

Part 1 Proposal

Issue and Overall Strategy

- 1) What situation do you want to address? Make sure your explanation includes these 3 topics (250 words max)
 - a. the public health issue,
 - b. the need for communication to address part of this issue
 - c. the location

There is a growing number of diseases caused by mosquito, tick, and flea bites, such as Zika, West Nile, Lyme, Dengue fever, and chikungunya in the United States.¹ Over 640,000 were reported from 2004 to 2016, and the number reached a peak in 2016. However, the U.S. is still not fully prepared to control the disease. Many cases are still not identified and greatly underestimated. Therefore, people have to take precautions to prevent these diseases by avoiding insect bites. A common way is to use insect repellents on skins or clothes. Some people might choose natural insect repellents, which are not registered with EPA, to protect themselves. However, these products are not proven safe or effective, so there might be some side effects that people do not know about them. The project aims to provide an informational guide of the natural insect repellents for the people in the Northeastern part of the United States to learn more about these products' safety and side effects to avoid insect bites.

- 2) Tell me about the audience – to the extent that you have the details. Who are they (demographics)? What's their literacy level? Why are they important as it relates to this public health issue?

The audience is English speaking people who might be exposed to insects and those who have already used the natural repellents or consider using them.

The literacy level - Aim for the 6th-grade reading level to be most accessible among those who can read English

Because people exposed to insects are likely to be infected with vector-borne diseases, such as Zika, West Nile, Lyme, Dengue fever, and chikungunya, through the bite of insects. People without knowledge of natural repellents are also at risk of using a natural insect repellent with low effectivity or getting unexpected side effects.

- 3) What specific goal does this product aim to achieve for this audience? (what action, emotion, norm change, perception, belief)

The goal of the product is to help the audience better assess the risks and benefits of using natural repellents by letting them know any possible side effects or low-effectivity, thus increasing the sense of severity and susceptibility.

- 4) What are the barriers for this audience to achieving the public health outcome?

They cannot get access to information about natural insect repellents.

They believe that natural repellents have no side effects, and they are effective.

Their family and peers are using ineffective natural repellents, and they are recommended and influenced.

- 5) What theory components might you use to guide this product. Why?

I might use the stages of change theory because knowing the stage of change of the audience can help me choose the information to be included, such as the facts, the risks of the current behavior, and the benefits of changing behavior.

I might use the health belief model, especially the cues to action concept because the information I provide will facilitate their change of action, which is to switch to a more effective and safer repellent.

I will also use the planned behavior theory. By giving comprehensive information on many repellents available, I gave the control of choice back to our audience. The perceived behavioral control will make the action more likely to occur.

6) Is this intended for a real partner? If yes, who? What are their needs and requests related to this specific communication (ie. Has to be in this particular style, must use technical language, be on the web)?

Yes. My partner is Emily M Mader and the Northeast Regional Center for Excellence in Vector-Borne Diseases. They need an infographic to include comprehensive information about natural insect repellents, including effectiveness and side effects. It should be written in an understandable language because the audience is the public. It will also include some images relevant to the topic.

Form

7) What product are you planning on creating (a podcast, a training, community theater)? Out of all the possible ways to do this, why this way?

Infographic. Because they are easy to understand, to share, to distribute, and also visually appealing.

8) What best practice guides, examples and/or resources are you consulting to do this well?

There are existing guidelines/fact sheets/infographics of EPA-approved insect repellents published by authority agencies. I will also look up guidance on creating persuasive and educational infographics.

Content and messaging

9) Will the audience benefit from doing what you want them to do? They have to believe it is a benefit.

Yes. I will fill in the knowledge gap for the audience and help them assess the benefits and risks of using natural repellents to make informed decisions.

10) How do you plan to communicate that benefit?

I will show the graphs of effectiveness ranking of some natural repellents, point out natural repellents' safety, and conclude the top 3 effective and safe products. I will also include an image of a person being bitten by insects, which encourages people to be vigilant to insect bites and learn more about repellents' usage.

11) Do you anticipate a clear "ask"?

No.

12) What cultural competency considerations might there be (language, imagery, sensitivity)?

Imagery - include the EPA-registered and DEET product images and images showing consequences of being bitten by insects

Language - plain, short, simple, and straightforward

13) If you are doing an information-only product, why do you think information alone is necessary to make progress on this issue?

On the one hand, what causes the current situation is the gap of knowledge in the audience. Suppose they have the chance to know more information about natural repellents. In that case, I think they will be willing to protect themselves more safely. On the other hand, it is also likely that people hold the belief that natural is better. Furthermore, if their family and peers are avoiding using the EPA-registered repellents, they might also be influenced by such decisions.

Viability and prep

14) If you are selecting something technical (podcast, video, graphics) do you have the requisite skill (or the time and drive to acquire it) to produce something of decent quality? I am not expecting professional level video, but do want products that you/ the MPH Program would be proud to share.

Yes.

References:

1. Illnesses from Mosquito, Tick, and Flea Bites Increasing in the U.S. (2018, May 01). Retrieved October 19, 2020, from <https://www.cdc.gov/media/releases/2018/p0501-vs-vector-borne.html>

Part 3 Evaluation of the final product

1) Of all the strategies you could have selected, why this approach (format, tone, phrasing)? How does it match the specifics of your audience and public health goal?

After discussing with my partner, we decided to adopt a neutral tone to provide information on different insect repellents and their efficacy. My audience is broad and diverse, and they may hold different beliefs in natural repellents and DEET. The goal is to provide information for them to make informed decisions on their choices. An infographic design is easy-to-read and straightforward. It does not take long to acquire the information I want to advocate, which is the efficacy and safety of different natural repellents.

2) What is your strategy to get this product in front of an audience (how are you going to make sure they see it? Or that they hear about it from an influential and credible source)? Why this approach?

Since we are working with the Northeast Regional Center for Excellence in Vector-Borne Diseases, the product will be reviewed and evaluated by the agency and then posted on the official website. Anyone who wants to learn about the natural repellents can access it either by logging onto the website or by searching the keyword in google.

3) How does your product apply concepts and constructs from the theory discussed in this course? **A minimum of 3 must be included.** Explain the following for each:

- a. which construct,
- b. how it appears in or informed your product and
- c. what impact that construct is intended to have.

I believe the majority of my audience is at the pre-contemplation stage in the transtheoretical model. They may have been using DEET for repellents but worried about its safety and toxicity. They may be avoiding repellents because of their worries. By providing information on natural repellents, I can give them alternatives and encourage them to use natural repellents instead. For those who are already using essential oils, they are at the contemplation stage. I provide information on which kinds are more effective and safer, encouraging them to make plans to switch to a more effective and safer product. By using one infographic, I can promote action at many levels, achieving a better outcome in communication.

A "cues to action" concept was implemented in the infographic. My infographic identified the top 3 most effective natural repellents in the market, which provide explicit instruction on how to choose the natural repellents to replace DEET. Many people have doubts about the safety of DEET, but they do not know what an ideal replacement of DEET repellents is. By pointing out the choices, people will be more likely to act and choose a repellent they feel comfortable using.

By displaying the ranking of efficacy among ten commonly seen natural repellents, we gave our audience control over their repellents' choice. For example, in our ranking, HSO is the most effective repellent. However, if the HSO product is not available in your area, you can choose the second effective product, which is the cinnamon oil repellent. Instead of pointing out what is effective and what is not, we provide more freedom of choice for our audience. The sense of control will make our audience more likely to act.

4) If applicable, how does your product apply best practices about visuals, charts, graphs, layout?

I used a website (<https://siteimprove.com/en-us/accessibility/color-contrast-checker/>) to check the contrast of the background color versus text color and font size. This helps to ensure the product is optimal to read. The layout of the infographic is suitable for social media sharing and viewing on cell phones. The chart of effectiveness ranking is also carefully designed. The top choices (the most effective ones) are colored in red and pink (warm colors); the middle ones are in cold colors; the least effective ones are in grey and black (not appealing colors).

5) How does it match the audiences' literacy? Their numeracy? Explain what you did to make it appropriate.

Our audience is broad and diverse, so we aimed for the 6th-grade literacy level. No numeracy level is required to comprehend our content. I broke down long and hard to read sentences

into several short sentences.

6) How does the content and format of your product demonstrate cultural competence?

The ten essential oils were chosen based on their popularity. According to reliable sources, these essential oils are most commonly seen and used. They are very likely to be used by our audience. By focusing on these essential oils, we draw attention from our readers because they are familiar with these products.

7) What other content from this course (or outside the course) helped you design your product? Be specific.

I did a literature search in the Pubmed database to research essential oils' efficacy and safety. The sources were listed at the bottom of the infographic.

8) How does your product incorporate feedback you have received (peers, faculty)?

After the lab session, I was suggested to cut down the introduction of DEET and EPA-registered repellents and focus on natural repellents. I also recognize that the focus of the infographic is to give information on natural products. Therefore, I deleted nearly half of the introduction, only keeping the essential concept (DEET is the most effective repellent so far).

9) What are the weaknesses of this product or strategy in terms of reaching the audience and achieving the goal of this communication?

The major weakness of this product is the lack of credible sources. Data on essential oils' effectiveness and safety are limited, especially side effects of essential oils are hard to find. Due to the limited space, I can only discuss some of the most commonly seen essential oils. There are many more choices available on the market, and I cannot cover them all. Some repellents are more effective to a certain kind of insect but only have limited effectiveness on others. However, it is hard to find any comprehensive and credible resources to describe repellents based on different insects. Therefore, I choose the general concept "insect" instead of one certain species.