Cross cultural learning and adaptation on social norms that influence Type 2 Diabetes between Samia, Busoga, Teso and Lango cultural groups of Uganda

"A cross-cultural learning report"

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We are grateful to the University of California (UCSD) that provided the grant that enabled us to conduct a cross cultural social and gender norms learning workshop that was aimed at understanding the social cultural norms that influence Type 2 Diabetes risky behaviors across four regions of Samia, Busoga, Langi and Ateso.

We are also thankful to Care International (Uganda) and the Eastern African Learning Collaborative (EALC) for providing the guidance and support to make the learning event happen successfully.

Our sincere gratitude goes to the Ministry of Health, Makerere University school of public health, Cultural institutions (Teso, Lango, Busoga and Samia) and District local governments of Amuria, Bugiri, Lira, and Busia for allowing their staff to attend and participate.

In the same spirit, we are very grateful to the Health workers, Village Health Teams, T2D patients, cultural leaders, religious leaders and Local council chairpersons that took out their time to attend the event and share knowledge from their respective cultures.

We applaud the Fidelitas Scientific Executive Facility team for planning and executing this learning event in a technical yet simple design thus making the event successful.

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Introduction

In 2020, Fidelitas partnered with Makerere University School of Public Health to conduct a social norms exploration diagnosis on social norms, beliefs and attitudes that influence Type 2 Diabetes and later a co-design workshop was conducted through a participatory approach to design an innovation on social norms change and transformation around the negative social norms and beliefs.

Based on the findings from the exploration and codesign work, there was need to understand whether the norms, beliefs and attitudes in cultural regions of Busoga and Samia cut across the other cultural regions (Lango and Teso) and whether the innovation can be adopted or adapted by other regions of Uganda.

With the above background, Fidelitas Scientific Execution Facility received a grant from University of California San Diego through Care International (Uganda) and the East Africa Learning Collaborative for a period of 4 months spanning from May to July 2023 to conduct a cross cultural learning and reflection event. The learning event was aimed at identifying cross cultural social norms that influence type 2 diabetes risky behaviors, culturally specific social norms that influence type 2 diabetes risky behaviors and to find out influencers, duty bearers and reference group members' views and insights on adaptability of norms change innovation in Teso and Lango cultural grouping. (Initially designed for Samia and Busoga cultures)

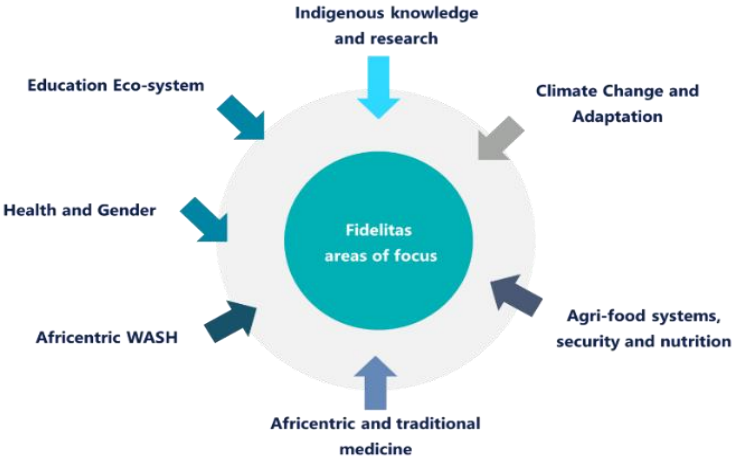
Fidelitas Scientific Execution Facility (Fidelitas) is an independent and not-for-profit organization. It is a politically, ethnically, denominationally neutral organization established to catalyze sustainable development, systemic change, build practical implementation capacity and support development interventions to be effective, efficient, scalable and sustainable.

About Fidelitas Scientific Execution Facility

With the strategic goal to institutionalize indigenous knowledge as the basis for evidence-based and practice-based implementation of development interventions, Fidelitas promotes equity, co-production, evidence generation and implementation of impactful indigenous knowledge. It builds individual and collective agency, documents un-documented Afri-centric practices and solutions as well as translates science to practice. The Fidelitas focuses on indigenous evidence and solutions which are nurtured and improved.

Figure 1: Fidelitas focus areas of implementation

The focus areas of Fidelitas include implementation science, capacity building and indigenous knowledge creation, management and translation across several thematic areas.
At Fidelitas, we translate indigenous knowledge into scientific evidence for scale and spread.



Background

In 2020, Fidelitas worked with Iteso Cultural Union to develop a Fatherhood intervention – ***The Etesot Father*** based on Teso cultural values. At the core of this approach was the social norms change and transformation and can be accessed at https://fidelitasscientific.org/the-etesot-father-tef/. It is designed to use a bi-directional approach to restore positive but abandoned norms and practices while transforming the negative norms and or practices. The approach is premised on the African culture and African values which catered for human wellbeing outcomes especially child care related outcomes. Alongside this, we also adapted a scale and spread approach that guides the diffusion and spread of change for behavior change interventions, which uses a simple framework and can be accessed via https://fidelitasscientific.org/spreading-change-adapting-the-east-framework/.

Later in 2020, with support from Makerere University Research Innovation Fund, Fidelitas teamed up with other Researchers at Makerere University School of Public Health and conducted a social norms exploration around Type two diabetes in Busoga (Bugiri district) and Samia (Busia district) which are two tribal/cultural regions. Later, through a participatory co-designed workshop, Fidelitas together with participants from the cultural regions led in the development of a social norms change and transformation innovation which focuses on gradually changing people's undesired negative behaviours and practices, negative attitudes, beliefs and norms around their social life style (eating habits, sedentary lifestyle, alcohol consumption and smoking habits)

The social norms exploration findings showed that, the risk factors around Type-2-Diabetes included consuming high cholesterol, fatty and sugary foods/drinks, excessive alcohol consumption, pipe smoking and sticking to the staple food syndrome (for high cholesterol foods) among others. Based on the findings from the exploration and co-design workshop, the cross-cultural learning and reflection workshop was aimed at understanding whether the norms, beliefs and attitudes in Busoga and Samia cut across to other regions (Lango and Teso) and whether the innovation can be adopted and adapted in these regions. The etiology and consequences of social norms cannot yet be fully understood by working only within one cultural context, which, by definition, restricts the range of variation and similitude available on culture-level predictors and consequences (Michele J et al., 2017).

Objectives

The learning and reflection event had the following objectives;

1. To identify cross cultural social norms that influence type 2 diabetes risky behaviours.
2. To identify culturally specific social norms that influence type 2 diabetes risky behaviors.
3. To find out influencers, duty bearers and reference groups members' views and insights on adaptability of norms change innovations to Teso and Lango cultural groupings. (Initially designed for Samia and Busoga cultures).

Why cross-cultural learning

At Fidelitas, we strive to translate indigenous knowledge into scientific evidence for adaptation and spread across diverse cultural communities. We applied a cross-cultural learning approach in a systematic process that allowed the team to do self-cultural reflection to acquire knowledge, skills, and understanding about different cultures in relation to their own – with a view of adopting and adapting practices that can be shared across cultures.

Over and above the technical objetives, we chose this approach to learning to allow teams from the four cultures (Busoga, Samia, Teso and Lango) to develop a more comprehensive understanding and appreciation for diversity, and gain the ability to navigate and interact effectively in multicultural setting, learn from each other, break culturally-oriented stereotypes and prejudices, foster respect for others, enhance knowledge, competency, cultural tolerance, adaptability of behaviours and open-mindedness to external – internal learning and change.

Even when the cultures are diverse, deeper cross-cultural learning can boost sharing of indigenous knowledge and practices which contribute to science, builds bridges and has potential of promoting social cohesion in a diverse country like Uganda.

Participants selection criteria

Based on the initial study on exploration of social norms around T2D in the districts of Busia (Samia cultural region) and Bugiri (Busoga cultural region), groups and individuals from religious fraternity, health, community leaders including cultural leaders, VHTs, T2D patients and para-social workers participated in the exploration and co-design intervention. Therefore, a similar category of participants was selected i.e. (VHTS, Religious leaders, Community leaders including Local councilors, cultural leaders, T2D patients, para-social and health workers) to share and learn from each other the norms, beliefs and attitudes that influence risky behaviors in relation to T2D diabetes from the four regions of Lango, Teso, Busoga and Samia. The total number of participants was (47) with Samia cultural region: (Busia District) - 12, Busoga cultural region: (Bugiri District)-11, Teso cultural region: (Amuria District)-10 and Lango cultural region:(Lira District)-14

Participant's table 1: Categories of Busoga, Samia, Lango and Teso

S/N	Category of participants	Cultural region				Total participants
		Busoga	Samia	Teso	Lango	
1	Religious leaders	1	1	1	1	4
2	Health workers	2	3	1	1	7
3	Village Health workers	4	4	4	8	20
4	Cultural leaders	2	2	2	2	8
5	Local council ones	1	1	1	1	4
6	T2D Patients	1	1	1	1	4

Cultures table 2: Ethnicity of participants

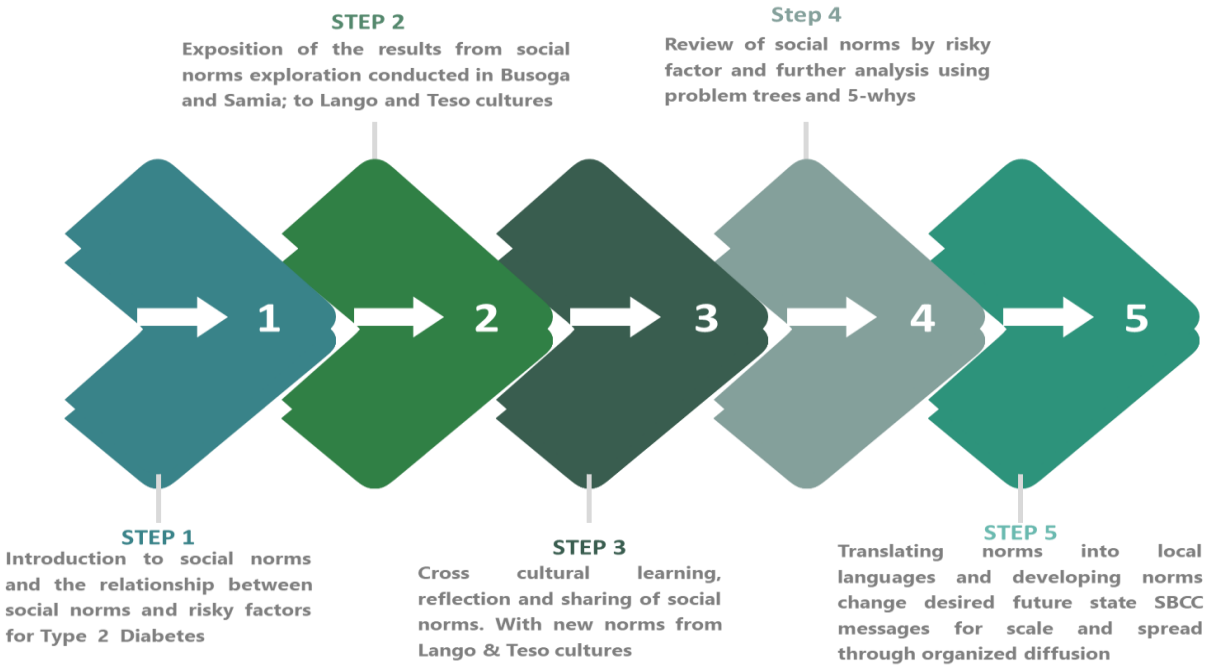
S/N	Cultural region	People	Representative district	Language
1	Busoga	Basoga	Bugiri	Lusoga
2	Samia	Basamia	Busia	Samia
3	Teso	Iteso	Amuria	Ateso
4	Lango	Langi	Lira	Langi

The learning and reflection event

The 2-day event was attended by participants from four regions (Bugiri, Busoga, Teso and Lango). The Assistant Commissioner Ministry of Health (MOH) – NCD Lifestyle Department re-echoed the need to have local Solutions that address problems at the community and facility level – and less reliant on innovations that are imported and many times not context specific. He made a brief presentation on Type 2 Diabetes, its causes (T2D risk behaviors and their drivers, and how it manifests. Dr Juliet Kiguli led the research team from Makerere University and noted that she is keen to learn and see how the solution to type 2 diabetes will unfold.

The Chief Executive Officer at Fidelitas, Mr John King Odolon led his team that will be translating the evidence into practice and ensuring quality of the pilot intervention expected to be implemented in conjunction with Makerere University researchers. He noted that the participation and zeal for change should inspire each participant, from the convening and continue upto field level. He guided that it is people who have the ability to change people" and not the programs – thus this innovation is a people innovation that demands each one's contribution.

Figure 2: Learning and Reflection event step by step process



Step 1: A detailed presentation on social norms was delivered highlighting the basic characteristics of a norm showing differences between norm, beliefs, attitudes and practices. Similarly, a brief presentation about diabetes and particularly Type 2 diabetes was made pointing out its meaning, causes and how it manifests.

Step 2: Examples of norms, beliefs and attitudes harvested from the two regions of samia and Busoga during the social norms' exploration were shared with participants to gain a better understanding of social cultural norms.

Step 3: A participatory social norms analysis was conducted with participants mixed according to their cultures. Each member was able to internalize whether the norms from Samia and Busoga apply or cut across in their cultures (Langi and Teso). Members from Samia and Busoga made further discussion of the already profiled norms and made confirmation of the norms in addition to adding new norms. Positive and negative norms that influence T2D risky behaviors were identified across four domains (dietary factors, alcohol consumption, smoking and sedentary life style). Norms from specific regions were identified alongside with those cross cutting in two or more regions as indicated in the table 2.

Step 4: A participatory session was held to further analyse the social norms according to the risky factors, the teams applied the problem trees and 5-whys approach to study further and unearth any other social cultural factors and norms around each of the four risky factors i.e. dietary factors, excess alcohol consumption, sedentary lifestyle/lack of exercise, and smoking).

Step 5: After this cross-cultural collaborative analysis, each cultural group retreated to their groups and developed key messages that speak to the future positive behaviour, through creating new norms, reframing norms and other messages that can address the harmful norms around the type 2 diabetes risky behaviours. These will be spread by way of organized diffusion across the four regions.

Results table 3: Norms' matrix showing divergent and convergent norms across four regions

Type 2 diabetes risk factor/behavior	Samia	Busoga	Iteso	Lango	Cross-cultural analysis
Unhealthy feeding and dietary lifestyle	Young married women expect their husbands to bring cooking oil alongside sauce to use in preparing food because they grow up seeing their mothers do the same. So they too fry food daily. Samia men expect their wives to serve them food that is fried, they believe that they are undermined if their wives serve them unfried food. Women cook and serve fried foods so that they are not seen as undermining their husbands. "Bwita/kalo is our staple food, every home eats it daily"	In Busoga, families/homes that do not fry their food and sauce are seen by the neighbors as poor and often laughed at, so most women fry their food to avoid being talked about. Cooking greens and vegetables for a man is a sign of mistreatment and less care to your husband, so we cook fried foods for our husbands daily or else, a man will leave you for other woman cooks for him with meat and fatty, fried food. Fat people are respected in society, thus many people who are small eat fatty foods to gain weight, and be respected in the society.	Eating pasted greens daily (Eboo) is a sign of poverty in a home, so every family head, as expected by community neighbors, struggle to meat, fish and fried foods. In Teso, Atap (millet and sorghum) is our food. You can't be a true Etesot and you don't eat this on your daily menu since it is our staple food.	In Lango, our women have stopped cooking cultural foods like Malakwang, amola seeds, alodi seeds and obolo idek because community expects women to use cooking oil. It is modern In lango culture, eating greens is another way of improving our health because green vegetables have more food value for a healthy body.	The social norm around cooking and eating oily, fatty foods is cross cultural but manifests differently. A cross-cultural analysis shows that power, social expectations of a family wife and sanctions are at the heart of propelling these norms. Eating green vegetables has always been a tradition across all cultures, but the perceptions changed due to the coming of new ways of cooking, based on western culture – hence we see "cross-cultural cultural erosion" of indigenous eating and nutrition practices and food etiquette It's a double-edged sword i.e. do they stick to staple food or they follow western fast foods. What is the healthy middle ground? While many wives/women have a positive attitude towards eating greens in the family, they fear becoming divorced or being co-wives and thus turn to cooking unhealthy foods for their husbands to maintain their marriages.

Type 2 diabetes risk factor/behavior	Samia	Busoga	Iteso	Lango	Cross-cultural analysis
	"Taking tea without adding sugar is mistreatment to a husband, so women are expected to add sugar in their husband's tea"	Serving tea without putting enough sugar (sweetened) is a mistreatment to your husband, so women are expected to serve tea with much sugar.	People take sugar but there is no expectation on adding, and sugar is expensive.	The quantity of sugar in tea depends on what an individual wishes and if you want much sugar, you have to buy it yourself.	At the community level, the definition of what is enough sugar to take is not clear. This makes it difficult to address such a risk factor, given that the body itself needs sugar. Perhaps, local lay-man's understanding and measurement of "enough" sugar needs to be constructed.
	"when you serve tea, even after putting in enough sugar, you are expected to place a tin of sugar on the table for the man to add himself, if you don't, the man can abuse you if it doesn't taste sweet. Women put the tin on the table.	Men expect women to serve tea after testing that the sugar is sweet enough, so in order to avoid any abuse, women put a lot of sugar in their husband's tea.	On big and special days, every home is expected to drink soda or packed sweet juice. "You cannot host people and you don't buy soda because they will think you are poor or they were not welcome"	It is a known custom to atleast buy soda even if it is a small one when you host a person. Otherwise, how will they perceive you? Even if you don't have money, atleast borrow and buy something to drink.	
Excessive alcohol consumption	We take alcohol because since long ago, alcohol has is taken at family meetings, clan meetings and parties. So people expect alcohol at every function.	Most men in our community drink alcohol, so many young men also drink	In Teso, Ajon is consumed frequently because it is part of our culture, and it is a must for Ajon to be served on every event. Otherwise people may not attend your function	Drinking Malwa is part of the tradition in Lango which is done daily around evening time. So, men and women converge to drink daily.	The norms around culture/traditions, religion and misperceptions or misinformation are three key cross-cultural aspects that arise on norms around excess alcohol consumption, as a risk factor for type 2 diabetes.
	In Samia culture, alcohol is expected to be served at almost all functions, meetings and celebrations whether big or small.	Religion does not allow us to drink alcohol so as expected, we don't drink alcohol.	When a breast-feeding mother does not have enough breast milk, they are expected to drink Ajon (Malwa) to be	Saved (Born again Christians) don't allow drinking waragi because drinking makes one un able to pay school fees for their children.	The positive norms are around religion especially in Lango and Busoga where religious beliefs are controlling alcohol consumption.

Type 2 diabetes risk factor/behavior	Samia	Busoga	Iteso	Lango	Cross-cultural analysis
		Waragi reduces the pain of diabetes because it is sour. So diabetic patients drink waragi to reduce pain and amount of sugar in their body. When you take alcohol with your friends, they can't abandon you in times of need, but if you don't drink, no one will help you in case you need neighbors help	able to have enough breast milk for their baby	People who drink avoid stress and frustration, so people who feel stressed drink to stabilize and avoid domestic violence at home. Type 2 diabetic patients believe that waragi reduces pain of diabetes, so they drink it often. Men in Lango believe that if a man does not drink alcohol, then he is not a real man and not fit to be among men. So many men drink alcohol to fit in.	The gender dimension of norms around alcohol related to masculinity – where men are considered real men and not weak if they drink. In Teso, breastfeeding women are expected to drink local alcohol to generate breast milk – the intention is right but the practice means are dangerous because they increase women's susceptibility to type 2 diabetes.
Smoking cigarettes and local pipes	Our traditional culture allows us to smoke and, in some situations, we are compelled to smoke using pipes to prevent spiritual attacks. It is part of our culture"	In Busoga, most old parents lived long and yet they were smokers, so we smoke because we saw them and they didn't die early.	In Teso, we grow up seeing old men and women taking snuff and so we take it	In Lango, if you are to buy fish from a fish monger at the fishing site, you must take some cigarettes to make it easy and quick for you to purchase from them. In Lango, every fish monger is expected to be a smoker In Lango, there is no law that stops people from smoking, even if you are young or old, so anyone can smoke. So, many young men and old men smoke abuka (Locally made cigarette) Youth in Lango say it is now their time to drink and smoke not for the old men, and that when	Norms that influence smoking are related to limited knowledge, misinformation, culture and life stage of youths.

Type 2 diabetes risk factor/behavior	Samia	Busoga	Iteso	Lango	Cross-cultural analysis
				you smoke, you become tough, warm and it increases your immunity. Therefore, many youths smoke.	
Sedentary lifestyle and limited exercise	In the Samia culture, men are not expected to struggle when they marry. Their wives are expected to serve their husbands food as they lie and rest under tree shades at home, thus many men don't exercise. In Samia culture, a husband has to fend for his family and must not be lazy. Many men work hard and exercise their bodies in the process. Fatness is a symbol of being wealthy.	Big and fat people are recognized even at a distance, they are seen as well off and cannot to be taken for granted. So, men don't do exercises that cut their weight.	Community perceives fat people to be wealthy, eating well (chicken, pork, fish, meat) and not the pasted greens). So, people prefer lifestyle that increases weight.	In Langi, a respected person is one who has good character and behavior and is respect is not given based on one's body size In Lango, men as head of family have more responsibilities than women. They don't have time to lie lazy and wait to be served everything Fat people who don't do anything that generates an income for their family or helps in the community are not given respect. They are nicknamed "Gwala" meaning fat for no good use. So, people watch their weight and try to work hard.	Sedentary lifestyle norms related to type 2 diabetes are pronounced among the Basoga, Samia and Itesots but not so much in Lango culture. The key aspects around sedentary lifestyle are personal image (respect) and perceived economic status. This shows that people in Teso, Samia tribe and Busoga mind so much about how other people view and perceive them – hence the sedentary lifestyle. In addition, this also shows that many families are in poor economic standing – but don't want to be looked at as such. This normative attitude could be fertile ground for social economic development programs since people especially men are willing to engage to improve their status and be respected.

Emerging lessons and implications to the social norms field

- **Homogeneity of reference groups across cultures**: We noted an evident similarity of reference groups around type two diabetes risky behaviours across the four cultures; that is health workers, religious leaders, village health teams, cultural/clan leaders, peer groups, in-laws, parents and grandparents among others influence the target behaviour in Lango, Teso, among the Samia and Busoga cultures. This suggests a potential for using the same pathways for scaling and spreading change using the social norms innovation developed in conjunction with Makerere University.
- **Emergence of mutual partnerships and government support**: Cross cultural and institutional partnerships were fostered between and among Samia, Busoga, Teso, Lango cultures, Makerere School of Public Health, Local government, Ministry of Health and the East African Learning Collaborative (UC San Diego and CARE Uganda). This fits in Fidelitas philosophy of "People and not programs change people", in view of the diversity that is needed in addressing complex normative issues such as type 2 diabetes risky behaviours.

"I am happy that we are trying to find culturally acceptable interventions that can reduce Non-Communicable diseases like Type2 diabetes, we are ready to learn from local communities and this will inform our programming as Ministry of Health other than copying solutions from western countries" ***Dr Mutungi Gerald, Commissioner NCD Ministry Of Health***.

The support of the government through the Ministry of Health is a great sign for further adaptation and scale-up of the innovation once successfully tested. In line with this, Dr. Mutungi further noted that ''While there are established interventions recommended by the World Health Organization (WHO) and other advising agencies, it is encouraging to see efforts being made to find local solutions for Type 2 Diabetes''. He added that this study and pilot is of great importance as it will provide us with valuable insights into the factors contributing to the increase of Type 2 Diabetes in our local communities.

Furthermore, it will enable us to understand the perspectives of local stakeholders and leaders, informing us about effective strategies specific to our context, rather than simply adopting approaches from countries like Switzerland or the USA. Regarding the factors contributing to the rise of Type 2 Diabetes, Dr. Mutungi said, "Ugandans are continuously eating poorly. They say they are eating well but eating badly by consuming processed foods, fried foods, and fast foods."

He also highlighted the issue of physical inactivity, stating, "Ugandans are becoming physically inactive because they are using motorized transport even where they could have walked. They spend a lot of time in offices and go to sleep."

On the significance of the study, there is no evidence of any innovation addressing type 2 diabetes risky factors in Uganda and as such, Dr. Gerald from the Ministry of Health noted that this innovation from the study will inform programming and action around Type 2 Diabetes in Uganda.

- **Few positive and many negative cross-cultural and culturally specific social/gender norms that influence Type 2 diabetic risky behaviors were identified**. This shows the enormous work needed to change how people respond to social-cultural norms. For example, it is a positive social norm for communities to come together for events, share challenges and problems, but the risk that comes with this is placing alcohol as the lubricant for dialogue and social cohesion.
- **Contribution to the body of indigenous knowledge and learning:** Leanly, Fidelitas has successfully tested a cross-cultural approach to learning and adaptation at the intersection between indigenous knowledge and science in social and behaviour change programs/interventions. More indigenous knowledge can be brought to the scientific table and level, and may allow for design and implementation of programs at cross-cultural scale for wider development impact.
- **Adaptation of the social norms innovation across four cultures**: It became evident that given the cross-cultural nature of the social and gender norms, the innovation could be adapted across other regions. Hence, positive/future state/desired state social cultural change messages were co-developed and are being refined together with language specialists for scale and spread using the village health teams (VHT) structure, religious, cultural and village governance (LC1) system.

- **Cost of norms exploration, diagnosis and design may not be an issue anymore:** The cross-cultural learning and adaptation approach demystifies the "costliness excuse" that has always been fronted by researchers and implementers as the reason for not conducting deep diagnosing of social, cultural and gender norms. We used learning from Busoga and Samia cultural groups to explore with Langi and Teso cultural groups to trigger rapid validation and identification of new norms. Thus, it is possible to integrate learning, design and dissemination science to explore social norms.
- **Same norm, varying manifestations across cultures:** We learned that one social norm is viewed and affects type 2 diabetic behaviours differently, for example in Lango culture, eating greens is another way of improving our health because green vegetables have more food value for a healthy body, thus people who need to be healthy eat greens. In contrast, among the Samia and Basoga, most men look at it as mistreatment, other women may use it against you to take your husband and you are looked at as poor. Thus, the value of cross-cultural learning helped the Samia and Busoga teams to learn about the positive values of green vegetables to their lives – and given that every person aspires to live long and healthy, the negative norms among the influencers from Busoga and Samia can be transformed from such cross-cultural learning and sharing, and trickle down to community level.

- **The gendered nature of social norms around type 2 diabetes**: Rather unsurprisingly, we note that because women are culturally assigned the role of cooking and the kitchen, most social norms had a gender dimension – which underpins the diversity in which masculinity is still being propelled at household level, against the will of women/wives. For example, a woman may have a good attitude towards healthy feeding (greens, fish, vegetables – with a balance), but because the norm is that such food is a sign or is perceived as mistreatment to her husband, who may abuse her, or replace her with another women, she will follow the social norm (cook deep fried, high cholesterol, fatty or oily foods) to keep her husband, and not be condemned by the community. Across all cultures, it emerged that young women are forced to cook and eat in certain ways for fear of the sanctions and in anticipation of rewards form the man.

- **Power and agency on family dietary practices and lifestyle:** The issue of power and agency among women was identified as central in entrenching the social and gender norms around type 2 diabetes risky factors. Women have no or little power to make a dietary and food preparation decisions and/or acting on their choices/decisions on their own. The way they prepare meals and the ingredients are determined by the desires of their husbands. Failure to conform to what the husband needs or what the community or village neighbors expect of her comes with sanctions including separation, fighting or polygamy.

- **There is a relationship between gender-based violence and non-conformance to risk factors around type 2 diabetes**: Participants shared that some women are physically abused by their husbands for not cooking/preparing fried meals, emotional violence comes in when the husband gets another woman who can cook fried, oily and fatty foods. Thus, the effects of type 2 diabetic social norms are far reaching.

- **The role of religion and culture**: In addressing these social norms, there is need to harness religion and culture. Culture promotes consumption of locally brewed alcohol (ajon, malwa, kwete) contrary to what religion promotes, but cultural practices if changed can cause lasting change for example at cultural functions the type and amount of alcohol can be regulated. On the other hand, religion can be used as platform to spreading change. This was confirmed by the religious leader (Sheikh) who asserted that:

"*All I want to say is that we as religious leaders don't need to mobilise people, the people mobilise themselves, and listen and do what we tell them because we link it to holy book…… when we call them, they come, and they also invite us for their functions, we can then communicate and influence their habits*" ***Religious Leader from Busoga***

"Despite Type 2 diabetes being a killer, type 2 diabetes norms research has never been done in Teso and no one has been coming up to find local ways of reducing and lowering the disease even when we have peculiar and shared norms that facilitate Type 2 Diabetes. I'm happy that Fidelitas and Makerere University have taken up this initiative and we are ready to take it up as a community'' **Andrew Ochole, the Deputy Prime Minister of the Iteso Cultural Union**

On behalf of Iteso Cultural Union which covers over 12 districts of Uganda, he reaffirmed their commitment to collaborate with Makerere researchers and development partners, such as Fedelitas to actively disseminate the study's innovations to educate and raise awareness among its community members in an effort to address type 2 Diabetes.

- **Organized cross-cultural diffusion in relation to resistance to change**: Resistance to change can be addressed through cross-cultural mix and cross-cultural conversations. We noticed that when participants from the same region/culture were grouped together to discuss norms and beliefs, there was marked resistance to change and they all re-enforced each other in defending their dietary, cooking and alcohol consumption behaviors. However, when mixed or grouped with participants from other regions/cultures, their views relaxed and were less resistant to some to the norms for example from the conversations, preparing greens was eventually accepted as not mistreatment and not a sign of poverty but healthy eating. This means that bringing together cultures to share and reflect on what they have in common can spark change among reference groups who can champion large scale behavior change in their respective communities.

Our view of cross-cultural diffusion and overcoming resistance to change was exemplified by Busoga, Samia and Teso agreeing to beliefs and norms from Lango about eating green vegetables as being healthy and delinking fatty foods from economic status but health status and longevity. The potential adopting cultures did not view this as undermining their cultural norms and beliefs – no clash!

- **Cross generational-imitation effect and descriptive norms**: The dietary behaviours and practices among the young girls are traced from their mothers' influence and training, smoking practices are traced from grandparents who used to smoke are never died early as health experts allege (hence no fear of ill health among smokers). Therefore, in addressing the social norms, there is need to target the older generation of influencers, create a new reference group of older non-conformant influencers and create interface dialogues between experts and older parents.

- **Closing the research – practice gap through co-learning and co-production**: The idea of leadership by researchers led by Dr Juliet Kiguli from Makerere University, working with a knowledge translation and curation organization (Fidelitas) to lead field level practice demonstrates how the time between research and research utilization can be reduced. Connecting researchers and implementers

"This evidence-based innovation and cross-cultural learning is intended to change the implementation landscape for NCD programs. It is very vital to collaborate and connecting research outputs with indigenous local knowledge translation organizations like Fidelitas Scientific Execution Facility (Fidelitas), who can support research uptake, further resource mobilization and support organic spread of the innovations". Dr Juliet Kiguli, Makerere University

Conclusion:

1. The social norms around type 2 diabetes risky behaviours are cross-cultural and thus the change innovation package can be adapted and tested across the four cultures (Samia, Busoga, Teso, and Lango). This nature of the social, cultural and gender norms around type 2 diabetes risky factors suggests that the social norms innovation can be implemented across the four cultures. This may not be limited to type 2 diabetes and NCD risky factors, but also to the design of other social and development programs need to have this in mind.

2. To try to change behavior without changing social cultural norms is a futile approach because people are influenced directly or indirectly by spouses, family members, clan members and religious affiliates. Thus, the value we have derived and learnt from cross-cultural learning and adaptation on social norms is that while cultures are diverse, there is convergence on many social norms – perhaps because before the world became so divided, it was one and the same. Incremental spread of norms change interventions along rigorous measurement can help us identify the real and imaginary boundaries within which norms operate.

3. It is important for programmers, researchers and implementers to appreciate that indigenous knowledge and science are not competing between each other but can reinforce each other. Creating the link between indigenous knowledge and science is uniquely new, inadequately researched on and not well disseminated. From this cross-cultural learning event, we have learnt that indigenous cultural communities have their own knowledge systems about

food, cooking, diet and socialization and this knowledge has allowed them to live for generations, and scientific evidence can only re-enforce this knowledge – i.e. there is a need to intentionally translate the indigenous knowledge into scientific evidence for generalizability. Combining indigenous knowledge and scientific evidence will create a broad mutually re-enforcing knowledge eco-system. It should also be noted that the intersection of indigenous knowledge in scientific research can promote equity and justice in the field of knowledge.

4. In the process of developing future/desired state of the gender and social norms, we noted significant descriptive norms manipulation. Across all the four cultures, participants seemed to "over-react" to complex normative information and "under-react" to simplified normative information – hence they demonstrated ability to update their own prior beliefs.
5. We also noted that over-reaction and attachment to the social norm decreases with increase in cross-cultural diffusion. When we mixed up the groups to share experiences, the Busoga team also agreed that eating more of greens/vegetables and less of fried foods is not a sign of punishment to a man, and that this should not be a basis of a man leaving his wife for another woman who doesn't care about their health. This shows that people update their injunctive beliefs after being exposed to positive descriptive normative information – hence there is a strong association between injunctive and descriptive norms congruent with findings by Eriksson et al., 2015.

Next steps

a) Fidelitas in collaboration with a team of researchers at Makerere University will pilot test the social norms change innovation across the four cultures to assess its effect in shifting norms and beliefs around type 2 diabetes risky behaviors. We will share results

b) Use this success story to target other type 2 diabetes high risk cultures and tribes for potential adaptation and spread of the innovation. Fidelitas intends to target the Alur of west Nile and major clans in Ankole culture.

c) We will adapt the scale and spread approach from Fidelitas to guide the diffusion and spread of change for behavior change interventions(using the EAST framework) can be accessed via https://fidelitasscientific.org/spreading-change-adapting-the-east-framework/. Based on the evidence, we intend to support adaptation of the innovation and share with other countries in the region

d) We plan to work with other researchers to explore the innovation's potential to change norms around other Non-Communicable Diseases. This dimension of scale and spread will go beyond the social norms around type 2 diabetes to include other Non-Communicable Diseases in Uganda and beyond.

Adaptation related recommendations

1. Any organization or entity that intends to use a similar approach should plan for adequate time for norms analysis, group reflection and designing of new positive norms or desired future state. It was evident that participants required enough time to have warm evidence informed conversations, discuss, agree and disagree on norms from within their cultures and how they can be changed into the desire future state.

2. The basis for cross-cultural learning should be evidence from atleast one culture. The trigger to start the conversations was the evidence generated in Samia region (Busia) and Busoga region (Bugiri) – and thus participants had less questions and tuned to learn.
3. For successful cross-cultural learning, the ensure that you involve the teams that were engaged during the exploration and innovation co-design stage. These are normally the reference groups (having both conformant, on-the-fence and non-conformant members), have a clear idea of the norms and the innovation that they will champion. They lead the change!
4. As much as possible, the cross-cultural groups should be diverse and inclusive so that any idea or suggestion that would exclude or infringe on the rights of any group e.g. gender, age, religion, culture, education is neutralized to allow for diversity, equity and inclusion. In our case, it was vital that we include women, young girls, all religious groups, technical and non-technical staff and different cultures. This gave us rich insights.

Annex 1: Participant list

#	NAME	SEX	AGE	CATEGORY/INSTITUTION	REGION	TELEPHONE
1	ENGEMU MUSA	M	41	CLAN LEADER	TESO	0778313930
2	OTIM MICHAEL	M	50	VHT	TESO	0775166654
3	ATURO HELLEN	F	39	VHT	TESO	0783984401
4	ACHOM AGNES	F	42	VHT	TESO	0772746738
5	EGWERU BEN	M	57	CLAN LEADER	TESO	0774981464
6	OKOKOR YOKANA	M	65	CLAN LEADER	TESO	0778989958
7	OLUPOT JOSEPH	M	43	VHT	TESO	0788628201
8	OKELLO DEOGRACIOUS	M	33	HEALTH WORKER	TESO	0784630939
9	EKAKORO FRANCIS	M	58	RELIGIOUS LEADER	SAMIA	0775641705
10	OMUKAGA CHRISTOPHER	M	55	CULTURAL LEADERE	SAMIA	0782661516
11	NAKAFEERO UNIA	F	30	ENROLLED NURSE	SAMIA	0782753143
12	AUYO AGNESS	F	50	VHT	SAMIA	0773753404
13	ATHIENO TEDDY	F	52	VHT	SAMIA	0773144337
14	IKEMERI LAWRENCE	M	62	CHAIRPERSON VILLAGE LOCAL COUNCIL	SAMIA	0786387363
15	OLAKAS VINCENT	M	48	VHT	SAMIA	0772096825
16	OYILE EGESA	M	48	VHT COORDINATOR	SAMIA	0775426050
17	SHEIK MAJID MUGOYA	M	62	MUSLIM LEADER	BUSOGA	0785253075
18	WANDERA MUCHEINE	M	76		BUSOGA	0778197031

#	NAME	SEX	AGE	CATEGORY/INSTITUTION	REGION	TELEPHONE
19	OWADE ISAAK	M	57	VHT	BUSOGA	0782252892
20	MWANDHA ESTHER	F	58	VHT	BUSOGA	0782400877
21	ALOWO SUSAN	F	60	VHT	BUSOGA	0785243220
22	OGUTTU ROSE EMILLY	F	36	VHT	BUSOGA	0787968223
23	KIRUNDA CHARLES	M	38	CATHOLIC	BUSOGA	0776879010
24	KULABAKO ELIZABETH	F	40	PASTOR	BUSOGA	0776875679
25	NABIRYE ISIKO EDITH	F	59	RELIGIOUS LEADER	BUSOGA	0779373054
26	NABWIRE MARY	F	56	HEALTH WORKER	BUSOGA	0772934380
27	OCOLE ANDREW	M	56	CULTURAL LEADER	TESO	0772302703
28	NAMPEWO EVARINE	F	40	SENIOR NURSING OFFICER	SAMIA	0772900227
29	OUMA FREDRICK	M	45	DISTRICT HEALTH EDUCATOR	SAMIA	0782986920
30	KAMIRA JAMES	M	36	VHT	LANGO	0773880353
31	ADONGO GRACE	F	47	ENROLLED NURSE	LANGO	0772697319
32	OLUNGA PATRICK	M	30	VHT	LANGO	0784130386
33	DAPAL TONNY	M	42	RELIGIOUS LEADER	LANGO	0782882405
34	ATOO GLORIA	F	24	VHT	LANGO	0774493754
35	NAMUTOSI OLIVA	F	56	MEDICAL CLINICAL OFFICER	LANGO	0785044618
36	APIO JOSEPHINE	F	45	VHT	LANGO	0786950289
37	AKAO GLORIA	F	27	VHT	LANGO	0762839757
38	OPERO DAVID	M	44	VHT	LANGO	0773622444
39	EKWET TONY	M	42	RELIGIOUS LEADER	LANGO	0779854876
40	ODIC MAXWELL	M	60	CLAN LEADER	LANGO	0777769407
41	OYOO DENIS	M	38	VHT	LANGO	0775707001
42	OGWAL PATRICK	M	50	CLAN LEADER	LANGO	0774787950
43	OKUR NELSON	M	45	VHT	LANGO	0775895684