

Design for Health

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The influence of health information sources & health literacy on COVID vaccine hesitancy

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THE INFLUENCE OF HEALTH INFORMATION SOURCES & HEALTH LITERACY ON COVID VACCINE HESITANCY

Health literacy is the ability to identify, read, process & understand basic health information in order to make decisions & take appropriate actions to manage health.

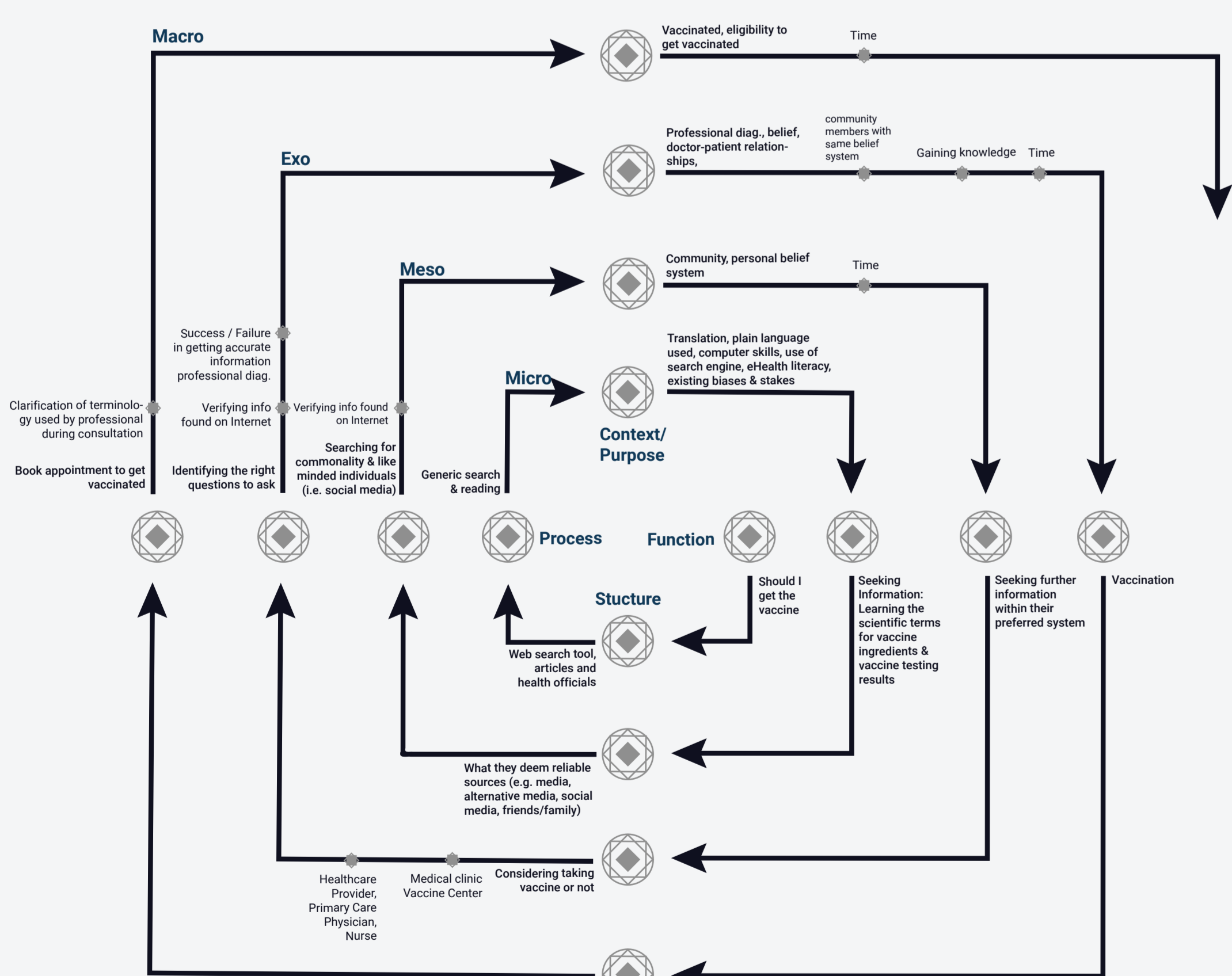
Information seeking & an affinity towards particular sources of information is influenced by an individual's health literacy. Health literacy, in turn, is influenced by an individual's social determinants of health & personal perspectives on health.

Information is sought to make informed decisions & take appropriate actions to manage an individual's health. These decisions are influenced by the sources of information - whether they are mainstream or alternative sources of health information, & how closely they align with the perspectives & beliefs of the individuals reviewing this information. Within the context of the COVID pandemic, one of the primary concerns is how & through which avenues health information is disseminated in order to gain the trust of the public in order to make the biggest impact in promoting healthy behaviours & protect against the continuous transmission of COVID. Additionally, what can be done to reduce the impact of the spread of false information & direct the public to more credible sources of information?

STORY WE WANT TO TELL

In Canada & in most places around the world, People use information to make medical decisions, the kind of information they use influences the kind of decision they make. In the time of COVID-19, we are dependent on people making choices that are in the public interest, so how do we get people to do that?

Many people in our society are swayed by mainstream & alternative health literacy information. The journey map, the system maps & the intervention map are an explanation of the ways in which we can get the public to come closer to official & credible health information. The rejection of reliable health information is often based on one's social perceptions & preferences. The maps also examine from where these perceptions may come. This means that making choices that are in the public interest can mean different results to different people. For example; while policy-makers would like everyone to be vaccinated, for the populations who are against the vaccine, the correct intervention might be reducing the output of unsubstantiated & incredible health information that these individuals output.



Iterative Inquiry
 Figure 1. The map outlines the depths of a health-seeking individual's access to health information. It is a map describing the sequential activities in health literacy. From general online searches, the individual may start looking for other stakeholders & sources for the information they need. The individual, should their concerns of the COVID-19 vaccine not be addressed at this stage, will continue to seek additional information. This action can be completed through their friends, communities, & peers eventually to assist in understanding health information via a professional diagnosis of a physician or another official health expert. Our goal for the Iterative Inquiry is to understand & reflect the process of an individual's ability of gaining health literacy in categories of increasing scales.

MAINSTREAM HEALTH INFORMATION

Mainstream health information is information released by Public Health Officials & government officials. This can take on various forms such as press conferences, press releases & mainstream media. The goal of the information is to educate the general public on the pandemic & safety measures to protect against COVID-19.

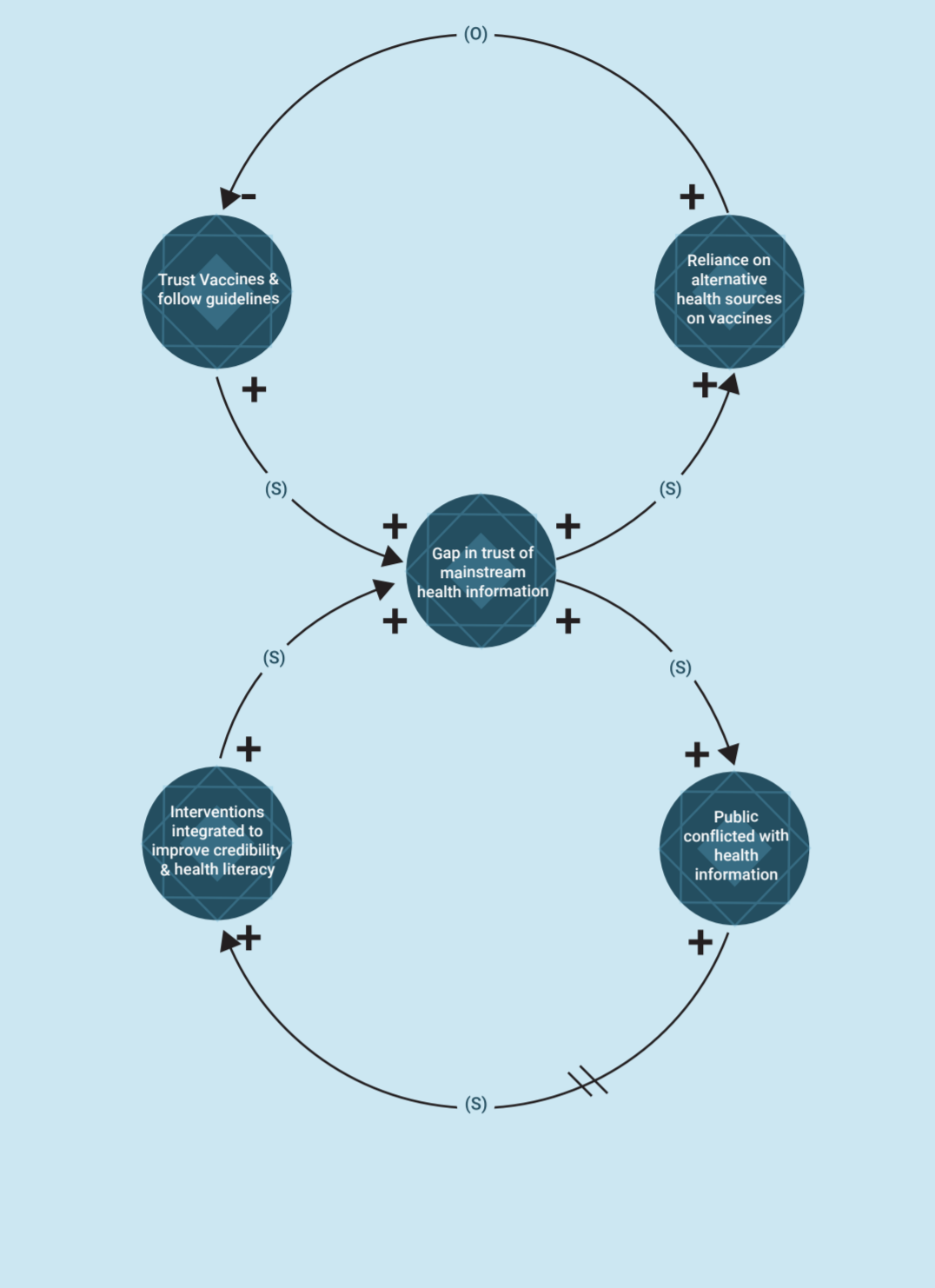
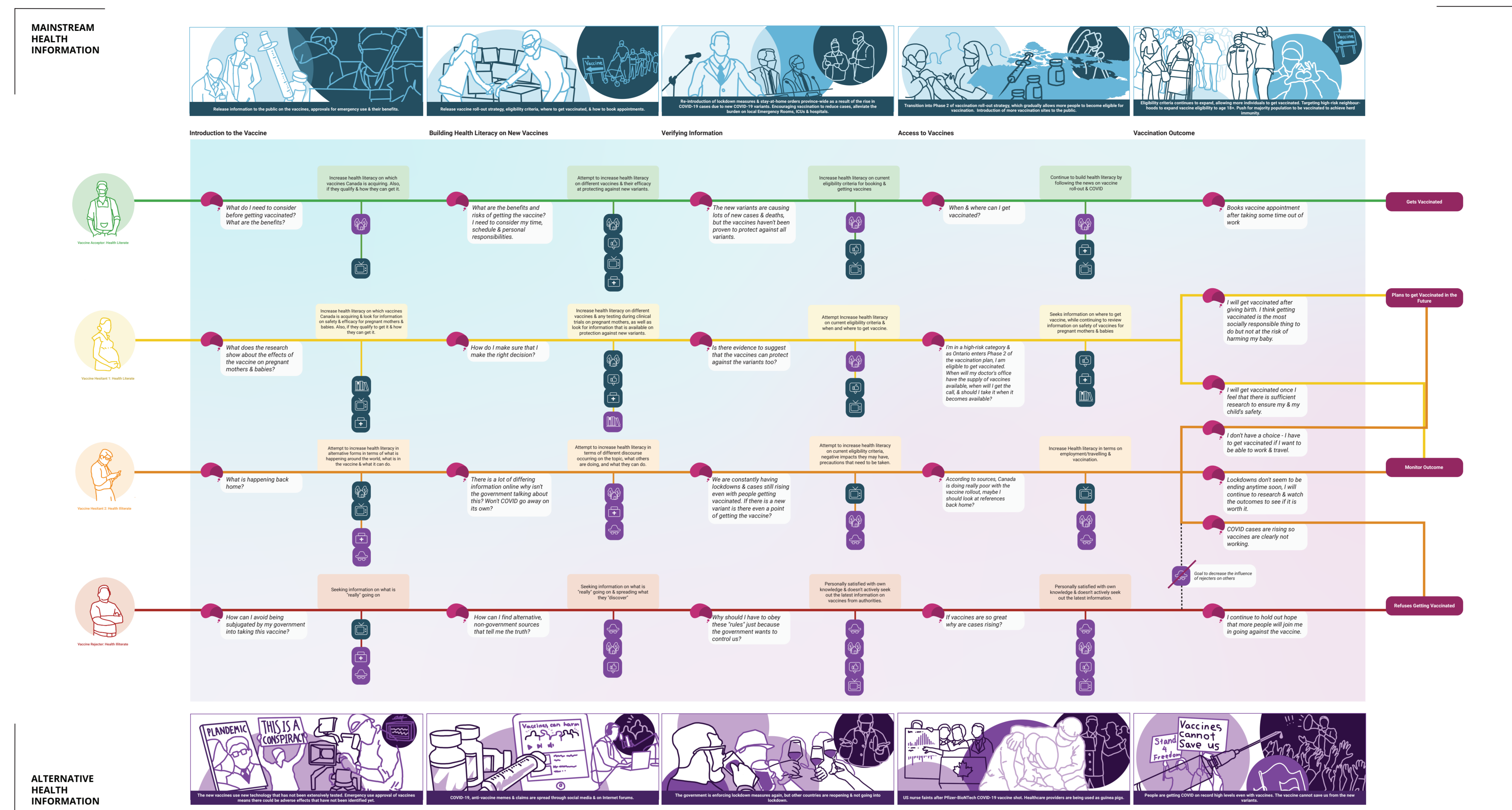


Figure 3.1 This causal loop describes the perspective of public health officials who release health information. Public health officials aim to release & encourage the public to follow safety guidelines & lockdown measures. Constant changes to guidelines & measures from authorities lead to confusion & unease. The goal of this approach is to induce trust in vaccines & for the public to follow government guidelines, but the gap in the trust of official health information leads to an increase in the public seeking out more personalized health information, which can include sources that are not credible. This eventually leads to the need for interventions to improve the credibility of sources of health information in order to minimize the gap in the trust of health information released by public health officials.

SOURCES THAT IMPACT HEALTH LITERACY

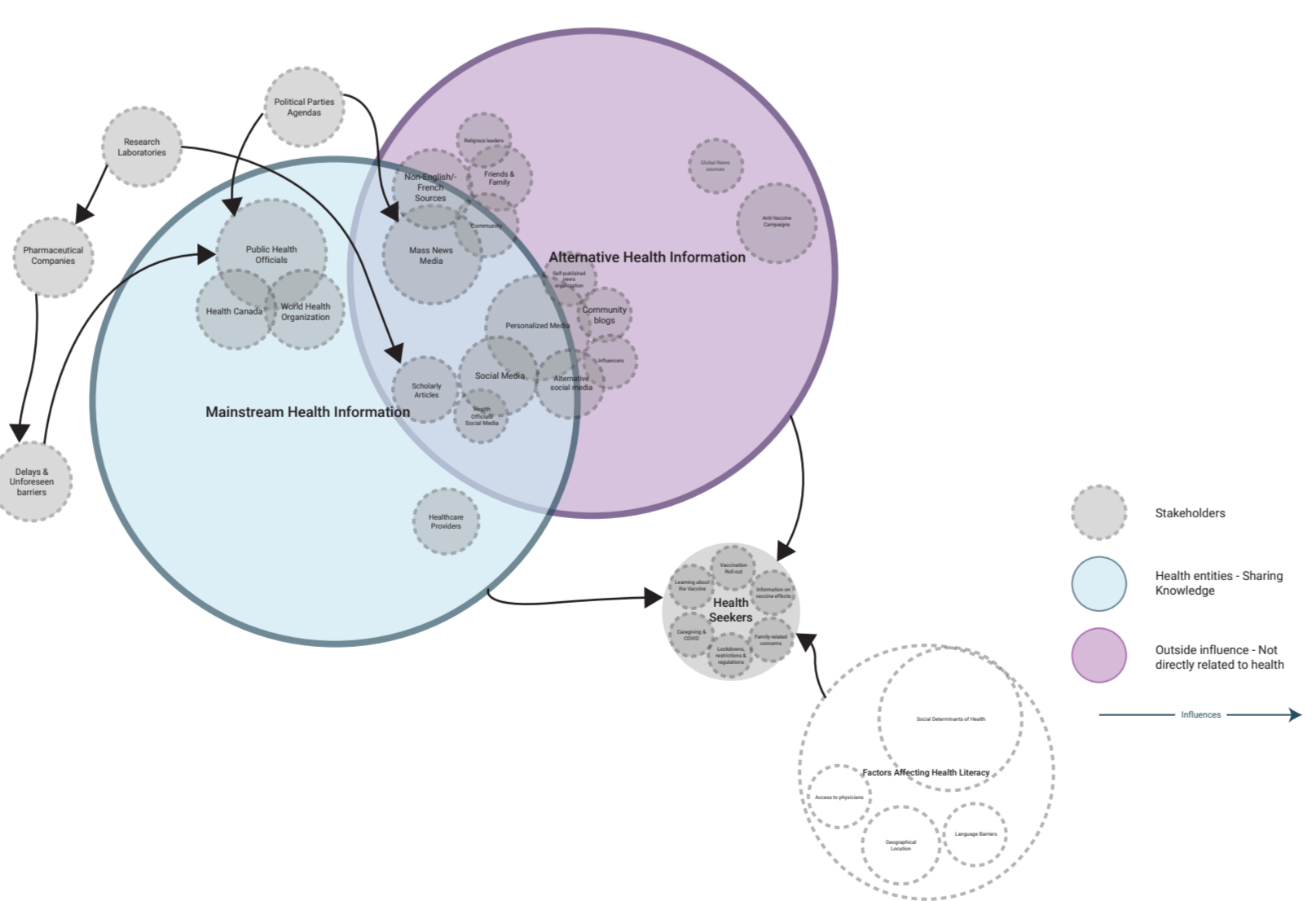
- Health Professionals**
 Access to primary care providers (e.g. family doctors, nurses) & specialists can provide advice & information to individuals on vaccines.
- Scholarly Papers**
 Research studies are published in journal articles, reporting the development of the new vaccines & the results of the clinical trials performed so far.
- Social Media**
 Social media accounts of public health, government agencies, politicians, healthcare providers & facilities are used to share information about COVID, vaccines & official guidelines.
- Personalized Media**
 Official guidelines & information from public health officials are translated & published in alternative languages to support various communities.
- Community**
 Individuals often share & seek advice from family & friends, as well as look to community leaders for information.
- Mass Media**
 Mass media (e.g. television stations, newspapers, radio) broadcast & publish public health announcements & government press conferences relating to COVID-19 guidelines, practices & vaccination roll-out strategies. Infectious disease specialists are often interviewed to assist in understanding government guidelines.

Journey Map of Health Literacy-Building on COVID-19 Vaccines to Make an Informed Decision on Vaccine Acquisition



Journey Map

The map above portrays the journey of four personas as they seek health information & build health literacy on COVID-19 vaccines to make a decision on accepting or rejecting the vaccine. The journeys themselves depict the thought process as well as touchpoints of interest where the personas access information & the final decision they may make at the end of the journey. Above the paths of the journey, the blue sketches & accompanying text describe the official messaging released by mainstream media over the course of the timeline. The purple sketches & accompanying text below the journey describe the messaging released by personalized sources of information. The gradient showcases the rate of mainstream vs personalized information being consumed overtime.



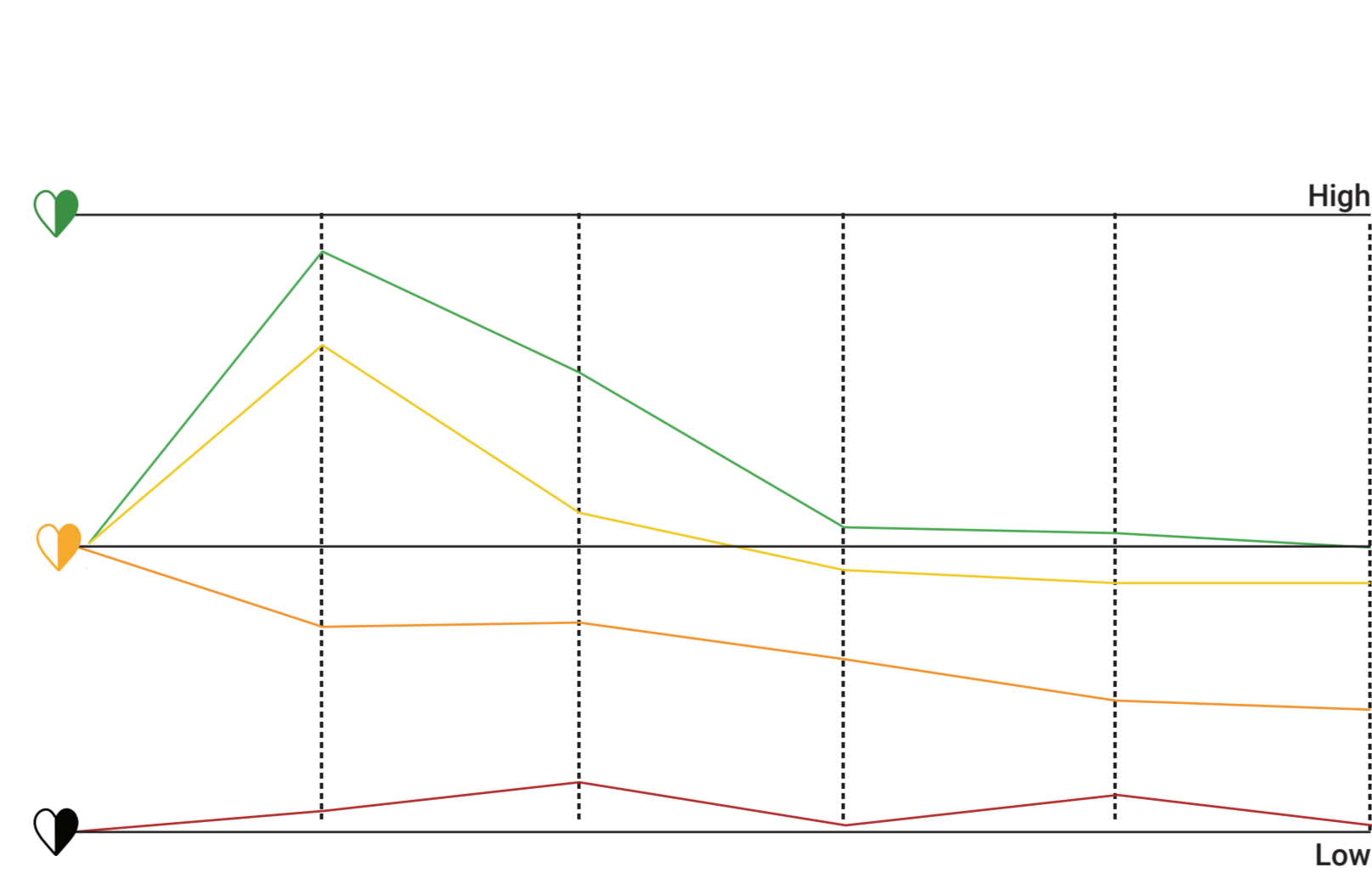
Influence Map

Figure 2. There are two main sources of health information that is available to the general public - Mainstream that is promoted and referenced by Public Health Officials and Alternative that share unconventional views & interpretations of a health issue. This influence map demonstrates the stakeholders that form each source of information and, as well as the factors that influence an individual's ability to process, understand & act upon the information in order to manage their health & the health of those around them.

Persona's Feelings Towards Health Officials Overtime

Carl - Health Literate Individual
 Carl is a 50 year-old essential worker living through the pandemic. He has no prospects of working from home & provides caregiving to his elderly parents. He wants to get vaccinated but can't get the time off to get tested for COVID or get vaccinated.

Jennifer - Health Literate Individual
 Jennifer is a 30 year-old pregnant woman expecting her first child. She has medical appointments to attend for the remainder of her pregnancy and will give birth at the hospital. She is concerned about the interactions within the healthcare system & how to stay safe during the pandemic.



Three Horizons

Figure 3. The map illustrates the current concerns with health literacy in vaccination. A mass influx of vaccination information on social media & public forums, some unsubstantiated, other incredible, suggests that the system is under strain. To temporarily address this system strain, it may be necessary, from a policy perspective, to establish vaccine knowledge translation through trust-building with the population, addressing a population's barriers to health & physician access, before addressing their barriers to vaccine access. In the ideal future, these implementations could improve health knowledge translation by increasing a population's overall literacy level.

ALTERNATIVE HEALTH INFORMATION

Alternative health information is released by unofficial sources. This can take on various forms such as self-publishing & sensationalized media. The spread of this information relies on previous held beliefs on pre-existing political, religious & social views to inform the general public about pandemic information that mainstream health information deems misleading or inaccurate.

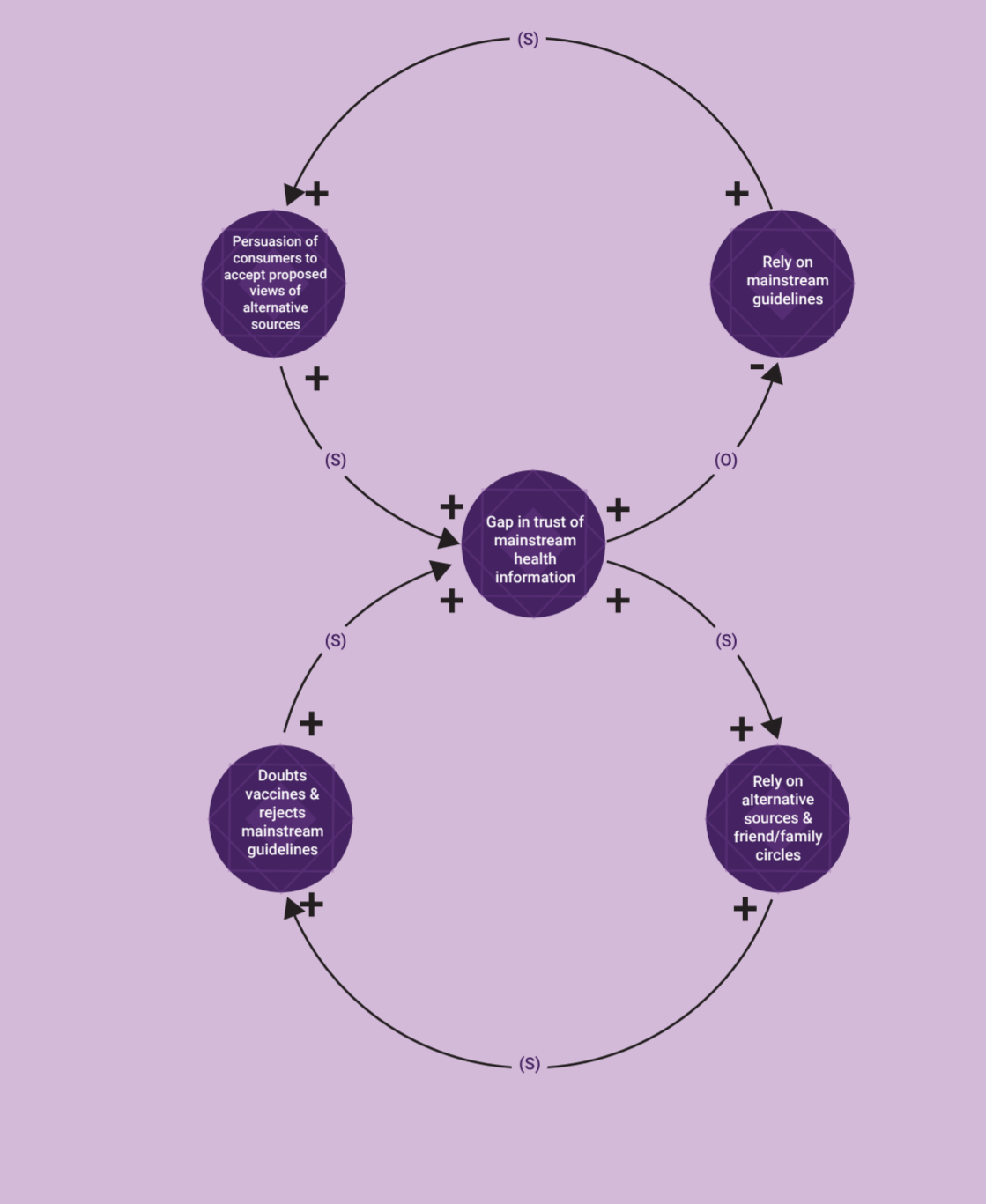


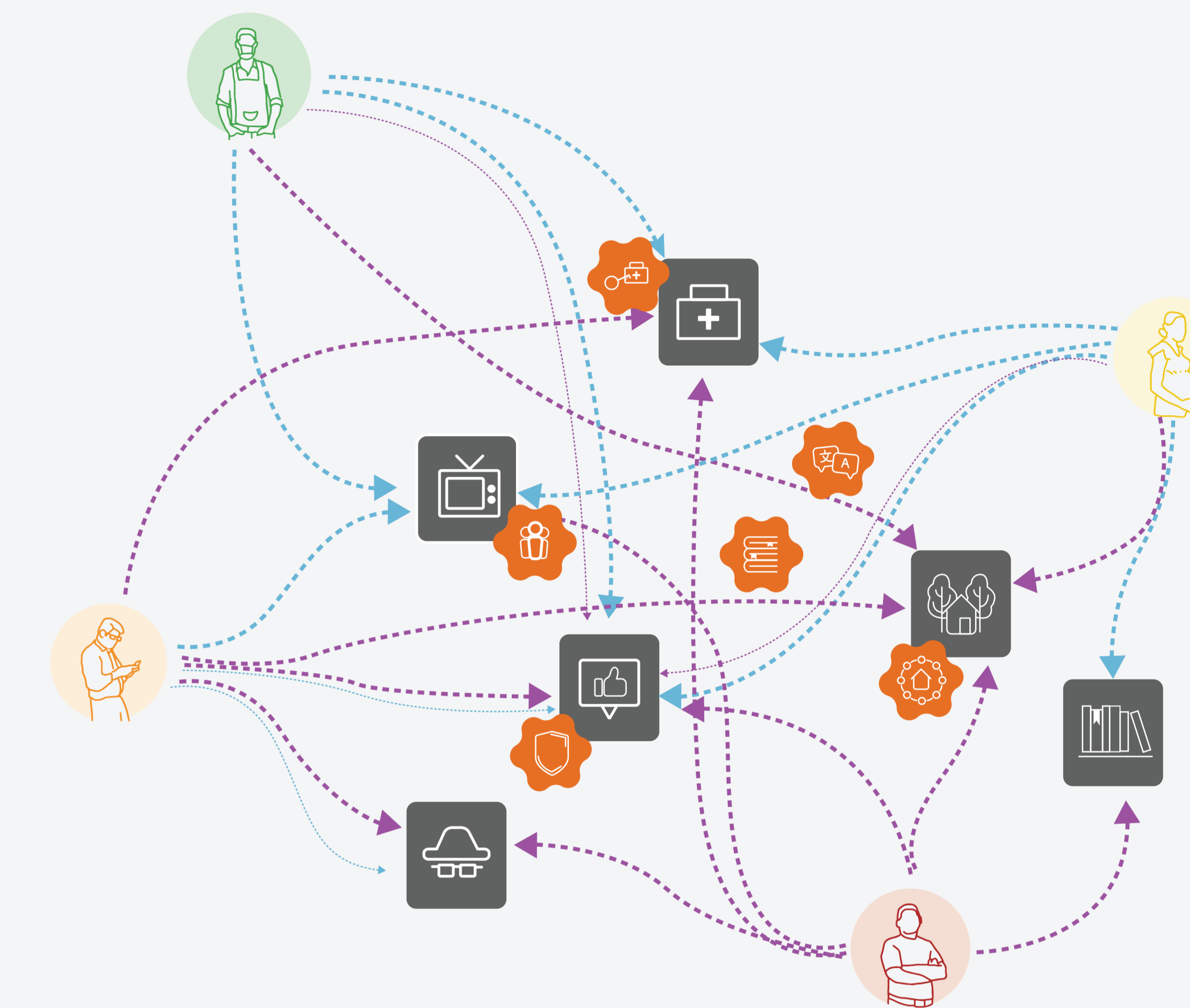
Figure 3.2 This causal loop describes the perspective of the platforms that release alternative health information. Content creators of this information aim to encourage the public to accept their views. Constant changes to guidelines & measures from public health authorities lead to confusion & unease. The goal of this approach is to persuade consumers to accept the views & opinions of the content creators. The gap in the trust of official health information reduces the public reliance upon mainstream health information, while increasing the use of alternative health information & information shared by friends & family. This leads to doubts about vaccines & health official guidelines & furthers the existing gap.

SOURCES THAT IMPACT HEALTH LITERACY

- Health Professionals**
 Lack of access to primary care physicians can lead to accessing information by professionals who use their designation as a way to induce authority & influence of the general public (e.g. through documentaries like Plandemic).
- Scholarly Papers**
 Research papers are obligated to present facts based on trials & experiments. Readers are free to interpret data and reach the conclusions that may differ from those of health officials.
- Social Media**
 Social media is a platform where individuals can openly share their opinions with others around the world. The more followers, the greater the potential influence. Social media algorithms often make recommendations to bring together like-minded individuals.
- Personalized Media**
 Other forms for personalized media where people can seek information are websites of groups, forums & memberships for like-minded individuals to share information with each other (e.g. websites focused on conspiracy theories).
- Community**
 Friends & family share information with each other & influence each other to support their views & opinions.
- Mass Media**
 Mainstream media often show not only official information, but information that is trending as well in order to garner more views & attention. Politically motivated media can influence certain behaviours in their viewers.

MOVING FORWARD

Our journey map demonstrates various points in which the general public seeks information to build health literacy on vaccines, specifically. Multiple sources of information are commonly used which can influence decision-making & the resulting behaviors & actions taken by individuals. Below we present six general interventions that can address gaps in the delivery & access to credible health information sources.



Touchpoints for Interventions

Figure 6. This map displays potential touchpoints for interventions. The personas may utilize the same sources of information but can vary in their interactions with them. The map showcases how the interventions can be incorporated in these sources to improve overall health literacy, trust & influence of credible sources while minimizing the impact alternative health information can have on decision-making.

INTERVENTIONS STRATEGIES

- Communication**
 Package & communicate information to target audience in an easy-to-read, accessible format, using plain language, visuals and graphics. Policies need to be in place to set standards for information sharing & to ensure public health information is available in multiple languages to improve access for the diverse & marginalized communities.
- Combating False Info:**
 Minimize the intake of false information by enforcing disclaimers of unofficial sources of information & guiding readers to credible sources. Partnering/creating allies with health information websites, social media & forums to share information.
- Mainstream Media:**
 Broadcast the views of various different community members, utilize narrative storytelling & remove the hierarchical & authoritative manner in an effort to build more meaningful public connections & trust.
- Community**
 Partnering with community leaders & agencies that are considered trustworthy to share information within the community.
- Education**
 Introduce health literacy into education system to build health literacy & knowing where to 'fact-check' information.
- Healthcare Access**
 Improving access to & relationships with primary care physicians.