



Food Safety & Cultural Norms: Focus Groups with Somali Men

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EXECUTIVE SUMMARY

Immigrants arriving in the US have long influenced food choices and dining preferences at home since they first arrived to America centuries ago. European and Mexican foods played and continue to play a large role in the food culture. In the latter part of the 20th century, arrivals from different countries with very different food patterns added to American vibrancy.

Today, ethnic restaurants of Middle Eastern origin and a wide variety of Asian restaurants, with their unique cooking, and use of exotic spices, herbs and other ingredients, create authentic ethnic foods that appeal to their culture. They can easily be found within short distances.

In Minnesota, the arrivals of Hmong and African-born immigrants from across the continent with their unique food stores have added to the local gastronomy. The Somali community “halal” grocery stores with adventurous cooking and popular dishes of *biriani*, *sambusa* and *halwa* are fast finding a place in American fast-food outlets, but by and large traditional cooking continues to take place mostly at home for the family.

In the midst of demographic shifts are animal slaughter methods and meat/food preparation requirements that remain unchanged and must be observed by followers of Islamic and Jewish faiths as dictated by “*halal*” and kosher practices of slaughter. Furthermore, traditional and culturally-specific habits of food preparation and food-handling coexist with more modern food-safety standards, to prevent food poisoning.

Outbreaks of foodborne illness have periodically been observed among Minnesota residents, including new immigrants. The food safety risks are compounded by the availability of local live animal markets that sell and slaughter animals for individual customers. Several live animal markets operate in Minnesota.

Concerning these premises, the Minneapolis Health Department (MHD) hired culturally-specific contractors to conduct focus groups with Latino and Somali residents of the metropolitan area. Multicultural Consulting Services conducted three focus groups that focused on just Somali male participants.

In general, the overarching themes that emerged from the focus groups are; (1) Unique cultural understandings of food and foodborne illness among Somali male focus group participants (2) Customary slaughter of animals in Somalia and the lack of a food refrigeration system (3) Religious restriction of pork and how these restrictions limit food shopping and dining options (4) The new notion of leftover food that requires storage and reheating.

As far as participants’ understandings of the causality of foodborne illness, the eating of a variety of food at one time, consuming non-halal meat and the presence of germs were mentioned. Cooking, cleaning utensils, cleaning the kitchen, cooling, reheating, washing meat/vegetables and hand washing were the major methods discussed to prevent foodborne illness. Regarding meat preparation and logistics involved in the transport of meat purchased from live markets, the

general consensus was, no one took prior precautions transporting freshly slaughtered meat nor were any packaging methods taken into consideration.

Participants described two major approaches in dealing with foodborne illnesses, a systemic approach of visiting a primary care provider or a local pharmacy store, and traditional homemade remedies used. When asked to describe symptoms of foodborne illness, in addition to stomach ache, vomiting and cramping, the participants described two types of diarrhea, a healthy diarrhea and an unhealthy one. They identified unhealthy diarrhea as one accompanied with cramps and vomiting.

To raise food safety awareness in the community, participants encouraged more oral and visual modes and spoke of Somali TV. They supported the creation of DVDs and messages communicated via religious sermons and town hall meetings. Other participants encouraged print materials distributed to halal markets and engaging school children in food safety education.

There are numerous insights, lessons learned and recommendations identified from focus group discussion. To begin with, some of the food safety practices in the community are cultural assets and need to be recognized as such. For example, participants had not grown up with the custom of leftover food and many Somali community members have more stringent practices than the food code rules on cooling and reheating. Participants described their food safety experiences in Somalia as one with no bacteria in Somalia.

The atmosphere and the environment in Somalia were, according to them, cleaner. Perhaps, their prior culture of consuming freshly slaughtered meat, cooking and consuming cooked food right away and eliminating the need to cool and reheat had resulted in fewer food safety hurdles to cross.

In conclusion, a large knowledge gap existed among the focus group participants with regard to understanding proper methods of sanitation, food-borne illness disease transmission, and proper hand washing. Cultural institutions exist that can be used to educate the community – using mosques and Islamic messages. Efforts related to improvements should be made towards educating and involving women more in this process.

In addition to that, more efforts are needed to educate the Somali Community on proper food safety practices, considering their isolation from mainstream food establishments, due to religious restrictions.

Section I: Background

In recent years, several outbreaks of foodborne illness have occurred that have been associated with live animal markets throughout the United States, including Minnesota. Live animal markets are establishments that sell and slaughter animals for individual customers. There are several live animal markets operating in Minnesota.

The clientele of the markets are diverse, with Hmong, Latino, and Somali patrons making up the majority of the markets' customer base. While the Minnesota Department of Health (MDH) and the Minnesota Department of Agriculture (MDA) have worked with the live animal markets to develop educational materials and implement disease prevention measures, much is unknown regarding the food handling practices both at the live animal markets and in the homes of the populations who frequent these establishments.

Focus Group Criteria

As part of this study, the Minneapolis Health Department (MHD) hired culturally-specific contractors to conduct focus groups with Latino and Somali residents of the metropolitan area. Recruitment was based on the following selection criteria:

- 1) An adult 18 years of age or older;
- 2) Had visited a live animal market to obtain meat, or
- 3) Had experience with preparing meat at home that had been obtained from a live animal market or other venue, or
- 4) Had worked as a food handler in a food service setting.

Focus Group Study Recruitment

In order to meet these criteria, a customized approach to recruit volunteers willing to participate in the food safety focus group was publicized among the Somali community by producing promotional material and visiting places like Cedar mall, Karmel mall and the 24th mall, restaurants and "halal" groceries.

By and large, recruitment in person was the method of choice that was used in this study, with snowball referrals. This was largely based on Somali communities being oriented to oral communication where information is passed to one another in traditional ways. In order to accommodate the more informed members of the community who can read, an informational flyer translated in Somali was developed and widely distributed to reach out to those who can read English.

Two recruiters were temporarily engaged to distribute the flyer and enlist enthusiastic individuals willing to participate in the study. Recruitment process continued with phone follow-up with potential participants and in person meeting with individuals interested in participating in the focus groups to screen those enlisted and to determine whether they met the recruitment criteria. The most beneficial aspect of the screening was the opportunity for participants to learn more about the study and ask questions related to the process and understand the intended outcomes.

The conversations with prospective participants also included an offer of a \$40 Target gift card, a meal and child care if needed, as a token of appreciation for their perspectives.

Our highest priority was to find participants with experience of visiting live-animal markets. The second priority was to ensure that participants have experiences in buying commercial cooking at local Somali restaurants and was basically involved in meat/food preparation for Somali consumers. In the absence of participants with live animal market experience, individuals who had cooking meat/food preparation experience at various levels in their private homes were enlisted.

In essence, as much as the priority area of recruitment was to recruit persons who have had experience with live-animal markets, it became apparent during the recruitment process that not many prospective participants met these criteria. Hence, the study participants included persons of various levels of food (meat/meals) preparation at home or at restaurants serving the Somali community.

Composition of the Group

Great care was taken to recruit people who were largely unknown to the moderators and/or were not friends or neighbors to give the study authentic considerations. A total of thirty participants were recruited for the focus group, mainly from Somali malls, restaurants, community centers and mosques. One important criteria sought during the recruitment was that participants had to have experience in live animal markets and cooking experience. A good portion of the participants was married and others were single or bachelors and they were of mixed age range 18 -76 years.

Focus Group Session and How It Was Conducted

Three Somali male focus groups each of ten (10), were conducted on two consecutive weekends, Saturday and Sunday. The time for conducting focus group was negotiated to be at 10:00 am since this was the most convenient time for attendees (participants) to come for the session.

During the focus group planning sessions, considerable accommodation was included to meet the spiritual needs of the participants. All participants were Muslims who are commanded by their religion to say their prayers five times a day.

Each focus group started with an informal sharing of refreshment, Somali tea/coffee and snacks. Through sharing, a considerable relationship was built among participants, thus establishing a rapport with one another before the start of the focus group.

By the time the focus group began, the participants and focus group moderators had become familiar with one another and had developed a relationship that allowed for a relaxed

atmosphere. Thus, when the time of conducting the focus group sessions began, all was not strange as one would expect in a new setting of people meeting for the first time.

Recruitment Challenges and Lessons Learned

1. In spite of conducting extensive outreach, it was not possible to get a pool of participants who had experiences in live-animal slaughter house.
2. Combining participants of different age groups did not work well due to the Somali cultural hierarchy; elders are revered and respected and this dissuaded the young participants to effectively contribute to the deliberations during the focus group discussions.
3. All participants had experience in purchasing meat/food from stores and preparing, storing and consuming, for the most part in Somalia and in the US.

Section II: Methodology and Limitations

The methodology used in conducting focus groups involved extensive weeks of planning that included designing focus group questionnaires, IRB approvals, recruitments of focus group participants and conducting the actual focus group. Information about the project was shared with community members through outreach, and, once this was achieved, those interested were recruited to participate.

Three groups each with 10 participants were recruited for the focus group and a consensus time arranged on a weekend (Sunday) at a community center known to most of the participants. The ages of the participants recruited ranged from 18 to 76 years. During the focus group every effort was made to ensure the participants were comfortable and the environment was culturally familiar. The room and sitting arrangement was in a circle as would be expected in this cultural setting. Traditional *chai* tea was served and other refreshments.

The process began with an overview of steps of conducting the focus group, the questionnaire designs, and consent forms. Consensus was sought on prayers time.

Chiefly, the right protocols of conducting focus group process were followed where everyone was assured of equal opportunity of answering questions, and respect, purpose of study and consent read and signed. The agreed group norms included turning off the phone and according everyone respect. However, in spite of taking all goal-setting for conducting a clear focus group, the following were observed:

1) Intergenerational age gaps:

Culturally, in the Somali community, elders are both greatly respected and most times revered. In the traditional hierarchy, elders are the spokesmen of the community. When they [elders] were talking everyone else is expected to listen to them without any interruption as this is easily regarded as disrespectful.

In one of the focus groups, some of the more senior participants took leads in the discussion and the even-level playing field was only achieved when the facilitator skillfully maneuvered to accord other younger participants opportunities to participate by repeatedly explaining the need for them to express their opinion.

2) Intergenerational cultural difference:

The focus group participants were people of mixed backgrounds. Some were in their senior years, while others in their middle-aged and a number of them young adults/youth over 18 years. Those brought up in Somalia had a wealth of experiences and fondly talked about Somali culture, in contrast to those who were only born in Somalia but largely spent their years in

America. These gaps in experiences often brought up silent discomfort on the part of those who felt unknowledgeable about Somali culture and those who were fondly expressive of it.

3) Intergenerational language difference:

Because of the length of time and years of residence in America, a section of the participants especially the younger ones educated in America had difficulty in understanding the Somali language as fluently as the older participants.

This became evident when some of these younger participants were less forthcoming in actively participating in the focus group. Hence, great effort was put in place to read the focus group questionnaires both in English and Somali.

The facilitator also encouraged those who were shy as a result of this to open up and once they were reassured of mutual respect, they became free to participate or answer in English or the Somali language, whichever they were comfortable with. Through this reassured respect to the diversity of the group, their participation increased.

Focus Group Summary	
Site Name/City	# Male Participants
Local Business Space/Minneapolis	10
Local Business Space/Minneapolis	10
Local Business Space/Minneapolis	10

Section III: Cultural Understandings of Food and Food-borne Illness: Summary of Themes for Question 1

Part 1: Cultural Understanding of Food

Participants from all three focus groups spent the most time answering this question, in comparison to other questions. In describing their cultural understanding of food in the context of food safety, many participants compared their experience of food here to that of Somalia.

The following are themes that emerged from their cultural understanding of food:

(1) Exposure to new food and food handling experiences

Participants spoke of experiencing new food types in USA, and spoke of how consumption of food not familiar to their palate might be a contributing factor to their foodborne illnesses. As one participant described it, “In my opinion, I think coming to this country most people started eating new kind of food and this might cause food-borne illness.”

Half of the participants reported living alone: reflecting on the Somali culture of gender-specific chores that designates women to roles of cooking and cleaning and considering the lack of women to help participants prepare meals in their households might have led to participants opting to buy cooked meals from Somali restaurants. A participant described how dependency on these restaurants for their meals has increased his exposure to foodborne illnesses.

Participant’s food handling experiences in Somalia differed, depending on whether they were urban or city dwellers. Participants from the rural areas, who were typically nomads, slaughtered all their animals. However, regardless of city or urban residence, all meat was cooked within a few hours of slaughter. As a result, meat-handling experiences differed for participants from a rural community in comparison to residents originally from cities in Somalia.

I never used to eat meat that I have not slaughtered with my hands; all goats and camel meat were slaughtered by one of us. Here, we go to restaurant and buy cooked food, sometime the food is not fresh or undercooked and causes stomach ache - this is the new reality of our food. Now this has caused a lot of problems, for one it has caused us bacteria, gastric, we also have new stomach aches.

(2) Lack of Food Cooling System in Somalia

Participants described how the availability of a refrigerator here in the US has profoundly changed their food handling practices, especially during food preparation and storage. Some participants described how in Somalia food was not typically refrigerated. This is perhaps due to lack of refrigeration in their households. The customary practices of food preparation, cooking and storage did not involve extensive use of a refrigerator. As a result, people would either buy or slaughter their animals for same-day consumption.

Meals were cooked within a few hours of slaughter and consumed in their entirety within a short time period: the all-year hot weather climate spoiled food relatively easily. This quick turnaround time perhaps reduced opportunity for food contamination. In addition to fresh milk and fresh

meat, a participant described Somalia as a fresh environment. Here they are describing the open-living system in Somalia where people typically cooked and spent a good portion of their days outside due to excessive heat inside their homes. Participants are contrasting these experiences with their current living system in Minnesota that is mostly an indoor environment. Below are some of their comments:

Majority of us here were born in the countryside and cared for livestock, there were no refrigerators; the weather there was different from here. Food never spoiled or made you sick, not even from milk that was freshly milked. There were not many diseases, but if you live in an urban environment, the food has to be refrigerated.

The food culture has changed in comparison to Somalia, we used to eat fresh meat, [and] drink fresh milk, with fresh climate/environment. Coming here we were exposed to food that we are not accustomed to.

When asked what is food that we are not accustomed to; they replied food that needs refrigeration.

(3) There was usually no leftover food when they were in Somalia

Somalia hot conditions prevail throughout the year with temperatures ranging from 86°F-104°F and in hot temperature food spoils easier. Considering this hot climate and the no or little refrigeration system, the scarcity of cooking fuel and the lack of microwaves these barriers resulted in families cooking just enough for the day. And if there was leftover food, it was customary to share with neighbors, relatives and the poor. In the Somali culture, food wastage is extremely condemned and considered extravagant behavior disliked by God. This belief has resulted in a highly conscientious society that portions out meals measured for same day consumption.

In Somalia we ate three times, we never had leftover food, people cooked just enough not in excess, we didn't have microwave, our meat was fresh, we didn't worry about expired food or chemicals, the milk we drank was freshly milked.

We didn't have the need to re-heat food; all remaining food was given to other family members, neighbors and the poor around.

(4) The fear of buying pork by mistake or buying food with pork contamination has heavily influenced participants' food shopping and dining preference

Most Somalis are practicing Muslims that denounce the consumption of pork, a major component deterring participants from buying food from mainstream groceries and meat markets. Participants spoke of the fear of erroneously buying pork or pork containing products. Participants are therefore limited to shopping or dining in places that sell halal food only. Halal is typically referred to two components, (a) meat slaughtered in the name of God (b) no pork or pork-related items and alcohol.

A participant described it safe to shop at Halal markets because of his lack of English literacy. Below are comments regarding participants' concerns:

I know of a man who was breaking his fast with pork meat for a month and he had no clue. People who can't read or speak English language are particularly at risk-it's much safer to buy from halal markets and restaurants serving halal food

When I buy meat from [a] halal store, I have no doubt [that] it's halal. I don't think of shopping [at] other places, not even [for] fish. I fear [...] pork contamination. Maybe they are [placing] different meat[s] next to each other or [have] used the same knife to cut [different types of meat].

Part 2: Cultural Understanding of Foodborne Illness and Prevention Strategies

Participants attributed the following reasons to causes of Foodborne Illness

(1) Eating a variety of food at a time and consuming non-halal meat were mentioned as a cause of foodborne illness

When participants were asked about causes of foodborne illness, they described the consumption of a variety of food at one time as one of the causes of foodborne illness. In it they are referring to someone eating a variety of food at one time, for example, eating chicken, goat meat, beef and beans at one sitting. This is how they described it:

There is a proverb, *Callooshi utalini wayoo cidna umatiliyo* it means, someone who cannot advise his stomach cannot advise anyone [referring to people eating a variety of food at one time.] If they can't control these eating habits then they can't advise anyone. Eating different food causes unpleasant feelings in the stomach.

Eating different types of food, for example eating different types of meat in one meal causes foodborne illness, the stomach cannot handle both at the same time, it rejects it.

Consuming non-halal meat was also described as a cause for foodborne illness. When asked to describe how non-halal food causes foodborne illness, the participant did not just describe the lack of invoking God's name during the slaughter, but described animals that are killed by methods other than slaughter. One participant described how animals that are shot and not allowed to bleed have blood flowing inwards and this blood contaminates the meat, making it unfit for consumption, and, if consumed making people sick.

Eating meat that has not been slaughtered halal causes foodborne illness. The blood of an animal not slaughtered runs back to the body and contaminates the meat with bacteria that causes foodborne illness.

(2) Cooking was by far the most mentioned foodborne illness control strategy in all three focus groups.

Participants spoke at length on time and heat intensity as the remedy for killing germs and ensuring food safety. Cooking time was mentioned as a measure for pathogen control, with recommended cooking time for meat described to range from 0.5hr to 3hrs. Some participants attributed extended cooking time for the frozen meat bought from halal markets here in the US. Other participants described how eating meat that is not well cooked causes food-borne illnesses. When the facilitator asked how they know if meat is well cooked? They responded, “[when] meat is not soft, it makes you sick.” Other participants identified germs as the causality of foodborne illness and they need to be killed during cooking. Below are several comments made regarding cooking as a foodborne illness prevention strategy:

All meat is not the same, some meat is hard, others are soft. The meat found in this country needs an hour or more of cooking, but meat from our land takes less time to get ready because it’s moist. But the one we eat here needs 1.5hr to cook. We buy meat that is dry and frozen.

Camel meat and goat meat takes three hours to cook: meat is not ready to eat until it’s well cooked. Goat meat is bought while it’s dry and it needs 1.5 to 2hr. Germs from meat are killed after food is cooked really well.

You need to cook meat at least one hour in this country for it to be safe. The meat arrives dry looking like sticks with no moisture around it, the fire has to soften it.

The majority of foodborne illness is caused by eating food not well cooked especially meat and beans.

If the food is cold or raw and not well cooked, you become sick with stomach problems.

Germs from meat are killed after food is cooked really well.

(3) Maintaining clean utensils and a clean kitchen were attributed as ways to prevent foodborne illnesses.

Participants described the importance of using clean utensils for cooking, storing and eating. A participant said:

If you cook food with dirty dishes, you become sick from eating that food. You need to wash the dishes, your hands and the kitchen - wash the dishes with the dish soap and something to scrape the dishes.

Another participant described how foodborne illness occurs when one fails to wash a pot after cooking and uses the pot to immediately cook another item. And this is what he said, “[If] you cook a meal for example stew and you use the same pot to cook another meal such as pasta without washing in between, this causes foodborne illness.”

Another described the importance of drying the pot to avoid bacteria growth as important step in preventing foodborne illness and said, “Transfer cooked food to a clean dry container prior to refrigeration: if the clean container is wet, it results in bacteria growth.”

Other participants described the importance of maintaining a clean kitchen to cook. When the facilitator asked the participant to describe what he does to ensure a clean kitchen, the participant responded, “When cleaning surfaces, use tissue or a small piece of cloth that is clean with no dirt. Once you ensure clean surfaces then you can place food [on it].”

(4) Washing meat and vegetables separately was as an important step to prevent food borne illness.

Participants were asked to describe how they would prepare a meal containing meat and vegetables. Most spoke of washing both the meat and vegetables separately during food preparation. A participant spoke of washing the meat twice, first while it’s frozen to wash off the ice and the second washing done a few minutes after placing it on the stove and pouring to remove ‘floating germs’. Below are a few of their comments regarding washing meat and vegetables:

During food preparation you need to wash the vegetables and meat before cooking.

Before I start cooking meat, I first and foremost wash it really well with hot water, once I clean it really well; I place it in a container and cook it the way I want.

When we go shopping, most of us Somali feel the vegetables are from a refrigerator at the store and people would cook it without first washing since it looks clean.

First and foremost in my family, the meat is placed in the refrigerator and only remove the amount to be cooked. We first wash the frozen meat, we never cook meat we don’t wash.

(5) Cold Food and Cooling

The Somali food culture does not consist of cold meals. The culinary practice of cold meals is a foreign concept. Participants associated eating cold food with foodborne illness e.g. eating cold pasta. One participant said, “If food is cold, very cold it causes stomach ache, diarrhea, and worms in your stomach.” Another participant added, “Eating cold food with an empty hungry stomach causes stomach ache.” While another spoke of how cold pasta gave him foodborne illness, “Allah cured me from it (foodborne illness), it came from eating cold pasta.” During the discussion, it became clear that cold food was not necessarily described as food from the refrigerator, but food left at room temperature. Below is another comment made by yet another participant regarding eating cold food.

Don’t eat food that is cold, medicine for food is heat. Food that is smoking hot has all germs killed, and if there are no smoke germs lingering around. [But], once the smoke is gone germs return.

Proper cooling was also mentioned as a foodborne illness prevention strategy. A few participants spoke of the importance of cooling the food prior to placing a hot pot in the refrigerator. Below are some of their comments:

Never place a hot dish in the fridge while it's very hot. Otherwise, it causes bad bacteria growth that hurts the liver. Let food cool outside, then once it cools, place it in the refrigerator.

As soon as you cook and the temperature of the food drops, place it in the refrigerator to avoid spoilage.

The proper use of the refrigerator was also mentioned as a foodborne illness prevention strategy, as a participant said, "Meat is one of the foods with the most bacteria and the problems related to it are well known. If you buy meat and the food is refrigerated, but if your refrigerator is not working well bacteria will grow." Another participant described his thoughts on acceptable food storage time in the refrigerator and said, "Bacteria comes from dirty hands, and storing food in the refrigerator longer than three days makes you sick."

(6) Reheating was described as a foodborne illness control strategy for the consumption of refrigerated food.

Proper reheating was described as resulting in steam emission from reheated food. Participants described the re-emergence of germs once the steam disappears. They mentioned airborne cross-contamination of ready-to-eat meat when its container is placed next to a container of raw meat. Below are some of the participant's comments demonstrating their understandings of reheating as a foodborne illness control strategy:

When you remove food from the refrigerator, microwave for a long time before you eat it.

When you remove food from fridge, place it in microwave and cover the food and reheat until you see steam.

In one instance a participant describe how two containers, one with raw meat and the other with cooked meat can cross-contaminate each other, and this is what he said, "If you place a hot pot of cooked meat next to a pot of raw meat, the steam lingering around the hot pot causes contaminations from the raw meat to the cooked meat."

(7) Hand-washing:

There was a general understanding of the association of germs on hands with foodborne illness. The following comments illustrate participants' understanding of the existence of germs on hands:

Once you cook food don't put your fingers in the dish.

Make sure your hands are clean when you are placing food in the fridge.

Before you cook, wash hands and wash dishes and wash chemicals off the food.

Islam promotes cleanliness, so wash hands prior to eating.

Many admitted to not using soap when washing hands prior to eating, and prior to cooking, but nevertheless were keen on hand washing with running water, as one participant commented, “People who use bathroom use soaps, but most of us (he rubs his hands together) do this with water.”

A participant described the greatest challenge to hand washing is the rush-rush culture:

People are in a rush and because of their rush, they might start food prep prior to hand washing and from that diseases like vomiting and diarrhea and stomach ache and more might result. It’s possible for children coming from school, and their mother also coming from school at the same time and because of the rush...maybe she forgets to wash her hands.

Some participants described how hand-washing done during ablution substitutes the need to wash hands prior to eating. Ablution also called “*wudhu*” is a mandatory Islamic procedure that involves washing parts of the body including hands, feet with water in preparation for formal prayers, and it’s done five times a day.

Other participants described how easy accessibility to water makes hand washing relatively easier here in America, compared to Somalia, but also mentioned habits developed during their times of water scarcity in Somalia are hard to break. When asked about the customary practice of passing “*farxaal*” around-a container for hand washing where everyone dips their hands, they said they no longer wash their hands this way.

Section IV: Meat Purchasing and Preparation Practices

During the focus group discussions, all participants who said they had participated in live animal market purchases and animal slaughter explained that no precautions were taken when transporting live animal meat and packaging methods were not taken into consideration whatsoever. This included either using special containers or refrigeration boxes during transportation.

In all the focus groups, the story was the same, they described how they go to the slaughter house and once the animal is slaughtered, the attendants cut the meat and from there they put it in plastic bags and bring home. At home, they unload the meat and handover the meat to the women to cook.

In Somalia, where all participants were born and grew up, life in general in relation to meat purchase and slaughter appeared to be the same as in US. One participant said:

In Somalia, the weather was hot and there were no bacteria and the people had more resilience to diseases. They could be sick once in a while here and there but they moved on.

Another participant added to the comment and said, “We had no refrigerator and neither did we have the luxury or the abundance of water that we have in the US now, but we still ate three times a day (breakfast, lunch and dinner).”

Continuing he said,

We cooked food back home and we ate as a family. When we slaughtered a live animal, we consumed all, gave parts or portions to neighbors and relatives who came to feast with us. When we bought meat, it was not washed; it was straight put to the fire...pot... for cooking when we bought it, cooked and consumed. And there was no refrigeration, the meat was fresh and so is the other food (pasta, rice, vegetables straight bought from groceries/shops. Nothing.... No food was expired; everything is fresh and you buy to cook and eat... we had no refrigerators and we never kept food for tomorrow.

Section V: Precautions Taken During Meat Transport and Preparation: Summary of Themes for Questions 4, 6, & 7

During the focus group deliberation, participants expressed great excitement when comparisons of food preparations in Somalia versus in the US were discussed. Participants were visibly in joyous moods and referred to life in Somalia as “the good old days.” Almost all the participants expressed their unfamiliarity with the food, customs and culture in America and in general the environments.

One of the participants vehemently expressed how his choices of purchasing and eating meat are limited. He said, “Unlike in Somalia where one bought enough food for the family on a daily basis, here in America, one has to contend with eating meat you are not even sure is halal.” Continuing, “We hardly had food left for another day or another time in Somalia, nor did we have refrigerators to store food for the family.”

As for live-animals, the participants agree, not all participants had the means to go to the slaughter house to buy live-animals. In Somalia, one easily walked to the animal market, bought live-animal, slaughtered in the Islamic way, cooked in the open and consumed as a family.

In comparison with the US, one common limitation expressed by participants was the fact that not everyone has the means of transport to buy live-animals. They openly expressed how most community members can only buy enough meat from the halal groceries.

For those who buy live animals, the tasks were clear for the men and women.

One participant succinctly put it this way:

We men buy the carcass from live-animal market, we slaughter it, and the attendants cut the meat into pieces. We put the meat in plastic bags and transport. Once we bring the carcass home or kitchen, and we handover the meat to the women our role as men end there.... and the women take over.

When asked as a follow-up question, what the role of the children is in the food preparation. They said most often the daughters help their mothers while younger ones are set loose to roam around the kitchen.

When further asked, how these young children of 1-2 years get sick with foodborne infected, they said, “The children may have gotten the infection through breastfeeding, with the mother passing the germs from the breast milk.”

Section VI: Response to Foodborne Illness If Someone Gets Sick

All diseases come from God: When asked about their foodborne illness experiences, most participants started their dialogue with the comment of how diseases come from God. These are some of their comments, “All disease comes from God.”, and, “All health and sickness comes from God.”

Common Response: Participants described “waiting it out,” use of over the counter medication, visiting primary care physicians, calling 911 for an ambulance as their typical response to foodborne illness. In describing their experiences, a participant said, “I once got sick vomiting and diarrhea from food consumed in a wedding. [I] didn’t sleep that night. When I felt better, I went to the pharmacy and bought some medicine.” Another participant added to the comment by saying, “A neighbor of mine was fasting one day and another neighbor brought him “*iftar*” (food to break-fast)- he became so sick with severe cramps we called the ambulance, he was admitted and had surgery. The doctors said he almost died.”

Traditional Response: When participants were asked if they use homemade remedy or use traditional healers to treat foodborne illness, a participant responded by saying, “If I experience food-borne illness, I just squeeze lime on water and drink-I feel much better.” Another participant also commented by saying, “Nobody uses traditional healers to treat foodborne illness, not now in Minnesota, not those days in Somalia- they are only used for mental health.”

Recognizing Foodborne Illness: When asked how they know someone is suffering from foodborne illness, they described feelings of diarrhea, vomiting, cramping and headache, and spoke of two different types of diarrhea-healthy diarrhea and diseased diarrhea. A participant said, “If a starving person eats food and gets full, the person might experience diarrhea...typically yellow... this is good diarrhea.” When asked to clarify how you differentiate healthy diarrhea from unhealthy one as it relates to food, a participant responded and said, “..diarrhea with cramps is sickness.”

“Healthy diarrhea” was described as a diarrhea that cleans the body and they said it’s good for the body to experience it at least 2-3 times a year. When asked about some of the food-related scenarios that results in healthy diarrhea compared to unhealthy diarrhea, they gave an example of how sometimes a healthy diarrhea is experienced by a starving person after eating a full meal.

Some of the examples of foodborne illness described by participants were symptoms of acid refluxes, and a few spoke of getting very sick after eating very oily food.

Section VII: Food Safety Messages and Information

To raise food safety awareness in the community, participants described what works best and the following avenues were described:

Somali local TV: Participants noted how Somali TV programs are well watched by the Somali community and will be a good medium for communication. They spoke of the need for visual demonstration of proper food safety techniques.

Providing food safety print materials to halal markets to distribute when people are buying meat is recommended.

Through religious leaders at Mosques: Participants described how mosques have weekly messages, and mosque committees pick topics. Approaching them and providing information of food safety messages would be incorporated in some of their messages to congregates.

One participant spoke of how educational DVDs distributed in the mosque was a good communication strategy.

One participant encouraged food safety education in school, and suggested children are good ambassadors to their parents.

Another participant spoke to town hall forums for women only.

Section VIII: Lessons Learned and Recommendations Based on Findings

Sanitation: Sanitizing surfaces with bleach or similar products never came up even after repeatedly probing participants on their cleaning and wiping practices.

Food Safety education materials should emphasize the need for sanitation of wash cloths used for wiping surfaces, elimination of cross contamination during food washing, while using the cutting boards, and during food storage.

Disease transmissions: Apart from their awareness of fecal-oral route transmission, there was no mention of person-to-person transmission of foodborne pathogens (except through breast milk).

The community needs to be educated on the critical role of pathogen transmission, and they need to be educated on the measures to take to stop progressions of foodborne illness through person-to-person transmissions and tertiary transmissions modes.

Reporting of Foodborne Illness: When dealing with foodborne illness, none of the participants described the health department as a resource for foodborne illness prevention or investigation. Some participants described eating contaminated food from a restaurant but were not informed on reporting the problem to health authorities for foodborne illness investigation.

The Health Department should promote the support they provide to the community in preventing these outbreaks, and the community should be informed on the existence of foodborne illness hotlines.

Hand washing: This was widely recognized as a control measure for foodborne illness investigation, but participants did not practice proper hand-washing at all times. There was a lack of awareness for all the scenarios warranting proper hand washing.

Proper hand-washing techniques need to be well publicized while emphasizing situations warranting it. The community needs to be informed on how dirty hands contaminate surfaces - there's little awareness of how contaminated hands infect surfaces, spreading foodborne illness to others around in the area.

Temperature: There was a complete lack of awareness of optimum temperature as a critical control measure; participants spoke of all meat (goat, beef, camel and chicken) as meat - no distinction. In eliminating pathogen there was confusion between cooking to eliminate pathogen and culinary cooking.

There's a lack of awareness of the existence of different cooking temperature for different pathogens or the minimum temperature required to kill pathogens for different meat. There was also no knowledge of temperature danger zones and an understanding of adequate cooling. It was interesting to note how cold pasta was not recognized as safe food.

Gender specific roles: Although participants described women as the primary custodian of kitchens in their homes, men were identified to be the majority gender in food operation businesses.

Although more commonly men are involved in commercial kitchens and women are more involved in home cooking, food safety education materials should not be gender specific, since both genders are involved in food prep and cooking.

Section IX: Concluding Remarks

Large gap of knowledge and practices exists between the common practice of the community and desired food-safety outcome.

Long beset by civil war that ran the country of Somalia down to its knees since the early nineties, is among the countries of the world with low literacy rate. Thus, many Somali residents are not literate enough to read and write English nor do they understand the systems associated with food hygiene. Relatively new to this country many of them have yet to understand food hygiene standards.

With illiteracy looming large and cultural conflicts pervading every sphere of social life for them, there is a large information gap in understanding the complex nature of food safety and standard requirements. In the focus study, the participants hardly knew how cross contamination and transmission of foodborne diseases occur.

When asked how children get foodborne disease, the participants compellingly associated the infection of foodborne diseases with breast-milk/breast-feeding from mothers.

Religious and cultural limitations

As often is a common practice, workers in the food industry gain experiences with food-standard practices at workplaces, but there is a body of evidence that majority of Somalis are Muslim faith followers. They are strictly forbidden to work in food establishments that sell pork and serve alcohol. Unlike many other immigrants, restrictions from the teaching of Islam deters Somalis from working in mainstream food establishments making it difficult for them to learn food safety practices from mainstream food establishments. They are therefore more isolated and have limited opportunity to gain knowledge of food safety. This results in the creation of their own places for shopping food-malls and “halal” eating, thus largely depriving the community to gain food-safety knowledge outside their sphere of influence.

Cultural institutions exist that can be used to educate the community – using mosques & using Islamic messages.

Focus group participants have maintained that, their cultural-religious institutions like the mosques, imams and the Quran are their biggest source of inspiration and knowledge. Given this background, it is prudent to use these avenues to mobilize the community in any future education of the community on food safety.

Efforts related to improvements should be made towards educating and involving women more in this process

In general, the focus group study participants have indicated that women are the main persons in food preparation. The men’s role in cultural food hierarchy is that of buying and consuming. The participants expressed the earnest desire to engage women in any future undertaking or education as regards food-safety.

Efforts need to be made to overcome communication barriers

A large communication barrier exists between the Somali community and other communities because of cultural and religious reason, but by and large, the majority of the community members have no or little English language skills and some cannot read even in their own language. In view of this, it is our opinion that resources be allocated for audio-visual learning materials that demonstrate desired behaviors.

SOMALI FOCUS GROUP QUESTIONS

ON FOOD HANDLING PRACTICES AND FOOD SAFETY & BELIEFS AMONG SOMALI

1. What is your and your community's understanding of how people can become sick from eating or handling food?
 - a) If you or a family member gets abdominal cramps, diarrhea or vomiting, what do you think are some of the causes?

(PROBE): Are there any Somali proverbs related to food or stories about how to safely handle food from your community?
2. Typically, where do you, your family and friends obtain meat (e.g., beef, goat, chicken, etc.)?
 - a) What types of places do you know where Somalis buy meat from other than the traditional "halal" grocery stores (e.g., live animal market, large grocery store chain, butcher shop, etc.)?
 - b) For what purposes and reasons would you buy meat at a halal grocery? For what purposes and reasons would you buy meat from a live animal market?
3. Live animals are sometimes purchased from live animal markets/slaughter centers and brought home. Explain how you or your community prepares whole animals that are purchased from a live animal market for eating.
 - a) Where do you usually prepare a whole animal or a large quantity of meat for cooking (kitchen, outside, etc)? **PROBE: whether uncooked meat is washed?**
 - b) What else do you do with a whole animal carcass or large quantity of meat to prepare it for eating?
 - c) What role do children in the community have in preparing an animal carcass for eating (watching, helping wash meat, helping gut chickens, etc.)?
4. When you or your community buys a whole animal carcass at a live animal market; how do you bring it home (e.g., in a bag, in a laundry basket, etc.) and how do you make sure that any germs on the meat don't contaminate anything else?

5. Have you or anyone you know ever gotten sick from food (all types of food including vegetables, milk, meat, chicken) they handled or from food they ate at home or at restaurant and how?

a) What would you do if someone in your family becomes ill with abdominal cramps, vomiting and diarrhea?

6. What are the precautions you take (e.g., hand washing, cleaning counters and other surfaces, checking temperature of cooked meat) to prevent foodborne diseases when you are preparing or cooking food. Why do you take these precautions?

(PROBE): Give an example of how you would prepare lunch with chicken or goat meat, on a typical day for yourself and your family, starting with fresh (uncooked) meat or a live animal.

(PROBE): How is meat cooked, and when can you say it is ready (**well cooked**) to be eaten?

7. In which ways is the handling of food and cooking of food different in Somalia than in the US?

(PROBE): What food preparation practices (e.g., buying a whole animal for meat, using a refrigerator, etc.) have changed in US compared to Somalia.

8. What is the best way to inform report or communicate to you and you're the Somali community about ways to prevent food poisoning prevention and stay healthy when handling and eating meat and other foods?

a) If food safety messages were developed to educate the Somali community about foodborne diseases, what information would be helpful for you?

b) How should this information be distributed to you and your community (e.g., paper fliers, radio, TV., community groups, etc.)

Do you have any question or comments that you would like to ask about this project?

Thank you very much for your time!

Focus Group to Determine Food Safety Practices and Beliefs among Somali Community Members

CONSENT FORM - SOMALI COMMUNITY MEMBER (MEN)

Background: You are invited to take part in a research study. The goal of the study is to learn about the Somali community's beliefs and practices as they relate to food and diseases spread by food and animals. The study may help to prevent diseases spread by food or animals. The study is funded by the Minneapolis Health Department. Other organizations (listed below) are working on the study as well. Mr. Abdullahi Sheikh works with a research organization. He is helping the health department with the study. You were chosen as a possible participant because you are:

- Male
- Somali
- At least 18 years of age
- Live in the Twin Cities metropolitan area
- Shop for meat at live animal markets or have prepared meat purchased from these markets

Please read this form and ask any questions you may have before agreeing to participate.

Procedures: You will be asked to take part in a 1 ½ hour group discussion with 10 other men. You will be asked about where you buy food and how you handle, store, and cook raw meat. You will be asked to share your views about diseases spread by food and animals. Mr. Abdullahi Sheikh and staff will guide the conversation and take notes. The focus groups will be audio recorded to capture all comments shared during the discussion.

Voluntary Nature of the Study: You do not have to take part in the study. If you choose not to take part, your decision will not change your relationship with the researchers on this study (listed below) or the owners of the live animal markets.

Risks and Benefits of the Study: You do not have to answer any questions you don't want to. You can leave the discussion at any time. There are no direct benefits to you if you choose to take part in this study. But, the information you provide may help public health workers find ways to prevent diseases in your community that are spread by food or animals.

Compensation: You will receive a \$40 Target gift card for your participation.

Privacy: The records and audio recording from this study will be kept private. They will be stored in a locked or protected file. Only researchers (listed below) will have access to it. Your name and contact information will only be used to contact you in the future about the study. Any reports or presentations to the public will not include your name or personal information.

The researchers may use parts of the audio recording for teaching or training purposes. You can choose whether it is okay for them to use your voice, or not. Please put an X next to one of these statements so we know which you prefer:

_____ It is okay to use the audio recording of my voice for teaching or training purposes. I understand that my name will never be connected to this recording.

_____ I do not want you to use the recording of my voice for teaching or training purposes.

Contacts and Questions: Please ask any questions or share any concerns that you have now. If you have questions later, you are encouraged to contact members of the research team:

Mr. Abdullahi Sheikh Isaroon
Phone: 612-232-7984
E-mail: asheikeya@gmail.com

Dr. Mary Choi & Amy Saupe
Minnesota Department of Health
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Dr. Heidi Kassenborg
Minnesota Department of Agriculture
Phone: 651-201-6625
Email: heidi.kassenborg@state.mn.us

This study has been approved by the MDH Institutional Review Board (IRB). If you have questions about your rights in this study, please call Peter Rode, Administrator of the MDH IRB at 651-201-5942. **You will be given a copy of this information for your records.**

Statement of Consent: I have read the above information. I have had a chance to ask questions and receive answers. I consent to participate in the study.

Signature _____ Date _____

Signature of Investigator _____ Date _____

APPENDIX C: Final Demographic Form

We are collecting the following information in an effort to be able to describe who has participated in this project. This survey is completely voluntary. You may skip any question that you prefer not to answer.

1. What is your race or ethnicity? (Check all that apply.)
 - Asian / Pacific Islander
 - Black / African American / African-born
 - Hispanic / Latino / Chicano
 - Caucasian / White (not of Hispanic origin)
 - Other. Please specify. _____

2. In what country were you born?
 - United States
 - Other. Please specify. _____

3. Sex? Male Female

4. Age?
 - 18 – 29
 - 30 – 39
 - 40 – 49
 - 50 years or older

5. Your current zip code (where you live)? _____

6. Highest level of education?
 - Elementary school
 - Junior High School
 - High School
 - Some College
 - College Graduate
 - Post-graduate training (e.g. Masters or PhD)

7. How many years have you lived in Minnesota?
 - less than one year
 - 1 to 5 years
 - 6 to 10 years
 - more than 10 years

8. How many years have you lived in the US?
 - less than one year
 - 1 to 5 years
 - 6 to 10 years
 - more than 10 years

APPENDIX D: Summary of Demographic Information

Personal Information

Please check for each of the appropriate responses

A: Gender

Female	0
Male	30

B: Age Range

18 – 29 years	7
30 – 39 years	6
40 – 49 years	9
50 and older	8

To find this information online, please visit our Reports section at <https://www.minneapolismn.gov/health/>

If you need this material in an alternative format please call the Minneapolis Health Department at (612)673-2301 or email health@minneapolismn.gov.

Deaf and hard-of-hearing persons may use a relay service to call 311 agents at (612) 673-3000. TTY users may call (612) 673-2157 or (612) 673-2626.

Hmong - Ceeb toom. Yog koj xav tau kev pab txhais cov xov no rau koj dawb, hu (612)673-2800;

Spanish - Atención. Si desea recibir asistencia gratuita para traducir esta información, llama (612)673-2700.

Somali - Ogow. Haddii aad dooneyso in lagaa kaalmeeyo tarjamadda macluumaadkani oo lacag la' aan wac (612)673-3500.