Improving food safety in Uganda: Piloting the nudge theory to change risky practices amongst Uganda’s pork handlers

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A chapter of my autobiography

Public health Microbiologist
(Diagnosis, Research and outreach)
(2013 to date)

BSc, Biomedical Laboratory Technology (2014)

MSc, Veterinary Preventive medicine
(Field Epidemiology Track) (2018)

Current areas of interest:
Public health Bacteriology
Preventive medicine
Infectious disease Epidemiology
Applied bacteriology
Anthropology and Global Health
Talking points

- Food safety and global health
- Food safety interventions
- Nudge theory and its application
- Stepwise implementation of the nudge theory
Food safety and Global Health

Food safety has emerged as a significant global issue with public health and international trade implications (WHO, 2020).

Unsafe food poses global health threats, endangering everyone (we all need food)

Threats=hazards=Biological, chemical, physical

Unsafe handling, processing and storage practices the major route (Thobaben, 2010)

Routes of entry in food start from farm to fork making everyone a player

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Meat safety interventions: reducing risks from farm to table

<table>
<thead>
<tr>
<th>Farm</th>
<th>Transport</th>
<th>Slaughter</th>
<th>Transport</th>
<th>Processing &amp; Food markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre harvest</td>
<td>Harvest</td>
<td>Post harvest</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Animal welfare
- IPC (Vaccines)
- Rational drug use
- Incentives

Why nudges for our Ugandans?

- Animal welfare
- Regulations (HACCP, sanitary standards)
- Inspection (syndromic approaches)
- Research (hazard detection, surveillance, KAPS)
- Education / Training
- Incentives
Nudge theory

A new direction in understanding and influencing behaviour

Indirectly encourages people to make decisions that are in their broad self-interest


Nudges aim to influence the choices we make, but without taking away the power to choose

Differs with other ways to achieve compliance (education, legislature or enforcement)
Nudge theory

“By knowing how people think, we can make it easier for them to choose what is best for them, their families and society,” wrote Richard Thaler and Cass Sunstein in their book *Nudge*, which was published in 2008.
Understanding nudges from past experiences: Scenario 1 in a university

2014, Visited Prof. Hidenori Kabeya, Nihon University Japan, Laboratory of Veterinary Public health

Poor performance in students noticed (Professor’s observation)

In the lecture room; dosing, non-vibrant, sad, dull  (Professor’s observation)

One factor; Learning on an hungry stomach

Nudges: separate cafeterias by levels, provide great breakfast at student cafeterias at an affordable price (Over 3 nudges)
Step-wise implementation: the example of the pork joint

You need a plan

Strategy and resources

Assessed the whole pork value chain but Why the pork joint?????

– Pork joints are the closest environment to client consumption and can mitigate risks that come from earlier on within the meat value chain

– This is the environment that captures the most of the 5 keys of safety (WHO)

– Raw and cooked meat are sold there

– It is the easiest environment to change (owners are working there and present)

– It is a very nudgeable environment, likely to welcome physical and non physical behavior triggers

– There are less barriers in term of infrastructure investment prior to nudge intervention
The problem

- Vast spectrum of animal source foods as part of Ugandans’ diet
- Besides cultural differences, pork is one of the popular meats
- Food safety status remains an under looked driver for the outcry of foodborne diseases
- Influenced by food handling and processing practices (slaughter, transport, markets, eating points)

We desire to improve hygiene and food safety practices among Ugandan meat handlers using the nudge theory

Nudge kits will complement training programmes that are currently under development
Working frame work

Consortium; **ILRI led (OHRECA support)**
Implementing partners: **17 triggers, VSFG Uganda**
Research Assistants
Supervisors
Food safety experts

Methods

Study settings: Urban and peri-urban
Pork settings: Slaughter, transport, Butcher, pork joints
Data collection: interviews (Indepth, Key informant), observations
Human centered approach

1. Identify any behaviours you need to change
2. Work out what are people’s current behaviour with insights
3. Decide which nudges to deploy
4. Test and evaluate
1. Identify any behaviours you need to change

1. VSFG / ILRI BUILD VPH
   Baseline report
2. Expert / stakeholder consultations (Zoom meeting)

Persona, behaviours and insights
Transportation etiquette
Hand, tool, environment hygiene etiquette
Use of PPE
Pork preparation
Laws and regulations

Journey map

A baseline was conducted to understand the current situation, generate evidence-based data on KAP of stakeholders and provide a gap analysis in order to inform the strategy for behavior change by identifying key intervention points.

Key learnings:
- There is no formal qualification for those who work in the meat industry
- Informal training are both rare and of poor quality
- There is lack of oversight at slaughterhouses and current behaviors do not align with regulations
- There is a lack of refrigeration facilities at retail points
2. Work out what are people’s current behaviour with insights

Journey map also exposed

Elephant, Rider, Path (ERP) Framework

1. Persona’s daily life and reality
2. Explore critical touch points

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A useful analogy for thinking about behaviour change (Jonathan Haidt, Psychologist)

Who we spoke to

[ 51 people in 14 days ]

2 localities: Kampala Urban context + Wakiso Peri-urban context

<table>
<thead>
<tr>
<th>Phase name</th>
<th>Goal</th>
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</thead>
<tbody>
<tr>
<td>PHASE 1</td>
<td>Align working teams and relevant stakeholders on project objectives; create personas for each target segment; and map contamination moments for each context</td>
</tr>
<tr>
<td>PHASE 2</td>
<td>To gain insights into barriers and motivators to adopt improved practices; and identify opportunities to apply nudge theory to the physical contexts for meat handlers</td>
</tr>
</tbody>
</table>
2. Work out what are people’s current behaviour with insights - The Vision of perfect

Some risky habits

- Irregular hand washing
- Rarely clean raw pork display surfaces, tools through the day

- **We want** pork joint workers **to** handle meat, food and food environment with clean hands, tools and equipment **so that** they have a hygienic environment in the front and back of the pork joint which helps them avoid contamination opportunities

- **We want** pork joint workers **to** separate raw and cooked food, including tools and storage areas, and to cook meat thoroughly **so that** they avoid serving contaminated food
3. Decide which nudges to deploy

Key behaviours to tackle

- Cooking thoroughly
- Regular cleaning
- Utensils cleaning
- Hand washing
- Handling of raw and cooked foods
- Shared values
4. Test and evaluate

**SUMMARY FOR EACH TEAM – TESTING ROUND 1**

<table>
<thead>
<tr>
<th>TEAM 1</th>
<th>TEAM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior</strong></td>
<td><strong>P/Joint</strong></td>
</tr>
<tr>
<td>Cooking thoroughly</td>
<td></td>
</tr>
<tr>
<td>Cleaning reminder</td>
<td>A &amp; B</td>
</tr>
<tr>
<td>Separating raw &amp; cooked</td>
<td></td>
</tr>
<tr>
<td>Clean back of the house</td>
<td>C &amp; D</td>
</tr>
</tbody>
</table>

**PARAMETER** | **MONITORING PROCESS**
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<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Observation &amp; interview / MEL Effectiveness assessment / close up Sampling baseline / endline</td>
</tr>
<tr>
<td>Desirability</td>
<td>Recruitment fail vs. success Desirability assessment / close up Observation &amp; interview / MEL, before/after comparison/ close up</td>
</tr>
<tr>
<td>Viability</td>
<td>Viability assessment / close up</td>
</tr>
</tbody>
</table>

**Overall indicators of success of pilot**

- Bacteria reduction within locations
- Information sharing in-between locations
- Knowledge of key hygiene moments in the pork joints
- Confidence on behaviors
- Customer trust

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Understanding nudges from past experiences: Scenario 2

Take Home Message

Avoid inconsiderate nudges, nudges only benefiting the nudger, promoting on interests of nudger

Nudge was initially developed as an ethical concept, by academics, for the improvement of society, not as a mechanism for commercial exploitation, or government manipulation

Advice: better understand persona, behaviours to create a nudge not a forced consequencial action on the people

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Special thanks to.....
References


Roesel, K. (24 May 2017). Food safety interventions: economic and health outcomes and impacts


