamese government that ethnic minorities are helpless was also endorsed by perspectives from NGO staff members, contributing to structural violence. VNHIP staff put an emphasis on the traditional and remote access of the ethnic group to explain their need for development and health services. They highlighted that the Ka Tu people were poor and needed help, which validates the government intervention policies. Helpless, lacking education, and without existing understandings are labels commonly used by NGOs to justify their development programmes [37-39].

##### **3.1.2 Traditional medicine and Western medical practice: A politics of development**

Another example of this shift toward modernity by the government was illustrated by the treatment of shaman visits in the programme (Mircea Eliade's 'shaman' definition [40]). Practicing traditional medicine without a license from government-authorized institutions is forbidden, making it complicated for these local non-official actors to practice [41]. Accordingly, many health practitioners interviewed in the study condemned shaman practices and categorised shaman visitors as having a very low health awareness. Visiting the shaman for health problems highlights that local inhabitants have an existing understanding of health which is being denied by the government. However, research has highlighted that health and belief systems are intrinsically linked, and that integrating

traditional medicine into health practice can strengthen participation in health programs [42,43]. Similarly, Chinese medicine (separate from local shamanic practices), although marginalised by government policies, appears widely used for diabetes. Chinese medicine comes from a hybridisation of Western medical and indigenous medical systems and was acknowledged by more participants as standardised because it can be taught. In spite of this, some health practitioners still disapproved of these practices [44]. Half of the patients interviewed reported ingesting herbs daily to treat their diabetes (gymnanthemum, young guava leaves; gynostemma etc.) and for many, herbal remedies were as important as the diabetes medication provided through formal healthcare. For this reason, a nurse of the Ta Bhing health centre used her training in Chinese medicine to grow plants and provide posology to local inhabitants. This initiative shifts Chinese medicine into an acceptable practice and regulates existing health knowledge. This experience suggests that adapting medical training on NCDs to existing medical beliefs could strengthen the health consensus instead of trying (unsuccessfully) to replace it.

The labelling of the community and their practices as backward appeared to reduce the agency of the local inhabitants, and diminish any existing systems in place because “they did not know any better”. However, a community is not a blank slate. There are several intricate processes, traditions, and behaviours in place which cannot be disregarded just because they do not fit governmental guidelines. Therefore, it is important to consider the impact that labelling behaviours such as traditional/modern might have. Indeed, modernity is not only brought by development interventions but, according to our interviews, by a desire of the inhabitants to have access to new products and different lives. Traditions are fading away due to severe policies as well as individual choices. The top-down introduction of ‘modern’ over ‘traditional’ approaches may be missing an opportunity for better health services. The government’s top-down approach may be strategic given that, for them, many development problems are urgent and that it takes time to change habits and build social consensus. Existing studies have highlighted that because traditional medicine is rooted in health practices and culture, integrating some of its components can strengthen Western medical practice with ethnic minorities and even improve its results [45-49]. The current approach

in Ta Bhing denies that this entire cosmology can provide useful health knowledge [49]. The government appears to try to prevent any similarities or bridging between traditional or Western medical health systems, despite evidence suggesting that progressive hybrid approaches can create consensus [50,51].

### 3.2 Economic Barriers to Service Access

The WHO training delivered to the community was based on an urban perspective where access to resources is facilitated by centralised institutions and services. However, the life in Ta Bhing commune differs from the life in an urban centre, and access to services (food and health centres) is impacted in ways not predicted by the training.

First, for most Type 2 diabetes education programmes, the emphasis is on having and keeping a balanced diet, implying that diabetes patients do not have a balanced diet to begin with [52]. This is evoked in the literature where diabetes is often perceived as self-induced due to excessive food intake and a lack of health awareness [53,54]. In our case-study, health practitioners supported this assumption by often mentioning their patient’s lack of awareness and unhealthy or even harmful food intake. Despite this emphasis on personal responsibility, other evidence indicated that a variety of other factors, beyond personal choice, may be affecting diabetes prevalence. 77% of the patients are farmers in the mountains who consume only a small quantity of self-cultivated food and now purchase many items (e.g. soft drinks, instant noodles, rice, biscuits) which are cheaper than buying vegetables or meat. This perhaps demonstrates changing economic circumstances relative to a similar study in the area from 2005 which suggested that most food in this region is self-cultivated [55]. Other studies have linked such changes (i.e. away from low-calorie and high-fibre towards highly glycaemic food) as a key factor in increased Type 2 diabetes [56,57]. Despite receiving medical advice about diet, many patients confessed not being able to implement such drastic changes in their diet because they cannot afford it. Dry and already prepared products sold to the local shop are more accessible and cheaper than fresh products only available at the main market located 30 kilometres away, or are sold by the mobile vendor whose products are mostly depleted before reaching Ta Bhing. Therefore, rather than Type-2 diabetes prevalence being

only due to poor dietary choices and a non-awareness of health, it is also structurally determined by financial circumstances, mobility, and the accessibility of products.

Second, access to primary care varies widely between inhabitants and different levels of the health service. Use of primary health services in Vietnam depends upon the place of residence. The rural population in this study is mostly covered by local health centres which provide public primary care. Despite the focus of the VNHIP programme on improving primary care at the local health centre level, many patients have been diagnosed at the district, even provincial hospitals or in private hospitals when they could afford it. This seems to be dictated by rigid bureaucracy, social networks and proximity [58,59]. Patient records are often not shared among different health centres resulting in some patients having to visit a health centre located further away (often more than forty kilometres away) to renew their monthly medication (free for rural inhabitants). The inability to take a leave of absence from work, drive, or even sit on a motorbike makes it difficult to access these distant hospitals. Others managed to negotiate this bureaucratic barrier and had their file transferred to the much closer Ta Bhing health centre. But even when the journey is shorter, some older patients did not drive and thus relied on their busy children to help them to reach the health centre, with some missing their medication renewals this way.

These economic barriers to service access are underestimated by primary care actors, in addition to feeding the rationale that the population lacks health awareness. Considering these structural factors in delivering the programme would likely strengthen the public health impact.

### **3.3 Healthcare Prejudices toward the Ethnic Rural Population**

In addition to the structural barriers, health practitioners also underestimate their patient's health awareness and label them as "uneducated" regarding health and well-being. Prejudices stem from the political policies which treat traditional knowledges and local culture as "backward practices". Therefore, not complying to the governmental rationale is supposed to highlight a lack of health awareness.

Health practitioners mainly assessed a patient's awareness according to the level of interaction

between the patient and the primary care centre. Generally, they categorised Ta Bhing patients in two groups: the ones who attend the community meetings, follow the medical advice and who visit the health centre regularly; and those who do not attend the meeting and thus do not have health awareness. The VHWs added details to the latter group by mentioning that they are often male, between 18 to 50 years old. For the VHWs, patient attendance at the meetings is paramount to linking the community together as well as receiving and sharing health information. Similarly, for the DHW and CHW, attending the annual check-ups and testing sessions are crucial. Therefore, not attending is showing a lack of health awareness. Yet, testimony from respondents indicates that a lack of attendance at health centres may be linked to structural and socioeconomic issues in the commune, rather than due to a lack of awareness of health. Some respondents pointed out that most men absent for both types of event are often working on their farms over the hills. Many cannot—and would not—make it back just for the meetings. According to some patients, working to feed their family takes primacy over community events. Thus, other issues may be limiting the delivery of health services, rather than a lack of awareness.

During interviews, patients were asked about diabetes in depth but also about diseases present in the community and in their families. This aimed to map out local understandings of diseases. We found that patients have built their own categories of diseases and symptoms through public discourses in addition to their personal experiences and will respond to this in diverse ways (not always through attending a health centre). This highlights the importance of broadening health programmes to recognise patient's existing experiences [60,61]. Western medical knowledge is an important but partial part of patient empowerment and does not necessarily contribute in alleviating the systemic forces creating unhealthy environments and lifestyles.

Both the range of health knowledge exhibited by patients, and the seemingly misguided focus of health practitioners on health centre attendance, illustrate that the local awareness of disease may be higher than assumed in the NCD management programmes.

### **3.4 Rigidity of Medical Training**

A final barrier apparent in our cases study was that, while NCD management and PEN

programmes train and support medical professionals (nurses and doctors) to diagnose, advise, and follow-up with patients, they are not trained or supported to foment behaviour change through social processes and cultural adaptation.

The relationships amongst health practitioners and patients are notionally simple, but are complex, and this influences the access to and the quality of advice. During diagnosis and medical visits, patients and health practitioners are building an understanding of each other's Western medical explanatory models' which deeply influence how the patients are reacting to medical advice and how they live with diabetes. But evidence from our case-study suggests that primary care professionals do not recognise this complexity, and instead, get frustrated by patients not implementing their advices. Indeed, in their perspective, patients need to follow scrupulously any medical advice given, independently of the patient's background and living conditions. This might be linked to the medical training received in hospital. Indeed, social accountability, community partnership and adaptation were highlighted as key practices for decentralised medical approaches, but are not often implemented in developing countries [62]. Based on our observations in Vietnam, questioning information provided by health practitioners seemed to be unthinkable for many patients. In addition, many primary care practitioners can see up to 50 to 60 patients a day, leading to a very short face-to-face encounter. This all leads to clinic visits that are one-sided, short in duration and somewhat authoritarian in nature. This is not conducive to the complex interaction necessary for the transmission of health information and eventual behaviour change. Though some of these issues are a by-product of the realities of practicing in Vietnam (i.e. the need to see 50 to 60 patients a day), others seem to stem from the medical training received in Vietnam. Health practitioners are perceived as decision makers and are not used to providing patient education [63]. In this rationale, patients implement medical advice having received awareness from their doctors. However, patients often need more than awareness to improve, or even change, their lifestyle. Knowledge is not sufficient to empower patients, they need more (e.g. financial resources, cultural capital, power relations) [60,64]. Therefore, health practitioners should act as facilitators accompanying the patient through their medical journey. Providing additional training to primary care practitioners to enable

them to become more flexible and tailor NCD management for patients would likely improve patient's responses and lead to more awareness and diagnosis.

#### **4. DISCUSSION: LESSONS FOR DECENTRALISED NCD PROGRAMMES**

This case-study underscores the complexity of health interventions on the ground. While our case is limited to a small number of participants in one rural south-central Vietnam community, we view that our case shares the same structure as many other NCD programmes. We therefore argue that the results are of wider relevance to global public health programmes. Our analysis highlights that while delivering NCD programme through existing health care structures may be efficient, better considering the social, political, and economic determinants of health would improve the short- and long-term impacts of such programmes. This case-study highlights general lessons that may be applicable for other NCD interventions aimed at making transformative changes in primary care services.

First, addressing the impact of political perspectives about Indigenous communities is paramount. This NCD training program was supposed to avoid entrenched, top-down and non-contextual procedures by relying on a decentralised approach at the local level and on personal relationships. However, the NGO and the trained practitioners were following the government policies on ethnic minorities and reproducing its message of helplessness, often without realising. This contributed to further structural violence and marginalisation. To address this issue, programmes should introduce flexible, participatory approaches, and include community knowledge holders in the training sessions. This would ensure that the trainees and the community collaborate to build an approach to NCDs that fits the context, perspectives of health, and access to resources.

Additionally, the programme needs to leverage local values and languages. We found that the Ka Tu listen to and respect family elder counsels. Building an intervention with these elders may enhance awareness. A medical practitioner at the local health centre mentioned having talked to the elders to help raise awareness about non-communicable disease but he felt he was not supported enough (and did not have the right

tools) to do so. Relying on the community's existing relationships would strengthen the primary care message. Also, a majority of Ka Tu people are not fluent in Vietnamese. However, training and Western medical information in Vietnamese are only translated in Ka Tu orally during community meetings by the VHW who, we found, were far from fluent in Vietnamese to start with. Making sure that the trainees understand the training message is an important part of inclusive medical practices.

Second, we have shown that many economic barriers hinder service access in the community. NCD management programmes mainly emphasize Western medical approaches around personal diet decisions [65], yet this case-study shows that diets are constrained by many structural and cultural factors. The lack of market access and the multiplication of sweet- and convenience- stores in the community (encouraged by the modernization policies of the government i.e. buying not growing) would impact any diabetes training programme. The traditional food systems of the Ka Tu are undermined by the government. However, studies have shown that there is a sense of pride and identity among indigenous peoples' traditional food systems which can protect the health of a community [66,67]. Programmes could engage agricultural and community actors to create communal vegetable gardens for patients or create cooking workshops with locally sourced products to overcome this. Having a revitalisation of traditional cooking with available grown resources correlated with a healthy eating workshop could have a positive impact. For example, during an activity conducted with the health practitioners of the health centre, we cooked a diabetes friendly meal with produce from the market. Most of the health practitioners present appreciated it and asked questions about how to convey recipes and cooking advice to patients. Furthermore, efficiency in the use of scarce resources is integral. Here, VNHIP helped rehabilitate the commune health centre yet, while trust in the commune health system is increasing, it is inhibited by inefficient resources. For example, the commune centre will only test large groups of patients for diabetes at a time because the tests come in packs of twenty and cannot be resealed. Thus, patients travel to district health centres and have to stay registered there due to the lack of communication between health centres (which is improving but still impacts patients). Ensuring a good use of resources is paramount.

Third, we noticed healthcare prejudices toward the ethnic rural population. In our case, we have seen that entrenched views that NCDs are a personal (rather than structural) issue restricted the programme's effectiveness by ignoring the structural roots of the disease. Programmes need to be consistent in their advice and integrate this with local practices. The authoritative position of health practitioners means that they will be listened to, but a lack of consistency or unidimensionality in medical advice, and assuming a lack of agency amongst patients, diminishes the impact of medical practitioners. Adding a training module for health practitioners to become more reliable and flexible would facilitate diabetes management as every patient has different circumstances that were not accounted for during their medical visits. The CHW and VHW know the community members and have strong relationships with them. These social relationships are very important to disseminate lessons about diabetes and NCD management. Most patients seem to know each other and already share information about diet, diabetes treatments, and Chinese remedies. Engaging patients together in support groups with VHWs and creating a discussion space may help to share knowledge between patients and the wider population, to show the richness of experiences of diabetes, and ultimately to "de-diabolise" the disease.

Fourth, the rigidity of medical training and the lack of context-based advice is one the main problems of this programme. To address this, we created a culturally adapted clinical guidance for diabetes management. The idea came during meetings with patients who were saying that they could not remember all the advice from the doctors and that they were hard to comprehend due to the medical nature of the explications. We created thus created a culturally-adapted booklet aimed at diabetes patients, their families and the general population. We involved three Vietnam-based artists, and to ensure that their artwork was culturally adapted, we invited them to spend a day in the commune, visit the local health centre, have lunch with health practitioners and meet with diabetes patient as well as their families. Based on the qualitative study, we gained information about determinants of health as well as risk and protective factors for NCD which we highlighted in the booklet with the help of the artists drawings. The booklet has very little writing in Vietnamese and most of the drawings can speak for themselves. The clinical guidance is about to be tested in the community.

## 5. CONCLUSION

This study is important because it highlights barriers and provides suggestions for improvement to a widely implemented global health programmes: NCD primary care training. Despite relying on local health services, these training programmes are not designed to be flexible to local context, are not targeted for ethnic communities, and are not culturally responsive. While the intention of these programmes is to empower local health services in remote areas and improve population's health, their rigid design might contribute to structural violence and have little intended effect. Therefore, we argue that it would be fruitful to include local communities in the design and delivery of primary care. Doing so may enable sustainable and transformative change.

Future studies could examine if the above findings are similar in other communities and look at ways to implement the above ideas in practice. This study focused on a single commune without the possibility of exploring differences between communes impacted by the programme. A broader study may enable the comparison of different contexts and provide a more holistic set of perspectives. Additionally, a multidisciplinary research team allying social science, medical science, and local actors could provide more in-depth and nuanced perspectives.

## CONSENT AND ETHICAL APPROVAL

Prior informed consent was gained from all participants and the research ethics was validated by the University of Edinburgh graduate ethical committee.

## ACKNOWLEDGEMENTS

The authors would like to acknowledge the Go Abroad Fund and the University of Edinburgh, for supporting part of the research in Vietnam. Further support was provided through the Student-led placement grant from the University of Edinburgh. The author would like to thank Dr Marsland for her supervision during the MSc project and her kind feedback. Authors would also like to thank the following people for their assistance in Vietnam: the people of VNHIP, especially the former country director Ho Sy Quang for trusting us on the project as well as Le Thi Hoang Yen and Duy Tran for their help and positive attitude; Lin Lam for her fantastic translating skills; the health practitioners from

Nam Giang and Ta Bhing as well as the patients and their families, for their kindness and warm welcome in their community.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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