# The Mission, the Message, and the Medium

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## Science and Risk Communication in a Complex World

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# Introduction

We live in an increasingly complex, fast-paced, and volatile world. The stakes have never been higher, and it is no longer enough for scientists to throw information into the public sphere and hope that someone is able to understand and apply it. Indeed, it is now clear that scientists have a moral obligation to spend as much time, thought, and effort in the communication of their knowledge products as they do in the generation of the knowledge itself. If scientific voices are to be heard above the din, and, more importantly, used for personal, public, and political decision-making, then efficient and effective communication is essential. However, science communication, and particularly the communication of risk in the scientific context, is difficult to do well, especially without the appropriate training.

This textbook covers many of the principles of science communication, as well as the theory and practice of risk communication, specifically. The content is divided into three main sections: 1) the 'mission' (why you are communicating), 2) the 'message' (what you are communicating), and 3) the 'medium' (how you are communicating). We have tried to include enough diversity of ideas to give you something to 'chew on' regardless of your background, education, or experience in communication. However, the textbook is, and will always be, a work in progress. It will expand and mature each year as we continue our communication journey, learning from our students and the world around us.

# Science Communication

We need science in our lives. It does everything from enabling us to understand and function within our day-to-day lives, to inspiring a sense of awe and wonder about the world (and universe!) around us. It also plays a vital role in personal and public decision-making in virtually every sphere of our existence. Given the degree to which people need and use science, it is vital that those of us who generate and/or understand science are able to communicate it clearly.

Science communication is the practice of informing/educating/raising awareness about science-related topics. It is a simple definition but not a simple task. Engaging the public with science can be complicated for a variety of reasons, some of which are listed below:

- Science is the "domain of experts", with a unique vocabulary, and for that reason people often feel that it is inaccessible or they fail to see its connection to their everyday lives.
- Scientific information is generally complex and fraught with uncertainty and changing conclusions.
- Scientific 'data' can be interpreted very differently depending on the political, social, cultural, and religious lenses that people are looking through.
- Knowledge and attitudes toward science vary greatly from country to country and among different social, cultural, and economic groups.
- We are living in a 'post-truth' era where information, true or false, can be instantly communicated with a global audience. Not only has it become difficult to know what is 'real' versus what is 'fake', this distinction does not even matter for some.
- We are undergoing a very major shift in the way we receive information. This is best exemplified by the rise of the internet and social media — tools that provide both challenges and opportunities for communication.
- There is also a massive increase in the amount of information that we can access and are bombarded with every day. This has led to an 'attention economy', meaning that it can be challenging for scientists to get people to listen to them, let alone think about, understand, and act on their messaging.

All that being said, the main barrier for effective science communication (also called scicomm) is usually us — the scientists. Scientists have traditionally been very poor communicators, dedicating little time or effort to communication and placing little value on the art of science communication. Perhaps because it has traditionally been viewed as an 'art' — a frivolous task that is unworthy of the cognitive space it requires. This has resulted in a culture in which scicomm is often very *ad hoc* — the afterthought of a project, a box that has to be checked for a grant application, the first thing cut when time or money are tight. Scientists that do make an effort to communicate often follow the 'knowledge deficit

Supplementary Material

The following provide some stimulating new model', believing that if people have the facts they will understand science and make better decisions. However, research has shown that greater understanding does not correlate with public buy-in.

Unfortunately, as Randy Olson explains in his book *Don't Be Such a Scientist*, this sets up a negative feedback cycle where poor communicators communicate poorly, get little return on their investment, conclude that scicomm is not worth their time, make no effort to become better communicators…and so on and so forth. On the other hand, good communicators often have tremendous success with their communication programs, see the value of good communication, and therefore invest more into scicomm thereby becoming better and better communicators. It is this positive feedback loop that we hope to initiate with this course and textbook.

perspectives on science communication:

2012 Sackler Colloqium

2013 Sackler follow-up colloquium

2016 NASEM meeting setting a research agenda for scicomm

Discussion

**The state of science in Canada**

A 2019 report shown that skepticism about science is increasing in Canada:

- Only 4/10 Canadians saw science as crucial in their lives.
- 8/10 Canadians admitting to knowing little to nothing about science.
- 44% of Canadians perceive scientists as elitist.

To address these findings, the report authors suggest that "scientists need to analyze how they communicate their findings. We need to ask ourselves: Do we talk about science in a way that someone who isn't a scientist can understand? Do we give people a reason to care about scientific findings? Do we make science relevant?"

# Risk Communication

Risk communication is a subset of science communication. The WHO defines risk communication as "the exchange of real-time information, advice and opinions between experts and people facing threats to their health, economic or social well-being. The ultimate purpose of risk communication is to enable people at risk to make informed decisions to protect themselves and their loved ones."

On the surface, the goal of risk communication might seem straight forward: to inform people about their risk and to help them reduce that risk. However, there are actually many different kinds of risk and many different ways that people can respond to them, so the process of efficiently and effectively communicating about risk is actually very complex.

There have been a number of frameworks developed to tackle this complexity and help people to think about risk communication. For example, Lundgren and McMackin (2018) suggest that there are three main 'types' of risk communication:

### Care communication

Care communication is communication where the risk and the way to manage it are not in question. They have already been well characterized by science and are generally accepted by the public and/or experts. A lot of automotive risk communication fits in this category — we know that we should use car seats for infants, go the speed limit, not drink and drive, not touch our phones, etc. The goal here is usually to make sure everyone is informed and to implement specific risk mitigation policy or programming.

### Consensus communication

Consensus communication is needed when the way to prevent or mitigate a risk has yet to be determined or agreed upon. This is basically a consultation process. Much of the communication regarding environmental impact, safety planning, and setting health regulations is in this space. The goal here is implied in the title: to get everyone on the same page with regard to how best to move forward.

### Crisis communication

Crisis communication occurs in the face of extreme and sudden danger.

Discussion

**What is risk?**

There are lots of different definitions of risk. We prefer to define it as the probability that an 'adverse event' will occur X the magnitude of the harm associated with that event if it does occur. This makes it very clear that there are two 'axes' to risk — probability and magnitude. So, a small harm that is very likely to happen could be judged as the same level of risk as a very large harm that is unlikely to happen.

'Adverse event' is also a flexible term and can mean everything from lost time to death. It also has a subjective component, as what different people view as 'adverse' can be highly variable.

This gives us a good place to start; however, these categories are more descriptive than prescriptive. For this reason, we could look to some other frameworks to flesh out our approach to communication. Below is a tasting menu of communications frameworks:

### Communication process approach

Very traditional. Information is generated by a source, which goes through a channel to a receiver. In my personal experience, this is how most science communication is done. Boring!

### Extended parallel process model approach

Long name for a fairly simple concept. If people feel they cannot take action to mitigate a risk or feel the action will be useless, then they act to control their own negative feelings about the risk rather than the risk itself. This often emerges as denial or hostility towards the communicator. Hello climate change deniers?

### Mental noise approach

The more worried people are about a risk the less they are able to process information about that risk and the more important it is to use tools like simplification, repetition, and supportive visuals. This theory is helpful in crisis communication.

### National Research Council approach

"Risk communication is an interactive process used in talking or writing about topics that cause concern about health, safety, security, or the environment." This approach emphasizes that communication is 'interactive', i.e., that there should be a two-way flow of information between the information sources and recipients. The recipient-to-source axis is often ignored, but without it you are just talking, not communicating.

### Sandman's Hazard x Outrage framework

This is one of our favourites and we will discuss it in detail later. The gist is that Sandman puts equal weight on the risk perception of the audience as that of the communicator. It is not enough for a communicator to just listen to stakeholder concerns; we have to actively investigate them, understand them, respect them (or at least take them seriously), and use them to shape our communication plan.

### Social amplification of risk

Social interactions have unpredictable impacts on risk perception and how risk communication is received. This theory can be used to understand how rumor and misinformation can be used to fill communication gaps.

### Social network contagion approach

People generally adopt the opinions and behaviors of those in their social network when faced with fear and uncertainty. This theory introduces the importance of understanding and messaging to an entire network versus the individual.

### Social trust approach

Whether someone will listen to you depends on how much they trust you and your organization, which, in turn, depends on a constellation of factors including past experience, transparency, and perceptions of your (or your organization's) values, motives, empathy, etc.

As you can see, there is no 'one framework fits all' approach to communication, and approaches will vary depending on communicators' opinions and perspectives.

## A new approach: Building your communication toolkit

While the diversity of approaches to risk communication may feel confusing and overwhelming, that's good! Disorientation is the first step on the path to becoming a better science and risk communicator, a journey that is largely unscientific. Yes, you read that right; all that training that has made you a good scientist in many ways will have promoted traits that hinder good science communication. You are probably used to working in situations where there are 'right answers' and 'best practices', but that is not the landscape that you are going to be exploring in the next couple of months. Instead, we are going to be entering into the messy, unpredictable, inscrutable world of the human experience. Our ultimate goal is to expose you to the many different tools and techniques that can help you communicate, as well as provide you with a framework to start thinking about communication.

We have built the framework around what we believe are the three fundamental components of science and risk communication: the mission, the message, and the medium. Fundamentally, the mission is the 'why and how' of communication, the message is the 'who and what', and the medium is the 'when and where'. Within each section we will present a number of different considerations, theories, and examples for you to consider as you build your communications toolkit.

We like the thoroughly unscientific analogy of painting. Your communications will be your artworks and we are going to start you off with a basic set of paints and give you some ideas for how you can use them to develop a rudimentary composition. Which paints to select, how you combine them, and how you apply them to your canvas are going to vary depending on what you want to paint. Additionally, as you progress in your career and experience you will add new paints to your pallet, leave others behind, and find more and more creative ways to combine the paints you have. This means that this course has no exams and no answer key. However, you will have to work hard and probably will feel more challenged than many of your previous courses because there is a difference between a Grade 1 crayon drawing and a Renaissance masterpiece, right? It also means that in order to create that masterpiece you will need to get creative, think outside the box, and dare greatly. We look forward to seeing what you create.

> ***'While a growing body of research lays out guidelines for effective risk communication, the different dynamics among audiences, situations, and purposes makes finding the one 'right solution' impossible, even if there is one right solution to find.' – Lundgrin and McMakin***

# Dedications

For Dr. Gary Wobeser and his red pen. Thank you for teaching me that any idea worth sharing can and should be expressed clearly, simply, and in a manner that is accessible to all.

# Part 1: The Mission

The first step in any science or risk communication venture is deciding on your mission. What are you setting out to accomplish and how are you going to know when your mission is complete? In this section we will start by describing the different purposes of science and risk communication. Next, we will combine a discussion of goal setting with program evaluation, because learning how to evaluate a communication program is critical for being able to set effective and achievable communication goals. After that we will turn our thought to the audience – how to identify the people you need to ‘speak’ to and how audience characteristics can influence your communication effort. Then we will finish with a discussion of ethical considerations for communication, as well as potential communication barriers and how they can be overcome.

# 1.1 Purpose of Communication

Learning Objectives

- To explain the importance of identifying a clear and specific purpose for science and risk communication.
- To describe the most common purposes for science and risk communication.

Too often a science or risk communication program or product is treated as an *end* unto itself. It is something that must be done to appease funders, stakeholders, decision-makers, and the public. This attitude represents a fundamental misunderstanding of the purpose and practice of communication, and almost invariably dooms any ensuing effort to being ineffective and inefficient. The truth of the matter is that communication is a tool — a *means* to achieve an end — therefore the communicator must clearly identify what that end should be. In other words, think of communication like a car — it is a vehicle to get to where you want to go. Identifying the purpose of your communication is like deciding on your destination. It is vitally important that this purpose be clearly and specifically identified from the outset, otherwise you are liable to waste time and money driving aimlessly around the communication landscape and without ever getting where you need to go.

The following represent some of the main purposes of science and risk communication. A communication campaign may have more than one purpose that it tries to achieve concurrently, or in some sort of sequence. However, we generally recommend that you try to keep your communication campaign as simple as possible. Although they appear straightforward at first glance, any one of these purposes will intersect with your communication topic, audience, and context to create a plethora of complexities. It is better to try to achieve one purpose well than to spread yourself too thin and do lots of things poorly.

For each pair of shoes,
an alcohol-related crash
KILLED SOMEONE
last year.

*Mothers Against Drunk Driving (MADD) created a number of powerful communication campaigns to change attitudes about drunk driving.*

The following are the common purposes for engaging in science and risk communication:

## Raise awareness

This is the most passive and objective form of communication. Awareness campaigns are simply trying to get an issue 'on the radar' for the target audience. They are not intended to result in a change of understanding, attitude, or behavior.

Example

The 'Wait for Water' campaign by Water.org was intended to raise awareness of the amount of time women in the developing world spend collecting water.

## Educate

Education is a step beyond awareness — you are wanting your audience to actually learn something or to increase their understanding of the issue in question. What your audience does with that newfound understanding, however, is beyond the scope of the campaign. Your message might be a warning and it might be used for informed decision making, but an education campaign is not intended to change behavior.

Example

The BC Centre for Disease Control's Tick Talk site contains a number of communication materials intended to education the public about Lyme disease-related risks.

## Change attitudes

A strict education campaign is appropriate when your audience simply needs 'the facts' and/or when they don't have any pre-existing apathy or animosity towards the issue at hand. If this is not the case, then what you are probably trying to do is change attitudes (i.e., the way an audience thinks or feels about a topic). Perhaps people are overly worried about a risk and you wish to calm them down, or perhaps they don't really care about an issue that could have significant consequence for them. Changing attitudes represents an additional level of complexity above and beyond simple education.

Example

The MADD (Mothers Against Drunk Driving) communication campaign successfully increased public outrage over drunk driving and serves as a model for other communicators seeking to overcome apathy.

## Change beliefs

A belief gets at the core of how people see the world and what they believe to be 'true.' Beliefs are often ingrained elements of identity, and, as such, require herculean efforts to change. Indeed, there have yet to be any proven tools or techniques for changing beliefs, thus this is a purpose best avoided for the entry-level communicator.

Example

When evidence contrasts with core beliefs this can lead to denial and denialism (i.e., when a person discounts verifiable facts in order to avoid psychologically uncomfortable truths). Author Keith Kahn-Harris has written extensively on the subject, and his article for The Guardian (Denialism: what drives people to reject the truth) provides new insight into how beliefs present a barrier to discourse on a number of topics, including vaccination and climate change.

## Change behavior

If you want an individual to physically do something (or stop doing something) then the purpose of your communication campaign is to change behavior. This is often a lofty goal as there are a variety of factors external to the issue about which you are communicating that will determine whether an individual will change their behavior. However, it is a worthwhile goal nonetheless, because, when successful, action-oriented communication campaigns tend to be the most impactful.

Example

For World Aids Day, MTV South Africa built on the hashtag #FCKHIV and developed a communication campaign to motivate young people to get tested.

## Mass mobilization

This is a slightly different purpose than campaigns targeted towards the individual. Mobilizing groups of people to act in concert often requires a unique set of tools and techniques. It is most often done in the context of emergency management.

Example

EmergencyInfoBC is intended to provide communication that will help British Columbians respond to and recover from disasters. Canada's Alert Ready system is another example of a communication platform intended to facilitate mass mobilization.

## Interpretation

This is an interesting and often overlooked purpose for communication. We live in the information age and our audiences are often bombarded with messages from a variety of sources. Rather than reinventing the wheel, science and risk communicators can act as interpreters, using our communication skills to make these pre-existing messages more accessible and meaningful.

Example

Popular science broadcasts such as White Coat Black Art (intended to ‘demystify the world of medicine’) play an important role in interpreting scientific information for the public.

## Gathering information

Most science and risk communication campaigns involve the communicator delivering messages to the audience in a unidirectional manner. However, there may be some scenarios where the goal is to collect information from the audience. This information may be used to inform processes outside of the campaign, or it may be a first step in a longer communication campaign intended to achieve other goals (e.g., changing behavior). We consider this purpose to be independent of audience analysis and pre-testing, which will be discussed later.

Example

BC’s govTogetherBC is a communication platform developed by the government of British Columbia to collect public feedback on a broad range of topics.

## Collaborative decision-making

This is a step beyond gathering information as it implies that the audience will produce an outcome in collaboration with the communicator (versus the communicator using audience opinions in an external decision-making process).

Example

The Canadian Public Health Association provides resources for communicators seeking to develop a context-specific collaborative decision-making approach to safe unstructured play for children.

## Build or improve relationships

This is a purpose that is primarily applicable to smaller audiences or larger audiences with defined representatives. It usually involves facilitating mutual dialogue and understanding between the individuals or groups without any specific preordained outcome beyond the relationship-building process.

Example

*Engaging with Elders: A Co-created Story* by the Native Counselling Services of Alberta is intended to be a tool to help individuals and organizations build relationships with Indigenous leaders and communities.

## Create or maintain trust and credibility

You can think of it like 'building your brand' — if you can become a communicator that people know and trust, then they will be more likely to listen to you. This is particularly important for issues that are contentious, emotionally charged, or fraught with inaccurate or conflicting messaging. It is always important for communicators to endeavor to build trust and credibility; however, it can also be the purpose in and of itself.

Example

BC's Provincial Health Officer, Dr. Bonnie Henry, delivered daily press briefings during the COVID-19 pandemic. On the face of it, these briefs appear simply educational. However, it could be argued that their greatest achievement was establishing Dr. Henry as one of the most trusted and credible sources of COVID-19 information.

## Takeaways

**Takeaway Tweet**

"Skepticism towards science amongst Canadians is growing. Scientists, who are largely seen as "elitist," must improve upon their #scicomm skills to be better received by the media and the public. This starts by identifying a clear mission they want to achieve."

– Brandon Wei

Key Takeaway

The first step in any science or risk communication campaign is to clearly identify the main purpose of your communication campaign. For example, are you only trying to educate, or are you actually hoping to change behavior?

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# 1.2 Goal Setting and Evaluation

Learning Objectives

- To describe the importance of having process and outcome goals and the differences between them.
- To develop process and outcome goals in conjunction with evaluative criteria for those goals.
- To provide examples of ways in which process and outcome goals could be evaluated.

Now that you have identified the general purpose for your communication campaign, it is time to set specific goals. A tried and true tool for goal setting is the SMART acronym. Specifically, good goals are:

- **S**pecific (What will you do? What will you accomplish?)
- **M**easurable (How will you know you have achieved your goals?)
- **A**ttainable (Are you reasonably certain of success?)
- **R**elevant (Why is the goal even important?)
- **T**ime bound (What is the time frame for completion?)

But how can you know for sure your goals are SMART? The best way to go about goal setting is actually to start with the end — the evaluation. What?!? That seems a little backward. Are we really asking you to think about how you will evaluate your communication program before you have even designed it? The answer is…yes! This is because goals and evaluation criteria are best developed in conjunction with one another. Having a good idea in mind about how your program could and should be

Discussion

**Purpose vs. Goals**: You can think of your purpose as overarching reason that you are communicating or the type of change you are hoping to accomplish. Goals are more specific, they outline what your destination looks like in practical terms or how you define success.

**Goals vs. Evaluative Criteria**: If goals are how you define success, the evaluative criteria are objective measures that will help you to determine whether or not you have achieved your goals. A goal without a measure of success is not a goal worth having.

evaluated actually helps you to design a better program — just like a grading rubric helps to focus you and keep you on track for a class assignment!

## Developing goals and evaluative criteria

You should have goals and evaluative criteria related to both the process and the outcome of your communication campaign.

### The process

Process goals and evaluations are focused on the mechanics of the plan and its implementation. For example, you might want to set goals and evaluative criteria around whether your message reached the target audience, the consistency and timeliness of messaging across different platforms, how information flowed within the communications team, etc. These areas of focus will be highly dependent on the scenario but could include components that you view as particularly critical to the success of the program and/or components where you anticipate having problems. As much as possible your process goals/evaluation criteria should be mapped out in advance, but you should also make sure you revisit them throughout the communication process, because chances are that you are going to encounter barriers (or opportunities!) that you did not anticipate, and you may even have to adjust or change your goals accordingly. One component of process evaluation that is often ignored is efficiency. Did you manage to implement your program and achieve your goal with the least amount of wasted time, energy, money, etc.?

> ***Ultimately, the success of your communication plan can be measured by answering one simple question: Did you achieve your goals? This illustrates why it is important to spend time thinking about and verbalizing your goals and evaluation from the outset.***

### The outcome

Outcome goals and evaluations are focused on the impact of your plan on its target audience. If your goal was to inform, did people understand more about the issue in question after versus before your communication effort? If your goal was to change behavior, did the behavior of your target audience actually change?

> ***‘Unmonitored for outcome, risk communication consumes and wastes valuable resources, are ineffective, and create a false sense of achievement on those who are responsible.’ – Gaya Gamhewage, World Health Organization***

That being said, these are lofty goals and can be very difficult to measure. That does not mean that you should not strive for them, but it might be wise to come up with some creative but still impactful outcome aims. For example, did your communication effort increase your audience’s access to information about the issue in question? Did people feel empowered as a result of your communication? If you are involving stakeholders in the communication process, an aim could be whether those stakeholders felt that they were engaged in a positive and meaningful way.

Discussion

**Think About Baselines!**

Most outcomes involve some sort of a change — change in awareness, change in knowledge, change in behavior, etc. However, you can’t detect or evaluate that change if you don’t know where your audience was at in the first place (i.e., your baseline). For this reason, it may be prudent to define and measure your baseline before your start the communication process.

Once you have decided on your goals and evaluative criteria, you will need to outline how you will conduct the evaluation. Again, this is important to do at the beginning because it will help you to assess the feasibility of your goals and evaluative criteria.

## Communication program evaluation

### Timing

There are three key times when an evaluation can take place:

Before

This is called pre-testing. This involves implementing all or part of your communication plan on representatives from your intended audience (ideally). For example, perhaps you might have a focus group with stakeholders to review your risk communication materials and make sure that everyone understands the message and finds it compelling.

During

It can be helpful to have a mid-point review. You often can't know what works and what does not until you have started to implement. Additionally, there may be unforeseen barriers and opportunities. This is usually more of a process-focused check-up than a full evaluation — the purpose is to make sure that everything is on track. For programs that take a long time to bear fruit, you may need several mid-point check-ins.

After

Once there has been time for your communication effort to bear fruit, it is time for a more formal and in-depth evaluation. This is often focused on outcomes, but, don't forget the process component because the two go hand in hand. Without a process review, it will be hard to identify the root causes of your success or failure.

Supplementary Material

## The importance of audience and stakeholder pre-testing

*by Taneille Johnson (SPPH 552 2020W1)*

For today's blog post, I'm looking at a campaign run by the BC Government on overdose prevention and de-stigmatization. The reception of this campaign by an important advocacy group is an example of the importance of identifying stakeholders and pre-testing communication messages.

This campaign originally ran in 2018. To me, the target audience was likely upper-middle class individuals and aimed to raise awareness that anyone could be a drug user (i.e. drug users are NOT only lower income individuals, and those who use drugs are "real people too."

Shortly after this campaign aired, there was outcry from the Canadian Association of People who Use Drugs. This group argued that the government's campaign shifted the focus onto individual drug users and left out many of the complex systems issues that arguably play a larger role in the opioid epidemic.

This advocacy group quickly released remixed posters onto social media (see below, taken from Facebook: https://www.facebook.com/notes/canadian-association-of-people-who-use-drugs/capud-launches-new-anti-stigma-campaign-aimed-at-bc-provincial-government-/1063640897122610/)

Could this reaction and outcry have been prevented by consulting this advocacy group ahead of time? Was audience and potential audience reaction considered? Did the government consider partnering with advocacy groups already working on de-stigmatization? The government responded by saying that they stood by their original ad campaign and that the goal was to “bring humanism” into the opioid crisis (see https://www.cbc.ca/news/canada/british-columbia/advocacy-group-takes-issue-with-b-c-government-s-ad-campaign-to-fight-opioid-crisis-1.4773781).

For me, this leads to a larger question of the duty of government to engage with stakeholders prior to communication campaigns. The sticky point is that it is impossible to expect the government (or any communicator) to anticipate every hurdle and consult with every actor.

While the advocacy group may have disagreed with the overall message, perhaps there could have been a middle ground. Perhaps the government could have run the original ad as the first in a series and then followed up with a 2nd ad drawing attention to the systems issues. Regardless, I think this ad (and the ensuing outcry) serves as a reminder to identify your stakeholders or key advocacy groups and pre-test the message beforehand!

## Data sources

A process evaluation relies largely on internal data sources, for example risk communication plans, messages, and communication products (i.e., media interviews, written and visual materials, internet posts, etc.), and interviews with those involved in the communication process.

An outcome evaluation, on the other hand, relies largely on external data sources such as surveys, interviews, and focus groups with segments of your target audience, usage tracking for websites and social media, and data to identify a change in behavior.

## Process

This is not rocket science! Program evaluations are often omitted from communication plans and we think it is because people make them more complicated than they need to be. For some reason you use the word ‘evaluation’ and the tendency is to think that is needs some complicated, energy-draining, and time-consuming process. In reality, if you need this sort of process, your goals and evaluative criteria are probably way too complex. The goal of your evaluation is not to completely, utterly, and undeniably prove that you have achieved your goal, but rather to provide reasonable evidence to support that you made steps in the right direction.

Step 1: Identify the goals for the evaluation. These will be derived from your process/outcome goals and evaluative criteria.

Step 2: Determine what data you will need to perform the evaluation.

Step 3: Collect those data.

Step 4: Analyze those data.

Step 5: Draw conclusions and act on those conclusions by modifying your plan.

Example

We developed a communication campaign for rural Sri Lankans in communities with a high incidence of dog and human rabies.

*Feral dogs are the main source of rabies in Sri Lanka.*

The purpose of this campaign was to **educate** adult community members about rabies. A **process goal** was that 75% of adults in the target communities had seen and read the poster. An **outcome goal** was that people who had read the poster demonstrated an increased understanding of the risks associated with rabies and how to mitigate those risks. The **process evaluative criteria** was self-reported rates of seeing reading the poster using one-on-one interviews conducted *after* the communication campaign. The **outcome evaluative criteria** was a demonstrated increase in understanding regarding rabies risk and risk mitigation between one-on-one interviews conducted *before and after* the communication campaign.

The **evaluation process** was as follows:

Step 1. The goal of the evaluation was to estimate the proportion of the target audience who had seen and read the posters and to assess whether or not those who had read the posters demonstrated an increased understanding of rabies.

Step 2. Data were collected through one-on-one interviews with a subset of adults identified by a community leader.

Step 3. Participants were interviewed before and after the educational campaign.

Step 4. Data were analyzed quantitatively and qualitatively.

Step 5. Data were used to determine whether goals had been met and to identify whether important gaps remained.

## Takeaways

Key Takeaways

- Your goal is to clearly define what success will 'look like' in the context of your communication campaign. Goals should be specific, measurable, attainable, relevant, and time-bound (SMART).
- Goals should be developed in conjunction with evaluative criteria, which are objective measures that will help you determine if (and prove that) you have achieved your goals.

- You should have goals and evaluative criteria related to both the process and outcome of your communication plan. Process goals and evaluations are focused on the mechanics of the plan and its implementation. Outcome goals and evaluations are focused on the impact of your plan on its target audience.
- Once you decide on your goals and evaluative criteria you should outline how you will conduct the evaluation, including the timing, data sources, and process.

Media Attributions

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## 1.3 Audience

Learning Objectives

- To describe a target audience based on characteristics that will impact communications intended for them.
- To hypothesize how those characteristics might impact your communication program.
- To provide examples of how you can go about conducting audience analysis.
- To define intersectionality in communication practices.
- To explore how a consideration of intersectional identities can be incorporated into communication campaigns.

Before you begin any kind of communications planning, think of your audience. Who are you wanting to reach? Why are they your target group? The better you know your audience the better your chances of successfully developing and delivering your message (or even knowing what your message should be). If your audience is small and/or very well defined (i.e., a particular governmental agency) then this task may be straightforward. However, chances are that you will be dealing with a larger and more amorphous collective often known as ‘the public’. If there is one key take home message for this section let it be this: **there is no such thing as “the public”.** As scientists we often think of the ‘the public’ as a homogenous group when really, they are a mosaic of individuals with different knowledge bases, different lived experiences, different values, different goals, etc. For this reason, it is important to spend some time and effort on audience analysis (also known as “understanding your audience”). Below are some characteristics and considerations that you can use to better understand your audience.

- Group size: Collaborative forms of communication are usually only feasible for smaller groups. The group size also impacts the medium you select. For example, a small group size could warrant a presentation or meeting, while a larger group might require communications disseminated through social and news media.
- Personal characteristics (age, gender, culture, religion): All of these will impact how people view the world, what is important to them, how they receive, process, and react to

information, etc. However, it is important to remember that ‘rough categories’ are not the only determinants of how someone receives a message. Aspects of someone’s lived experience will also characterize how they engage with your messaging; however, these qualities are much harder to describe.

- Education level: This will help you to tailor the language and level of detail. Generally, aim for language free of scientific jargon to reach the largest group of individuals. You can test the grade level of the language you are using online here.
- Language: Are there multiple languages spoken by the audience or is their preferred language different than your own? You may need to bring in translators to adequately convey your messaging in the desired language.
- Experience with the issue in question: How much does your audience already know and what will you have to educate them about?
- Attitude towards the issue: Is there likely to be apathy, outrage, or hot button words and concepts?
- Experience with and attitude towards you and your organization: Do people know you, trust you, and find you credible?
- Individuals or organization that they trust: Could you recruit those people to be your spokesperson and/or participate in the communication process?
- Expectations: What will your audience expect from you? Can you deliver on those expectations?
- Information sources: Where do people tend to get their information from? It is ideal if you can use their preferred medium (i.e., social media, traditional media, podcasting, etc.).
- Intersection of issue and audience: Is there some feature of the audience that impacts the effect of the issue on them as compared to other groups? For example, people living in under-served areas may have fewer resources to cope with or mitigate risk compared to those living in more affluent areas.

Other characteristics to consider: Turnover within the community in question, occupation, geography, presence of organized groups (e.g., activists)

Discussion

Here are some other points to keep in mind with regard to ‘the public’ and how they receive and process information:

- Recall of science facts > knowledge of scientific methods
- Most people’s formal science education ends in high school
- Scientific numeracy is more difficult than scientific literacy
- May have multiple, idiosyncratic explanations for a phenomenon

- May not focus on most relevant aspects of an issue
- Reliance on metaphor and analogy
- People weigh more heavily information that fits with their beliefs or information they've seen before
- Initial emotional reaction can shape long-term attitude and receptivity to future information
- Reliance on narrative and framing as replacement for not understanding numbers
- Cognitive dissonance (discomfort from holding two conflicting thoughts) often leads to rejections of new information that threatens things people hold dear
- Prone to cognitive bias
- People are busy and bombarded with information, make sure your messaging grabs their attention and does not waste their time

*There is no such thing as the ‘general public’.*

## Audience analysis

Audience analysis is any communication research conducted on a target audience to gather information about their media habits, attitudes, interests, behaviors, preferences, demographics etc. But how do you obtain this information? You could, for example, collect data directly from segments of your target audience using interviews, surveys, and focus groups. Alternatively, you could use indirect sources such as internet searches, social media, and census or other administrative data. There are also some ‘outside the box’ information sources, such as political groups, which may be willing to share data on their constituency, particularly if they feel that your message will bring a benefit to the community. Often, you will have to use multiple data sources to both develop and verify your audience profile.

Example

An audience analysis for communication is much like approaching marketing of a brand or product. If you’ve created a new running shoe for long-distance runners, you want to know that your product and the promotional materials associated with it engage your target audience (long-distance runners). The first step in that process is having an understanding of the products these individuals already use, the places they run, and the organizations that sponsor them.

Similarly, when communicating about risk, you must identify and understand your audience, their values, and the modes of communication they engage with. For example, if you are communicating to a community-run organization, visit their website and pay particular attention to their goals and initiatives, visit their social media pages to see what information they share, meet with organization members where possible to ask about their programs and interests. If you have been invited to speak by the organization, you can request information on your audience directly from the spokesperson.

## Audience testing

Now that you have gathered information on your target audience, it's important to test your communications strategy on a subset of this group (this is an example of 'pre-testing' from section 1.2). This is because implementing any communication strategy is expensive, so piloting aspects of this strategy prior to full dissemination can help to minimize costs and iron out any bugs in your tactics. Be sure to collect feedback from the pilot group and incorporate this feedback into the final communications materials, where possible.

Supplementary Material

### The Secondary Audience

*by Claire Styffe (SPPH 552 2020W1)*

Since beginning taking this class, I've recently gone and rewatched the movie *Thank You For Smoking*.[1] It's the satirical story of Nick Naylor, a lobbyist for cigarette companies and it's full of interesting themes surrounding public health and communication. On this latest watching however, a specific point stuck out with me, particularly in the context of our class discussions surrounding audience. I've attached a clip from the movie, and in it Nick is telling his son Joey what he does for a living, and how he argues. To do this, he presents a mock argument with his son, a fight over the best ice cream flavour. After Nick gives his closing statement, Joey is confused.
"But you still didn't convince me," he says.
"But I'm not after you," Nick explains. He points into the crowd of milling people, all of them enjoying their night at the amusement park. "I'm after them."

*A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.bccampus.ca/missionmessagemedium/?p=31*

This quick clip illustrates what we studied in class; the importance of knowing who your audience is, and tailoring everything accordingly, from what you're saying, to the way you say it. It also draws my attention to the fact that your message may have key secondary audiences, and that this should also be factored into your communication. An area where these principles are particularly important is in addressing vaccine denialism.

There exists a spectrum of vaccine hesitancy.[2] There are vaccine sceptics, who are uncertain regarding vaccination, but who take a scientific approach to the matter and are willing to follow the facts should they be presented appropriately. Moving further along are the vaccine refusers, who chose not to vaccinate, are confident in this decision, but who are still willing to listen to alternative perspectives. Furthest along are the vaccine deniers, who have an extremely negative perception of vaccination and are not at all open to changing their beliefs, no matter the scientific evidence which may be presented. Most of the time, it is the vaccine deniers who tend to be the most vocal of the vaccine hesitant population, and the ones who science communicators may have to interact with on a very public stage.

The WHO has published an in depth document called *How to respond to vocal vaccine deniers in public*.[2] Rule #1 is "The general public is your target audience, not the vocal vaccine denier". Ignoring for a moment the issues of nomenclature (there is no general public!) they bring up a key point; that the person you are arguing with directly is unwilling to consider alternate positions and the evidence supporting them, and that your efforts should be geared toward the larger portion of the population who would. This is echoed in Leask's research regarding changing vaccine uptake called, *Target the Fence Sitters*.[3] In it she presents evidence that a small and very vocal section of the vaccine hesitant are unlikely to ever change their position, but that the quiet majority of them are more concerned than they are obstinate. When presenting your message it’s key to think about how responding to one group may be actually about communicating with another. In the crude words of Nick Naylor, who are you after? Is it the person you’re talking to? Or the ones who are listening?

Works Cited

1. Thank you for smoking. United States of America: Searchlight Pictures; 2006.
2. World Health Organization. How to respond to vocal vaccine deniers in public. 2016.
3. Leask J. Target the fence-sitters. Nature. 2011;473(7348):443–5.

## Intersectionality

Another way to help you think about audience is the concept of intersectionality. Intersectionality is the foundation to understanding how multiple identities and experiences exist and interact within an individual or group of people. The term was first coined by Kimberlé Crenshaw over 30 years ago to describe how social identities intersect. We can visualize intersectionality as a unique series of Venn diagrams, with circles representing distinct identities that overlap with one another (as in this illustration by Sylvia Duckworth).  These identities may be political or social, religious, of gender identity, race, experience, physical, or any form of disability, and they can interact in such a way as to illuminate discrimination, disadvantages, privileges, and/or prejudices within a societal framework.

Intersectional communication recognizes that the person as a whole is more than the sum of their identities. How these identities interact and intersect create a unique experience. Including and welcoming intersectional identities in your communication practice both makes your communication more inclusive (Canfield et al. 2020) and more effectively targets a message to a specific audience. By carefully considering audience identities, communicators can create materials that reflect the concerns and needs of the audience. Further, the more engaged and welcome the audience may feel, the more likely they are to provide honest, effective feedback that can be used to further improve messaging.

Beyond considering intersectionality, what are some steps you can take to incorporate diverse identities into your communications?

Because intersectional work is intertwined with efforts to address and improve equity, inclusivity, and diversity, intersectional communications will benefit from applying inclusive, equitable practices. Where possible, collaborate with those with experience and expertise in equity, diversity, and inclusion to help incorporate diverse perspectives into the communications process and identify biases that could be a barrier for your audience.

Another way to incorporate intersectionality into your practice is to center the voices of those most affected by the issues that you are communicating about. For example, if you are discussing the risks of hurricanes in the southern United States, then communications would be strengthened by sharing the experiences of residents of the areas most affected. By centering the voices of those affected by an issue, the message better reflects audience concerns, which in turn enhances relevance, engagement, and action.

Incorporating intersectionality is ultimately about understanding your audience! It requires that you identify your target audience, as well as use commonly inclusive practices such as polling (social media and in-person), interviews, and surveys to understand who they are and what they care about.

Example

The “Wash With Care” program is a provincial program aimed at raising awareness about pesticide safety among the farming community in British Columbia. Specifically, the program created educational tools to share with community members about how to properly wash clothing to lower health risks for farm workers and their families associated with pesticides and pesticide contamination.

The Wash With Care program is an excellent example of how intersectionality shapes communications materials.

The program’s target audience was farm workers and their families. Within this audience, the program identified that many farm workers spoke Punjabi, but that there were few educational materials provided in Punjabi. Because women within families were also identified as the family members primarily involved in laundering clothing, the program specifically aimed to create messaging in Punjabi for women. Through qualitative interviews, community members suggested that the program use Bollywood-style messaging through TV and video. This led to the creation of two Bollywood-style Public Service Announcements (one brief, one longer) including local celebrities that introduced safe handling practices for pesticide-contaminated clothing. The program also created written materials in Punjabi to be disseminated to the community.

In this way the program created materials that were specifically tailored to the interests and suggestions of Punjabi-speaking farm families. For more information about the process of engaging with community members and creating these materials, see this link.

## Takeaways

Key Takeaways

- The audience for your communications plan will determine all aspects of how you communicate, from language, to tone, to the medium used.
- Gathering information on your audience can be challenging, but an audience analysis can be highly informative when determining how best to communicate.
- Once you have developed some communications materials, testing these materials on a subset of your audience and receiving feedback can help in further refining your message.
- People hold multiple identities spanning gender, race, physical ability, socioeconomic status,

education, political views, etc. These identities influence how we all receive and engage with communications materials.

- Considering intersectionality is another way to think about your audience! It both allows you to be more inclusive in your messaging, as well as more specifically message to a target audience.

### Media Attributions

- Fig 1.3.1 Multiethnic Diverse People in a Circle Holding Hands © Helge V. Keitel is licensed under a CC BY (Attribution) license

# 1.4 Ethics and Communication

Learning Objectives

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  To understand why it is important to identify and consider the ethical implications of decisions made in the field of science and risk communication.
- To explain the difference between the utilitarian and deontological ethical frameworks.
- To be able to use these frameworks to discuss ethical issues in the context of real-world scenarios.

Ethics are norms, standards, or expectations that can be used as a guide for making any decision that might result in harm, or as a framework from which to retrospectively judge past decisions and actions. Ethics tends to be a neglected area in science, particularly in the field of science and risk communication. Some might argue that this is because people think that communicating can't cause significant harm compared to more physical or direct interventions, such as performing a medical procedure. However, philosopher Dr. S. T. Gardner argues that the more plausible explanation is that people, in general, don't take ethics seriously enough because they don't understand what ethics truly are.

Most people think that ethics are primarily used for preventing harm to others, and given that most of us live in countries where the rule of law and other institutional policies are in place to prevent and mitigate the harms that we might cause one another, ethics is often perceived as largely irrelevant. This perspective misses the point entirely. Ethical decisions — which all of us make every day of our lives — are the most important choices we will ever make because they are about who we are and who it is that we want to become.

***'Who you are is what you do. From the playground to the grave, every action contributes to your creation. Nothing can be undone.' – S.T. Gardner***

## Ethical frameworks for decision making

There is no single ethical standard. Rather, there are a variety of different ethical perspectives or frameworks that have been developed to tackle potentially harmful scenarios. The two predominant ethical frameworks are utilitarianism and deontology.

In **utilitarianism**, whether an act is or is not ethical depends on the mathematical balance of the benefits versus harms. The ethical choice is the one that results in the greatest good for the greatest number of people.

**Deontology**, on the other hand, is a negative limiting framework — it does not tell you what you should do, but rather outlines what you ought not do. Specifically, under this framework it is never ethical to treat another person as a means to an end; one should always treat another person as an 'end-in-itself'. In other words, you must never treat another person in a way that you, yourself, would not want to be treated.

Example

The trolley problem is helpful to illustrate the difference between utilitarian and deontological ethical frameworks.

You are on a bridge overlooking a track on which there is a runaway trolley. The trolley is headed toward five people tied to the train tracks and unable to move. You are standing next to a lever and if you pull the lever, the trolley will divert to another track were a single person is tied down. The utilitarian will pull the lever and intentionally kill the one person in order to save the five. In a second scenario, the trolley is still headed toward five people tied to the track. This time, however, there is no lever, but there is a very large man who, if pushed onto the tracks, will stop the trolley. For a strict utilitarian, this shouldn't make any difference; it would, though, for a deontologist. Pushing the man onto the track would be using him as a means to an end, so a deontologist would not push the man.

It is important for you to know which ethical framework you use in any given situation because you will need to use that framework in order to justify your decisions — not only to others but, perhaps most importantly, to yourself. The framework you choose will be highly dependent on the specific situation that you are dealing with. That being said, although public health might be viewed as being utilitarian in nature, many are more comfortable with the deontological framework as few of us would ourselves consent to be treated as means to an end. As well, since the utilitarian framework is *outcome-focused* (the greatest good for the greatest number) it renders any decision intrinsically problematic as it is not at all clear who decides what is a “good” or who/what ought to be included in any ethical calculus, to say nothing of the fact that it is difficult in principle to predict all of the short- and long-term consequences of any given action. A utilitarian also has the added burden of often being viewed as arrogant and highly paternalistic in the sense of assuming that her decision-making capacity is superior to those whose choices they potentially override.

The deontological framework, which is *intent-focused* (i.e., primarily concerned with the intent of the decision-maker); however, is not problem-free either. The core assumption of the deontological framework is that a human being’s self-conscious rational nature is of supreme value and therefore, for any decision, we ought to reason together so as not to override anyone else’s autonomous choice. However, this background assumption that all parties will engage in an issue in an impartial, objective, and rational manner seems naively optimistic. Even Immanuel Kant, the father of deontology, recognized that, aside from our rational nature, we also have to deal with humanity’s ‘sensuous’ nature. Thus, it is not at all clear how we proceed once it becomes evident that an individual’s rational nature seems out of reach, particularly when issues of emotion and identity are involved. Additionally, what if you are dealing with a scenario in which those involved are harming others? In these scenarios, should one switch to a utilitarian framework, try a combination of utility and deontology, or continue valiantly to invest efforts to reach a cooperative, reasoned solution?

### Example

*Sir Winston Churchill, British Prime Minister during WWII made the utilitarian decision to allow the people of Coventry to be bombed in order to preserve critical intelligence.*

There is a famous story from World War II that vividly demonstrates how a clash between deontology and utilitarianism can lead to situations in which agonizing decisions need to be made. Since the start of the war, the British had been working to crack the secret code that was used to encrypt German communications. This was part of the all-out war effort as the British believed that they would only be able to rebuff a German invasion if they had an advanced warning of where the Germans would attack. The British were successful in cracking the German code, but after they had succeeded in doing so, they intercepted a German communication giving orders to bomb the city of Coventry in the UK. Churchill was thus faced with the choice of whether to scramble the British Air Force in an effort to save Coventry but, in doing so, reveal to the Germans that their code had been compromised or do nothing. Churchill ended up deciding to keep the message a secret and leave the people of Coventry to their fate. The town was decimated, and 554 people were killed. Churchill's decision could be justified using a utilitarian framework, as the fact that they were able to crack the code and keep it a secret may have been an integral part of the Allied victory. A deontologist, however, would view the decision with dismay as the people of Coventry were clearly used as a means to an end — a fact that, no doubt, weighed heavily on Churchill's mind.

## Identifying potential ethical issues in communication scenarios

An ethical issue might be described as any situation in which a human decision might result in harm. However, identifying ethical issues in science and risk communication can be a challenge. Many assume that accessing a set of guidelines or commandments is all that is needed to avoid ethical quagmires in their work. This is impossible because communication ethics (or any ethics for that matter) are highly situation dependent. It is impossible to provide a prescriptive approach that will apply to every possible scenario. Rather, ethics requires that all decision-makers engage in deep thought and be prepared to take responsibility for all decisions that they make. Ethics are thus best learned through thoughtful practice. The following are examples of scenarios in which ethical issues are identified and discussed.

Example

From 1932 to 1972, the U.S. government sponsored the Tuskegee Syphilis Study to better understand the clinical course of untreated syphilis among 400 African American men. The men were misled, and not informed of the true purpose of the study and therefore did not consent to participate in the research and were not given treatment even after it was determined, in 1947, that penicillin could cure the disease. A utilitarian framework could be used to justify this research on the assumption that the knowledge generated would help more than the 400 people harmed during the study. A deontological approach would consider the study as having used these men as a means to an end, and would determine that the actions of the researchers was not justified. Indeed, in 1972 an Advisory Panel concluded that the Tuskegee Study was "ethically unjustified", citing that the knowledge gained was limited as compared to the harms and risks experienced by the subjects and their families.

*Participants in the Tuskegee syphilis experiment.*

Example

Most science and risk communication efforts are intended to persuade the audience to change their thinking and/or action. However, at some point you can cross the line from persuasion into manipulation. Utilitarian ethics would tell us that manipulation could be justified if its benefits outweigh its harms. Deontology, however, would tell us that any interchange in which we purposely obstruct someone from making their own rational decision would not be justified. The problem is that the line can be hard to identify. If you lie or withhold information in order to force your audience to make a specific decision, then this would clearly not be justified under a deontological framework. However, what about using emotion as a tool to sway your audience? This 1987 Grim Reaper-themed AIDS campaign from Australia uses fear to convince people to take steps to mitigate the spread of AIDS. Is that OK?

Example

Childhood vaccination is mandatory in several European countries with financial penalties for non-conformance and there are few non-medical exceptions. This policy can be justified under a utilitarian framework given that it has been shown to reduce the incidence of vaccine-preventable diseases, such as measles. What would a deontologist think about this situation? Perhaps a case could be made that every possible effort should be made to communicate and compromise with parents who will not vaccinate their children prior to removing their right to choose. The urgency to communicate is particularly great given that forced vaccination could be viewed as akin to physical assault, and thus could constitute a significant harm in and of itself.

Example

The varying approaches that different jurisdictions have taken about making masks mandatory during COVID-19 demonstrates the push and pull between the utilitarian and deontological frameworks. Some areas have made masks mandatory in public spaces because they view the cost of forcing people to wear masks as being outweighed by the benefit of preventing the spread of COVID-19. Other jurisdictions are concerned that their citizenry may view such authoritarian policies as an unacceptable transgression on the decision-making power of individuals, and have, instead, relied on communication to elicit voluntary compliance. Interestingly, the clash between these two perspectives seems to be less keenly felt in highly integrated societies as citizens in such societies tend to perceive decisions made for the good of community as also being good for themselves, and thus not as an egregious transgression on their autonomy. This demonstrates how ethics can vary not only by issue but also by context and audience.

Supplementary Material

### Words are not so innocuous

*by Riley Golby (SPPH 552 2020W1)*

When scientists understand and recognize their influence over a target audience, the ethical implications of their message becomes increasingly paramount. The clinician who consents their patient for a procedure uses a shared-decision framework that preserves the autonomy of the individual – an authoritative medical opinion is provided, but ultimately the purpose is to equip the patient to arrive at a choice consistent with their values. This process exists because the intervention has risks, benefits, and implications to the future well-being of the patient that are perceived too important to be decided paternalistically.

Interestingly, communication of risk occurs mainly in the absence of consent in a more unilateral direction from scientist to audience. Perhaps the unspoken premise is that somehow words and information are perceived to be more neutral or innocuous than a particular procedure or treatment – presented in a way free of bias, in a factual manner. Within the era of Covid-19 this notion is easily disputed.

The current interrupted expansion of unfiltered, often contradictory information is unavoidable. The enormous magnitude of communication could be viewed as paralysing if the public response was seen to be apathetic; however, vocal experts – self-declared or otherwise – have espoused messages that trigger dramatic shifts in population-level behavior akin to rapid offloading of shares during a stock market crisis. This era-defining pandemic has created a particularly captive audience and it is prone to influence.

When scientists are met with such an audience, it should prompt a re-examination into the ethical implications of their message. Consider an extreme example to illustrate this point: On March 21, 2020 President Donald Trump provocatively declared that Hydroxychloroquine will be a ‘game-changer’ in the fight against Covid-19.

Most people would not consider President Trump to be a scientist. Still, I find this tweet to be an excellent portrayal of how ethical considerations relate to risk communication. He was incorrect in his assessment of this medicine and has caused enormous harm, not the least of which includes the millions of dollars and extensive resources necessary to reverse the public narrative surrounding it.

But what if he had been correct? If the sudden prescription to thousands of citizens had stopped Covid-19 in its tracks, preventing over 200,000 deaths? The utilitarian might argue that this was a justified tweet even if it was more prophetic and politically motivated than from actual sound evidence. In the end his message was ethically unsound and caused harm despite the message being about minimizing harm. The deontologist would probably conclude that President Trump's intent was not fueled rationally, objectively, or impartially and so the ethics for proposed use of this drug were tampered with from the beginning.

I think one of the central messages is that ethical considerations in risk communication are akin to balancing measures in quality improvement. ***Namely, have I considered what the unintended consequences of my message could be on the population of interest?*** It's certainly clear to me that words are not so neutral when the audience is attentive.

## Takeaways

Key Takeaways

- Estimating the ethical implications of your decisions is important because these choices will define who you are as a communicator and a human being.
- Ethical decisions should be made and justified on the basis of specific ethical frameworks.
- The two most common frameworks are deontology (which is intent-focused) and utilitarianism (outcome-focused).
- The utilitarian framework is focused on creating the greatest good for the greatest number of people, while the deontological framework is focused on not using others as a means to an end.

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# 1.5 Barriers and Opportunities for Communication

Learning Objectives

- To be able to identify and describe potential barriers to science and risk communication.
- To develop strategies to overcome barriers to science and risk communication.

Once you have defined your mission, you will need to identify potential barriers that could prevent you from accomplishing it. A barrier in science and risk communication is anything that could prevent you from delivering your message or prevent your audience from receiving, understanding, or acting on it. There are many different frameworks used to classify communication barriers. For this textbook, we have identified four types of barriers: 1) barriers associated with the organization in charge of communication, 2) barriers associated with the communicator, 3) barriers associated with the audience, and 4) barriers associated with the situation in which the communication is taking place.

It is important to identify communication barriers so that you can employ effective techniques to overcome those barriers, or, if no such techniques exist, potentially adjust your mission in order to maximize the efficiency and efficacy of your communication program.

## Organizational barriers

### Inadequate resources

Good communication takes a lot of time, effort, and financial or in-kind support. If you encounter resource limitations, then you could start off by looking at applicable internal or external standards, agreements, etc. that mandate communication. Perhaps you have an obligation to a regulatory agency or a stakeholder? If not, then you could make your case for the value of good communication, particularly if you can show how communication will help you to achieve your organization's vision or mission or if you can provide concrete examples of the benefits of good communications programs. If all else fails, get creative. Can you find partners to help deliver your message? Make use of free platforms?

### Lack of engagement or interest in communication

It is very hard to mount a good communication program if you are not backed by your leaders and your team. The key here is finding the root cause. If it is simply apathy, then it may not be hard to educate people, or at least get the social license to develop your program. However, if the lack of engagement is a result of hostility toward communication, then it may be trickier to overcome. The cause of hostility is usually fear — fear from past bad experience, fear of losing control, fear of looking bad, etc. Once you figure out the cause of the fear, then you need to put into place a plan or process to alleviate it. Maybe this means compromising on your plan so that everyone is comfortable? Running a small pilot that is less risky? Committing to regular check-ins?

### Bureaucratic barriers

For many large organizations there are policies and procedures that govern communication. For example, you may have to get your communications approved by a specific communication or legal team before proceeding. This can be helpful, but it can also be cumbersome and occasionally do damage to your message or timeline. To deal with this issue you need to be very familiar with the review and approval process in your organization and who is involved. Sometimes developing personal relationships with your communications team can help, other times you may have to lobby for changes in the policies or processes.

### You can't give the audience what they want

You can nip this one in the bud by being clear about your organization's role and mandate right up front. For example, if your organization is responsible for educating people about a risk but ultimately has no power to alleviate that risk, then you need to make sure that your audience is clear on that at the beginning and throughout the communication process. Complete transparency is particularly important for communication involving stakeholder engagement or you risk tokenism (i.e., the practice of making only a perfunctory or symbolic effort to involve a specific group in a decision-making process).

#### Example

*The Inuit organizations involved with a 2018 federal project pulled out due to miscommunication.*

All five of Canada's major Inuit organizations pulled out of the federal government's Indigenous Working Group on food security in 2018, saying the government was not listening to them in its review of the Nutrition North program. Shylah Elliott, health policy analyst for Nunavut Tunngavik Incorporated said "That it was just tokenism and optics to have this Indigenous working group so they can justify the changes that they want to make, or just show that they are being responsive in some way." This situation might have been avoided if the Working Group had developed and/or adhered to detailed terms of reference regarding the roles, responsibilities, mandates, objectives, and limitations of all parties involved. It is particularly important that the process for decision-making be clearly outlined.

## Personal barriers

### Inability to clearly outline a pathway for action

> ***'Where there's a way, there's a will.' – Ken Dryden***

If you can't identify a clear, concrete, and feasible pathway to achieve the change that you are advocating for, chances are that no one else will. This means that communication plans that are intended to create action but that are focused mainly on raising audience interest or awareness are usually unsuccessful. Conversely, if you can identify and communicate the specific steps needed to achieve your goal, then it will be easier to motivate your audience to take those steps.

*Former NHL hockey player and Liberal cabinet minister player Ken Dryden.*

## Blaming the audience for communication breakdowns

A 2013 study of scientists in the UK and US found that scientists generally believe the public is uninformed about science and therefore prone to errors in scientific judgement. Given this attitude, it no wonder that breakdowns in science and risk communication are often blamed on audience 'stupidity.' More often than not, however, if someone does not 'get' your message, it is either because it is not being communicated well or because there are other factors at play that prevent the audience from heeding your advice. For example, your audience may not disagree with you on the facts, but perhaps they have a have a different value system or perspective through which those facts are interpreted. To be a successful communicator, you must be willing to anticipate, respond to, and learn from your communication failures.

## Unwillingness to partner with the public, activists, opponents, etc

Even if you are a scientific expert, you need to understand (and we mean *really* understand) that your audience is an 'expert' in how your science affects them. This does not mean that you have to do what they say, but it does mean that you have to actively engage with all points of view, and particularly those that differ from your own. This sort of engagement involves actively seeking out the strongest possible opposition to your own message, and acknowledging that opposition in your communications.

TWO
BAILOUTS
ONE
CUP
LOVE
SOMEDAY
THE POOR WILL
HAVE NOTHING
LEFT BUT TO
EAT THE RICH
THIS
is not
HAPPENING
LOVE
REVOLUTION
Fascism
your time
LOVE

*Unwillingness to meaningfully engage with those that oppose your point of view, such as activists, is a major personal barrier to effective communication.*

### Biting off more than you can chew

***'Better is good' – Barack Obama***

If you see a problem it seems natural to think that your goal should be to fix that problem. The reality, however, is that many problems are too large, complex, and ingrained to be addressed by a single communication campaign. It is usually more effective to break the problem down into smaller, more manageable pieces or into sequential steps in a pathway. Not only are discrete and focused issues easier to communicate about, but your ability to demonstrate a track record of success will give you the social or political license, as well as the resources and supports, that you need to tackle bigger problems.

## Audience barriers

### Identity

People have a hard time listening to messages that might clash with their own sense of identity or that of their social network. I am sure that most of us have been involved in a conversation where someone has disparaged a policy or program simply because it came from a political party that they do not identify with (carbon tax anyone?). There is no easy solution to this, but a first step is really getting to know your audience — culture, religion, politics, etc. Then you can start to think about whether your task is even feasible or whether you need to modify your mission, message, or medium to reach past potential social barriers.

MAKE AMERICA GREAT AGAIN

*Elements of personal identity, such as political affiliation, can play a strong role in whether or not an individual will be receptive to your message or not.*

### Cost-benefit ratios

Science and risk communication always has some cost for the audience, although the nature and magnitude of that cost will depend on what you are communicating. Simply asking the audience to listen, watch, or read what you are saying costs them time and attention (see the Attention Economy, below), while asking them to change their attitude or behavior may also have financial and social costs. It is important to be very aware of what you are asking of your audience, as your communication campaign will only be successful if the costs are outweighed by the benefits. Indeed, if this cost-benefit ratio is marginal or not readily apparent, it may even be necessary for you to clearly acknowledge and discuss that ratio with your audience.

### The attention economy

Example

Branding is commonly used by marketers to attract attention to their

Herbert Simon was one of the first people to articulate the idea that we are living in an era of attention scarcity rather than information scarcity. Specifically, he said "In an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it." For science and risk communicators, this means understanding that your audience's attention is an extremely scare resource and you have to figure out what sort of messages are going to compel your audience to 'spend' their attention on you. Articulating the cost-benefit ratio of what you are advocating for is one way to attract attention. Other ways include targeting a very specific audience (you will be more likely to create a communication program that appeals to them), creating messages that are captivating, compelling, or provocative, or even creating a communication brand that people recognize and are therefore more likely to pay attention to.

products in our attention economy. The theory is that people are more likely to listen to messages from brands that they recognize, like, and trust. In science and risk communication, a brand could be an individual (like Bill Nye or Jay Ingram), an organization (like the CBC), or a specific campaign (like MADD).

### Lack of trust in the communicator, organization, process, etc.

There are a variety of reasons why your audience may not trust you. For example, when an individual or group has been wronged in the past, then it can be hard to engage them in the communication process. People may also 'inherit' a mistrust of certain organizations (the government, big business, etc.) from their family and peers. This is a big problem, because if your audience does not trust you then they will not listen to you. One option is to engage a third party that the audience already trusts and have them communicate on your behalf. This is the reason that many healthcare companies use celebrity endorsements. Alternatively, you could work to gain their trust. There are a variety of tools and techniques for trust building, one of which is the Centre for Disease Control and Prevention's Partnership Trust Tool. This tool outlines the following as the essential components of trust:

| | | |
|---|---|---|
| • Accessibility<br>• Dependability<br>• Clarity<br>• Mutual benefit | • Openness<br>• Providing accurate information<br>• Relationship building<br>• Taking responsibility | • Power sharing<br>• Supportiveness<br>• Truthfulness<br>• Valuing differences |

Supplementary Material

**The Art of the Apology**

Making a mistake can cause your audience to lose trust in you and the best first step toward repairing that trust is a good apology. However, apologizing is a very special sort of mission and not one that we are usually prepared for. After all, no one sets out intending to make a significant mistake, therefore we don't spend a lot of time thinking about how to apologize. That being said, the history of human endeavor has taught us that few missions are executed without missteps, therefore it is likely that you will have to apologize to somebody at some point for something. We find the best lessons regarding apologies come from the world of marketing.

We therefore suggest that you listen to these two excellent podcasts from CBC's Under the Influence with Terry O'Reilly.

Sorry Seems To Be The Smartest Word: When Brands Apologize

Over the lifetime of a company, mistakes happen. When those mistakes cause damage, it's appropriate for a brand to apologize. Yet, it rarely happens. This week, we look at the companies that chose to apologize. From O.B. Tampons, who apologized to their customers with a song, to Domino's Pizza, who was forced to apologize when employees made an embarrassing YouTube video, to Maple Leaf Foods, whose CEO apologized to the families of people who had died from contaminated food. If an apology is genuine and timely, sorry is definitely the smartest word.

Bouncing Back: How Marketers Survive Debacles

This week, we look at how marketing companies bounce back from blunders and epic missteps. Yes, most apologize, but what happens after the apology? We find out by telling the story of an airline that mistakenly offered business class tickets to Europe for $39, the cautionary tale of a company that made fun of a very serious Twitter hashtag and paid the price, the way a major candy bar company was forced to pull a global campaign off the air but came back even stronger and the odd story of how a mattress company offended almost everybody with an ad, then apologized, then took the apology back.

## Situational barriers

### Uncertainty

Example

At the onset of the

It is difficult to communicate about risk when you, yourself, are uncertain about that risk. Uncertainty, when handled poorly, can erode credibility because it can make the communicator seem incompetent or untrustworthy. If the risk you are communicating about it is uncertain, your first step is to define that uncertainty. Specifically, you need to determine: 1) What you are uncertain about (and, conversely, what you are reasonably certain of); 2) How uncertain you are; and 3) Why you are uncertain. Next, you need to clearly and specifically characterize the uncertainty for your audience and spell out how you are dealing with that uncertainty and when and why that uncertainty might increase, decrease, or change in the future. Avoid ambiguous or 'wishy washy' statements. Also avoid making it look as though you are certain if you are not certain or if the situation you are communicating about is changing.

## Disagreement among experts

Science and risk communication is difficult enough when you are the only one communicating. However, more often than not there are multiple individuals and organizations communicating regarding a specific issue, and more often than not there will be disagreement among those individuals or organizations. This is highly problematic because disagreement among experts can cause audience outrage and create the perception that communicators are incompetent or biased. There are three main reasons for disagreement among experts: uncertainty (see above), disagreement about what is important, and disagreement about what is true. We provide tools for dealing with different values in the section on practical reasoning. Disagreement about facts is much more difficult to address as the nature of the disagreement can range from 'pseudoscience' and 'alternative facts' to misinterpretation or differing interpretations of data. For more information on expert disagreement in risk communication, see Peter Sandman's online column.

COVID-19 pandemic, Canada's Chief Public Health Officer Theresa Tam repeatedly messaged that evidence did not support the public wearing masks. She subsequently changed her stance, leading to questions about her competency and calls for her resignation. This risk communications gaffe was a result of poor communication around the uncertainty of mask-wearing.

*Dr. Theresa Tam erred by not clearly and specifically communicating the uncertainty around mask-wearing during the COVID-19 pandemic.*

## Contextual barriers

The social, cultural, economic, and political context in which you are communicating may pose either a barrier or an opportunity for communication. For example, COVID-19 has given public health professionals more profile than ever before, making it relatively easy to communicate about anything and everything related to the pandemic. However, other issues, such as climate change (which was one of the most significant issues in Canada heading into the federal election a few months prior to the pandemic) have taken a backseat. This is because the pandemic is seen as a more pressing issue, and because many of the recommendations to fight climate change (e.g., density, public transit, reusable materials, etc.) run counter to the recommendations to prevent the spread of COVID-19. Contextual issues can even affect communication on a day-by-day basis as you vie for your audience's attention in competition with whatever else might be impacting them at a given moment in time. For this reason, it is vital that communicators understand all the contextual factors that might influence the success of their communication and have the flexibility to adapt quickly as these factors change.

## Takeaways

Key Takeaways

- A barrier in science and risk communication is anything that could prevent you from delivering your message or prevent your audience from receiving, understanding, or acting on it.
- It is important to identify and understand potential communication barriers so that appropriate communication techniques can be used or so that the communication mission can be adjusted accordingly.
- Barriers can be associated with the organization in charge of the communication, the communicator themselves, the audience, or the situation in which the communication is taking place.

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# Part 2: The Message

Now that you are clear on your mission, you are going to start working towards achieving it. You will do that by first figuring out what you need to say to get through to your audience – this is your message. But this is not a simple task! In this section we will introduce an interdisciplinary selection of theories that will provide insight into the complexities of message development and also provide the tools and techniques you need to develop effective messages. These include practical reasoning (from the field of philosophy), Peter Sandman's Hazard x Outrage framework, and storytelling. Then we will turn the lens back on ourselves, the communicators, to learn how communication style can make or break your message, before ending with some tips and tricks on message design.

# 2.1 Practical Reasoning as a Tool for Message Development

Learning Objectives

- To explain the value of practical reasoning for developing communication messages.
- To identify what types of claims are best suited to practical reasoning and why.
- To be able to formulate a good (i.e., impartial) argument.

Our values motivate our behavior. For many people, knowingly or unknowingly, their values are not entirely under their own control. Rather, they are influenced by a variety of physical, psychological, social, and political forces. In her book "Thinking Your Way to Freedom: A Guide to Owning Your Own Practical Reasoning, philosopher Dr. Susan T. Gardner explains why this is deeply problematic. If we can't control our own values, or even recognize when external forces are manipulating our values, then we cannot truly be autonomous. The best way to take control over our own values is through practical reasoning. Practical reasoning is the use of reason to decide how you should act or what you should believe. It is more than simply supplying ourselves with reasons to defend a value we are attached to. Rather, it is a way to identify, evaluate, and compare reasons in a manner that reduces outside influence or bias. Ultimately, impartial practical reasoning means that we must follow the reasons to where they lead, no matter how surprising or uncomfortable the conclusion. By learning to follow the reasons, we learn to become the architects of our own decisions, which is the highest form of freedom to which one can aspire. But what does all this have to do with science and risk communication? Well, there are five keyways in which practical reasoning is essential for communication:

1. To know how to reason is to know how to think for ourselves. If we do not know how to think then we have no business telling others what or how to think.
2. Communication is a two-way street. As communicators we will be required to use practical reasoning to come up with our own arguments AND to engage with the arguments of others. Practical reasoning teaches us what good and poor argument looks like and thus helps us to better interpret and interact with the arguments that others are communicating.

3. Many critical forms of communication require good practical reasoning, particularly briefing notes. This makes sense as a good decision-maker wants to make sure that their decisions are based on the best possible reasons.
4. Once we have developed a good argument, we can use different portions of that argument for different communication products. For example, a well minted thesis statement can become the core message of a communication campaign. Our ability to recognize our strongest possible opposition and to develop a well-thought-out response to that opposition can prepare us for thorny questions during a media interview, etc.
5. Finally, when you know how to reason you can recognize when you are no longer dealing with reason or with reasonable people. This will trigger you to re-evaluate the communication context and the tools that you will need to proceed (see next chapter).

## When to use practical reasoning

Your message is essentially a claim that you are making (i.e., what you believe to be the 'truth' as you see it). Claims can be classified according to the method one would use to estimate their truth. Claims can be divided into two broad categories: those that are **empirical**, and those that are **non-empirical**. The word "empirical" comes from the word "experience", and hence indicates the kind of support that empirical claims require. The claim that "seat belts save lives" is an **empirical** claim; it can only be supported by **evidence** gathered from experience. One has little justification for making such a claim unless, in reality, there is empirical evidence to support it.

***Empirical claims must be justified by evidence. Non-empirical claims must be justified by reasons.***

On the other hand, the claim that "Post-secondary education should be free" is a **non–empirical** claim. Nothing in experience could directly support its truth. It receives its justification from **reasons** alone. This is not to say that no reference to facts are ever needed for the justification of a non-empirical claim. In the above example, one might refer to the positive experience of countries in which post-secondary education is free. Nonetheless, unlike empirical claims, the truth of this non-empirical claim is not solely a "matter of fact". I can agree with your facts, but still argue that, for other reasons, post-secondary education should not be free.

On the other hand, there are some non-empirical claims whose justification rests so heavily on facts that they appear to be neither strictly empirical, nor strictly non-empirical. "One ought not to smoke" is an example. Although, strictly speaking, this is a non-empirical claim, its justification is so tightly tied to the fact that smoking is harmful, that, if the facts turned out to be wrong, most people would retract the claim. Since the cardinal characteristic of an empirical claim is that its truth rests on matters of fact, it is in this sense that it resembles an empirical claim.

It is important for you to know the difference between empirical and non-empirical claims because you need to know what kind of justification each requires. **Empirical** claims require **empirical evidence or facts**. By contrast, the justification of **non–empirical** claims rests on **reasons**, rather than empirical facts. This is an important distinction because, as opposed to evidence, reasons are not objectively true or false. So, if you have a non-empirical claim or message (e.g., vaccination should be mandatory for all school-aged children), you must be able to create a good **argument** where you compare the reasons for versus against your claim. For this reason **practical reasoning is best suited for non-empirical claims and messages**. The next section will walk you through the steps involved in creating this argument.

## What a good (i.e., impartial) argument looks like

One begins an argument by first postulating a claim that one believes sincerely, even if only intuitively, to be true. This claim is referred to as your **thesis statement**. In posing your thesis statement, you ought to assume that the persons whom you are addressing do not believe that your thesis statement is true. This is an important assumption because, not only would there be little point in attempting to convince the already converted, worse, you might be seduced into offering a weak argument precisely because, in the company of like-minded people, you are apt to get away with it.

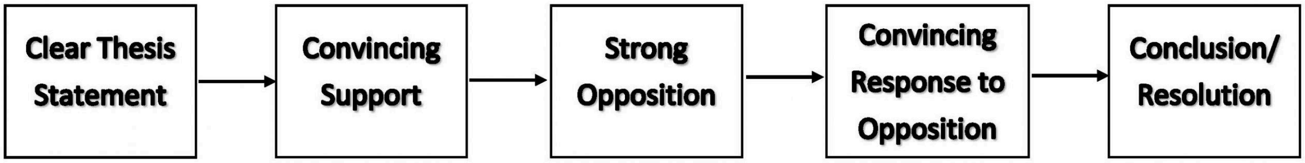
By contrast, to convince a disbeliever, or skeptic, you will have to offer strong, convincing reasons why they ought to change their mind. This is referred to as **support for the thesis statement**. Unhappily, too many people assume that this is the chief, or worse, the only, important constituent of a good argument. This fallacious assumption is one of the leading causes of the intransigent, chronic disagreements that plague our society. For one thing, this one-sided approach is ineffective: everybody is arguing and nobody is listening. For another, it can create a good deal of ill will. To be satisfied with merely presenting your own case demonstrates a profound lack of respect for those whom disagree with you.

***The golden rule of truth seeking: view others as you view yourself, i.e., presume that those whose positions differ from your own are rational beings for whom truth is important.***

That you haven’t the patience or the time to seriously consider their concerns suggests that you view your opposition as badly misinformed, stupid, emotionally deranged, willfully argumentative, or any combination thereof. A more constructive attitude — one that might be appropriately labeled the “golden rule of truth-seeking” — is that you ought to view others as you view yourself, namely as rational beings for whom truth is important. The difficulty that your opposition is experiencing, despite your persuasive efforts, is that they have highly convincing reasons (not addressed by your support) for believing that your thesis statement is false, misleading, or even perhaps dangerous. If you do not address these concerns, they will inevitably subvert your attempts to convince your opposition of the truth of your claim. A crucial constituent in formulating an argument, therefore, is articulating the **strongest possible opposition**. In doing so, you genuinely and respectfully invite your opposition into the playing field of judicious reasoning, and you thereby acknowledge that their beliefs and opinions are worthy of the same consideration as yours. This approach opens up the way for objective (i.e., unbiased) judgment; something most rational beings can tolerate even if the judgment goes against them.

Now that you are both on the playing field, this is not the time for dirty tricks. It is imperative that, once surfaced, you handle the concerns of your opposition with respect and sensitivity. Your job is to demonstrate (if it is legitimately demonstrable) that your opposition's concerns can be surmounted. Perhaps they are not as strong as they first appeared; or they are founded on misleading evidence; or perhaps they correctly capture an inevitable negative, but necessary, side effect of your position. Your responsibility, in other words, is to offer a **convincing response to your opposition** (specifically by showing that, relatively speaking, it is weaker than your support). If you cannot respond convincingly, then, in the name of truth, you ought to go back and change your thesis statement. The tracking of truth is serious business. None of us have the time or the spare energy to waste on empty rhetoric or sophisticated manipulation. Approximating truth is too important: our combined welfare depends on it. And it is this seriousness that ought to be reflected in your **conclusion**. This is the finale. This is your last chance to tie it all together — to demonstrate that the intricacies of your argument, in fact, establish the truth of your original claim. At its best, your conclusion should "wow" your audience with its elegance, its eloquence, its creativity, and its power to convince all in its wake.

## A Detailed Analysis of the Five Essential Argument Constituents



*The five essential components of a good argument.*

## 1. A clear thesis statement in support of a highly contentious issue

a) Your thesis statement should be contestable.

It is a waste of time to develop a argument for a claim that has no reasonable opposition. If your opposition is not reasonable, you will need other perspectives, tools, and approaches.

b) Your thesis statement should be tentative.

You must be prepared to revise or reject your claim if your opposition ends up being stronger than your support.

c) Your thesis statement should be clear and precise with respect to definitions, detail, example, and quantification.

The cardinal rule for articulating a thesis statement is that it must be clear. Clarity is important for two reasons. First, your claim cannot be evaluated unless you, and others, know precisely what it is that you are claiming. Secondly, if what you believe to be true is not clear, it cannot guide actions. If you are arguing that pornography ought to be banned, for example, you will have to define what you mean by “pornography”. Does it include anything and everything sexual, or are you only referring to that which is violent and degrading?

Similar to the need for defining terms, you must also supply detail, where necessary, as to what would count as fulfillment of the state of affairs advocated by your thesis statement. If you claim that immigration rates ought to be reduced, you must indicate what sort of numbers would count as being sufficiently reduced. If you argue that we ought to have zero tolerance for child abuse, you need to be more specific as to what would count as zero tolerance — no spanking, immediate jail, what? If you argue that parents ought to be held responsible for the illegal acts of their young offspring, you must supply detail as to what would count as being held responsible — fining, going to jail, etc.

***Clarity is critical. If your beliefs, opinions and admonitions are vague or unclear, they will be inefficient in guiding action.***

## 2. A convincing support for the thesis statement

What you are attempting to do in your support is to establish local sufficiency, i.e., to provide your reader/listener with a sufficient reason for believing your claim.

> a) Know whether your thesis statement can be supported by reference to reasons alone, or whether it also requires reference to empirical evidence or data.

As mentioned above, if you are making a statement about what ought to be the case, e.g., “people ought not to engage in casual sex”, you are making a value/non-empirical claim and hence your argument will primarily rest on the strength of your reasons. If you are making a claim about a fact, e.g., “photo radar doesn’t work”, then your argument will primarily rest on the strength of the empirical data that you offer in support. Sometimes there is a mix. Thus, if you are arguing that forest companies ought to be allowed to continue clear-cutting because the termination of this practice will result in a “devastating loss of jobs”, you must be prepared to provide fact (~ how many jobs will be lost) and reason (why that would be “devastating”).

> b) Be aware of the hidden premise.

A hidden premise is a reason that supports your thesis statement but that is not, itself, actually stated in your argument. Thus, if you argue that “We should not eat genetically modified foods because they are unnatural,” the hidden premise is that “We should not consume anything that is unnatural (including chewing gum, beer and wine, etc.).” If you do not accept that hidden premise, you cannot offer the former reasoning as support for your thesis. It is absolutely essential that you are aware of the hidden premise. This is so because a reason is only as strong as the weakest link in the entire argument. Thus, if your hidden premise is extremely weak (i.e., vulnerable to a strong counterexample) but you are unable to see it, you will remain unaware of how weak your support is.

Example

**The hidden premise**

The following statements are examples of reasons with a hidden premise. The hidden premise is indicated in brackets after the statement.

*Abortion is wrong because it takes a life. (All acts that take a life are acts that are wrong)*

*Nudity should be outlawed because seeing naked bodies is offensive to many. (All things that are offensive to many are things that should be outlawed)*

*Because we cannot guarantee that we will not execute an innocent man, capital punishment should be outlawed. (All acts that might result in the death of an innocent man are acts that should be outlawed)*

c) Beware of begging the question.

You are begging the question if you provide a reason that your audience will only accept if they already accept the truth of your thesis statement or the values that underpin it. This is a problem because constructing a convincing argument can be described as a process of "cognitive fishing"; you are trying to hook onto a principle that your opposition holds dear, and then on the strength of that principle, reel in your claim. Thus, if you wanted to convince a skeptic that God exists, there is no point in doing so by referring to the fact that it says so in the Bible, and that the Bible is the word of God. Obviously if your opposition believed that the Bible was the word of God, your opposition would not have doubted the existence of God in the first place.

In situations in which you do not hook into a principle or claim that your opposition believes to be true, all you are doing is fishing around in your own mind rather than attempting to reach across into the mind of your opposition. You have hooked one of your own beliefs, not one of your opposition's, so you have convinced nobody but yourself. In such instances, since you have given no reason acceptable to your opposition, you are reduced to begging your opposition to believe your original claim.

Example

**Begging the question**

The following are examples of reasons that beg the question. This is because the reason (the statement after "because") assumes that your audience already accepts your claim (the statement before "because") or the values that underpin it.

*Queer couples should receive the same benefits as heterosexual couples because all adults should be considered equal under the law.*

*Casual sex should not be socially acceptable or encouraged because sex is a serious step and should be undertaken only by people who really love each other.*

*There should be no Federal cutbacks in education because quality education is a right.*

## 3. The articulation of a strong opposition

The strongest possible opposition is the strongest support for the thesis statement that contradicts your original, which usually means simply inserting a "not" into the original claim. Thus, if you are attempting to support the claim that "you are justified in not giving spare change to panhandlers", then the opposing viewpoint would be that "you are not justified in not giving spare change to panhandlers". Since your opposition is simply support for the negative of your thesis statement, all the suggestions provided above for articulating a strong support apply to articulating a strong opposition.

Keep in mind that your opposition is not opposing the reasoning that you have articulated in your support. If that were the case, you would be stuck in the process of local evaluation, which should be part of the task of developing your support. Your job here is to move on to global evaluation and thus to investigate a different set of reasons that support the opposing view.

Keep in mind too, that if you create a strawperson argument, i.e., an argument with a dishonestly weak opposition, you rob yourself of the opportunity to test your thesis against a worthy opponent, and in so doing, you forfeit the chance to evaluate the real strength of your position in terms of global sufficiency (i.e., would any reasonable person think your argument, as a whole, is enough to support your claim).

Discussion

**Local evaluation**: examines the strength of the premises that are offered in support of a conclusion.

**Global evaluation**: compares the relative strength of the premises that are offered in support of a claim against those that are offered in support of the strongest possible opposition

## 4. A convincing response to the opposition

This is the critical point of the argument. The response to your opposition is a response only to your opposition. The response is not an opportunity to reiterate support for the original claim. For this reason, it must speak directly to the reasons provided by your strongest opposition. Let's use the following argument as an example:

> THESIS: Violent and degrading pornography should be banned.
>
> SUPPORT: Since we can assume that, like advertising, violent and degrading pornography influences some people to behave in the manner portrayed, for the sake of the physical protection and the preservation of the dignity of women, violent and degrading pornography should be banned.

(Hidden premise) All actions that are necessary to stop the positive powerful advertising of female brutalization and degradation, and hence are essential for the physical safety and dignity of women are actions that should be done.

OPPOSITION: A democracy can only flourish if its citizens are willing to tolerate different beliefs and stated opinions. Banning pornography is a form of censorship, which interferes with that vital freedom of speech that is the major defense against the possibility of one group tyrannizing another.

(Hidden premise) All actions that are a form of censorship that threaten democracy and its essential ingredient, namely an active commitment to freedom of speech that requires that we tolerate different beliefs and opinions and is thus a major defense against the possibility of one group tyrannizing another are actions that should not be done.

To respond to your opposition you might you might suggest that a vibrant democracy does not in fact require that we tolerate all stated opinions. We do not tolerate hate literature, for example, on the grounds that it may result in genuine harm. Libel is also against the law.

Ideally, you would also evaluate for potential flaws in your support. For example, you might realize that banning pornography probably won't work because of the inability to "censor" the Internet. Remember that a good communicator must never attempt to prove their claim to be true. Rather, they examine as much evidence as possible, in a manner that is as precise and objective as possible, and only after they have failed to prove their theory false, are they justified in proclaiming its truth. That is what you are trying to do here: you are trying to eliminate one of the two contending arguments by demonstrating its weakness; you are not trying to re-emphasize the winning characteristics of the original thesis statement. The method of choice here is falsification, not verification.

## 5. A convincing resolution or conclusion to the proposed problem

Your conclusion should efficiently synthesize (vs. summarize or repeat) the details of your argument in a manner that shows that, after evaluating and comparing your strongest support and opposition, your claim is ultimately supported by reason. In other words, it is a succinct creative synopsis of both the learned truth and the journey that led to it. You may even want to expand your conclusion by offering an aphorism or "a pearl of wisdom" that re-phrases or expands upon your claim in a manner that is pithy a memorable, as statements of this nature translate well into communication products.

## Takeaways

Key Takeaways

- Practical reasoning, and its components, can be used to evaluate and support non-empirical claims.

- Empirical claims are claims about facts and must be justified by evidence. Non-empirical claims are claims about values and must be justified by reasons or a combination of evidence and reasons.
- A good (i.e., impartial) argument has five key components: claim/thesis statement, support, opposition, response to opposition, conclusion.
- Your thesis statement (a.k.a., your claim) should be contestable, tentative, and clear.
- Your support should include the appropriate combination of reason and evidence and should avoid errors such as ignoring the hidden premise and begging the question.
- Your opposition should include the strongest reasons/evidence that can be found to support the opposite of your, claim and your response to the opposition should address those reasons directly.
- Your conclusion is more than a re-statement of your original claim or a summary of the arguments, it must synthesize the argument in a manner that allows your audience to understand why your claim stood the test of the preceding argumentative process.

## Sample Student Practical Reasoning Arguments

Although I became a vegetarian because I do not support the mistreatment of animals that occurs in the meat industry, I am justified in feeling annoyed at other vegetarians who look down on people who eat meat. by Daniella Pozzobon

I used to believe I was justified in vocally opposing this family member's position and views at the expense of creating conflict between myself and members of her family, but now I no longer do. by Armin Shahriari

One of my friends had completed a four-year biology degree before switching into an engineering program at the same school. After two years into her four-year engineering program, I learned from someone else that she had decided to switch into a new college to pursue a two-year veterinary technology program. I am justified in feeling annoyed that she did not tell us. by Sayoojya Saju

My aunts and uncles want the Canadian government to significantly cut down on immigration and turn away refugees, despite the fact that we are an entire family of immigrants. I am justified in disagreeing with their stance. by Julie Zhang

Vaccination for diseases listed on the Government of British Columbia's Immunization Schedule for infants and school-aged children should not be mandatory or enforceable. by Sean Sinden

All sports with a high risk of concussion (soccer, football, volleyball, basketball, rugby, hockey) that youth under the age of 18 play, should ban contact. by Gabrielle Hadly

I used to believe that not sharing details of my relationship with my boyfriend with my mother, rather than exclusively with my aunt, was justified, now I do not. by Anonymous

## Media Attributions

- Practical reasoning diagram

## 2.2 Truth and Denial

Learning Objectives

- To discuss the difference between denial and denialism.
- To recognize the key characteristics of denialist narratives.
- To describe theories for the development, proliferation, and evolution of denialism.
- To identify communication approaches that may or may not work when dealing with denialism.

When we are in denial, we are no longer allowing reasons to govern our values and actions. Indeed, denial means that we are not even prepared to engage with evidence or reasons at all. We all engage in "garden variety" denial: we ignore unpleasant truths that disturb our self perception. For example, we may passionately want to do our bit to mitigate climate change, but nonetheless thoroughly enjoy travelling to distant lands by airplane. We all know perfectly well that we and all whom we love are going to die, but rarely does this thought intrude into our ordinary interpersonal interactions.

Although related to our everyday practice of denial, there is another form of denial that is a distinct and much more pernicious threat to communication. In his book *Denial: The*

*On the 6th of January 2021, the US Capitol was stormed by supporters of Donald Trump who deny that the 2020 US federal election was a fair and democratic process despite the absence of evidence to support this claim.*

*Unspeakable Truth* (2018), sociologist Dr. Keith Kahn-Harris describes this form of "denialism" as "the transformation of the everyday practice of denial into a new way of seeing the world"; one that blends "corrosive doubt with corrosive credulity." This means that a denialist, on principle, mistrusts or disbelieves what you are saying regardless of the strength of your reasoning or evidence, while at the same time accepting the views of others regardless of flimsy or absent evidence. Additionally, for many denialists, their denialism (although they would not label it as such) is a critical part of their identity, or more precisely, a defining characteristic of their tribe. For example, we know there is a loyal tribe who deny that American 2020 was a fair and democratic process but who instead believe that it was rigged by the Democrats without any evidence whatsoever. Since the denialist's identity is at stake, none of the communication strategies that we use in the context of reasonable dialogue – engaging, debating, debunking, etc. – work well against denialism.

## Recognizing denialism

The first step to dealing with denialism is to recognize it. Keith Kahn-Harris describes four key characteristics of denialist narratives.

1. Radical doubt – Denialists demand that the opposition provide 100% incontrovertible proof 100% of the time while at the same time knowing that this is almost impossible. Any uncertainty, ambiguity, or disagreement is used to negate the argument of the opposition in its entirety. Interestingly, while non-denialists view revising an argument according to new evidence or reasons takes us one step closer to the 'Truth', denialists see any change in the story as an attempt to cover up our conspiratorial motives.

Examples

**Radical doubt:** The link between the AstraZeneca COVID-19 vaccine and blood clotting was used by vaccine denialists (also called anti-vaxxers) to support their claims that all vaccines are unsafe.

**Obsession with detail**: Many

2. Obsession with detail – Denialists often focus on minutiae. The entirety of a body of evidence is often too much to deny, therefore is it more effective to focus on small details. If any doubt can be ascribed to those details, then there is traction for radical doubt.
3. Conspiratorial thinking – Belief in some sort of conspiracy to hide the 'Truth' is common to many denialist claims. However, the conspiracies are seldom fully described or explained. This is usually because they would require 'vast, indefinite, and silent coordination across space and time' such as the Big Pharma conspiracy theory.
4. The backfire effect – The more evidence presented that counters the denialist narrative, the more firmly that narrative becomes entrenched. When evidence widens the gap between beliefs and reality, denialists are more likely to double down on their beliefs than abandon them.

Holocaust deniers focus on the fact that no evidence of holes in the roof of the Auschwitz gas chambers through which Zyklon B was poured. They even use the slogan "No holes, no Holocaust."

## Understanding denialism

Kahn-Harris argues that many communicators err in believing that "if only I could find the key to 'make them understand,' denialists would think just like me." The problem with this viewpoint is that it is based on the assumption that we humans all ascribe to the same set of underlying values, so reasonable dialogue ought to get us to the same page. Kahn-Harris argues that this assumption is faulty, and that denialism is a product of unacknowledged 'moral diversity.' Specifically, if someone has 'desires, values, ideologies, and morals' that are significantly different than societal norms, and if that person believes that they cannot voice their viewpoint for fear of social reprisal, then they may turn to denialism in an attempt to discredit anything that conflicts with their core beliefs. An individual might turn to climate change denial, for example, rather than admit that they don't want to undergo significant personal sacrifice just so future non-existent people do not have to deal with climate crisis.

GLOBAL WARMING?
or Global... WARNING
There will be great earthquakes, famines and pestilences in various places, and fearful events and great signs from heaven.
Luke 21:11
www.globalwarning.info

*A climate change denier is not simply a misinformed climate activist. Their denial is part of their identify and fueled by values they feel cannot openly expressed.*

Interestingly, just as a single pattern of inflammation can result from a wide variety of injuries, a single denialist narrative can have a wide variety of root causes. Thus, those that support the unbridled power of free-market capitalism, or who believe that only God has the power to change the natural world, may also become climate change deniers. This further complicates the situation, as a single group of denialists may have a significant diversity of underlying beliefs.

Denialism and close-minded allegiance to identity-anchoring tribes is hardly new, of course. What is new is the internet, and particularly social media, which have provided fertile ground for the growth of denialism. Given that the claims of denialists are not supported by evidence, denialist require the validation and support of a tribe. Before the internet, proselytizing to create an army of like-minded congregants required significant resources, time, energy. Not so in contemporary society. Denialists are led to like-minded devotees by algorithms designed to create echo chambers which ensures the emergence of a parallel reality undisturbed by opposing viewpoints. This parallel reality, in turn, excites the troops, which in turn, facilitates the recruitment of others to the cause. As Kahn-Harris explains, "it only takes a hardcore group of committed, hard working denialists to justify the gut feelings of many others." For example, the Centre for Countering Digital Hate found that 65% of anti-vaccine content online comes from just 12 sources.

The internet has also changed the face of denialist dogma. Previously, many denialist arguments were carefully developed and consistently communicated. Denialists worked to meticulously construct a single, 'alternate' truth; however, the goal was still truth seeking (although a perverted form of it). Indeed, although such denialists were often characterised as being 'anti-science,' it is quite the opposite; such old-school denialists often sought to shroud their arguments in the trappings of science in order to lend a legitimacy to their alternative truth. The internet, however, has decimated the power of truth-seeking. Thus, for example, in his book *Post Truth: The New War on Truth and How to Fight Back*, Matthew D'Ancona notes that the Oxford Dictionary selected 'Post-Truth' as its word of the year in 2016, defining it as shorthand for 'circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief'. D'Ancona argues that what has happened is that emotion is reclaiming its primacy and truth is in retreat and that as a result, the practice of politics is no longer perceived as a contest between truth-seeking ideas but as a zero-sum contest between tribes.

It is not surprising, then, that in this 'post-truth' era, denialist claims are proliferating even as they are becoming more random, superficial, bizarre, and easy to disprove. There is no longer any need to even attempt to appear to be truthful. A perfect example of this is Donald Trump's infamous tweet that 'The concept of global warming was created by the Chinese in order to make US manufacturing non-competitive.' Kahn-Harris sees this as being one step away from denialists being able to 'speak of one's darker desires without shame.' Indeed, Trump went on to say 'Would I approve waterboarding? You bet your ass I would. In a heartbeat. I would approve more than that. If it works…and if it doesn't work, they deserve it anyway for what they do to us."

## Dealing with denialism

One might assume that limiting free speech either formally (e.g., through hate speech legislation) or informally (e.g., through 'cancelling' denialists) might be a solution. However, by limiting what we allow people to say, or by affirming only a very specific and narrow range of values, we may, actually widen the gap between what people truly believe and what they are allowed to express–and it is this gap that fosters the development of denialism. Or worse, such an approach may nudge 'hard' denialists into becoming 'soft' denialists. A 'hard' core climate denialist might morph into a 'soft' denialist and say, rather, that global warming is happening but that we will adapt or that there is nothing we can do about it. An evolution from hard to 'soft' denialism makes the situation even more problematic because the soft viewpoint aligns more closely with prevailing societal views, and so they are harder to recognize and can gain more traction than 'harder' denialist viewpoints.

What should we do about denialist speech? We know that ignoring denialism does not make it go away and that engaging in a war over ‘the facts’ is not only unproductive; it can backfire and drive denialists more firmly into their camps. Kahn-Harris argues that there is a third option that we have yet to explore. This alternative would involve trying to encourage denialists to give voice to the values that underpin their denial. For example, it might involve creating a space for global warming deniers to express their belief that the immediate benefit of fossil fuel consumption outweighs the inevitable harm to other societies, generations, and species. It might involve allowing antivaxxers to explain that the harm done by vaccine-preventable diseases is outweighed by the need to free society from the control of government or other groups perceived to be threatening (e.g., democrats, corporations, atheists, etc.). Unfortunately, Kahn-Harris stops short of instructing us on how exactly this might be done but he does dangle in front of us the tantalizing possibility that we might be able to identify and address the root issues rather than tilting at the windmills of ‘alternative facts.’ We might imagine that if we could truly understand the different tribes that ascribe to denialist narratives, we might finally be able to communicate about the values that are most meaningful to them. Perhaps, rather than continually telling people that vaccines are safe and effective, we might discuss whether or not we would be justified in mistrusting industrialized Western medicine or how to reconcile an all powerful God with the idea that a manufactured chemical can wield the power of life and death. Unfortunately, I leave this chapter open-ended as dealing with denialism has left many of us stumped. However, I hope that this discussion has at least added some nuance to your thinking about one of the greatest threats to communication we have ever faced.

## Key Takeaways

Key Takeaways

- Denialism changes the way a person sees and interacts with the world around them. For a denialist, their denial is a critical part of their identity and often a defining characteristic of the ‘tribe’ or community that they belong to.
- Denialist narratives have several common characteristics regardless of what is being denied. These include radical doubt (i.e., the perspective that any uncertainty negates an entire body of evidence), obsession with detail, conspiratorial thinking, and the backfire effect (i.e., that evidence countering the denialist claim causes the denialist to hold on to their claim even more tightly).
- Ultimately, denialism is likely a result of underlying desires, values, ideologies, and morals that run counter to societal norms. People may turn to denialism to bridge the gap between what they believe and what they feel they can openly express.
- The internet, and particularly social media, has resulted in the proliferation of denialism and a decreased value placed on ‘truth’ or ‘evidence’ in denialist claims. This has become known as the ‘post-truth’ era.
- Many of the current communication tools we rely on don’t work for denialism. Identifying and disusing the beliefs and values at the root cause of denialist dogma may be an alternative.

## Media Attributions

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- Climate_change_denial_in_Sudbury © Caelie_Frampton is licensed under a CC BY (Attribution) license

## 2.3 Risk – Who gets to decide?

Learning Objectives

- To explain Sandman's Hazard x Outrage Framework and how it differs from traditional theories around risk communication.
- To apply this framework to past and current issues and to justify why those issues fit in a particular quadrant.

We usually think about risk as being objective — the product of some sort of scientific formula (e.g., risk = magnitude x probability). For example, Health Canada defines risk as "A measure of both the harm to human health that results from being exposed to a hazardous agent, together with the likelihood that the harm will occur. In order for a health risk to exist, three things must be true: there must be exposure to a hazard; there must be a health effect; and there must be some likelihood that the health effect will occur."

However, there is a very low correlation between whether something is going to harm people and whether it is going to upset them. A 0.2 correlation to be exact — or so says Peter Sandman in his book *Responding to Community Outrage: Strategies for Effective Risk Communication*. Sandman argues that this is because our perspective on risk is only half correct.

Indeed, our perception of risk requires an additional axis, which he calls ‘outrage’, i.e., all the things that people are worried about experts ignore. Instead, Sandman thinks that we should call the ‘scientific’ component of risk (i.e., the magnitude x probability part) hazard and that risk is actually the product of the following equation:

**Risk = Hazard x Outrage**

If you are going to be an effective risk communicator you CANNOT ignore, dismiss, or belittle public outrage. Indeed, outrage is as real, measurable, and manageable as hazard.

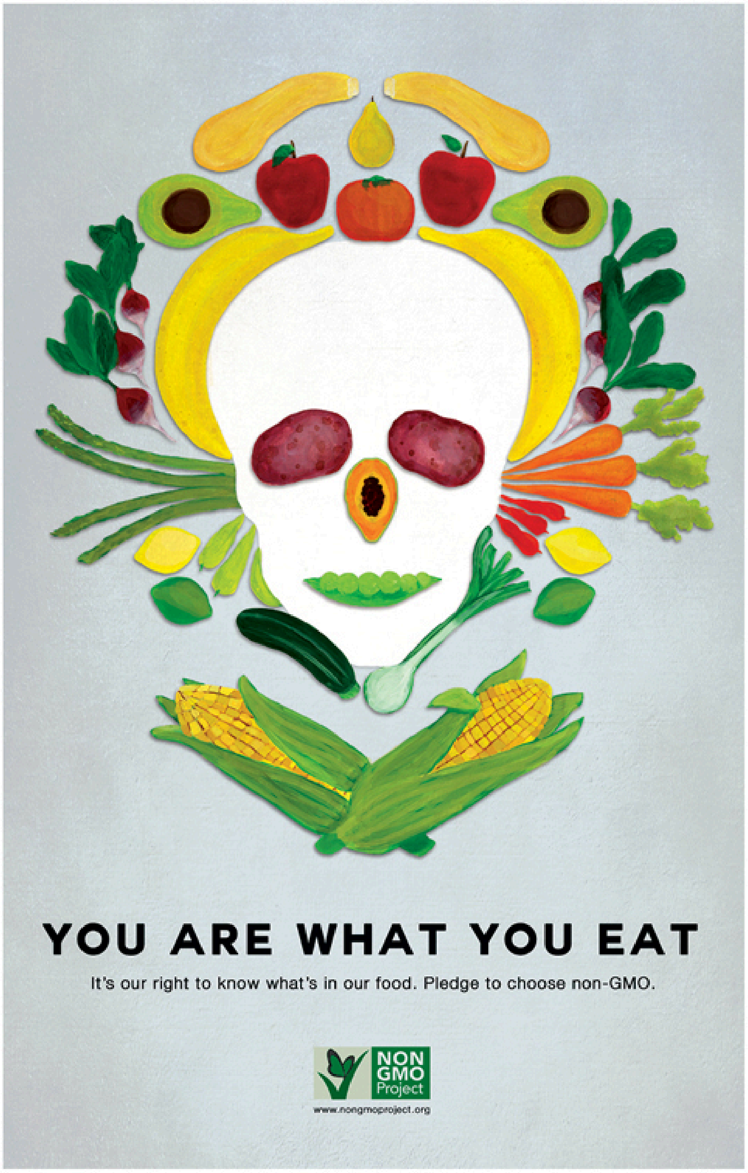
So, if you are going to be an effective risk communicator (and we would suggest that Peter Sandman is among the best there is), then you are going to have to work within the quadrants of risk.

***‘The public often misperceives the hazard. The experts often misperceive the outrage. But the overarching problem is that public cares too little about the hazard, and the experts care too little about the outrage. Both are preoccupied with legitimate but incomplete definitions of risk.’ – Peter Sandman***

| | High Hazard | Low Hazard |
|---|---|---|
| High Outrage | *When both hazard and outrage are high, you find yourself in the rare but unfortunate position of having to do* ***crisis or emergency communication****.* | *When the hazard is low but outrage is high it may be because people are overestimating hazard (the solution being that you need to* ***explain hazard better****) but it may be because they are outraged for other reasons (in which case you need to* ***determine why they are outraged and address it****).* |
| Low Outrage | *When the opposite is true — when the hazard is high and outrage is low your goal is actually to* ***increase outrage****! Here we need to wake our audience up and get them concerned and motivated to act around a particular issue.* | *When both hazard and outrage are low, you're in the Happy Place – Sandman calls this the "****Sweet Spot****", or sometimes "stakeholder relations". This is a place where you're in a mutually respectful dialogue with an interested audience around a risk – people are acting reasonably on all sides and decision-making is mutual.* |

If you address the hazard and not the outrage you definitely will not solve the problem and you will probably make it worse. However, if you confuse hazard and outrage or don't distinguish between the two then you will probably make inappropriate decisions. Sandman suggests that the solution is to take the outrage as seriously as the hazard while at the same time keeping them separate.

For this section of the text, we are going to focus on the two 'discordant' quadrants. First we will look at scenarios where the hazard is low but the outrage is high and discuss ways to assess, understand and deal with outrage. Then we use a theory called '**Precaution Advocacy**' as a lens to deal with scenarios where the hazard is higher than the outrage and you need to motivate people to act.


YOU ARE WHAT YOU EAT
It's our right to know what's in our food. Pledge to choose non-GMO.
NON GMO Project
www.nongmoproject.org

*Even though GMO foods are unlikely to be a public health hazard, Sandman would argue that they should be considered a legitimate risk if only because the GMO-related public outrage is so high.*

Supplementary Material

## Rowan's Law: The Risk

*by Taneille Johnson (SPPH 552 2020W1)*

Rowan was a high school student and rugby player who died in 2013 from second impact syndrome, a consequence of repeated concussions. Rowan's Law was passed by the Ontario government in 2018 and outlines rules that sports organizations must follow for concussion management and prevention. See: https://www.ontario.ca/page/rowans-law-day

This video ad was created by Rethink Communications for the Government of Ontario.

*A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.bccampus.ca/missionmessagemedium/?p=40*

While concussion awareness has **greatly** improved the past 5 years, I argue that outrage amongst the public is still low relative to the hazard of repeated concussions. Looking at the 12 main components of outrage discussed in our textbook, these are reasons why public outrage on concussions is low:

1. Sport (including contact) is a voluntary risk, therefore the risk of concussion is more acceptable.
2. Concussions are familiar and happen every day.
3. From my experience, concussions aren't stigmatized. They happen. There isn't any associated shame or hiding when one has one.
4. The risk from concussion is more often chronic, rather than acute.
5. The risk is mostly controlled by the individual- apart from the fact that people can't control if a teammate hits them in the head.

I really enjoyed this video for several reasons. I think their overall goal was 2 fold: to increase public knowledge and change attitudes about concussions. As an ex-speedskater, I think the team did an amazing job of realistically depicting a high performance athlete. They seamlessly wove in concussion (getting hit by a teammate, falling to the ground). The symptoms of concussion were depicted accurately and effectively. The words and varied intensity of the music contributed to the overall message. The ad ends telling the audience "Don't risk everything. Know the signs of concussion."

Looking at our hazard-outrage framework, I this ad primarily targets problem #4.

"Don't risk everything" concussions ARE catastrophic. They can have HUGE impacts on your life. I think this shifts the impact of concussions to being perceived as more acute instead of something nebulous and chronic.

I walked away from this video feeling upset that kids are subjected to this kind of pressure and risk to their health. So, I think the ad increased my outrage. How about you?

## Takeaways

Key Takeaways

- A risk is determined not only by the hazard but also by the amount of outrage associated with that hazard, therefore risk communication must address both these axes.
- The Hazard x Outrage Framework (which categorizes risk based on the degree of hazard and outrage associated with it) can assist in determining an effective approach to communicating.

Media Attributions

- Fig 2.1.1 You Are What You Eat © Michaela Goade is licensed under a CC BY-NC (Attribution NonCommercial) license

# 2.3.1 Calm Down: Assessing, Understanding, and Dealing with Outrage

Learning Objectives

- To provide examples of scenarios that can cause outrage, explain why they cause outrage, and suggest ways in which the outrage can be addressed.
- To describe potential barriers to outrage reduction and propose how those barriers could be overcome.

A key task in risk communication is measuring the outrage around a topic. Outrage has many components, but according to Sandman, twelve dominate most risk conversations, ten of which are features of the hazard itself and two of which relate to the communication process. For each driver of outrage, we can determine where on the spectrum our particular issue sits — this is called Outrage Assessment.

## Twelve questions for outrage assessment

To assess outrage you need to ask the following questions:

| **Question** | **Explanation** | **Solution** |
|---|---|---|
| Is it voluntary or coerced? | Voluntary hazards (e.g., smoking) tend to be more acceptable than those that are non-voluntary (e.g., having a wind farm put up near your home). | Can you make the hazard more voluntary (e.g., providing warning labels or signage)? |
| Is it natural or industrial? | People are more accepting of natural risks (e.g., UV radiation from the sun) than unnatural ones (e.g., industrial radiation). | Acknowledge people's discomfort with the unnatural. DON'T try to point out natural variants of the hazard or suggest that your unnatural hazard is less 'risky' than a natural one. Natural and unnatural hazards are judged on different outrage metrics. |
| Is it familiar or exotic? | The familiar (e.g., the common cold) is always less scary than the exotic (e.g., Ebola). | Don't try to soothe people. Acknowledge the hazard is unfamiliar and try to make it more familiar (e.g., try to provide people with first-hand experience). |
| Is it memorable or not memorable? | Memorable hazards (e.g., Fukshima, Chernobyl) generate more outrage than non-memorable ones (e.g., car accidents). Hazards become memorable when people have personal experience with them, when they receive lots of news coverage, when they are incorporated into popular culture, symbology, etc. | Acknowledge that the hazard is memorable. Talk about it to death (including what was learned from the memorable event) until it becomes memorable but familiar (see above). |
| Is it dreaded or not dreaded? | HIV is dreaded and has a lot of stigma; hepatitis C doesn't have the same history and is not dreaded as much. | Again, acknowledge the dread. Empathizing and legitimizing peoples feeling will help people to get the dread under control. |
| Is it chronic or catastrophic? | People tend to be more concerned with catastrophe (e.g., natural disasters) than chronic hazards (e.g., liver cirrhosis). This is because the same number of deaths cause greater disturbance to our society if they occur at the same time versus far apart. | Don't tell people not to worry. Work to reduce the magnitude of the hazard whenever possible, even when the probability of that hazard occurring is very low. Also, try to focus people on what is worth worrying about and conduct visible disaster preparedness (i.e., let people know that you are worrying for them). This will be helpful for reassuring people that you can handle a disaster should one occur…and for making sure you actually can. |
| Is it knowable or not knowable? | A hazard becomes unknowable when there is uncertainty, expert disagreement, or difficulty in detection. | Acknowledge uncertainty but explain it is different than ignorance. Tell people what you are doing to reduce uncertainty and how you will make decisions in the face of uncertainty. This may involve being clear to yourself and others about value-based judgements (i.e., risk aversion). Where experts disagree, can you identify a range of possible answers (i.e., is the disagreement really just uncertainty). Try to make risks more detectable to people (e.g., personal radiation detectors for radiation hazards). |

| | | |
|---|---|---|
| Is it controlled by me or by others? | Control is different than being voluntary — 'voluntary' describes who decides on something, 'control' describes who implements that something. Both tanning bed use and surgery are voluntary, but tanning bed use is controlled (less potential for outrage) by the individual and surgery is generally not (more potential for outrage). | You cannot disempower people and reassure them at the same time. Where possible, find ways to share control. |
| Is it fair or unfair? | This has to do with the distribution of hazard and benefit. It does not matter that the benefit outweighs the risk if the benefits and risks are going to different places. This inequity is made worse if the process is also perceived as being unfair. | Give communities who are taking on more than their fair share of the risk the right to bargain for compensation. |
| Is it morally irrelevant or morally relevant? | Certain hazards are viewed as simply wrong, unethical, or immoral. For example, BPA in products like baby bottles is more morally relevant than in adult water bottles because we believe it is unethical to harm babies. | If a hazard has even a whiff of morality, then the normal language of tradeoffs cannot be used. Zero is the only acceptable hazard level and you should aim for it even if you cannot achieve it. |
| Can I trust you or not? | When people mistrust an agency they are more likely to become outraged and less likely to pay attention to communications. | Work to build trust but never expect people to trust you. Instead, replace trust with accountability. The best accountability plan is one that is developed in cooperation with your harshest critics. |
| Is the process responsive or unresponsive? | This includes: openness vs. secrecy; apology vs. stone- walling; courtesy vs. discourtesy; sharing vs. confronting community values; and compassion vs. dispassion. | Never keep secrets. If you make a mistake admit it, apologize, make reparations, come up with a prevention plan, and then do your penance! Be courteous. Where possible find a communicator who is from (or similar to) the affected community. Be passionate and compassionate (versus cold and technical) in your communication. |

*Any amount of industrial radition exposure is likely to provoke outrage because it is unnatural, dreaded, and beyond the control of the public.*

## How to answer your questions and reduce outrage

To get answers to these questions we could assess each factor ourselves, speak to people we know to gauge their feelings, organize a formal focus group, administer a survey online, act like an outside observer, and use public spaces to gauge attitudes.

Although most of the preceding discussion has been on the outrage part of the equation, it is important not to ignore the hazard. Specifically, remember that you have an obligation to accurately identify, assess, explain, and reduce the hazard to the extent that it is possible for you to do so. If you can reduce both the hazard *and* the outrage you will have your best chance at reducing the risk.

Discussion

### Additional Dos and Don’ts for Outrage Reduction

### *Do incorporate your critical thinking skills into your message.*

Critical thinking is not just an internal process. Once you have decided on your position, you should incorporate your opposition’s points (strong, weak, sensible, crazy) into your argument. Just as a monster is not so scary in the light, your opposition can be addressed more effectively in the open.

### *Don’t omit important information in an attempt to reduce or prevent outrage.*

An omission is as bad as a lie. You might be scared to inform the public about bad news they don’t currently know about. However, don’t leave any important information out of your communication as your credibility and trustworthiness will be destroyed when people inevitably find out.

### *Do take responsibility for the impression your messaging has on your audience.*

A false impression is also as bad as a lie. Think about how a normal member of the public would interpret your messaging. Even if it is technically accurate, if people walk away with an inaccurate perception of the situation then you are being misleading and people will see right through it.

### *Don’t exaggerate.*

If your opposition is saying that something is “Extremely dangerous!!”, you may have the urge to counter with “Not dangerous at all!”. This is a pretty hard claim to make and people probably won’t believe you. Instead, saying “It is dangerous, but only a little bit” will be more effective at reducing outrage.

### *Do disclose any bad news quickly and when there is uncertainty, estimate on the high side about how bad things could get.*

But also be clear that there *is* uncertainly and about the processes that you are putting in place to assess and mitigate the risk.

### *Do let people see you sweat, fumble, and work through your issues.*

Humans place more trust in people who also act like real humans. If you acknowledge your problems, then people will put more trust in your solutions.

***Do always acknowledge, acknowledge, acknowledge.***

The one principle that Sandman advocates for above any other is that of acknowledgement. Don't pretend that something is not happening. Acknowledge that a hazard is frightening, acknowledge if the risks are not equitably distributed, acknowledge that you cannot fix the problem, acknowledge that there is a problem (don't keep secrets)…and even acknowledge the arguments made by your opponents and be willing to change your position based on their merit. Sandman may not explicitly discuss critical thinking in his work, but a lot of his ideas share these principles.

## Barriers to outrage reduction

### 1. Not wanting to stir the pot if there is not an obvious crisis.

Don't worry about risk communication activities sparking outrage. If there is outrage, chances are that it has been building up undetected. Waiting until there is an explosion of extreme outrage will make your job much harder. It is better to communicate proactively (versus reactively) and to keep your ear to the ground regarding public outrage.

### 2. Wanting to attack your opposition. Counter-intuitively, taking your opposition seriously and acknowledging the validity of their concerns will only strengthen your arguments.

With regard to activists, specifically, remember that activists don't create outrage, so it is important to be introspective and identify your role in creating the problem.

**Peter Sandman on activists: "Activists are our watchdogs, and we want them to bark even if they are not always sure the intruder is a threat. You might not be a burglar after all, just an innocent visitor, but you are not allowed to kick the dog."**

Additionally, kicking the proverbial dog is not a good look. It is better to be cooperative or at least respectful. It will make you harder to demonize in the public eye.

### 3. Thinking that people are going to be angry no matter what you do.

If you want to do something about the risk, you can change people's opinions if you communicate it correctly. Sandman advocates for a 4-step process in which you acknowledge that there actually has been a change (versus a progression, evolution, permutation, etc. of your initial approach), apologize for mistakes of the past, actually make the change (preferably including elements of accountability), and acknowledge the force that brought about that change (i.e., don't take too much credit for it).

### 4. Dismissing outrage as being irrational

Both hazard and outrage judgements are different perceptions of the same reality. If you try to understand why people are outraged, chances are that it will be a lot more rational than you previously thought.

*It is hard not to dismiss vaccine hesitancy as being irrational, but we must acknowledge and understand vaccine-related outrage if we are to overcome it.*

### 5. Taking for granted the subjectivity of hazard assessment.

You may feel that your scientific judgement of a hazard is completely objective and irrefutable. Chances are that it is not. There is probably a lot of uncertainly, subjectivity, and value judgement woven into what you perceive as ‘fact’. That is OK, but you need to acknowledge it to yourself and others.

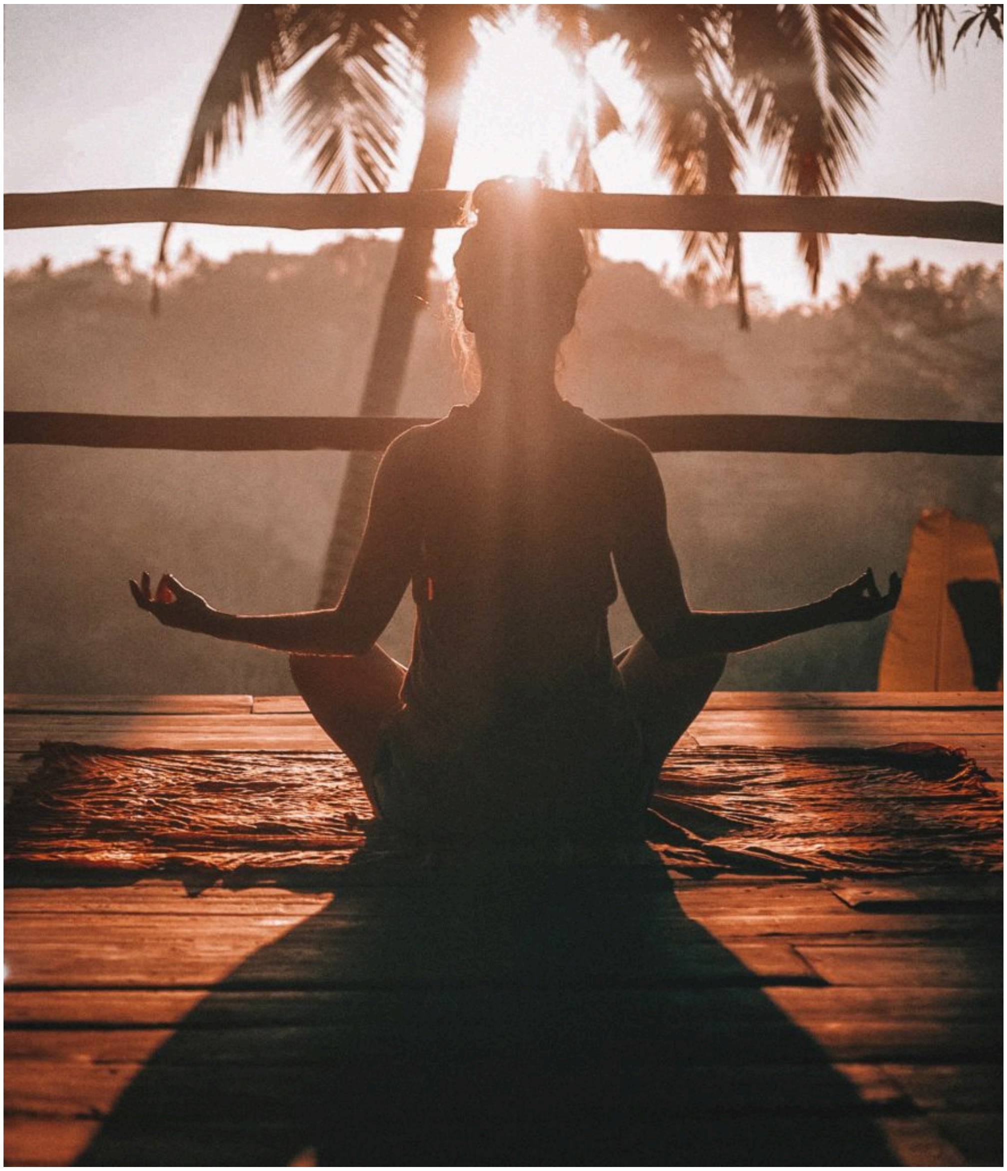
### 6. Letting the fear of legal implications get in the way of a good risk communication plan.

Sandman says “An approach that leaves you clean in court but very dirty indeed in the minds of legislators and the public is not a winning strategy”. Public opinion may not influence legal decisions, but it does influence the awarding of damages by the court. Try to get the lawyers and communications people together to find a mutually agreeable solution.

### 7. Final Thoughts

It is important to acknowledge your own psychological barriers. Specifically, if you are harbouring your own internal outrage, you are not going to be very good at helping others to reduce theirs. When you put yourself out there you will undoubtedly have negative experiences that leave you feeling defeated, deflated, and disrespected. This can easily turn into outrage regarding the issue you are dealing with and the others involved in it (particularly members of the public, politicians, and activists).

You need to be able to detect when you are outraged, figure out why, and find a way to separate those feelings from the task at hand. If you can’t then you should probably pass the task to someone who can.



*You need to detect and address your own outrage before you can effectively reduce other people's outrage*

## Takeaways

Key Takeaways

- A core task in risk communication is measuring the outrage towards the concept or issue at hand which can be achieved through asking a series of questions.
- Where possible, outrage can be addressed by following a set of dos and don'ts.
- It is important to understand the barriers to outrage reduction and how they apply to your specific

situation.

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- Fig 2.1.1.2 Women are immunized against cervical cancer and pap smears are conducted in the HPV Immunisation room. Bogota, Colombia. © National Cancer Institute of Colombia is licensed under a CC BY-NC (Attribution NonCommercial) license
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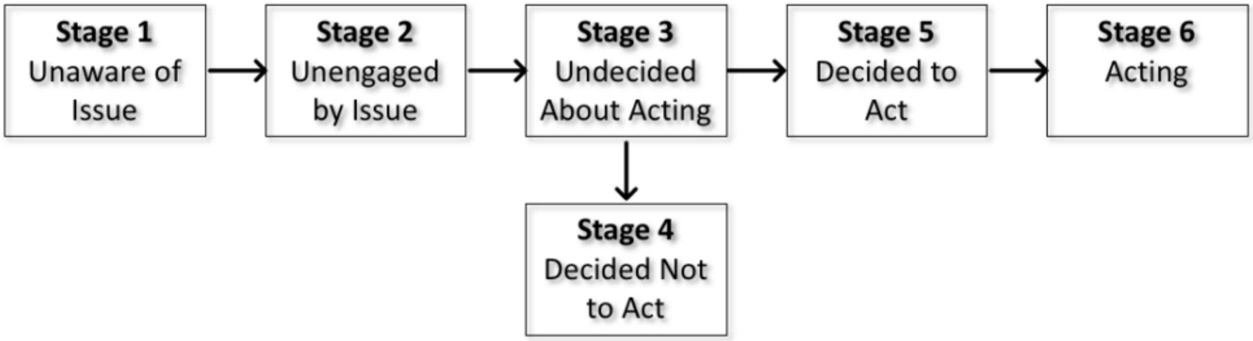
## 2.3.2 Wake Up: Precaution Advocacy as a Tool to Motivate Behavior Change

Learning Objectives

- To argue for why the precaution adoption process model (PAPM) is helpful in dealing with situations where people are not acting to reduce a hazard.
- To provide examples of how the PAPM can be used to develop risk messages.
- To discuss barriers to moving between the stages of the PAPM and ways to overcome those barriers.

### Precaution adoption process model (PAPM)

This model describes how people progress from being unaware of an issue to being aware of it and acting appropriately. The diagram below describes the seven stages of the model and the factors that govern the transitions from stage to stage. Remember that people can move both forward and backwards between certain stages and may become ‘stuck’ at a particular stage.


Stage 1
Unaware of Issue
Stage 2
Unengaged by Issue
Stage 3
Undecided About Acting
Stage 5
Decided to Act
Stage 6
Acting
Stage 4
Decided Not to Act

*The PAPM attempts to explain how a person comes to decisions to take action and how they translate that decision into action.*

*The PAPM can be used to increase participation in medical screening programs such as mammography; however, you need to be aware of potential audience barriers (i.e., lack of time, lack of available health care services, socio-demographics).*

Supplementary Material

**A Tale of Two Models** by Yinghong (Amy) Wu

How do people take action? Is it as simple as going from point A to point B, or are there more complex stages in between?

Health Promotion Models are used to explain behaviors to guide people to better health. Two such models that I've come across are the **Precaution Adoption Process** Model (PAPM) highlighted in Module 4, along with the **Transtheoretical Model (TTM)** taught during my dietetic internship.

The **Precaution Adoption Process Model** is used when it is desirable for people to act to reduce a hazard, and shows the stages in which people move from being unaware about an issue to making a decision about an action to taking action.

The **Transtheoretical Model**, also known as "Stages of Change", has decision-making as it's focus as well, and models intentional change or action.

The six stages include:

1. Precontemplation – People are not aware that their behaviour can lead to negative consequences, or feel that the effort of making a change is not worth the benefits that it would yield. There is no desire to make a change.
2. Contemplation – People acknowledge that their current behaviour could be problematic, and intend to start a healthy behaviour in the foreseeable future. However, they may still feel ambivalent about making changes.
3. Preparation (Determination) – People start to take small steps in planning to take action to better health
4. Action – People are actively changing their behaviour, and intend to continue with the change.
5. Maintenance – People have continued their new behaviour for more than 6 months, and intend to sustain it going forward. They work to prevent relapse to prior stages.
6. Termination – There is no desire to return to previous unhealthy behaviours. hey have no desire to return to previous unhealthy behaviours. This stage is rarely reached, and is often not a consideration in health promotion programs,

Both models have 6 stages, but their progression along the decision-making continuum varies:

PAPM places heavier emphasis on the earlier stages of being unaware and unengaged by the issue, and acknowledges that people may decide not to act despite having considered the issue. TTM focuses on the latter stages of behaviour change in action, maintenance, and termination. While TTM posits that people can exit and enter at any stage, PAPM suggests that from stage three, the person decides not to take action and ends at stage 4, or decides to take action and continues onto stage 5.

Both models are used to help understand complex behaviours, and allow for different theories to be applied at the different stages. However, PAPM's intended application is for understanding how people make decisions to take action, not for the long-term development of health habits. TTM has been used in helping individuals establish long-lasting health behaviours.

Models help make some sense of complex human behaviours, but rarely is it one-model-fits-all. It can be helpful to be familiar with various models and theories so that they may be utilized strategically in the unique circumstances that you will encounter in your career as a public health communicator!

## Using the PAPM

- Define what the different **stages** are.
- Determine what your **goal** is (i.e., to move everyone to action, or just to move them one stage ahead of where they currently are).
- Determine who your **target group** is (i.e., are they defined by personal characteristics but they all exist at different stages of the PAPM, or are they all at a specific stage but otherwise are a diverse group?).
- Determine how you will **classify individuals** according to their current stage.
- Identify the factors that will **influence transition** among the different stages, as well as factors that could cause stagnation or regression.
- Identify the **tools** that will help to achieve your desired stage transitions. Remember that the tools you use will need to be tailored to your audience, to their position on the PAPM, and to the change you are trying to achieve. If you are mismatched then you will annoy people, confuse them, or lose their attention. This means that the greater the range of stages, the more difficult it is choose a single message or tool.
- Determine how you will **evaluate** whether your program has been effective at achieving your goal.

Example

Never heard of radon → Heard of radon but never thought about testing → Thinking about testing but unsure about whether or not to test → Decided whether or not to test → If decided to test, then actually ordered a test kit.

86
Rn
Radon
222
2, 8, 18, 32, 18, 8

*Radon Element*

## When to use the PAPM

The PAPM can be used to understand the psychological process of adopting or stopping a behaviour. Advocates of this type of stage theory say that changes in behaviour are too complex to be described by a single equation and must therefore be explained by a series of equations (i.e., a series of moves between stages). The PAPM can be applied to understanding **how people come to make a decision to take action**. It should not be applied to the gradual development of habits or to spontaneous actions that were not planned.

Example

For example, the PAPM should not be applied to understand the process of a person becoming an injection drug user. A person’s initial exposure to injection drug use is, in the vast majority of cases, not due to conscious planning and is more a product of social, psychological, and other factors outside of their awareness.

## Tools to moving between stages

According to Weinstein, Sandman & Blalock (2008), the media often can have a major influence in getting people from Stage 1 of the PAPM to Stage 2 and from Stage 2 to Stage 3 but has much less influence from there. Theories of health behaviour, like the Health Belief Model and the Theory of Reasoned Action, can be used to understand how people who get to Stage 3 make a decision (move to Stage 4 or 5). From there, understanding the risks, outcomes, experiences, motivations, and barriers at each stage can help you to determine how to get people to go from decision to action, and from action to maintenance. Below is a table of some tools and factors that can affect transition between the stages.

| **Transition** | **Factor/Tool** |
|---|---|
| Stage 1–2 | • Messages about the hazard and precaution |
| Stage 2–3 | • Media messages about the hazard and precaution<br>• Communications from significant others<br>• Personal experience with hazard |
| Stage 3–4/5 | • Beliefs about hazard likelihood and severity<br>• Beliefs about personal susceptibility<br>• Beliefs about precaution effectiveness and difficulty<br>• Behaviours and recommendations of others<br>• Perceived social norms<br>• Fear and worry |
| Stage 5–6 | • Time, effort, and resources needed to act<br>• Detailed “how-to” information<br>• Reminders and other cues to action<br>• Assistance in carrying out action |

## Barriers to moving between stages

### Confirmation bias

People tend to adhere to previously held beliefs. The degree to which your messaging aligns to those beliefs will influence how easily you can transition people between stages. There is not much you can do about this other than to be aware of it and use the other tools we discuss in this text to try and work through it. It is important to highlight the problematic nature of Stage 4 at this point. This is where confirmation bias is at its height. Most people in this category appear to be well informed but only accept information that aligns with their bias, finding reasons to reject any evidence to the contrary. This is a very unique stage that is fundamentally different from Stage 3 (people who are not acting because they are undecided).

Example

A group that may be influenced by confirmation bias is people who are anti-vaccination. In many cases, these people have made up their mind (Stage 4) and are unwilling to accept any information that contradicts their views. This is distinct from those who are vaccine *hesitant*, who would be placed in Stage 3 of the PAPM based on their being undecided or skeptical about vaccination.

### Stage paralysis

If you are asking people to make a difficult decision or do something challenging, then they may get stuck. This is why it is important to actually show them how to easily transition from one stage to another. For example, if you are asking people to test for radon, you might provide links to places where they can purchase a testing unit online. A detailed implementation plan can often be the key to transitioning people from decision to action. This plan should include concrete targets that are meaningful to, and achievable by, your target audience.

### Perceived susceptibility

This basically captures the fact that most people think they are invincible. In general, people more readily accept the risk posed to others compared to the risk posed to themselves. This is why information must be presented to your target audience in a manner that maximizes its relevancy and accessibility.

Example

An example of the perceived susceptibility barrier is people who do not get the flu vaccine because they do not believe that they are at risk of developing severe symptoms from the flu. While there are additional dimensions related to vaccination decisions, ignoring or misunderstanding the risk from communicable disease is a barrier to action (vaccination) related to perceived susceptibility.

### Barriers to action

It is important to be aware of and work to overcome barriers to action. Barriers could be related to cost (i.e., are you advocating for an action that is prohibitively expensive or too time consuming?), access (i.e., is it something that is more geographically accessible to some than others?), and any number of other factors that can hinder a person’s ability to engage with the action. This is where you must consider alternative measures to improve likelihood of action.

### Complex problems or actions

As stated, the PAPM works best for very simple problems and behaviours (i.e., getting vaccinated, testing for radon, etc.). More complex issues may require a more nuanced application of the PAPM. For example, if you want people to be more active, then you might choose to present people with a menu of actions versus something specific. It may be easier to get people to decide to do something versus a specific thing, but this could backfire if your recommendations are so vague that people don't really know what to do.

## Takeaways

Key Takeaways

Key takeaways for the precaution adoption process model (PAPM):

- The PAPM aims to explain how a person comes to decisions to take action and how they translate that decision into action.
- The PAPM can be applied to many simple behaviour changes but may not be suitable for more complex changes.
- It is important to understand where your target group lies in the model, the barriers at each stage of change, and the tools available to facilitate that change.

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- Fig 2.1.2.2 086 Radon – Periodic Table of Elements © Science Activism is licensed under a CC BY (Attribution) license

# 2.4 Danger! Danger! Crisis and Emergency Communication

Learning Objectives

- To describe and provide examples of characteristics of good crisis and emergency communication.
- To explore the steps that can be taken to prepare for crisis and emergency communication scenarios.

In a crisis or emergency, people take in information differently. We miss and misinterpret information, we can't juggle multiple facts, we can't remember as much as usual, and we often use emotion and heuristics (i.e., mental shortcuts) rather than logic to make decisions. We rely on our current beliefs and don't seek or acknowledge evidence that contradicts what we think. We seek validation — we look to TV, peers, social media, and other outlets looking to see if the same information is being shared and if people are acting in the same way. We often believe the first message we see, and uncertainty, fear, and helplessness drive our actions. For this reason, crisis and emergency communication is distinct from other forms of risk communication and deserves special consideration.

Supplementary Material

CDC has literally written the (free) book on crisis communication — the Crisis & Emergency Risk Communication Manual. It sets forth six principles for effective crisis (and risk!) communication:

1. **Be first**: The first source of information often becomes the preferred source of information.
2. **Be right**: Accuracy establishes credibility, even when you can only acknowledge the unknown.

3. **Be credible**: Do not compromise your honesty and truthfulness.
4. **Express empathy**: Acknowledge suffering.
5. **Promote action**: Give people meaningful things to do.
6. **Show respect**: Respectful communication promotes cooperation.

## Emergency and crisis communication

Some people make a distinction between emergency and crisis communication. Although both are times of intense difficulty or danger, a crisis can sometimes be predictable and prolonged (e.g., the opioid crisis), while an emergency is by definition ‘unexpected’. However, we find that they share enough common ground that it is more effective and succinct to discuss them as one topic.

Before we delve into the specifics, there are two important points that merit discussion:

1. Crisis and emergency (we will call it C/E) communications are inextricably linked with preparation and response activities and there is a lot (and I mean A LOT) of information, training, and expertise about emergency management and response. Indeed, we would suggest that this is a subject area in and of itself and beyond the scope of this course. So, consider the information included here to be a taste of what is involved should you be called upon unexpectedly to participate in C/E communication. If you know that this will be part of your role, then you need to seek out the appropriate education and training.
2. Although we have said that C/E communication is distinct and unique, this does not mean that you should disregard everything else that you know about communication. Rather, it simply means that you need to add additional tools to your toolbox, change the way you use your existing tools, and potentially adjust your priorities, expectations, processes, etc.

## Characteristics of good crisis messaging

Example

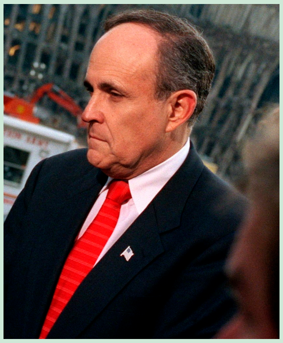
Good C/E communications is the ultimate combination of style and substance. Style is important because as people get anxious, stressed, and overwhelmed they have decreased ability to compute facts, so they increasingly rely on the credibility and likability of the messenger to determine what they will listen to. But substance is also important because once you have people's attention, you need them to understand and act — and fast!

### With regard to C/E communication style:

Lundgren and McMackin helpfully highlight three 'Cs': calmness, competence, and compassion. Think also about who is doing the messaging. In times of uncertainty, people will be more likely to listen to individuals and institutions that they already trust. No matter who you are, people are more likely to trust you and listen to you if you are accessible. Accessibility can take many forms ranging from face-to-face contact to being responsive to questions and concerns through social media.

**"More than any of us can bear."**

You may not like him, but Rudy Giuliani gave a masterclass in C/E communication style with his handling of the 9/11 terrorist attack in NYC. Particularly notable was the fact that he was not afraid to show his emotion and people connected to him, respected him, and followed him because of it.



### With regard to substance:

- Be the first to communicate and communicate regularly (err on over- versus under-communicating). Communicate in real-time as much as possible.
- Information should be honest and accurate. Aim for total candor and transparency. Don't lie, and don't tell half-truths. Stop rumours and speculation by addressing them.
- Messages should be clear, simple, specific, and short. Focus on what people need to know or do. But, you also need to make sure that people have all the information that they need to act on your message. For example, don't tell people to evacuate if you have not told them where they can go and where their pets and livestock should go.
- Repeat messages over and over and over. This is a time when people are least annoyed by repetition.
- Use consistent messaging but also know that things will change; clearly acknowledge it when they do, describing what has changed and why.

***In crisis communication, your goal is not just to deal with the emergency, but also to be the #1 source of credible information and facts.***

- Change (e.g., initially telling them the risk is high and then finding out that it is lower than you thought) is different from evolution. Your communication should evolve as the emergency and response evolves. For example, initially people want information about the risk they are facing and how they can protect themselves, and they are mainly focused on basic needs (shelter, food, water, safety). Later on, when things have stabilized, they may want more information on the response, long-term implications, and details of the crisis and emergency (a sort of debrief).
- Acknowledge when people are afraid. Don't over-reassure or state/imply that fear is illegitimate or unwarranted.
- Give people something to do. Better yet, give them a choice of actions (i.e., what they must do, what they should do, what they can do). As much as possible, allow people to choose their own actions (versus forcing them to do something).
- Consider asking more of people than just taking care of themselves. The public has the ability (and demonstrated track record) of 'stepping up' to help out in times of emergency.
- Be transparent about uncertainty, obstacles, dilemmas, and errors but also be clear about how you are working to address them.
- Acknowledge opinion diversity but also be willing to make decisions quickly and justify those decisions.
- Be willing to speculate and tell people what they might expect or experience going forward.
- Centralize information as much as possible. Avoid duplication and competing messaging unless that is part of your plan (i.e., sending messages out through multiple platforms).

Ultimately, the best thing you can be in a time of emergency is be prepared. When all hell breaks lose, you want to be focusing on the situation at hand rather than on coordinating among different responders, establishing roles and responsibilities, etc.

Example

**A Study in Contrasts**

The WHO is in the business of dealing with global public health emergencies, but they have a mixed-track record with regard to the success of their emergency communication efforts. Specifically, communication around Ebola was widely criticized for being delayed and unresponsive (see Moon et al. 2015 for details) while their response to Zika was lauded for its rapidity, transparency, and skillful management of uncertainty (see Rathi et al. 2016)

Example

**"Stay away from downtown and the bridges"**

His exceptional crisis communication skills during the 2013 Calgary flood turned Mayor Nenshi into a folk hero. He employed a number of C/E communication tools, such as the repetition of clear, simple, specific, and short messages.

*Naheed Nenshi*

*Flooded East Village area of Calgary*

## Considerations for emergency communication preparedness

Preparation is the key to C/E communication success. The following are some general areas in which preparation will help you have a more efficient and effective response:

*For the WHO, the 2014 Ebola outbreak was a crisis communication failure. Luckily they did better with the Zika pandemic.*

- Identify which individuals and organizations will be involved in a response and determine how these groups will coordinate and collaborate.
- Determine roles and responsibilities among organizations, and within your own.
- Consider involving the public, particularly established community organizations such as local government, churches, hospitals, schools, and community centers in both the planning and response.
- Develop a process for the rapid development, verification, and approval of messages.
- Determine how you will distribute information keeping in mind that you should use multiple approaches and platforms to get as wide a reach as possible.
- Redundancy and back-up planning is also important if the emergency impacts your communication tools (e.g., too many people visiting crashes a webpage). Along these lines, consider low-tech methods such as flyers and radios, which are resilient to technology breakdowns.
- Media must be part of your plan to distribute information, if for no other reason than the fact that they will report on the emergency with or without you. Consider developing a relationship with your main media outlets, including a contact list and procedure for after-hours reporting.
- Identify how you will receive, analyze, and respond to information from the public. This is important so that you can know what is happening and also so that you can address people's concerns. In the past, this was mostly done through hotlines, but increasingly social media and crowd sourcing of information is playing a role. The Mark Yourself Safe initiative by Facebook is a great example of the role that social media can play in crisis communication and crowdsourcing of information was used to assess damage and what aid was needed after the 2015 earthquake in Nepal.

- Determine if there are any segments of your target audience who need special consideration. Are certain people more at risk than others? Less likely to receive or understand the message? Less capable of responding, etc?

*After the 2015 earthquake in Nepal, crowdsourcing of information allowed more than 4,300 remote contributors from all over the world to help relief agencies get a clearer picture of what was happening on the ground.*

## Takeaways

### Key Takeaways

- Crisis and Emergency Communication is a field distinct from “regular” risk communication; however, most of the principles of science and risk communication still apply (e.g., thinking about style and substance – see 2.5 Style vs. Substance for more on this).
- Emergencies are a time of high emotion and low rationality. For this reason it is important to be calm but compassionate and complete but clear and concise.
- Other tools that aid in C/E communication include communicating early and often, repetition, honesty/transparency, and empowerment through action.
- Don’t wait for a crisis to develop your C/E communication strategy. Preparation is the key to success.

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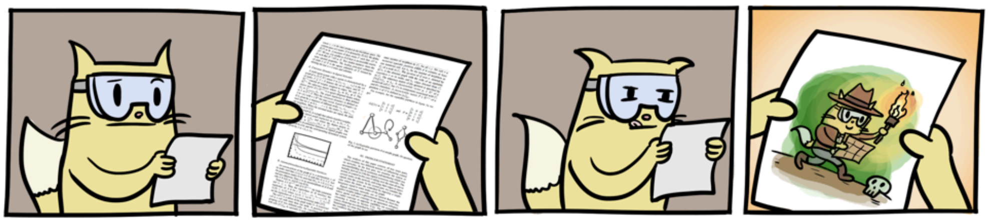
# 2.5 Tell me a story!

Learning Objectives

- To discuss the role of narrative in risk communication.
- To identify the potential ethical considerations when drafting a narrative.
- To list the components of narrative and explain the role of each in a compelling narrative.
- To extend this knowledge to create your own narrative around an issue and incorporate aspects of narrative arcs.

## The narrative model



*Scientific writing can be written using storytelling structures to help engage audiences and relay information. Art by Armin Mortazavi.*

The ultimate aim of science communication is to convey scientific information that can in turn be used by people to understand the world around them and to inform decision making. Because we often hold the view that "more facts = better decisions", one common form of science communication is called the **"Logical-Scientific Model (LSM)"** which focuses on sharing facts repetitively. This form of communication essentially holds that the audience is an empty vessel, waiting to be filled up with knowledge. However, this model of science communication is largely ineffective because: 1) people are busy and no one is waiting for you to fill their heads with knowledge; and 2) decisions themselves are not based on facts alone – they are also based on emotion (Jones and Crow 2017).

A more effective model for science communication is the **“Narrative Model”**. Narratives are stories, which are easier for audiences to understand (i.e., faster reading times, and improved comprehension) and are more memorable. They also match the framework through which public audiences receive much of their other information (i.e., via mass media and news outlets) (Dahlstrom 2014). Dahlstrom (2014) identifies three ways in which narratives differ from the LSM of communication:

- LSM provides a set of abstract truths that individuals then apply to specific cases to make some sort of prediction (***deductive reasoning***). Narrative goes the other way — it begins with a specific case (a story) and from that, individuals draw conclusions about what the overarching abstract truths must be (***inductive reasoning***).
- LSM is based on facts which are context-free — you can chop them up or drop them into any scenario and they will remain understood. Narrative depends highly on context, deriving its meaning from the ongoing story rather than the overarching facts. You can’t break a narrative down into smaller pieces in the same way without losing the meaning of the narrative.
- LSM is judged on the accuracy of its claims/outcomes, whereas narrative is judged on the *appearance* of its claims/outcomes — does an individual perceive the narrative as having truth and/or meaning for them. This is why we have “post-truth” and “alternative facts”, and why facts rarely beat narrative.

Discussion

**Fact vs. Narrative**

Consider the two opposing sides of vaccination of children. On the side of science, the argument is: “there is no evidence to suggest that vaccination causes autism, but significant evidence that it reduces disease risk”. On the anti-vaccine side, there are compelling, personal stories of parents whose children developed visible symptoms of autism around the time they received routine vaccination, and their struggles in diagnosing and treating their children. Which more effectively grabs an audience? Which is more memorable?

## We are wired for narratives

Narrative is thought to represent the “default mode” for how we think, allowing us to structure our reality and also acting as a basis for memory. In fact, Dahlstrom suggests that narrative benefits all areas of information-processing: motivation and interest, allocating cognitive resources, elaboration, and transfer into long-term memory

The emphasis on narrative may have an evolutionary explanation too! That’s because narratives can allow us to explore and simulate other realities (e.g., what might happen should we take one action or another) and extrapolate a suite of potential outcomes from events which in turn helps us to make decisions. It allows for situation-based learning. As such, it can also allow us to make inferences about the actions and motivations of others (Dahlstrom 2014).

ARTHUR
SPIDERWICK

*Narrative structures are the most common way we think and learn about the world.*

Exercises

**The Role of narrative in risk communication: the Elaine Bromiley Story**

*by Laura Duggan (SPPH 525 2020W1)*

I would like to share how a compelling narrative of risk changed medical culture and saved lives in multiple countries and motivated me to get over my fear of public speaking to teach a better way of practicing airway management.

Martin Bromiley tells the story of his family here:

*A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.bccampus.ca/missionmessagemedium/?p=48*

The inquest of the 2005 death of Elaine Bromiley can be found here:https://emcrit.org/wp-content/uploads/ElaineBromileyAnonymousReport.pdf

Elaine Bromiley suffered severe brain damage and death as the result of a 'Can't Intubate Can't Ventilate' (CICO) emergency occurring during a routine operation. The risk narrative? CICO can occur during any airway management situation, no matter how 'minor'. Martin Bromiley, a commercial pilot with an interest in human factors and crisis resource management, did not seek compensation for this devastating experience. His human factors background provided a framework to understand how life-threatening errors in judgement occur despite in-depth training and experience. He could not understand why, if checklists, team training and a culture encouraging speaking up and listening existed in aviation, why was it inconsistently embraced in healthcare? Martin Bromiley met with those involved encouraging them to return to work and share their experience with others. He created https://patientsafetymovement.org, a non-profit organization dedicated to teaching the central role human factors and communication to prevent patient harm.

Medicine has traditionally been a competitive, individualistic profession. We compete against one another for medical school admission, and throughout training evaluation and competency assessment is a solo expedition; you pass or fail alone.

Yet modern healthcare is anything but a solo expedition. Teams of various disciplines and professions work together, ad-hoc, under stress, at all hours, with the goal of excellence in patient care. During infrequent emergency situations, we often become single-minded, losing track of time and our situational awareness, often despite the presence of others who can help. Healthy team dynamics; leadership, communication, a clear vision of the overall situation dissolve. The quote, ‘We don’t rise to the level of our expectations, we fall to the level of our training’ applies. Under stress, without practice in team-training, we can easily become solo workers (http://www.royalcollege.ca/rcsite/ppi/educational-resources-e). Add a pinch of rudeness and teamwork shatters (https://pediatrics.aappublications.org/content/136/3/487).

The experience of the Bromiley family is not unique, but Martin Bromiley’s response to it changed the world of airway management. Guidelines specifically addressing the CICO emergency have been created in multiple countries. Cricothyrotomy, or cutting the neck to provide oxygen, is now standard training for all airway managers, not just surgeons. CICO has become an intense area of research and training(https://emcrit.org/emcrit/surgical-airway/). Although a CICO situation may occur only 1-2 times in one’s career, formal training and pre-scripted predictable management, similar to ACLS (advanced cardiac life support).

The experience of the Bromiley family cannot be changed, but the culture of medicine can and is changing due to this narrative.

## Narrative ethics

As we have covered, narratives are powerful. They engage audiences and are able to persuade without needing to justify how accurate their claims are. Indeed, this enhanced engagement with narrative over fact alone can make it difficult for an audience to generate counter-arguments to narrative, whether the narrative is true or not. Even fictional narratives give audiences a lens through which to view the world (and of course, some fictional narratives may contain accurate claims). Because of this, narratives can change behaviours and beliefs – a positive outcome for science communication efforts – but can also perpetuate misinformation.

Dahlstrom and Ho (2012) discuss three central ethical issues to consider when using narrative in science communication:

### Comprehension vs. persuasion: What is the goal?

Is the goal of the narrative to improve comprehension or to persuade an audience? When seeking to improve comprehension, ultimately we are working within a model of “public engagement in science”. This model encourages dialogue with the audience, and that dialogue may involve controversial topics, and it does not necessarily aim to reduce the controversy. Ultimately, through dialogue this improved comprehension will advance the issue, and result in an increased number of people included in science. On the other hand, persuasion fits within a model of “public understanding of science”. While it may seem similar to the model for comprehension, this model holds that if the public possesses the necessary knowledge, then controversies will resolve and point toward the desired endpoint of the communicator.

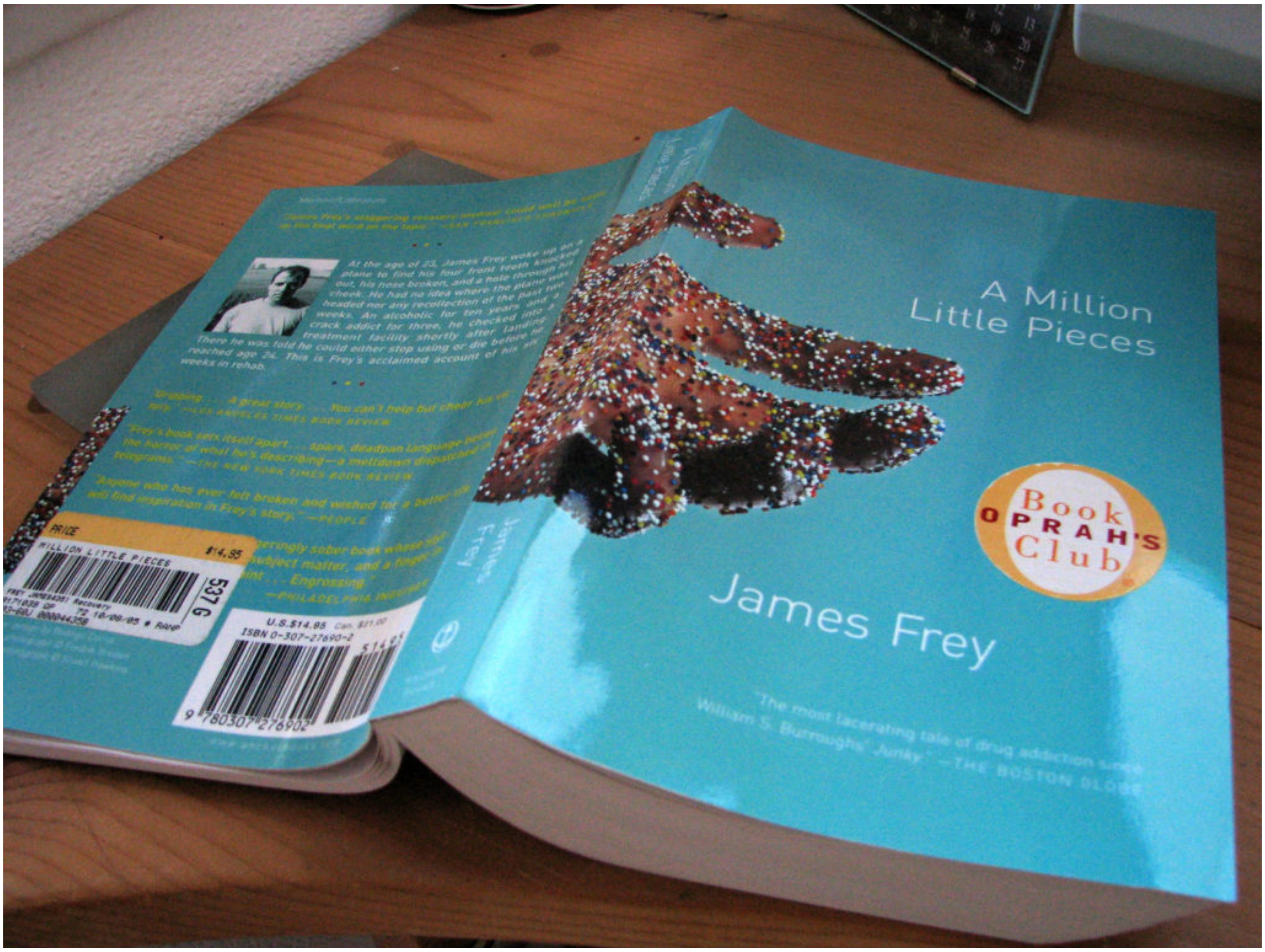
This leads to another sub-question: ***is the aim to create agreement or foster personal autonomy?*** Narratives in science communication may lead to a shared, preferred outcome (persuasion), or to empower individuals to make their own choices with the information they hold (comprehension). For example, a narrative aimed to persuade might reward a character for making the “preferred” choice (e.g., a character who practices social distancing and wears a mask does not acquire SARS-CoV-2, while a character who does not practice social distancing and does not wear a mask gets sick with the virus). In contrast, a narrative which seeks to provide audience members with the personal autonomy to make the best decision for themselves might instead feature characters with multiple decisions and the considerations behind each (e.g., a character has multiple choices for how to socially distance and spend time with friends, and they make that decision based off of the information provided to them such as their friends’ comfort, health status, and the setting). Depending on the aim of the communications plan, the narrative approach may choose one over the other.

### How accurate must the narrative be?

Deciphering what truths to preserve and what can be relaxed within a narrative can be challenging. Metaphors, analogies, and the personification of objects with human feelings may not be “true” but may help an audience member understand a greater truth within the narrative. Overall, it is important to determine how representative your narrative will be, and identify any potential benefits or drawbacks of deviating from the truth. For example, a narrative about climate change might choose to explore our future in an “extreme scenario” of >4 degrees Celcius of warming (yikes!). This extreme might not be truly representative of the reality (fingers crossed for the future!!) but might be more motivating for the audience, thereby leading toward the aim of the communication. Therefore, not only must we determine the goal of our narrative, but also critically assess each component of our narrative to ensure that it aligns with our objectives and doesn’t distract or detract from them.

## Should we be using narratives in communications?

Dahlstrom and Ho (2012) ask the question as to whether showing a scientist as a storyteller violates society’s expectations of science as a logical pursuit? However, narrative is frequently used in communicating disinformation, so if scientists don’t use narrative wouldn’t it be unethical to lose the benefits of this style of communication?


A Million
Little Pieces
Book
OPRAH'S
Club
James Frey
"The most lacerating tale of drug addiction since William S. Burroughs' Junky." —THE BOSTON GLOBE

*Narrative is a powerful tool but requires consideration of its ethical implications when used in science communication. In 2006, A Million Little Pieces, then marketed as a personal memoir, topped the New York Times Bestseller List. An investigation later revealed that the book contained several inaccuracies and falsehoods; it is now marketed as a semi-fictional novel.*

## Story essentials

Unlike scientific facts, which do not require context, narratives have many dimensions – they have layers. They involve **characters** (scientists, policy makers, members of the public etc.), **causality** (i.e., cause-and-effect relationships between issues and events), and **temporality** (i.e., they take place over a particular time period). How do you draft a compelling narrative? Shanahan et al. has outlined some of the key components to an effective narrative for science communication related to policy, including:

### Setting

Just as a setting in a novel includes where the story takes place (both physically and contextually), a narrative for science communication has a setting which includes the ideas, facts, and characteristics related to the issue. For example, the setting for a narrative about the risks of smoking for lung health might include where the issue is being addressed (e.g., in shared public spaces), the history and facts of the issue in that area (e.g., how many people are affected, the current legislation around smoking in public etc.), as well as how the issue is generally seen by the public (e.g., most people view smoking in public as either acceptable or unacceptable).

### Characters

The characters of a story will drive emotion. Just as novels have protagonists, narratives about risk also have characters central to the story. These may be the people who are harmed by a risk (e.g., those harmed by cigarette smoke), or the "villains" who inflict the harm (e.g., cigarette companies), or comparatively, the "heroes" who aid in protecting the victim (e.g., regulatory bodies or health care workers aiding patients). Each of these characters will elicit a different emotion in the audience, and the more an audience connects with the character, the more persuasive the story will be (Jones et al. 2017).

### Plot

The plot of the story ties together the characters with the setting and identifies the relationships among these entities. The plot often identifies a conflict to be overcome (i.e., the issue at hand) and will identify causality. For example, in the context of lung illness due to cigarette smoking, the issue to be overcome might be increased occurrence of smoking in public places with increased rates of lung cancer among those living near these areas.

### Moral

Ultimately, your story should address "What is the Point?". You've told your story with the setting, characters, and plot in place, now what solution is there to the problem? When related to policy, the moral is a solution to a policy problem. For example, in the example given here it might be the development of policies that prevent people from smoking cigarettes near public establishments.

Example

This Sussex Safer Roads communications ad. Consider: How do you feel when you watch this video? How does this ad achieve that emotion? Are all the components of storytelling present?

## How to build a narrative

### Step 1. Mission and narrative ethics

First consider your aims – what central piece (or key pieces) of information do you want to share and why? Are you aiming to persuade or improve comprehension?

### Step 2. Audience

Next, understand your audience. As we have highlighted repeatedly in this course, your audience determines all aspects of your communications. When considering your audience for a narrative Shanahan et al. (2014) highlight that it is important that you consider how “congruent” your story is with the audience’s pre-existing understanding of the world. The more a story aligns with an audience’s beliefs, the more convincing or persuasive it will be. The congruence of a story will strengthen pre-existing beliefs (Shanahan et al. 2014) and is more likely to be remembered in the way that the communicator intended (Jones and Song 2014). To integrate aspects of congruence into a narrative, consider the language, symbols, and references that can be incorporated that the target audience already recognize as part of their belief system. This requires background research of the belief systems of your target audience (i.e., through audience analysis).

### Step 3. Setting and characters

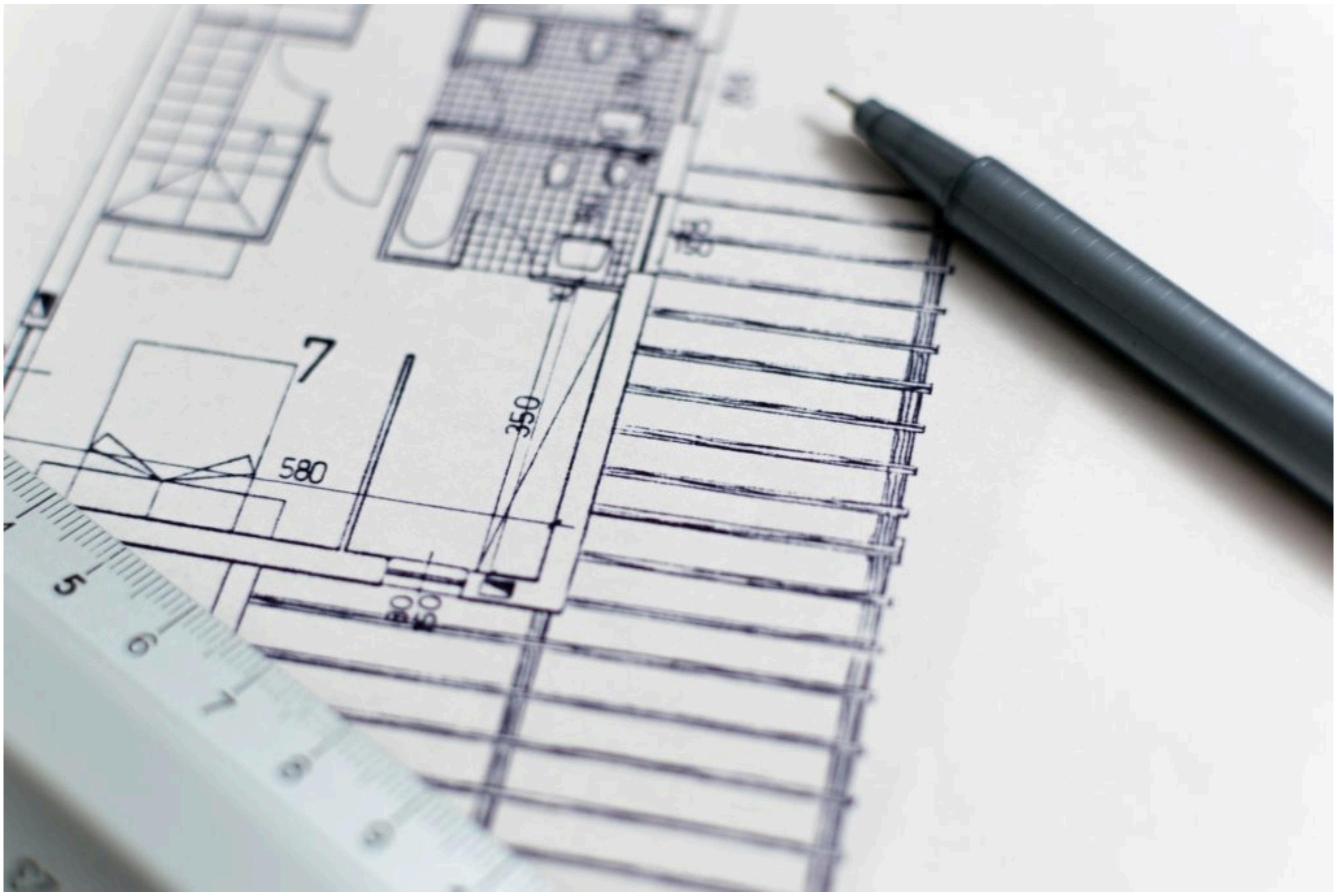
After determining the mission and audience, it’s time to set the scene (i.e., where and when the story takes place and the relevant information contextualizing the issue) and the characters (i.e., who’s story will you tell?). For both setting and character consider whether these aspects of your narrative will also be congruent with your audience’s perceptions (i.e., will your “hero” resonate? Or might an audience view this character differently?).

### Step 4. Build the plot

To build the plot of the narrative, consider the issue that you are trying to solve. Using the scientific evidence relevant to the narrative, identify the “problem” and provide context of the “cause” of the problem as well as how the issue could be solved. Once again, depending on the aims (comprehension vs. persuasion) there may be one or many solutions.

### Step 5. Propose the solution

Finally, propose the solution to the problem you have posed. Just as the plot is built using evidence to contextualize the issue, so too should the solution be backed up with evidence.



*It is important to clearly identify the core components of your story before you start constructing your narrative.*

## Storytelling Frameworks

Some commonly used and effective storytelling frameworks you can implement in your own science communication are:

Supplementary Material

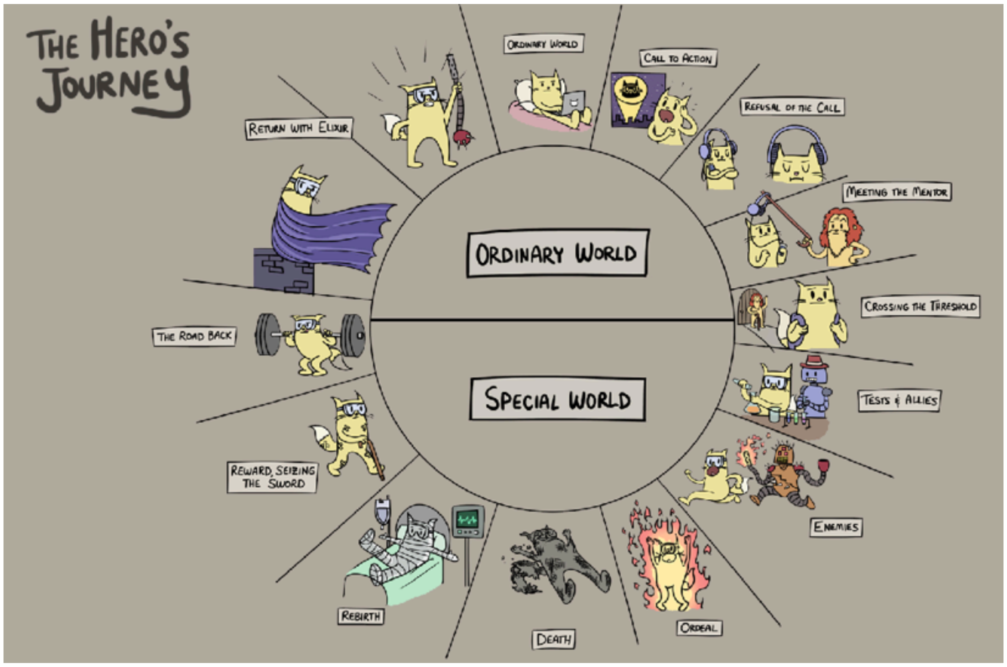
**What Makes a Hero?**

In this concise and impactful TED-Ed talk, Matthew Winker goes step by step through the events that define the hero's journey and explains how this fable

### The Hero's Journey

Based on the work of Joseph Campbell and his study of the monomyth, the Hero's Journey is the central arc common to so many cultural myths (from Beowulf to Harry Potter) and tales across time and space. The Hero's Journey centres around overcoming conflict, and the basic story arc involves: Call to adventure, Assistance, Departure, Trials, Approach, Crisis, Treasure, Result, Return, New life, Resolution, Return to status quo. In science, the conflict can be opposition to science or critiques, developing a new method, addressing a gap in knowledge etc. Using this framework, the scientist may be a hero, but it may also be a patient or subject involved in the science.

is applicable to almost any human experience.


THE HERO'S JOURNEY
ORDINARY WORLD
SPECIAL WORLD
ORDINARY WORLD
CALL TO ACTION
REFUSAL OF THE CALL
MEETING THE MENTOR
CROSSING THE THRESHOLD
TESTS & ALLIES
ENEMIES
ORDEAL
DEATH
REBIRTH
REWARD, SEIZING THE SWORD
THE ROAD BACK
RETURN WITH ELIXIR

*The hero's journey alternates between the ordinary world and the special world. You might imagine your own journey as a call to action to study the work you are interested in and the various tasks which must be overcome in order to obtain the final results. Art by Armin Mortazavi.*

## And, But, Therefore

The ABT statement is one of the most fundamental storytelling structures. Similar to the hero's journey, this format centres around conflict: "_______________ and ______________ but, ____________ therefore, _____________". In this format, the narrator sets up the background or context of the story ('and'), introduces conflict or an issue ('but'), and resolves that issue ('therefore'). The nature of cause-and-effect is also highlighted between the relationship and the conflict ('but') and resolution ('therefore'). Further, this structure moves from "story" to "plot". For example, a story need not contain cause and effect; its structure may simply follow "________ and _________ and __________ and…" whereas by including a causal link ("but, therefore"), the story incorporates a plot which in turn improves meaning (Martinex-Conde and Maknik, 2017).

## Save the cat

A catchy way of describing part of Hollywood screenwriting's narrative arc, from Blake Snyder's books of the same name. The save-the-cat scene happens early in the film and establishes a bond between viewer and protagonist that paints the protagonist as the hero of the story. This brief video gives some examples of "saving the cat" in film.

### News values

Media outlets use a number of additional techniques to improve audience engagement and content resonance. To further target your communication to non-expert audiences, consider leveraging these values which include: novelty, geographic or cultural proximity to the audience, personal relevance, and timeliness (i.e., when developing your message remember to draft with your key audience in mind).

## Takeaways

**Takeaway Tweet**

"'If there's a fire, I'm dead' – Verna Marzo's story confronts poor building design that limit accessibility and put lives of people with disabilities at risk. #Personalnarratives help others understand a message and stick with us."

– Laura Chow

Key Takeaways

- Narrative stories are one of the fundamental ways humans communicate and learn about the world around them.
- While they can be a useful tool for science communication, it is important to understand the ethics of applying narrative to this type of task.
- Having a clear vision of the storytelling essentials and frameworks is vital before you begin

building a narrative.

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# 2.6 Style vs. Substance

Learning Objectives

- To discuss what communication 'style' is, and how different elements of style can either help or hinder your communication.
- To provide examples of how communication style was beneficial for or detrimental to a communication.

When you are having a conversation with someone or listening to them speak, how much do elements like their tone of voice and body language impact your level of interest as well as your interpretation of what they are saying? A lot! This holds true for science communication. Specifically, there are two key elements to your message: the substance (i.e., the objective components that we have discussed thus far) and the style. Style is the subjective component of the message. It is the one most often ignored by communicators, but it can be more important than substance when it comes to engaging an audience. Below we look into some elements that you can use to develop the style aspect of your messaging.

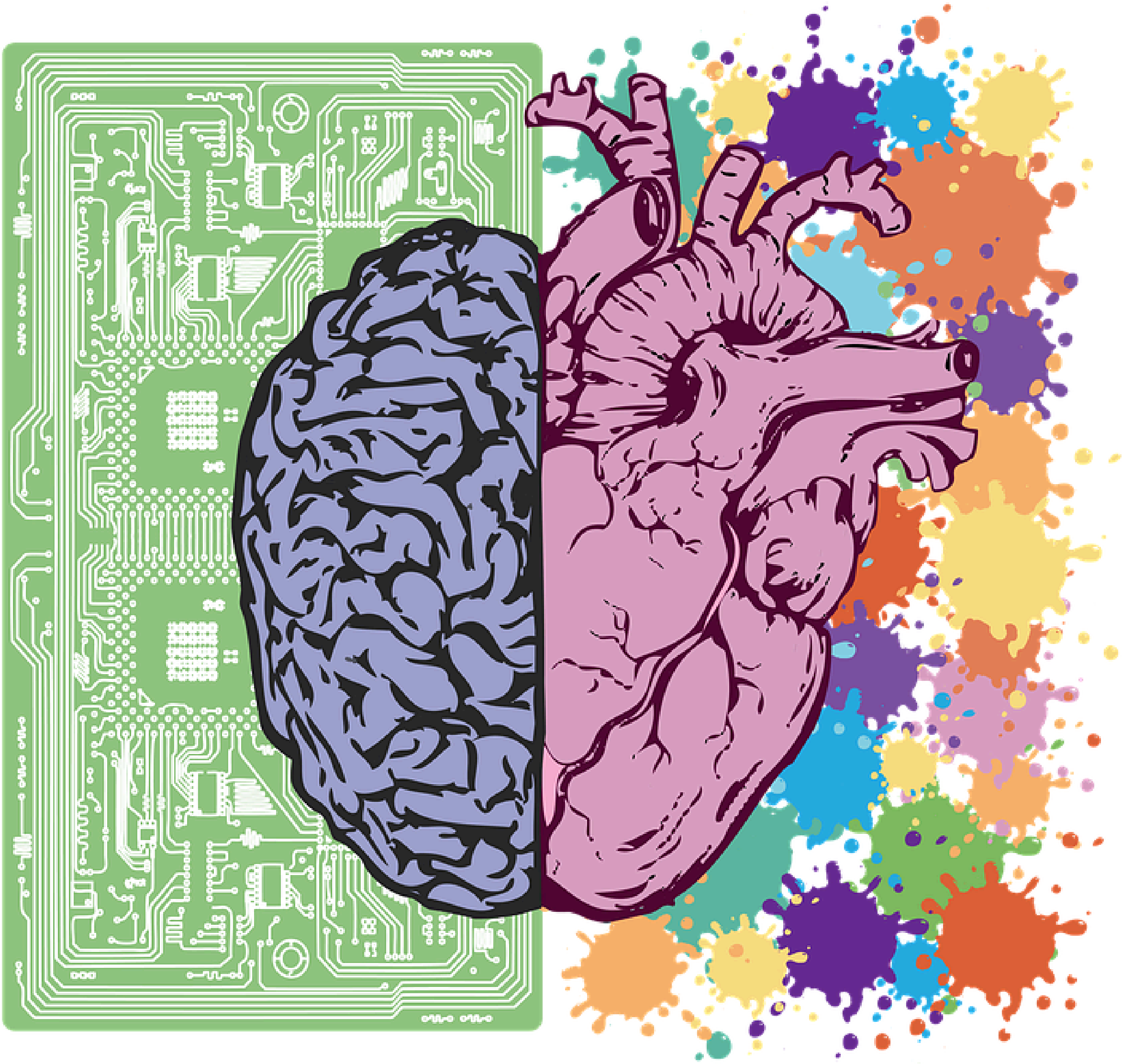
## Harnessing the power of emotion

If you are smart about building emotion into your message you will significantly increase your reach and impact. Randy Olson (scientist turned filmmaker) is the guru in this area. We particularly like his "Four Organs Theory" for mass communication. In a nutshell, he says that there are four 'organs' in the human body that can 'receive' messaging and each is receptive to a different type of message. The brain responds to facts and knowledge, the heart responds to sincerity, drama and passion, the gut responds to humour, and the 'lower organs' (you know what they are!) respond to sex appeal. Olson argues that as you move away from the head and towards the 'lower' organs you are able to reach more and more people. That being said, you do need to match the emotion to the content, otherwise your message will fall flat or backfire.

Example

**Effective uses of emotion**

The BC SPCA's advertising campaign featuring Sarah McLachlan is one of the best uses of heart-focused messaging out there. While use of humor can be effective as in the British Airways safety video or this Got Milk ad.



*Effective messaging will harness emotions, and can often balance between facts and feeling.*

## Spontaneity

This is a word that is feared by most scientists engaged in communication. This is because spontaneity is usually associated with unpredictability and a lack of control. However, this lack of predictability is exactly why spontaneous events, gestures, and speech are so appealing to humans! Society's thirst for spontaneity is evidenced by the rise in everything from reality television to social media — our collective obsession with Donald Trump's spontaneous Twitter rants being a prime example.

That being said, Donald Trump is probably the posterchild for spontaneity gone wrong. So how do you get it right? There are a couple of tools that you can add to your tool belt:

### Shift your focus

If you are focused on making yourself look good then there is no room for you to be spontaneous. Instead, you need to focus outward — on moving the message forward. How you do this will vary depending on the context. For example, if you are doing an interview or responding to a question from a stakeholder, avoid saying or doing things that will shut down the conversation or make the other person look bad. Instead, try to find a creative way to connect what they are saying to your message. It can often be a matter of just finding a word or phrase (a 'pearl') that you can use to keep the conversation flowing.

***'Audiences don't want to see you act – running through preprogrammed performances that are identical. They want to see you react — taking in what I said to you by other actors and listening to their words — and showing the audiences how they affect you.' – Randy Olson***

### Internalize your message

Know your message so well that it is just a part of you. If you are having to think too much about what you are going to say you will not be able to be spontaneous. Knowing your core message is what is important — not knowing all the details or facts. Once you trust that you own your message, you need to give yourself permission to 'go with the flow' of the medium in which you are communicating. Even if you are not 100% factually correct, people will still 'get it'.

### Be present

Spontaneity is usually a reaction to some external stimulus — a stimulus that you need to be receptive to. For example, if you are giving a media interview, you need to really listen to the questions being asked and not spend that time rehearsing lines in your head. Reacting is engaging, acting is fake and annoying.

## Don't be so literal minded — Randy Olson

This is another element of style that Randy Olson really has down pat. He has identified that there is a spectrum of messaging styles 'from boringly blunt to incomprehensively elusive.' Scientists tend towards the former (just pound people with the facts) while we personally feel that modern art exemplifies the latter (is there anyone who knows what Damien Hirst is trying to tell us). Advertisers, on the other hand, are in the business of finding the perfect balance.

Basically, you need to think about developing a style that will catch and hold people's attention — something that is hard to do on either end of the spectrum.

Example

**The Clio Awards**

If you want to see some great examples of non-literal messaging, look at the recipients of the 2019 Clio awards for outstanding advertising. Just think about how the impact of those ads would have changed if they had simply described their products. Sure, they probably could have added more information using a more literal style, but I think you can agree that they got their point across.

Discussion

**Arouse and Fulfill – Randy Olson**

This is a great mantra for life in general, but one that particularly comes in handy when it comes to communication. (It is also called 'motivate then educate' but that is not as catchy.) Basically, it is one way to combine style and substance to get your message across. You start your communication with something interesting, flashy, funny, entertaining, emotional, etc. that will catch your audience's attention and then you fulfill or satisfy their interest with the substance. This can be done within a communication (i.e., by starting off a written communication with a compelling anecdote) or by combining communications (i.e., a promotional film that directs people to an educational website).

## Likability

Example

Can you think of someone that really, really grates on you? Maybe it is a relative, a co-worker, a TV personality, or a politician. Now imagine they tell you something like "You should really be taking this multivitamin". What would you be thinking and feeling? Now imaging that your best friend or spouse says the same thing, would your reaction be different? Probably.

This is all about likability. If people don't like you they probably will not listen to you. The good news is that you can learn to be likable, because most of the major predictors of likability are behavioural.

Here are some tips and tricks:

**White Coat Black Art…of liability?**

We find CBC's house doctor, Dr. Peter Lin to be so, so, so likable and we think it is because he manages to be an expert without being condescending. Google him and listen to some of the clips of him on the radio.

### Don't be condescending

If your verbal or non-verbal communication comes across as arrogant in any way, then that is going to be a huge turn off. This might seem obvious but it can be very tricky to balance conveying your expertise without acting like you're superior to your audience.

### Don't take the bait

I often tell my 5-year-old 'The only person that you can control is yourself'. And the ability to exhibit self-control is a highly likable trait. You will undoubtedly encounter detractors during your career and your impulse will be to attack them using your preferred weapons of verbal destruction — sarcasm, anger, defensiveness, whatever. Whatever you feel like doing in the heat of the moment, you should probably do the opposite. Can you make a joke? Can you exhibit empathy to their point of view? If you can completely change the tone of the interchange then you will come off as very likeable…maybe even to your opponent.

### Check your negativity at the door

Let's face it, science education is essentially systematic training in negativity. This perspective is rooted the moment we learn about hypothesis testing (i.e., your sole goal in life is to systematically falsify and reject a never ending series of null hypotheses). Negativity works very well for the scientific process but can be very unlikable in the realm of communication. For your audience, a good rant can be engaging, but it is sort of like a big cupcake with lot of icing —

they might enjoy the decadent, guilty pleasure of the first one, but being forced to consume them over and over again will probably result in nausea and vomiting. This does not mean that you should abandon the critical side of your nature. Too much positivity can also be annoying. Rather, it means that, where possible, you should try to weave positivity into your message. It is a strong motivator for people to do something. Additionally, creating a balance between the positive and the negative can provide texture and interest to a communication.

> ***'You meet scientists who have lost control of this negating approach to the world and seem to sit and stew in their overly critical festering juices of negativity, which can reduce down to a thick, gooey paste of cynicism.' – Randy Olson***

Example

**Think about the impact behind the tone of these two statements regarding vaccine hesitancy:**

"There are people out there who are worried about vaccine safety. These fears are a result of propaganda and misinformation stemming from a fraudulent study. This is resulting in decreased vaccination rates that make children vulnerable to potentially life-threatening diseases. It is difficult to believe that Canadians would choose to not vaccinate their children when there are so many kids who are dying overseas because their parents are not able to access vaccines."

"There are people out there who are worried about vaccine safety. This is completely understandable. All parents want to keep their kids safe. The good news is that all the scientific evidence shows that vaccines are very, very safe and very, very good at protecting children from a number of diseases. The better news is that all Canadian children have free access to vaccines, so vaccination is something that all Canadian parents can do to protect their children."

### Talk less and listen more

When you think about the mythologic gurus who people seek out to gain some profound knowledge — are they the types to run off at the mouth? No way! Think of Yoda or Gandalf. They sit there in silence deeply absorbing all the information from the world around them and then, after a loaded pause they come up with some profound and extremely concise comment that provides enlightenment. When Yoda talks, people listen. There must be something to this, otherwise how could a diminutive green humanoid with dopey ears and bizarre sentence structure become a paragon of wisdom in our collective social consciousness?

### Find your own voice

Scientists are trained to write in a very sterile, cerebral, and impersonal manner. But this style is intensely unlikeable outside of scientific journals (and often in science journals as well). Humans connect to other humans and the good news is that, even though you are a scientist, you are, in fact, also a human. You need to find a way to bring personality and humanity into your communication, but do this in a way that is comfortable and authentic to you.

## Takeaways

**Takeaway Tweet**

"It is hard to communicate from the Academic Ivory Tower. Want to climb back down? Here are a few tips: do not be condescending (use less jargon), highlight the positive (use tone), and let your personality shine (use humour). #LeaveTheIvoryTower #riskcom"

– Nilou Ghaseminejad-Tafreshi

Key Takeaways

- Communication style will determine how people receive your message, for that reason your communications plan cannot rely on substance alone.
- Good and effective communication style requires you to forgo some of the stodgy and sterile characteristics that make for good science. Things like spontaneity and likeability go a long way.

Media Attributions

- Fig 2.4.1 Emotions © Unknown is licensed under a Public Domain license

# 2.7 Principles of Message Development

Learning Objectives

- To be able to identify and discuss principles that can aid in the development of effective science and risk communication messages.

This section of the textbook is largely focused on different theories that can be used to develop science and risk communication messages. Regardless of the theory or theories that you will be using to develop your messages, there are several important principles that you must keep in mind to make sure that those messages are effective.

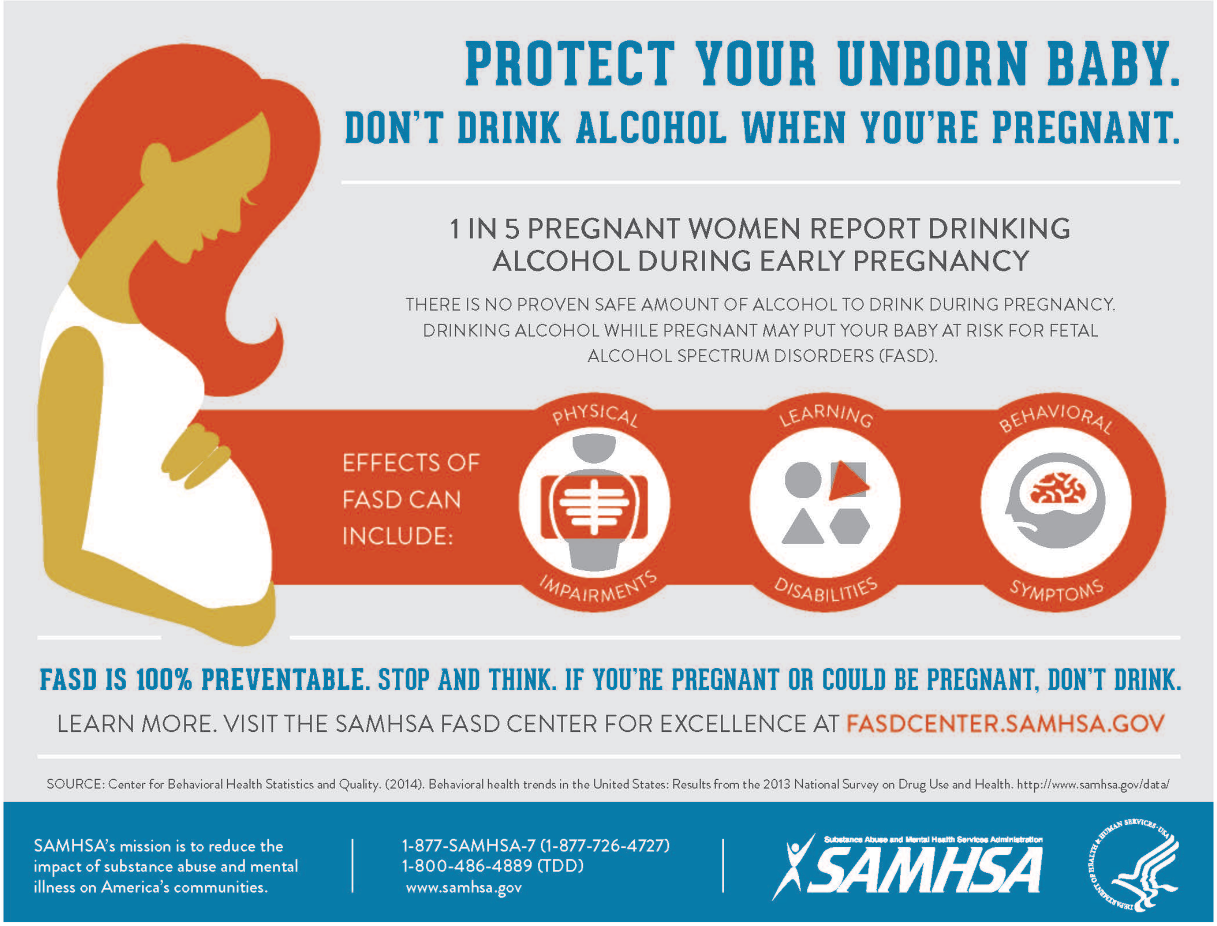
## Speak in a language your audience understands

Remember that most people's formal science education ends in high school. This does not mean that your audience is stupid, it simply means that your job as the communicator is to translate information in a way that is accessible to and engaging for your audience. To do this you must design messages that speak to the head *and* the heart. Regarding the 'head', your message (language, numbers, comparisons, etc.) should be one that your audience can actually understand. Regarding the 'heart', the message should also be one that resonates with the audience. This might mean using colloquialisms, imagery, and cultural references that have personal meaning for the people that you are speaking to.

## Simplify your message but not its content

It is essential to parse out the 'need to know' from the 'nice to know'. Your core message should contain exactly what your audience requires in order for them to act in manner that is consistent with your communication objectives — no more and no less. This means that you must be brutal about removing any superfluous information, which can be challenging because, as scientists, we like to provide a lot of background, technical detail, and caveats. However, if this detail is not essential to understanding your core message, you should be wary of including it in any core communication products. That being said, you must still provide content that is specific enough to make sure the message is meaningful. Avoid subjective messages like “Your risk is significant!” or “Your risk is negligible!” Instead, use concrete numbers, comparisons (see below), and other tools to explain your meaning.

Example



PROTECT YOUR UNBORN BABY.

DON’T DRINK ALCOHOL WHEN YOU’RE PREGNANT.

1 IN 5 PREGNANT WOMEN REPORT DRINKING ALCOHOL DURING EARLY PREGNANCY

THERE IS NO PROVEN SAFE AMOUNT OF ALCOHOL TO DRINK DURING PREGNANCY. DRINKING ALCOHOL WHILE PREGNANT MAY PUT YOUR BABY AT RISK FOR FETAL ALCOHOL SPECTRUM DISORDERS (FASD).

EFFECTS OF FASD CAN INCLUDE:

PHYSICAL IMPAIRMENTS

LEARNING DISABILITIES

BEHAVIORAL SYMPTOMS

FASD IS 100% PREVENTABLE. STOP AND THINK. IF YOU’RE PREGNANT OR COULD BE PREGNANT, DON’T DRINK.

LEARN MORE. VISIT THE SAMHSA FASD CENTER FOR EXCELLENCE AT FASDCENTER.SAMHSA.GOV

SOURCE: Center for Behavioral Health Statistics and Quality. (2014). Behavioral health trends in the United States: Results from the 2013 National Survey on Drug Use and Health. http://www.samhsa.gov/data/

SAMHSA’s mission is to reduce the impact of substance abuse and mental illness on America’s communities.

1-877-SAMHSA-7 (1-877-726-4727)
1-800-486-4889 (TDD)
www.samhsa.gov

Substance Abuse and Mental Health Services Administration
SAMHSA

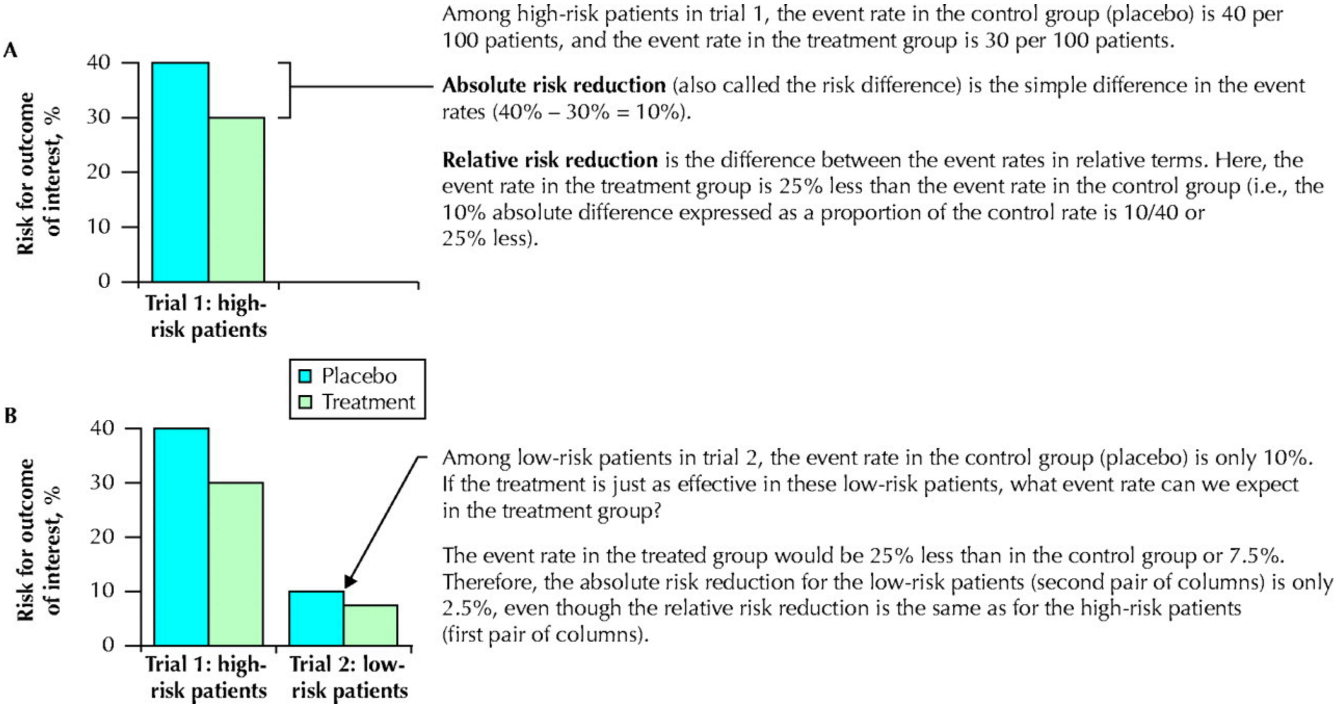
This message regarding Fetal Alcohol Spectrum Disorder does a good job of speaking to the head and the heart and in simplifying the message but not the content.

## Compare (with caution)

People often rely upon metaphor and analogy to understand the world around them. For this reason, a good comparison can really help people to understand their risk. You could do this through analogy (e.g., “Vaccines contain formaldehyde but formaldehyde is naturally occurring in the human body and helps with metabolism. There is approximately 10 times the amount of formaldehyde in a baby’s body at any one time than there is in a vaccine.”) or through comparing to a standard (e.g., “The level of a pesticide is above or below the standard set by Health Canada.”). You can also use comparisons among individuals (i.e., a person with certain demographic or lifestyle characteristics is more or less as at risk than one without). However, comparisons can also backfire and generate outrage (as was discussed in the Hazard x Outrage section). For example, if there is disagreement about the standard (e.g., for the pesticide glyphosate, for which the standards are different in the US, Europe, and Canada), if your comparison appears to trivialize the risk (i.e., the risk of birth defect X is approximately equivalent to one piece of toilet paper in a role that stretches from Vancouver to Toronto), or if your audience views the two things you are comparing as completely different (i.e., if exposure to some chemical has the same likelihood of causing death as getting into a car crash, your audience may view any exposure to that chemical as being unacceptable even if they are a regular driver).

## Accurately and meaningfully convey numeric estimates of risk

Quantitative risk messages are particularly difficult to convey because, in general, the level of audience scientific numeracy is even less than the level of scientific literacy. If you are going to present the risk in numbers you must first determine whether you will be present relative or absolute risk. The following figure from Barratt A et al. CMAJ 2004;171:353-358 demonstrates the difference between absolute and relative risk using the results of hypothetical placebo-controlled trials of a new drug for acute myocardial infarction.



Among high-risk patients in trial 1, the event rate in the control group (placebo) is 40 per 100 patients, and the event rate in the treatment group is 30 per 100 patients.

**Absolute risk reduction** (also called the risk difference) is the simple difference in the event rates (40% – 30% = 10%).

**Relative risk reduction** is the difference between the event rates in relative terms. Here, the event rate in the treatment group is 25% less than the event rate in the control group (i.e., the 10% absolute difference expressed as a proportion of the control rate is 10/40 or 25% less).

Among low-risk patients in trial 2, the event rate in the control group (placebo) is only 10%. If the treatment is just as effective in these low-risk patients, what event rate can we expect in the treatment group?

The event rate in the treated group would be 25% less than in the control group or 7.5%. Therefore, the absolute risk reduction for the low-risk patients (second pair of columns) is only 2.5%, even though the relative risk reduction is the same as for the high-risk patients (first pair of columns).

The **relative risk** can be applied across all groups (the relative risk reduction is 25% in both trial 1 and trial 2) while **absolute risk** is a function of the event frequency and will vary across populations. When someone tells you statins lower the risk of heart attack by 25% your first thought shouldn't be "Give me statins now!", it should be "What's my risk of a heart attack in the first place?" If you're in a high-risk group like in trial 1, where you have a 40% risk of heart attack, a 25% reduction in relative risk translates into a 10% reduction in absolute risk (and an overall absolute risk of 30%). If you're in the low-risk group, that 25% reduction in relative risk only lowers the absolute risk of heart attack from 10% to 7.5%. If statins have a side effect that may cause you trouble, this may not be enough of a reduction to pique your interest in the drug.

When talking about risk, avoid using the word "chance" and avoid using percentages — use populations or possible futures and natural frequencies. For example, "Ten out of 100 people like you will experience a heart attack or stroke within ten years without statins, reduced to seven in 100 with statins" — this is an example of populations, or "Of 100 possible outcomes for you, 10 will involve experiencing a heart attack or stroke in 10 years without statins, which is reduced to seven out of 100 with statins" — this is an example of possible futures.

When using natural frequencies and population figures, be mindful of ratio bias — big numbers make risk more dramatic, e.g. people that are told they have a ten in 100 chance of developing cancer consider themselves more at risk than people told they have a one in ten chance.

Positive and negative framing and the order data is presented in are critical too. Imagine patients being told the following:

- Of 100 people having surgery for lung cancer, 10 will die during treatment, 32 will have died by one year, and 66 will have died by five years. Of 100 people having radiation therapy, none will die during treatment, 23 will die by one year, and 78 will die by five years.
- Of 100 people having surgery, 90 will survive treatment, 68 will be alive at one year, and 34 will be alive at five years. Of 100 people having radiation therapy, all will survive treatment, 77 will be alive at one year, and 22 will be alive at five years.

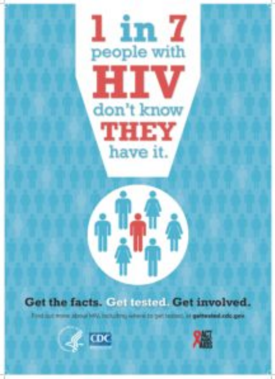
Patients hearing the first — which is negative in tone — will fixate on the "none will die" positive statement and roll with that, even though that treatment ultimately has a worse 5-year survival. Patients hearing the second will likely latch on to the first big positive statement "90 will survive"

## Put people to work

Example

Wherever possible, give people something that they can do. Even if they choose not to do it, it will provide a sense of empowerment and an outlet for pent-up frustration and outrage. The caveat to this is that it should be something that is reasonably achievable. For example, don't make a suggestion that is prohibitively expensive, geographically unachievable, etc. This principle also aligns with our mantra 'Where there's a way, there's a will'. If you have not yet identified a course of action, you should put some serious thought into whether you should even be communicating about the issue.

This CDC poster does a good job of presenting numeric risk and giving the audience something to do.



## Keep everything consistent

There are two aspects of consistency: internal consistency and external consistency. Internal consistency means that all aspects of your message (intent, informational content, language, etc.) are consistent with one another, as well as being consistent with your mission. External consistency means that your core message remains the same across time, space, and media platform. In other words, think about internal consistency when you are developing your message and external consistency when you are delivering it.

## Use repetition wisely

There is an overwhelming body of literature supporting the fact that repetition is critical to help us understand, learn, and remember. Repetition is particularly important where messages are complex, in crisis situations, where messages are conveyed orally (and therefore the audience cannot revisit the message independently), and where the communicator wants to emphasize a specific aspect of the message. However, repetition should not be used as a substitute for a well-developed message. Repetition that is poorly employed can come across as patronizing, incompetent, or obstructive. Most of the barriers that prevent people from listening to or acting on your message will not be addressed by simply repeating the message over and over.

Example

"We shall go on to the end. We shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our island, whatever the cost may be. We shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender." – Winston Churchill

The repeated use of 'We shall fight' in this classic speech was effectively used to emphasize the unity and unwavering determination of the entire UK citizenry during WWII.

Conversely, another Brit, the former leader of the Labour party, Ed Milliband, botched this BBC interview by repeating the same statement over and over rather than answering the interviewer's questions.

*A YouTube element has been excluded from this version of the text. You can view it online here: [https://pressbooks.bccampus.ca/missionmessagemedium/?p=52](https://pressbooks.bccampus.ca/missionmessagemedium/?p=52)*

## Takeaways

### Key Takeaways

There are several principles that are important for developing efficient and effective science and risk messages. These include:

- Creating messages that your audience understands and that resonate with them.
- Simplifying your message without being vague or overly subjective.
- Use comparisons (e.g., metaphor and analogy) to help your audience understand the message.
- Accurately, clearly, and meaningfully convey numeric estimates of risk.
- Ensure that all aspects of your message are consistent with one another and that it is presented consistently.

- Where possible, provide your audience with ways that they can take action.
- Effectively use repetition to aid in audience understanding and learning.

### Media Attributions

- hiv-testing-1-in-7-poster-printready-page-001 © CDC

# Part 3: The Medium

Once you know what you want to say, you need to figure out how to say it. This is the fun part because the possibilities for message delivery are almost endless, both in terms of what medium you will use and how you will use it. This section of the book discusses a variety of different formats and platforms for messaging and how to use them efficiently and effectively.

When selecting a medium and designing your communication, you must always keep your unique Mission and Message at the front of your mind. Specifically, you must deliver your message in a way that maximizes the chance of reaching your target audience and of achieving your intended purpose. This is really where the ‘art’ of science and risk communication comes in.

While the following section will cover a number of theories and best practices around the different media, it is ultimately up to you combine this information with your own knowledge, experience, and style in order to craft and deliver a final product.

# 3.0 Accessibility

Learning Objectives

- To explain the importance and value of accessibility in risk communication.
- To discuss various ways to make your message accessible to more than one audience or demographic.

Before we dive into the various media, let's talk about accessibility of the materials you create! Accessibility refers to the ability to access information, services, or products. It serves to acknowledge and include identities or disabilities that have been previously marginalized, to promote equality in accessing information. To make your message accessible, incorporate it into the design from the beginning. Be open and considerate with your medium, how you should deliver it, and to whom you would like to communicate to (i.e., the target audience).

There are numerous techniques to make your message and designated medium more accessible and inclusive. Below are some suggestions which can be readily incorporated into communications materials. This list is not exhaustive, and you will add techniques and strategies to this list as you gain more experience with various mediums of communication.

**Visual accessibility:**

Many communications materials are visual, and these can present challenges for those with visual disabilities. For example, materials that use images might exclude people who use screen readers, as these programs are not able to describe images without text-based descriptors. Text size and colour are also important considerations. To improve visual accessibility, try to:

– include alternative text in social media posts or online materials to describe images

– design materials with large, legible typeface (e.g., choose Helvetica over Papyrus fonts)

– use thick lines and large symbols in graphs and images

– be aware of how colors may vary for colour-blind individuals – use colour-blind friendly pallets like this one!

**Audio accessibility:**

To share messages quickly and broadly, communications campaigns will often use audio platforms such as radio and podcasts to reach the public, as well as television and videos on platforms such as YouTube. To increase accessibility of these materials for those with difficulty hearing, try to:

- use closed-captioning of videos – YouTube does a pretty good job of creating automated captions which can be checked and corrected within 24 hours of uploading a video. Social media platforms such as Instagram and Zoom now offer closed-captioning options as well.
- provide transcripts of audio conversations or podcasts – programs such as Otter.ai can be used to help in the transcription process
- invest in quality audio equipment to improve audio clarity.
- use applications or software with voice-activated capabilities.

**Content accessibility:**

One of the most general ways to improve accessibility overall is to ensure that the language we use is clear and concise. To improve accessibility of content, try to:

- provide brief summaries or abstracts of scientific papers or dense scientific material.
- write using plain language to decrease technical language – to assess the amount of technical language in a written piece, you can paste it to this "Dejargonizer" and use it as a tool to rewrite in clearer language.

Examples

ASTRAZENECA
VACCINE &
VERY RARE
CLOTS
Balancing risks

*A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.bccampus.ca/missionmessagemedium/?p=2352*

For an example of how closed captioning can be used in video communications, check out this video about "AstraZeneca COVID Vaccine & Thrombosis: Balancing Risks" by Dr. Samantha Yammine (a.k.a. Science Sam). This video was created early on in Canada's vaccination campaign, and while the communications around COVID vaccination risk and efficacy continues to change, this video and the caption underneath it are fantastic examples of providing clear, concise information in accessible language. The video also demonstrates how these kinds of concepts and concerns can be shared with compassion for audience concerns and hesitancy.

**How can you work towards more accessible communications?**

While designing your medium, developing your message, and determining the mission of your work, it is essential at every step to reflect on your positionality. Is your communication easily interpreted by only you or your colleagues? If so, how can this be changed? Be critical of your work, but be open to constructive feedback and active learning throughout the process.

Awareness of accessibility necessarily requires that you understand your audience and their needs. When in doubt: ask! Ask audience members what would help improve the accessibility of materials. This can be done through polling on social media, surveys, and targeted interviews. Audience needs can also be accessed through social media analytics and data, observing trends, interactions, and engagement. Identifying your target audience leads to more effective communication and authentic connections in your network.

## Takeaways

Key Takeaways

- A strong communication will aim for relevance, engagement, and accessibility of the materials.
- Consider the diversity of audiences that may interact with your work, and incorporate accessible elements into communications materials to reach more audience members.

# 3.1 Do You 'Like' It?

Learning Objectives

- To differentiate among core social media platforms and articulate their value in a risk communication campaign.
- To create social media content to communicate an issue of your choosing.
- To revise a social media communication approach based on different target audiences

Social media isn't just for sharing pictures of cats or food. It can also be a very powerful tool for risk communication. This is because it speaks to two of the big social influences: *social proof*, which describes how people tend to conform and do what other people are doing; and *liking*, which describes how people are easily persuaded by people that they like. Using social media appropriately also builds trust and loyalty for an agency/organization.

In 2018, an estimated 68% of Americans obtained their news through social media, highlighting the extent to which social media is used to inform the world around us. As such, social media platforms can provide important exposure for risk communication campaigns. Building exposure is necessary to effect behavioural change and can reach people before they have formed a strong opinion on an issue. Social media also facilitate risk communication because they can be targeted to very specific audiences through the use of hashtags and followers. Further, social media campaigns engage the audience through content sharing, which then promotes the rapid flow of information. While there are a number of popular social media platforms, each has a unique format, which means your communication style and content will need to be adapted for each platform.

*Mobile phones make social media platforms readily available for users.*

## Comparing Facebook, Instagram and Twitter

### Facebook

Facebook has the largest potential audience for any message—the site receives over 2.4 billion active users each month, each spending an average of 35 minutes per day. More importantly, 43% of users report that they get their news from Facebook, making Facebook posts a key source of information for many people around the world. Facebook targets all age demographics, and also reaches audiences with limited educational attainment (60% of people in the US without college degrees use Facebook) and those in lower income brackets (66% of people in the US who make less than $30,000 USD/year use Facebook) than other platforms. And while Facebook reaches the largest potential audience, an effective risk communication campaign will have to play the algorithms! Most of the people who see a post will be those already engaged with your account. Engagement rates can improve if you include media (i.e., photos, links, etc) and include catchy text in the first 250 characters (which is all anyone will see when they are scrolling through their Facebook feed unless they click the post). To maximize your reach, consider posting during usage peaks (midweek between 1 – 3pm).

### Twitter

Twitter differs from the other platforms because each post, or “tweet,” is restricted to 280 characters or fewer. You can get around this restriction on characters by tweeting threads of tweets, but if you scroll through Twitter you will quickly see that most often the first tweet in a thread gets the most engagement, with the number of “likes” and “retweets” decreasing with each passing thread. Because of this, it is important to make the first tweet succinct, and as informative and engaging as possible. Twitter also has a large user base with over 125 million daily active users, although the demographic is primarily young adults (40% of people aged 18 – 29 in the US report using Twitter), and users are more likely to have a college education (32% of users reported as attending college vs 13% who didn't). As compared to Facebook, Twitter tends to also have a greater proportion of users who identify in higher earning brackets (75K USD or more per year). Therefore, it is always important to consider the users of a platform when determining whether this platform will reach your target audience. Twitter is a great platform for messaging the public as tweets can quickly become "viral" or "trending", and can easily be used to share your message with other groups and journalists who can in turn amplify your message through re-tweeting. Additionally, when using Twitter, be wary when using abbreviations or jargon. While some are helpful to keep a message succinct and under the strict character limit (e.g. writing info instead of information), too many will confound your audience. Finally, unlike Facebook, Twitter posts have a short lifespan meaning that frequent posting is key to having a message reach its audience.

### Instagram

The main draw of Instagram is its use of photo and video sharing, making it the ideal platform for highly visual messages. Instagram stories can also be used to livestream video and respond to audience questions in real time. With one billion monthly active users and 500 million daily users, it is one of the most rapidly growing platforms. Its audience is considerably younger than other platforms (over 50% of users are between 18-29 years old), and tends to have some college education. When using Instagram for your communication campaign, consider posting at the end of a workday (approximately 5pm) and in the early morning before work.

This article provides a helpful summary of the pros and cons of using the most popular social media platforms. It is worth noting that preferences for platforms are constantly changing so a thoughtful social media strategy must maintain awareness of preferred tools for communication. Further, campaigns must be sustained, as it takes months to years in order for messaging to effect change.

*New and exciting social media tools are emerging each day. Many offer opportunities to reach audiences all around the world.*

## Leveraging social media in public health risk communication

In a risk communication campaign, social media can be used to:

- Rapidly and continually capture public mood, sentiment and knowledge about health issues (e.g. using hashtags to collect information on views and misconceptions)
- Amplify messages quickly and cheaply (although each platform has its own etiquette for how often posts can be made)
- Tailor messages to target audiences based on the platform chosen
- Engage the public in a conversation about health promotion and health protection
- Build confidence or even goodwill in an organization through friendly, trustworthy messaging
- Detect and counter misinformation
- Equip the public with knowledge to make encounters with the health care system more efficient
- Facilitate networking among affected people
- Conduct epidemiological surveillance

While there is still relatively little known about how social media campaigns effect change in public health, in 2015, Freeman and colleagues conducted a series of case studies to apply insights from corporate market to public health communications. The study concluded by identifying the following key lessons:

- Use traditional media to drive people to social platforms and vice-versa
- Use simple, familiar tools like photo-tagging and retweeting while avoiding messaging that requires audience registration and/or personal details
- Partner with groups who already have a strong social media presence and build relationships between campaigns
- Have engaging content with a clear call to action
- Offer personal benefits to participants, regardless of whether it is a big prize or a small thank-you
- Continuously promote your campaign, including through use of “seeders” who use their personal networks to amplify the campaign
- Be aware that social media is low-cost but high on personnel and time inputs
- Be timely and responsive, which can be difficult in certain organizations

## Revisiting the three M’s: Universal guidelines for communication via social media

### Consider your Mission

1. Purpose: Are you trying to raise awareness, change behaviours or attitudes? What type of emotion are you trying to elicit (curiosity, motivation etc.?)
2. Audience: Who do you want to see the information that you are sharing? The audience will determine the channels where you post, the language and hashtags that you use, the imagery that you share.
3. Evaluation: How will you evaluate if you have achieved your goals? You might track engagement on media platforms, increased traffic on a website, increased attendance at events etc.

### Consider your Message

1. Content: What specific information are you trying to share, and does that content require any of the considerations we have discussed so far (i.e., the Hazard X Outrage framework)
2. Narrative: How can you create a narrative from this information? ABT statements can be excellent for drafting a concise message for social media. Alternatively, posts can also be a part of a larger narrative of a series of posts.
3. Style: What will your style be? Style comes across in images and language used.

### Consider the Medium

1. Platform: What platform will allow you to reach your audience? Perhaps it is through Twitter, Instagram, Facebook, TikTok, or some new platform that will have been created since the time of writing this.
2. Timing: When will you post? How frequently will you post?
3. Reach: The platform type you choose will also determine your reach. Consider whether you can leverage tools within the platform (i.e., hashtags) or partnerships (i.e., sharing content through other organizations) to increase engagement with your content

For additional resources for using social media in public health, visit the CDC Social Medial Portal or their information on health literacy.

## Takeaways

Key Takeaways

- Social media platforms are an important tool in the risk communication toolbox thanks to their potential for amplifying a message widely, rapidly and cheaply.
- However, your communication style and content should be tailored to what is most suitable to each platform. You should also consider your target audience's preferences in choosing your platform(s).
- When planning a social media campaign, consider the best platform or combination of platforms based on your communication goal and audience and have a plan to track progress and engagement.

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# 3.2 Written Communication Materials

Learning Objectives

- To understand and apply techniques for developing impactful written communication materials.

Written communication materials are often the bread and butter of risk communication. They can take the form of stand-alone pamphlets or fact sheets, but are often best used in combination with other, more dynamic media. For example, a meeting can be concluded with giving handouts to all attendees or a social media campaign can invite people to sign up for a e-newsletter. While bearing in mind previously discussed principles about good communication, also consider the tips below about developing effective written products.

## Consider clarity and accessibility of the writing

### Explicitly state the purpose at the top

The purpose of an information product is often omitted because communicators think it is obvious or that people will find out through reading the document. However, it is respectful to explicitly relay your communication goal to your audience in order to meet and manage their expectations. It can be very annoying for a reader to spend a lot of time digesting a piece of writing only to realize that it has no bearing on questions they would like answered.

### Write to a Grade 8 reading level

Chelsea loves to read Magic Treehouse with her 6 year old and thinks that Mary Pope Osborne provides a masterclass in being able to teach complex topics in a way that is fun and accessible for little kids. If Mary can use her writing to teach Grade 1 students about everything from the history of China, to space travel, to the American Constitution, then you should be able to produce an intelligible fact sheet to relay a single message to your, most likely, adult audience. Many word processing programs provide readability statistics within their spell check functions. In Microsoft Word, the Flesch-Kincaid Grade Level can give you a sense of the reading level of your writing.

If you are preparing materials for public distribution where you expect the readers may not have any expertise or knowledge about the topic, the rule of thumb is to use language that is suitable for the Grade 8 reading level. Not only will this help to reign in unnecessary use of jargon or complex phrases, it means that more people can access your message and are less likely to be confused by the content.

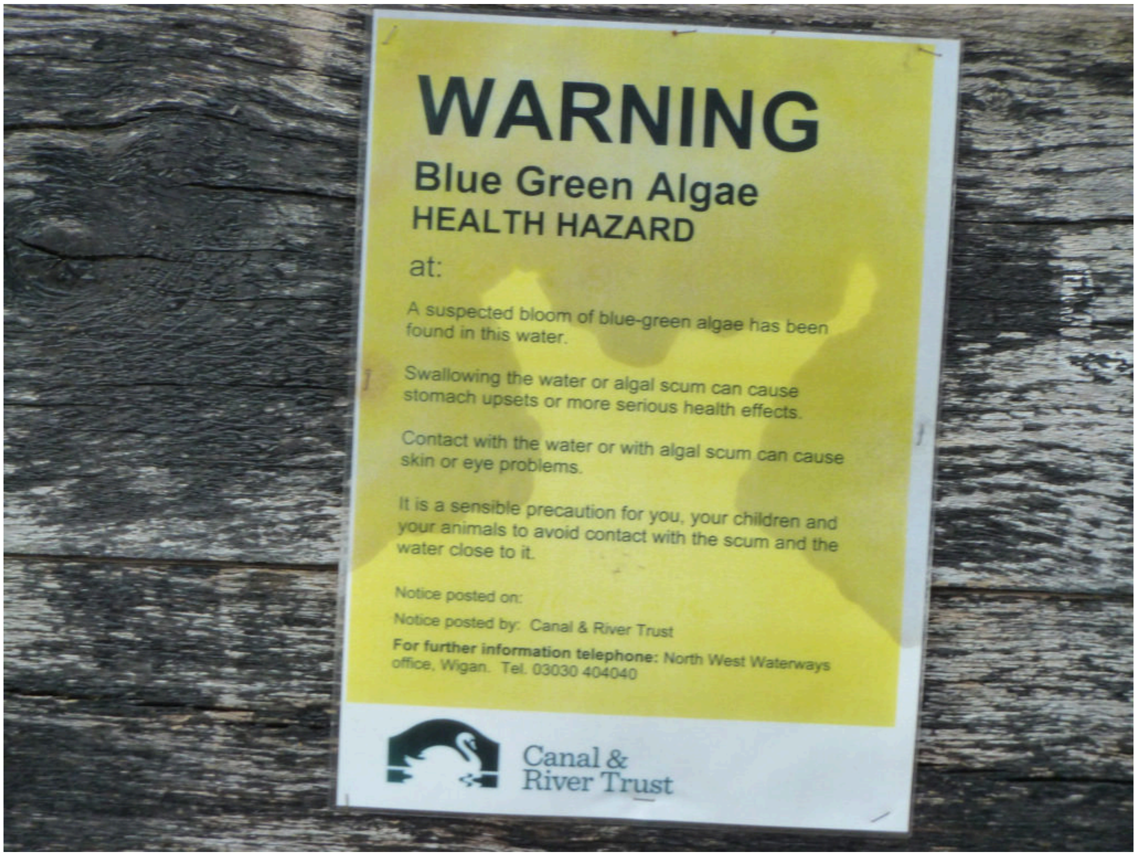
### Use the correct lingo but avoid jargon

Think about specific words or phrases that might be unique to and/or meaningful to your audience. Can you use these words to connect with your audience without coming across like a ‘poser’? Along the same lines, are there words that are sensitive or unacceptable that you should avoid? Or, are there words that have one meaning to you and a different one for your audience? Being clear about who is in your audience can help you determine what type of language you should be using.

When speaking to the public or to non-experts, avoid using overly technical terms. Using jargon impairs people’s ability to process the information. Being an expert in the area you are discussing can make it difficult to break away from the lingo used in that field. As such, it can be helpful to have a non-expert review what you are writing before printing to verify its readibility.

### Avoid using too many initialisms, acronyms and abbreviations

If you must use an acronym to shorten a long or cumbersome term, then be sure to define the acronym the first time it is used. However, avoid using more than one or two repeated acronyms in any written material. If a reader is constantly having to jump around your document to sort out a series of acronyms, it will create frustration and potential misunderstanding. Common initialisms (e.g. BC, USA, WHO) and acronyms (e.g. NASA, UNICEF) may be an exception depending on the context and audience.



WARNING

Blue Green Algae
HEALTH HAZARD
at:

A suspected bloom of blue-green algae has been found in this water.

Swallowing the water or algal scum can cause stomach upsets or more serious health effects.

Contact with the water or with algal scum can cause skin or eye problems.

It is a sensible precaution for you, your children and your animals to avoid contact with the scum and the water close to it.

Notice posted on:

Notice posted by: Canal & River Trust

**For further information telephone:** North West Waterways office, Wigan. Tel. 03030 404040

Canal & River Trust

*Written communication varies broadly depending on the medium and the context. In this case, the main message is to ensure the public is aware of the risk of consuming water in the area, and to ensure that there is contact information for anyone needing to reach an official.*

## Consider appearance and flow of the content

### Make use of compelling heading and subheadings

These should both grab attention and relay key aspects of the content. Headings are a useful way to break up big blocks of text, allowing you to guide the reader through your message.

### Incorporate visuals where appropriate

Effective use of high quality images can make a huge impact in getting across your message. Consider whether parts of your text could be converted into diagrams, infographics or graphs that are more eye-catching and easier to digest than long paragraphs. Images are also helpful in breaking up dense blocks of text to make your material more readable.

### Make the communication (mostly) self-contained

The audience should not have to look elsewhere to understand the content of a written communication product. Be sure to provide enough background and context so that the reader understands the key messages from just the one document. However, if the document is part of a larger communication campaign then you can definitely link or refer them to related materials.

## Think about branding

If you or your organization is going to produce a number of information products, make sure the materials have a consistent, unique, and memorable look. In particular, if you are a relatively new organization, then this can increase your visibility and help to build recognition and trust.

## Distribute widely and strategically

This involves thinking about the different places your audience frequents and about who else is messaging in that space. For example, when Chelsea takes her kids swimming at the community center, she often picks up brochures at the front desk where she has to wait to get checked in. On the other hand, she never visits the community messaging board because it is a total mess of 'messages', most of which don't apply to her or her family.

UK Government

Stay at home

The single most important action you can take is to stay at home in order to protect the NHS and save lives.

You should only leave the house for very limited reasons:

- Shopping for basic necessities, for example food and medicine, as infrequently as possible.
- One form of exercise a day, for example a run, walk, or cycle - alone or with members of your household.
- Any medical need, including to donate blood, avoid risk of harm, provide care or help a vulnerable person.
- Travelling for work purposes, but only where you cannot work from home.

Help stop the infection spreading and support each other

*Health promotion materials use large fonts, simple images and clear and simple writing to promote readability.*

## Takeaways

Key Takeaways

- Written materials should be easily readable and accessible to a broad audience. Avoid jargon and unnecessary abbreviations, and write to a Grade 8 level.
- Keep your written materials compelling and focused by stating the purpose upfront and through use of headings, visuals and information that can stand alone.
- When distributing your written materials, consider the location and methods strategically to best reach your intended audience.

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## 3.2.1 Briefing Notes

Learning Objectives

- To explain the purpose and value of a briefing note.
- To describe the structure and characteristics of a good briefing note.

Briefing notes are a special type of written communication. They are a short document, usually one to three pages long, that informs a decision-maker, such as a government official, about an issue and, if applicable, possible actions they can take.

### Who needs briefing notes?

Imagine that you are the Minister of Health and you are about to walk into the Fall sitting of the House of Commons when you hear about disease X in the news. You just know the opposition is going to ask you about it and demand to know your response plan. Of course, you have no plan, because you just heard about it! But this is politics and you are going to look bad if you are not prepared. You ask your aides to do some digging…and fast! They come back with two documents, one is a peer-reviewed paper that looks scientific but is completely incomprehensible while the other is a briefing note written by a SPPH 552 graduate that clearly and concisely outlines the problem and potential solutions before making a recommendation. What would you do? Most likely, you will grab that briefing note and march into question period. This is a win for you, because it looks like your government is on top of the issue, but it is also a win for the risk and science communication graduate, because you have just decided on a course of action pretty much based entirely around the existence of the good briefing note.

This scenario is based on a true story…seriously! And one that repeats itself over and over again in cities, provinces, and countries around the world every single day. Most decision-makers deal with a vast array of issues that are constantly changing. It is impossible for them to independently research each and every issue in detail. For this reason, briefing notes are the information currency in the halls of most governments, and your ability to write good briefing notes will make a huge impact on your ability to translate your message into action.

*For a government official, briefing notes are essential for highlighting the important information surrounding an issue in order to provide necessary information during Question Period.*

## What is a good briefing note?

A briefing note is a short (1-3 pages) and concise document that informs a decision-maker about an issue and often recommends an action. Concision is important and different than brevity – you need to use your language effectively to convey a large amount of information in a short space. A short but vague or ambiguous document will not be useful.

The briefing note also needs to be clear. Stay on point and keep your language and sentence structure simple. This is not Shakespeare! You should also think about organization and subheadings to ensure that it is readable. Remember that this is a document that will need to be read and understood on the fly.

Finally, it needs to be reliable. This means that all of the information presented should be both accurate and complete. You should clearly highlight any unknowns and anticipate questions that the decision-maker or opposition might ask.

## Briefing note structure

There are many ways to write a briefing note but the key is to use the structure conventional to a particular institution and to adapt the style based on the issue and the decision-maker's needs. For example, some briefing notes are just for the purpose of relaying information so they will not have a section with recommended actions. These types of briefs are common when there are major transitions in government and a new set of decision-makers needs to get up to speed but are not yet required to act.

However, the majority of briefing notes are concerned with decision-making and contain the following core components:

### Purpose

Explain the purpose of the briefing note. All of the other sections should contribute to this central goal. This helps the decision-maker know exactly what to expect.

### Background

This section gives the decision-maker exactly enough information to understand the rest of the briefing note. It might include basic information about the issue, previous decisions or events leading up to the current situation. The goal here is not to provide a detailed, chronological list of every single event related to the issue, but rather to provide key pieces of information needed to frame the next section.

### Current status

We like to think of this section as setting up the chessboard for the decision-maker. What is the current landscape of the issue? Who is involved? What is happening? Why is a decision needed?

### Options

In continuing with the chess analogy, this section explains the potential 'moves' the decision-maker could make and the pros and cons of each.

### Key considerations

This section includes information that the decision-maker will need to arrive at the decision. The considerations will depend largely on the context and issue. These could include the dominant, competing perspectives on an issue, potential consequences of action or inaction and anticipated political or social gains or fall outs. This is sort of like anticipating how the game could play out.

### Recommendation

This section summarizes what you want the decision-maker to take away from the briefing note. What move should they make? It should not include anything new but should almost stand alone, as many decision-makers skip right to this part without reading the rest of the document. Your recommendation should be concrete, reasonable, and achievable in the current sociopolitical context. At its best, this section provides a compelling piece of wisdom that is both evocative and memorable.

Discussion

**Questions to ask yourself when writing a briefing note:**

- Why has this note been requested? Why is the Minister dealing with this now?
- Given the purpose, context and scenario, what exactly does the Minister really need to know? What is the strategy?
- Have I identified the various actors or issues or options; outlined the stated and unstated agendas, and captured the strategic considerations?
- What is the bottom line? Have I identified or positioned 'the goods' right up front in the note?
- Where are the pitfalls for the Minister? What is missing? What else is missing? Who else should I be talking to, obtaining intelligence from or consulting with?
- Would I be confident walking into this event/meeting with this note as my script?
- Is the level of detail I am providing appropriate to the subject and situation at this time? Is every word and paragraph essential? What can I edit out?

## Tips for taking your briefing note to the next level

Appreciate the political context. If you are going to write for politicians, you need to put some effort into understanding the political context that you are dealing with. This is a spectrum for which you need to meet a minimal threshold of savviness. For example, it is a very bad idea to recommend a decision that the decision-maker does not even have the power or jurisdiction to undertake. Once you meet that threshold, the further you go, the more icing you will add to your cake. For example, if you can warn of an opposing viewpoint that the decision-maker is not even aware of yet and save that decision-maker from an embarrassing public spectacle, or if you can produce a new and innovative solution that is cost efficient and well received by voters, then you will forever be seen as a valuable and trusted source of information.

## Spend time and effort producing clear, high quality prose

It may be tempting to rely on bullet points but this can result in a document that reads more like a glorified outline. Bullets may be appropriate in some scenarios but should never be used as a substitute for good writing.

## Revise, revise, revise

Think of this as a high-stakes elevator pitch. It needs to be powerful but also very easy to digest so that the focus is the message and not the document itself. This is very hard to do and requires a lot of practice. Commit to doing a number of revisions.

## Create talking points

These can be integrated within the briefing note or pulled out into a separate section. Talking points are key phrases composed in a simple, direct, and 'punchy' language. They are not meant to be read like a speech, but rather to be incorporated into the decision-makers' own language and messaging. It is a good idea to add talking points when you think the decision-maker will need to speak publicly about the issue in question.

*Elected officials at every level of government use briefing notes to help them make decisions about issues that impact their constituents.*

## Takeaways

**Takeaway Tweet**

"Writing a good briefing note for a policy maker is like harnessing your inner Yoda. You must be short, insightful, and informative. The policy maker is your 'Luke' and you are the guide- show them what was, what is, and what can be."

– Gabrielle Hadly

Key Takeaways

- Briefing notes are short documents prepared for decision-makers that present key information and considerations for action relating to a particular issue.
- A good briefing note is short, concise, clear, readable and reliable. They should follow a set structure and meet the needs of the decision-maker who will be receiving it.

## Sample Student Briefing Notes

Briefing note for Vancouver City councilors to provide recommendations on the potential extension of pop-up plazas in Vancouver beyond COVID-19. by Claire Styffe

Briefing note for the Tobacco Control Unit, BC Ministry of Health to inform on the current burden of e-cigarette use among youth in rural BC and propose initiatives for accessible education and cessation sources. by Armin Shahriari

Briefing note for Dr. Peter Berman, Director, UBC SPPH to present action item for how SPPH can respond to protect its students from Computer Vision Syndrome (CVS). by Angela Czarina Mejia

Briefing note for the BC Minister of Health to provide the Minister with options to improve BC celiac disease patients' access to labwork for identifying nutrient deficiencies. by Yinghong (Amy) Wu

Briefing note for the Dean and Vice-Provost, Graduate and Postdoctoral Studies (G+PS), UBC to present options for how G+PS can support development of an intergenerational co-living program as an affordable and community-minded housing option for graduate students at UBC Vancouver. Prepared by Julie Zhang

Briefing note for the BC Provincial Medical Services Comission to provide up-to-date information on lipoprotein(a) as a cardiovascular risk factor and a recommendation to address this risk in the population. Prepared by Sean Sinden

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## 3.2.2 Newsletters

Learning Objectives

- To identify how newsletters can be used to communicate risk.
- To highlight key considerations when formatting and scheduling a newsletter.

It seems like every organization or business has an electronic newsletter. However, if you can get yours to stand out from the rest, regular email contact to a select audience can be a powerful communication tool. Options for this medium range from a simple, branded email to more sophisticated tools like MailChimp. While it may seem like an easy thing to plan and launch, here are a few things you should consider when thinking about communicating via newsletter.

*Many people get hundreds of emails a day. If you're going to use a newsletter, make sure it's for a good reason and that it stands out.*

### What action do you want?

Think about the purpose of your communication strategy (i.e. your mission). Are you trying to deliver information straight to your audience's inboxes or are you hoping to direct them to other content, such as a website or a YouTube video? Are you trying to keep your audience in the loop about ongoing developments of an initiative? Understanding what it is you want your audience to do when they receive your newsletter can help you decide what it should look like and whether this is the right medium for your purposes.

### Think about frequency carefully

We've all unsubscribed from annoying, repetitive marketing emails — don't let your newsletter become a nuisance. It's important to understand how much content you will be producing, or what you need from your audience, to know how often to schedule your newsletter. Don't create a weekly update if you don't anticipate being able to make each newsletter impactful, interesting, and engaging. Many organizations can get away with a monthly, or even quarterly, email update to their followers. The frequency will depend on your goals.

### Less is more

The vast majority of people who open a newsletter will not read the whole thing. According to Campaign Monitor, most people spend less than 60 seconds on a newsletter and will only skim parts of it. As such, it is vital that newsletter communication follows the top principles of written communication: get to the point, use visuals to your advantage, make it accessible and stay on brand. Don't feel like you need to cram everything into a newsletter and avoid using content just to fill space.

### Where are your subscribers?

Likely the most difficult part of launching a newsletter is getting subscribers. As you should already have a good idea of who is in your audience, now you need to figure out how to get them subscribed to your newsletter. Anti-spam laws in Canada mean that you can't just add anyone to your recipient lists; they have to give their consent to be contacted. You can use things like social media, your institutional networks, or partner organizations to get the word out about your newsletter. You can also encourage your existing subscribers to share with their friends.

Example

There are many, many newsletters to draw inspiration from. If you plan on using newsletters in your communication campaign, you may want to subscribe to a few effective ones. Here are some examples:

- Gen Squeeze: The newsletter from Generation Squeeze, a knowledge translation and research program at UBC, is a centerpiece of its KT strategy. The aim is to encourage participation in the organizations' advocacy activities.
- The Ed's Up: This short, bare-bones newsletter is from the brilliant science writer Ed Yong, currently at The Atlantic. Ed uses his newsletter to drive traffic to his online written content and share a bit of background about his articles.
- The Range Report: Written by journalist and author David Epstein, this newsletter is generally self-contained and is a space where David comments on current events with the use of research evidence.
- Brain Pickings: What began as a recurring email to a small group of close friends has become one of the Internet's favourite places to learn something new. Maria Popova uses her newsletter to share a wide range of content and ideas which serves both to drive traffic to her website and deliver an interesting, shareable, and unique product.

## Takeaways

Key Takeaways

- Newsletters are useful but you need to make sure yours stands out from the rest. Don’t add to the spam.
- There are many characteristics that can make for an ineffective newsletter. Fortunately, most of them can be avoided by thinking clearly about the problem you are addressing and the action you are trying to inspire, and by being familiar with the general rules of good written communication

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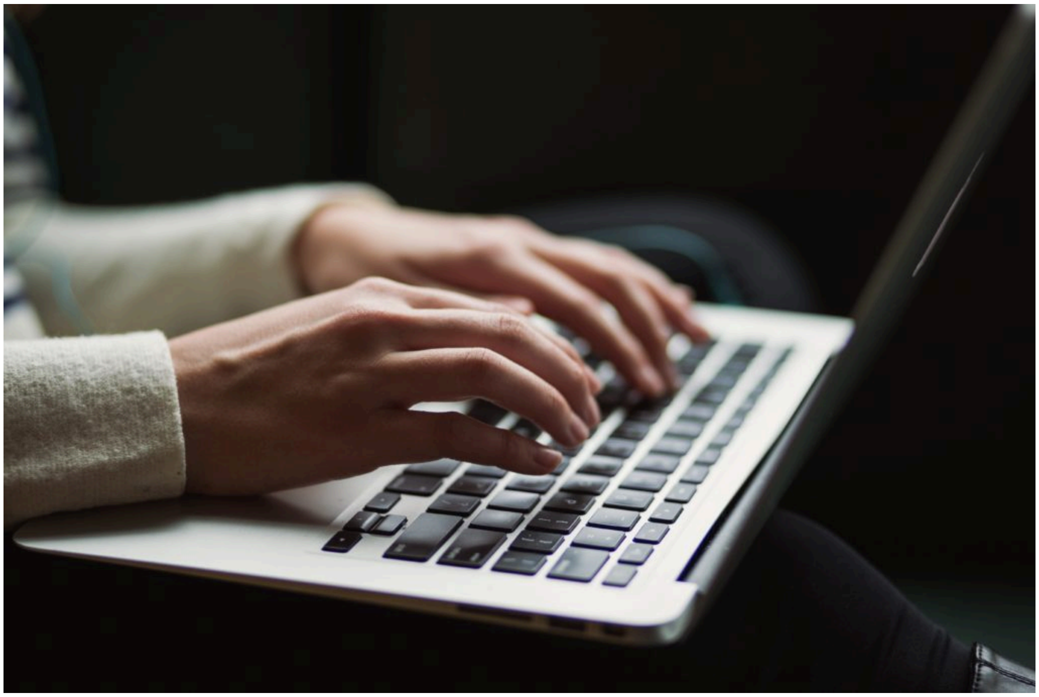
## 3.2.3 Self-Publishing and Op-Eds

Learning Objectives

- To provide an introduction to self-publishing sites on the internet.
- To review the role of op-eds in traditional news media as a form of risk communication.
- To provide some examples and resources for further information on self-publishing and op-eds.

In some cases, a communication strategy may call for an accessible, shareable article, or series of articles, to connect with a particular audience. Self-publishing sites and op-eds can be useful when you don't need a full, standalone website but require a more substantial platform than what social media, info sheets, or newsletters can provide.



*Blogs and op-eds can be an important part of a communications strategy*

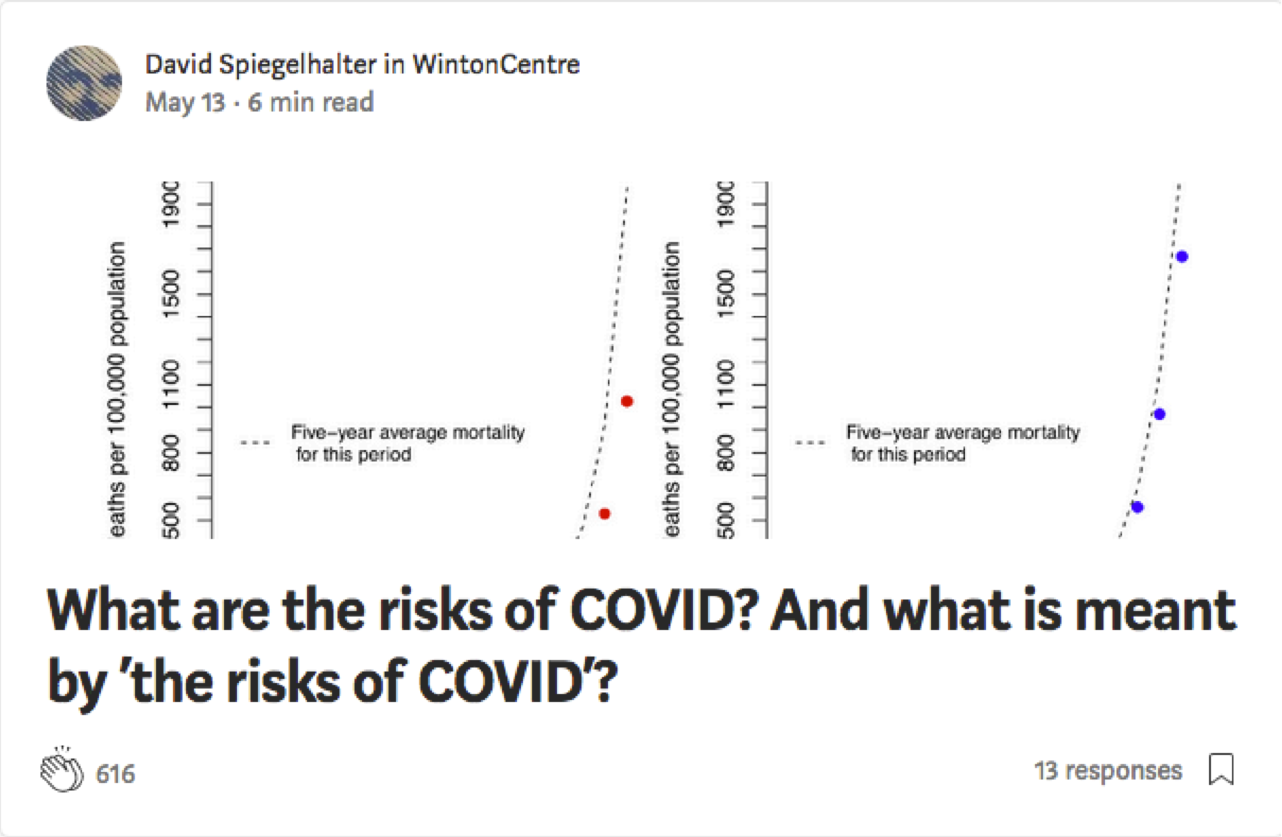
## Self-publishing

Internet sites that allow users to self-publish can be a valuable tool to get the word out about your initiative or project. Depending on the site, they may also allow you to bypass the submission and vetting process of traditional media organizations. As the name implies, self-publishing allows you to maintain control over the content of the articles that appear online.

### Examples of self-publishing sites

#### Medium

Medium is an online publishing platform launched in 2012 that hosts blog posts from both amateur and professional writers and publications. The site allows users to have complete control over the style and content of the articles that they post. While this means that the site may be home to some articles containing misinformation or junk science, it can be a valuable tool for researchers and organizations to get the word out about their work in a relatively short period of time. A good example of an effective Medium user is David Spiegelhalter, the chair of the Winton Centre for Risk and Evidence Communication at the University of Cambridge. Dr. Spiegelhalter is notable for using Medium to apply his expertise as a science communicator and statistician to comment on current events, debunk misinformation, and provide critiques of recent publications, all with very few time and style constraints.



David Spiegelhalter in WintonCentre
May 13 · 6 min read

eaths per 100,000 population
500
800
1100
1500
190C
Five–year average mortality for this period
eaths per 100,000 population
500
800
1100
1500
190C
Five–year average mortality for this period

**What are the risks of COVID? And what is meant by 'the risks of COVID'?**

616

13 responses

*The website Medium can be a valuable space to provide time-sensitive commentary on current events or to discuss research in a less formal way than traditional journalism media.*

#### Science Borealis

Science Borealis is a Canadian not-for-profit organization that supports science writers and aims to increase public awareness of Canadian science. The site hosts both original content and amplifies other science blogs in its network. Submissions to Science Borealis are vetted by an editorial staff.

### How to use self-publishing sites

The low-barrier environment of blogs and self-publishing sites makes it easy to get content online. However, your work may be noticed by a much smaller audience than if the content was published in more institutional publications. In many cases, you will need to have a strategy to share the content through spaces such as social media or newsletters. It's not enough to just put the information out there—you have to direct people to it. As a reminder, adding visuals can always make your article stand out and get your message across. For further examples of blog posts, see below for past posts written as a part of this course.

## Op-eds

The op-ed section of print newspapers and online news sites feature articles written by someone not employed by the news organization or affiliated with the editorial board. Op-eds can be a valuable tool for getting information out about your particular issue into a high-visibility publication, particularly if the issue is timely. Submissions are reviewed by an editorial staff meaning that it can sometimes be challenging to get your piece accepted and published, particularly in the more well-known newspapers. If you need to publish a series of articles, op-eds are not the ideal medium because news outlets will be unlikely to publish repeated articles from the same author. UBC News has a handy list of common requirements for submissions.

Supplementary Materials

**Tips for op-ed submission from UBC News**

- 800 words or fewer
- Credentials should be clearly stated — include full name, contact information, and daytime phone number
- No e-mail attachments — send content within the body of an e-mail
- Specify “Op-ed Submission” in subject line
- Submissions should be as argumentative as possible
- Op-eds that anticipate new developments such as conferences and court decisions are especially valuable
- Media reserve the right to edit, condense or reject any contribution
- Submissions need to be exclusive to one media outlet, so don’t approach a second publication until you’ve been declined at the first one
- Writers whose submissions are considered for publication are generally notified within 1-2 weeks

## Special case: The Conversation

The Conversation is an independent news outlet launched in Australia in 2011 that now has editions in Canada, the UK, and the US, among others. All of the articles on their sites are written by academics (including PhD students) based on their area of research. The Conversation‘s staff commission and edit articles to make sure that they are free of jargon and accessible to the public. These features make The Conversation unique; they operate somewhat like a traditional news organization with an editorial staff but solicit and accept articles from researchers only. Here is an example co-authored by Dr. Anne Gadermann, an SPPH faculty member, that discusses her research and the mental health impacts of the COVID-19 pandemic.

theconversation.com
Independent fact-based news, analysis & expert opinion, written by academics & researchers.

*The Conversation is a unique environment for communicating about science.*

## Takeaways

Key Takeaways

- Self-publishing sites and op-eds are media that provide unique benefits like timeliness, editorial freedom, and accessibility.
- There are a number of different options when choosing a website or news outlet to share your written essay — understanding your goals, audience, and message will help you decide which one is right for your purposes.

## Sample Student Blogs (from SPPH 552: Risk and Communication in Public Health)

Applying stakeholder theory to risk communication Prepared by Julie Zhang

How can we improve academic posters? Prepared by Sean Sinden

The importance of hosting Prepared by Laura Chow

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- Screen Shot of Dr. Spiegelhalter Article on Medium © Dr. David Spiegelhalter
- The Conversation Social Media Ad © The Conversation

## 3.3 Mainstream Media

Learning Objectives

- To identify the features of the mainstream media environment and how they might impact your communication effort.
- To explain how to foster trust and credibility and why doing so is important when interacting with the media.
- To describe the interview process and how to prepare for each step of the process.
- To be able to use a variety of principles, tools, and techniques to deliver an effective and impactful interview.

***Media is narrative! If you are going to be impactful at using the mass media, then mastering the art of the narrative is essential.***

For most people, the idea of talking to the media can be terrifying. Nonetheless, mainstream media is one of the most effective methods for sharing information with the public, raising the profile of neglected issues and reducing community outrage. Indeed, the reason that we are nervous about contacting the media is precisely the reason that it is so useful – it gets the word out far and fast. However, it is important to become comfortable with mainstream media because if an issue catches the media’s attention, it will be reported on with or without your involvement. Although it might be scary and you might mess up every now and then, it is always better for you to be out there telling your own story. If you don’t, someone else is going to tell it for you.

DOHA 2012
UN CLIMATE CHANGE CONFERENCE
COP18·CMP8

*Communicating through the mainstream media is a dynamic conversation between the interviewer and the interviewee. Knowing how to listen to questions and to respond appropriately is key to giving an engaging interview.*

## The media environment

Before we coach you on how to interact with the mainstream media, you first need to view mainstream media as a complicated and dynamic environment that is influenced by a diverse array of factors. This environment can have profound impacts on the way stories are told and interpreted.

### The media outlet

Each outlet has its own ‘flavour’ that will influence the topics featured, preconceived perspectives/biases on specific issues and the way a story gets presented. Before you agree to an interview, make sure you understand the outlet and whether it aligns with your mission and message.

### The media medium

Print, TV, radio, and web-based news all tell stories in different ways. For example, print stories can provide the most information (i.e. detail, context and background) and are headline driven. TV needs strong video images and is often driven by emotions. Radio needs compact stories with catchy sound bites. News sites are driven by sensational, ‘click bait’, headlines and content can be inaccurate given the medium’s incentives for quick turnarounds on stories. However, depending on the outlet, there is opportunity for depth of writing too.

## The reporter

There is tremendous variability among reporters with regard to their skill, style and experience. Additionally, many reporters who have experience reporting on a topic will often have their own opinions and biases that will undoubtedly colour the stories they tell. Again, before agreeing to an interview, do a brief internet search on the reporter and the pieces they have previously written to see if they will be the appropriate conduit for your message.

## The timeline

In the current media climate, everything is about speed. For the most part, investigative journalism is a niche market. Most reporters aspire to ‘break the story’ and may be willing to sacrifice accuracy if it means that they will be the first to report on an issue. Many even have to turn around multiple stories in a single day. This means that you will have to respond to requests immediately and be agile enough to prepare for an interview with a few hours’ notice (or less).

## The current events

Reporters and outlets have only so much bandwidth or air time to play with each day. If a high-profile story crops up, then your interview may be cancelled, or moved to the back pages. On the other hand, if nothing is going on, then there may be an effort to create something newsworthy, which can result in unanticipated attention for a previously low-profile issue. If your issue is somehow related to a high-profile event or has caught the public’s interest for some reason, then you may get a flood of inquiries all at once.

Discussion

### Credibility and Trust

Relaying your message is only part of your objective when talking to the media. Your overarching goal should be to build credibility or, better yet, trust. If you are credible, then people will believe you. However, if they trust you, then they are more likely to actually do what you say. In other words, trust is going to be what helps you to actually achieve your mission.

Interestingly, expertise is only a small component of trust-building. The perception that you are dedicated to the issue and that you are open and transparent are equally important. However, what is most important is that people feel that you are empathetic—either to them, to those affected by the issue in question, or even to your opposition.

## The interview process

### Decide on the best spokesperson

This has to do with subject area expertise but also with perceived social ranking. For example, if there is a high-profile political issue, then it is probably better for a Minister to do the interview rather than one of their staffers. Bringing the ‘big guns’ is a sign of respect and an indication that your organization is taking the situation seriously. If you decide you are the best spokesperson, be clear on who you are speaking on behalf of—are you representing just yourself or your entire organization? This is particularly important if you take on multiple roles.

### Set the terms of engagement

Start by negotiating the interview terms. When a reporter first makes contact, you need to interview them! Ask for their name, which outlet they are with, their approach to the story, why they want to speak with you, and what they know so far. If you are willing to proceed, then you can set a reasonable interview time (you don’t have to agree to be interviewed immediately). You should also clarify the perspective, objective, and parameters of the interview. For example, you should be clear about your affiliation and expertise (i.e., who are you speaking on behalf of), as well as what you are and are not willing to talk about.

Discussion

**Off the Record**

There may be unique circumstances where you want to talk to the media but do not want to be named or quoted. If you say that you are briefing them for background, information, or technical purposes, then you should not be quoted and your name should not be mentioned in the interview. You can

### Have an agenda

This is essentially the same as your mission, or it could be a goal that serves your mission. You need to be very clear to yourself and the reporter what you are hoping to get across by doing the interview.

### Be prepared

Think about who your audience is. You are probably thinking ‘the general public’, but this is almost never the case. Rather, you are speaking to a subset of the public. If you are talking about infant nutrition, you are speaking to young mothers. If you are talking about pharmacare, then seniors are probably your target. You need to tailor your message and language accordingly.

### Know your story so well that you don't need a script

If you are going to give a good interview, you have to genuinely respond to questions as they are asked versus just repeating talking points. Reactivity, as previously discussed, is crucial here. Moments of emotion and spontaneity are what is going to make you memorable, and that is only possible if you are not having to think too hard about your answers.

### Decide what information to include and what to omit

Part of this is setting the terms of engagement with the reporter. But you also need to be crystal clear on this yourself so that you don't get led down a line of questioning you are not prepared to deal with.

### Get ahead of the game

Try to anticipate difficult questions that might come up and have a way to address each of them. As you give more interviews, you will gain a better sense of the kinds of questions interviewers will ask.

### Keep control

This does not mean that you should try to control the reporter or that you should try to override them by continuously repeating the same message. Rather, it means that you should keep control over the way you interact with the reporter and the way you answer questions. For example:

- If you are not sure what they are getting at with the question, you can ask them to clarify or you can rephrase the question so that it makes sense to you.
- You can challenge the premise a question is based on.
- You can pose your own questions to answer if they are interesting and important.
- You can take time to think about a question – don't feel that you have to launch into an answer immediately.

clarify this before starting the interview. If you agree to speak 'off the record', this means that that the reporter is not allowed to publicly report on any information you provide but can use that information to further investigate the story. That being said, you will be putting your trust in the ethics of the reporter, so you need to evaluate the potential risk if they don't hold up their end of the bargain. If you think that a reporter has violated this unspoken code of conduct or acted in any other deceptive or unethical manner, then go straight to their editor or manager. Media outlets can't stay in business unless sources trust that they will be treated fairly, honestly, and transparently, so you can bet that your complaint will be taken very seriously.

### Build a rapport

Try to build a rapport with the reporter and your audience by being likable and telling a great story.

### Deliver your message

There are a number of tools that can help you do this:

- Expend the time and effort to craft great 'sound bites' or 'one liners' that really capture the essence of your message. Memorable quotes are more likely to be included in the story or even used in the headline or the leading paragraph.
- Think of a media interview as the mirror image of the normal scientific process. You need to lead with the conclusion (the headline!) and then follow that up with supporting facts.
- Your conclusion is what is going to get people interested and hold their attention while you discuss the background and/or data. If you don't start with the hook, people will not wait around to hear the rest.
- Leave an impression. At the end of the interview, the reporter will often ask if there is anything that you would like to add. This is the time to repeat your key messages to ensure that your audience is left with a clear impression of what you had to say.
- Use plain language. Speak at the level that a Grade 8 student can understand. Avoid jargon, technical terms and acronyms. Use accessible analogies and examples to explain complex topics. It is more important to be understandable than to be 100% technically accurate.

> ***Good interviews start with the conclusion and then present the facts and premise. Poor interviews get caught up in the background and wait too long to get to the point.***

Summary

**Qualities of a good sound bite**

- Bold
- Empathetic
- Action-oriented
- Short (< 20 words)

## Developing and delivering a trustworthy message

### Verbal Cues

There are a number of ways to adapt or supplement your message to increase public trust.

- Make it clear that you are genuinely concerned about the issue in question and the people most affected by it. You can also explain to your target audience why they should be concerned.
- Identify ways in which you or others can respond, preferably in an immediate and relevant manner. You might also give your target audience some ideas regarding what they can do.
- Describe or demonstrate your expertise or that of the people working on the issue.
- But still be a likeable and relatable human being! This is a fine balance—you want people to connect with you while feeling you are capable of dealing with the problem at hand.

- Demonstrate your dedication by describing previous commitments that you have lived up to or by making commitments that you can and will live up to.
- Where possible, back up your statements with concrete examples and supporting facts. This will help to further increase your credibility.

## Non-Verbal Cues

It is also extremely important to remember the impact of non-verbal communication to the overall success of your messaging.

### Body language

Eye contact is probably the most critical tool for building trust. However, you also need to be mindful of your posture, hand position, and head gestures. For example, if you have your hands on your hips or your arms crossed, you might come across as aggressive or confrontational. Meanwhile, having your hands in your pockets seems disengaged and dangling hands at your sides is just plain awkward. Instead, keep your hands between your waist and heart and use them to gesture appropriately along with your speech in order to draw people in. Ideally, you should stand square to the reporter with feet shoulder-width apart. If you are sitting, lean forward slightly. Nod your head if you agree and shake your head if you disagree. Avoid fidgeting and other nervous mannerisms and avoid moving around if you are being filmed or have a stationary microphone.

### Para-verbal communication (i.e., voice intonation, speed modulation)

Seek out a tone of speaking that fits with your message. Speak in a natural way but use breath, cadence, modulation, and pauses to pace yourself, help people follow your story, and draw attention to the important parts of your message.

### Other visual elements

Think about what your wardrobe and setting say about you. If you are trying to connect with ‘everyday people,’ then wearing flashy and expensive clothes might not be the best approach. If you are trying to calm people down, then make sure that the setting is not alarming (e.g. people running around in hazmat suits in the background). If you want to show that you care about an issue affecting the community, then you might want to do that interview in a community setting rather than in your office.

*Body language cues are critical for developing rapport with the interviewer and with your audience.*

## Media dos and don'ts

- Don't ignore a media request. You can respectfully decline, postpone your decision, or agree to speak at a later date, but always respond promptly.
- Do be prepared for media requests. Anticipate situations in which you will be approached by the media. Before you even get the request, prepare your message and get clearance beforehand from supervisors, colleagues and other relevant individuals to deliver that message.
- Do address every question though you don't need to answer them all. Always address the question you are asked in a straightforward way. There is nothing more annoying than hearing someone spout the same canned response regardless of the question. However, if you don't feel that you can or should answer the question, explain why and bridge onto another message (see next point).
- Do find the bridge. If you are asked a question that is off topic, you should try to find a way to connect, or bridge, that question to your main message.
- Do decline to answer questions that you are not comfortable with. Don't just say 'no comment'—explain why you cannot answer the question (e.g. you don't know enough yet, you are not the expert, the answer is confidential). Similarly, if you are uncomfortable with a line of questions, put it to an end rather than trying to talk your way out of them.
- Do acknowledge the outrage. If you are dealing with a controversial issue, always acknowledge the outrage and opinion of your opposition, even if you don't agree with it. If

you ignore these factors that are not ‘on message,’ you will come across as cold, out of touch, incompetent and untrustworthy. Outrage and opposing viewpoints are sort of like vampires or monsters in your closet—they are a lot less scary if you bring them out into the light. Up front acknowledgements clear the air and make it easier for you to engage your audience.

- Do admit to your mistakes. If you or your organization made a mistake or acted in a way that is viewed negatively by the public, admit your shortcomings and commit to doing better. Paradoxically, admitting your shortcomings actually fosters trust.
- Don’t make stuff up. Moments of candor and improvisation can lead to fantastic interviews. However, they can also result in disaster depending on what comes out of your mouth. Be particularly careful about improvisation where the tone of the interview is hostile or aggressive. When you are defensive, you are more likely to say something that you will later regret.
- Don’t lie or mislead with silly language. Trying to sugarcoat a bad situation or event will make you look worse, not better.
- Do help the reporter help you. The better prepared the reporter is for the interview, the better the story will be. If you can, provide additional resources and links that support your message; visual and audiovisual content is optimal. You can also ask to have a background discussion with the reporter prior to the interview to provide context and to frame the story.
- Don’t repeat a loaded question. This will cement the association in the audience’s mind. Similarly, don’t repeat accusations or inaccuracies. For example, in 1973, Richard Nixon tried to quell outrage regarding the Watergate scandal by delivering a speech in which he said “I’m not a crook.” Unfortunately, the word ‘crook’ was permanently attached to Nixon from that time onward.
- Do use your emotions wisely. Emotions can be very good for delivering an effective media message. They help your audience to connect with you and build trust. However, uncontrolled emotions can derail an interview. Above all, make sure you keep your perspective and composure. Reporters may intentionally try to create conflict or rile you up to get a better story.
- Do keep your responses punchy and short—make your point and stop in a clear and punctuated way.
- Do make sure that the facts presented are true and accurate. Immediately and calmly correct any misstatements made either by yourself or by the reporter.

## Additional tools for your media tool belt

### Framing

Framing describes how you use words to influence the way your audience perceives the story. This includes what aspects you will emphasize, how you compare to and contrast with other issues, and how you use analogy, metaphors and examples. Framing is used to help your audience appreciate the mental picture you are trying to paint for them.

Discussion

**Socializing Media**

Social and mainstream media are not independent entities when it comes to news. For example, reporters often use social media (particularly Twitter) to stay abreast of breaking stories. In this way, social media can inform the news. However, the reverse is also true. Many mainstream media outlets are active on social media and news delivered by the mainstream media in any format is often discussed and disseminated on social media by the public and other non-media users.

### Flagging

Use words to emphasize important ideas or messages, such as explicitly saying, “The most important point is…” or “I feel strongly that…”

### Redirection or pivoting

This is about changing the question or its premise. It involves acknowledging what the reporter is asking but politely suggesting an alternative line of questioning you feel is more important. You can redirect a question by saying, “The more critical question right now is….” or “For me the real issue is…” or “How I look at this is…”

### Defer

If you could answer a question but don’t want to for some reason, then don’t. Instead, explain why you can’t answer at the moment and when the question will be answered. But make sure you use the right language. A good way to defer a question is to say, “It would be inappropriate for me to comment until….”

### Deflect

If a question is outside of the scope of what you are willing to talk about, say so and explain why. You might suggest an alternative expert but be careful about publicly naming someone without their prior permission.

### Positivity

Where possible, focus on what you can do, are doing, or will do. Avoid repeating what has not been done or what can’t be done.

### Recap

Take opportunities to repeat your main message, particularly at the end of an interview.

## Interview examples: The good, the bad, and the ugly

Example

**The good**

- In “BC health officer fights back tears amid latest COVID-19 infections“, Bonnie Henry was able to develop public trust by making it clear that she was genuinely concerned about the issue in question and the people most affected by it. She was also able to effectively use emotion to connect with her audience.
- Naheed Nenshi used a different style to warn people to stay away from the Bow river during the 2013 Calgary flood. He is direct, clear, bold, humorous, and memorable.

Global NEWS

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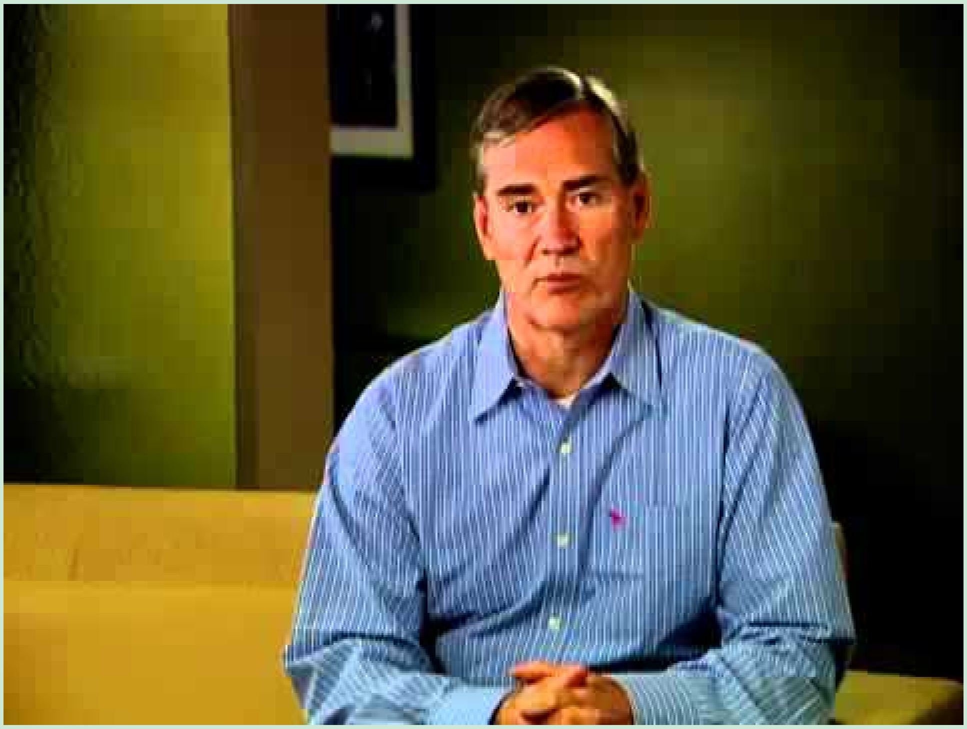
- In 2008, Maple Leaf Foods’ packaged meat products were the source of a listeria outbreak. The company could have followed the traditional corporate response of denying and ducking responsibility, and fighting affected consumers in court. However, the company decided on a different communication strategy, which likely saved the company. As explained by Tony Wilson of the Globe and Mail, “First, [Maple Leaf Foods] admitted it was the company’s fault. It admitted it was responsible. It said, in essence, ‘it’s our fault and we’re going to fix it.’ Second, Maple Leaf apologized. It wasn’t wordsmithed or spin-doctored to deny culpability. The company didn’t dodge the issue. It apologized up front in every possible media. Third, it didn’t hire a celebrity to deliver the apology, or a blonde actress with very white teeth wearing a lab coat. CEO Michael McCain was the voice and face of the crisis, and of the apology.”
  Note also the setting and wardrobe in the video below—McCain is clearly trying to connect with consumers and not look like the wealthy CEO that he actually is.



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Example

### The bad

- In 2015, outgoing Chief of Defense Staff General Tom Lawson did an [interview with the CBC's Peter Mansbridge]() about a range of issues associated with the Canadian Armed Forces. The interview went haywire when Mansbridge brought up the issue of sexual harassment in the military. Lawson clearly started to improvise and came up with a poorly thought out and factually indefensible response—that sexual harassment is still an issue in the Canadian Armed Forces because people are just "biologically wired" in a certain way. It also demonstrates the masterful interview techniques employed by Mansbridge, who clearly waited to bring up the topic midway through the interview, when Lawson was feeling comfortable, and used their warm rapport to make the question seem less controversial than it actually was.
- Stephen Duckett, president and CEO of Alberta Health Services, made a fatal error by refusing to speak with reporters about the province's ER crisis…. and it cost him his job. It is understandable

that Duckett was annoyed by being hounded by reporters on the way to a press briefing. Nonetheless, he should have anticipated the possibility of an ambush and been prepared to politely re-direct reporters to the briefing. Instead, he made it appear that he was too busy eating a cookie to care about Albertans dying in ERs.

*A YouTube element has been excluded from this version of the text. You can view it online here: [https://pressbooks.bccampus.ca/missionmessagemedium/?p=62](https://pressbooks.bccampus.ca/missionmessagemedium/?p=62)*

Example

**The ugly**

- In 2013, one of MMA Railway's trains derailed and set off a series of fatal explosions in Lac-Megantic, Quebec. The full press conference given by the president of Rail World Inc., MMA Railway's parent company, was almost a half hour of pure agony and offered a laundry list of what not to do. For example, not only does the president Ed Burkhart not take responsibility for the accident, he blames it on an employee. While he does apologize, his apology comes across as insincere because of his condescending and defensive tone and manner. Ed makes a number of comments that are flippant and insensitive, and he conducts the entire press conference in English with no translation despite the fact that he is in a French-speaking town. For a more manageable dose, focus on the segments at 21:30 and 25:00 or see CBC's take on the interview, below.

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## Takeaways

**Takeaway Tweet**

"Those who fail to plan, plan to fail."

A good communicator will do research and practice before media interviews, presentations or stakeholder meetings!

Being prepared will

? Build credibility

? Reduce chance of mistakes

? Focus the message & messaging

? Maximize audience engagement

– Julie Zhang

Key Takeaways

- The mainstream media is a complex and dynamic environment. Consider this carefully when deciding which interview requests to accept and in preparing your message.
- Be prepared—know your story front and back, set terms of engagement and anticipate questions.
- Your overarching message should be to build credibility, and if possible, trust in the eyes of your audience.

## Media Attributions

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- Women speaking on camera © Pexels is licensed under a CC0 (Creative Commons Zero) license

## 3.4 The Pitch

Learning Objectives

- To understand the purpose and value of the pitch.
- To be able to describe the characteristics of a good pitch.

A pitch is basically any communication in which you are trying to convince someone to do something in a short amount of time. As such, the art of the pitch is probably one of the most important things that anyone in any field can learn to do.

The key to a good pitch is a combination of concision and persuasion. You need to get your point across as convincingly as possible and in as few words as possible. In other words, you need to make your point before your audience gets bored and starts checking their phone or thinking about what they are going to eat for supper.

The ultimate demonstration of pitch mastery is the elevator pitch. This term was coined in Hollywood and was used by aspiring filmmakers to convince producers to take on their projects. During the producer’s elevator ride to their upper floor office, the filmmaker would jump in and try to sell their film. Even in other domains, the very best pitches tend to be those where an idea has been distilled down into a few words. However, you can use the same theory or approach for developing a more long-form pitch too.

At its core, the pitch has two purposes. Firstly, it is a way to make sure you have a good, solid idea. If you cannot succinctly pitch your message, then it is probably not a very good message.

Secondly, it should stop people in their tracks. It should excite them, surprise them, inspire them, or whatever it takes to sell them. This means

Example

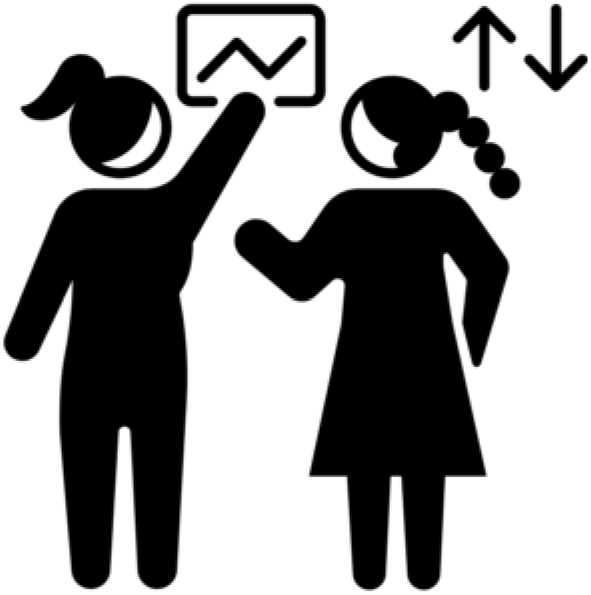
**‘Jaws in space’**

This was the elevator pitch that sold the Aliens franchise. Listen to Terry O’Reilly’s podcast on elevator pitches to hear some great, real-life examples on the art and execution of the elevator pitch.

that you need to provide enough information for the audience to understand the message without getting bogged down in too much detail. It is the ultimate combination of style and substance.

**“Poor communicators are able to say the same basic thing as good communicators – they just need a lot more time and space in which to do it, which ends up boring everyone.” – Randy Olson**

There are a number of ways to make a good pitch; however, the key take-away from this section is the importance of concision. This is very different from simplification or ‘dumbing down’. It is actually the opposite – you need to convey a great deal of complex information using a few words or images. This is why making a good pitch is the hardest thing for any communicator to master.



*An effective pitch will be short and highlight the most important pieces of information someone needs to make a decision. Challenge yourself by trying to narrow your pitch down to the time it would take for an elevator to travel 10 floors.*

Key Takeaways

To craft the perfect pitch:

- Be concise
- Be clear and specific
- Be compelling
- Be confident

## Sample Student Pitches

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### Pitch for dietitians of Canada to have their patients screened for nutrient deficiencies resulting from a gluten-free diet by Yinghong (Amy) Wu

*A video element has been excluded from this version of the text. You can watch it online here: https://pressbooks.bccampus.ca/missionmessagemedium/?p=60*

### Pitch for #endthelockdown teen COVID 19 mask challenge by Ryan Kichuk

Pitch script for a communication plan to convince parents it is save to take their children to the BC Children's Hospital ER during COVID 19 by Taneille Johnson

Pitch script to have reserved seating on public transit for people with invisible disabilities by Joshua Azza

### Media Attributions

- Elevator pitch © Iconathon is licensed under a Public Domain license

# 3.5 Face-to-Face Communication

Learning Objectives

- To outline the benefits of face-to-face communication.
- To demonstrate different tools and techniques to facilitate public presentations and direct dialogue.
- To understand the additional considerations for facilitating face-to-face communication over videoconference.

Talking to people face-to-face is one of the best ways to get your message across and communicate with your intended audience. This is because face-to-face communication, or F2F for short, employs more types of messaging cues than other forms of communication. As discussed in the previous section on speaking to mainstream media, which simulates in-person communication, your message is complemented by a number of non-verbal cues including body language, voice quality, facial expressions and presence. Further, F2F communication can be enhanced by visual aids and reinforced through concise, memorable and emotion-inciting words. All of these different messaging cues can help make your message more engaging and persuasive.

In fact, there is biological basis for why F2F communication is such a potent medium to deliver your message. Neuroscience research has shown that when two people converse, their brain activity synchronize more than through any other medium of communication. This suggests that F2F communication enables richer and more effective communication compared with less direct modes.

You may choose to deliver your F2F communication as a presentation to a public audience or opt for conversations one-on-one or in a small and intimate group. The setting and audience size will depend on your goal and relationship with your audience. The section below presents some considerations for F2F messaging.

*Face to face engagement allows for using engaging imagery and anecdotes to engage audiences.*

## Comparing face-to-face communication delivery methods

Once you have determined F2F communication to be feasible and meaningful for your communication project, your need to decide your delivery method. Will you share your message to small groups through direct dialogue or give a presentation to a bigger audience? Further, the COVID-19 pandemic has taught us to move many traditionally in-person activities online. As such, you may want to consider employing video conference presentations, too. The following table outlines the benefits, drawbacks and other considerations around each of these three primary F2F communication delivery methods.

| | **Small Group Dialogue** | **In-Person Presentation** | **Video Conference** |
|---|---|---|---|
| *Benefits* | • Listener will be more attentive<br>• Can more easily build trust with the audience<br>• Can correct misunderstandings or re-orient message instantaneously | • Has potential to reach a very large audience<br>• Pairs well with engaging visuals, video and sound<br>• Instantaneous audience feedback (e.g. cheers, clapping) | • Has potential to reach a very large audience<br>• More accessible and inclusive than in-person activities and in-person presentations |
| *Drawbacks* | • Only directly reaching a very small group<br>• If spokesperson is not approachable and efficient, this could harm organizational reputation<br>• Scheduling and coordinating face-to-face sessions can be challenging—need to consider transportation barriers and identify suitable meeting spaces | • Expensive and time-consuming to organize<br>• Can be challenging to organize to ensure all stakeholders can attend<br>• There can be less opportunity for discussion, or discussion may be driven by only a few stakeholders | • Some non-verbal messaging cues are lost and it can be difficult to get a sense of audience mood<br>• For very large groups, it can be challenging to moderate the discussion (though having a moderator can help to address this)<br>• Need stable internet access for host and attendees but access to internet may not be equal across all stakeholder groups |

| | | | |
|---|---|---|---|
| *When to Use* | • There is a pre-existing relationship or trust between the spokesperson and audience<br>• Audience members are champions in their communities and engaging them deeply will allow them to share the message back to their communities<br>• Narrow target audience | • The organization has a charismatic, credible and knowledgeable spokesperson<br>• Broad target audience<br>• Sufficient resources to organize a presentation | • Target audience is distributed across a wide geographic region and/or unable to attend a presentation in-person<br>• Audience will likely have the technological skills to navigate video conference logistics |

## Tips for effective face-to-face communication

### Find (or be) the best spokesperson

As was the case with speaking to the mainstream media, your spokesperson should be credible, use language that your audience will understand and exhibit appropriate body language. However, with F2F communication, the audience can actually talk back. For this reason, it is important that your spokesperson also be capable, in terms of expertise and authority, to address any concerns that arise.

One strategy is to employ multiple spokespeople with complementary areas of expertise and/or organizational affiliations yet share a unified message. Agreement among experts, particularly those from different fields and organizations, will increase audience confidence. However, it does not work if the audience perceives the group of experts as ganging up on them or if the spokespeople start arguing with each other.

Finally, it is important to keep in mind that the audience's perception of the spokesperson—their likeability, reputation and credibility—will play a huge role in determining the audience's response and their willingness to accept the message.

### Pair with written or online materials

Think about the classes you have sat through where your instructor flashed up a series of information-loaded slides covering all the points that you will need to pass your final exam. You either focus entirely on the speaker but risk forgetting things later on, or you spend so much time manically scribbling down notes that you don't have the headspace to actually engage with the content. Instead, had the instructor provided you with a notes package containing all the contents of the slides, you could have more easily directed your full attention to the class, knowing that the facts and figures will be available at your fingertips later.

Similarly, it is important to provide the audience of your F2F engagement sessions with some form of written communication, either on paper or online. The handout should cover the most important information in your message and be available prior to the session. The audience can then refer to the material during the session if they are confused and add their own notes, which encourages active listening, engagement, learning, and retention. However, make sure that your presentation does not duplicate word for word the contents of your written material, which could risk having the opposite effect and leave your audience bored and disengaged.

### Reinforce (but don't replace) your message with visual aids

PowerPoints are the conventional visual aid to a presentation. However, reflect critically on whether your message will be elevated by having one or if you will end up relying on the slides as a crutch to read off of. Should you decide to use presentation slides, craft your speaking notes first and use your slides to present visuals or phrases to clarify or emphasizes key components of the message.

Here are a few principles to making simple, readable and non-redundant slides:

- Your slides should require explanation – that is what your presentation is supposed to do!
- Use high-quality images, preferably photographs.
- Keep text at a minimum. If you do use text, make it readable by using large font sizes (28-40 point for headlines and 18-28 for text), sans serif fonts and font colours that contrast well with the background.
- Use the slide sorter function to review your presentation as a whole to make sure it has a logical flow that your audience can easily follow.

For a helpful list of tips for creating effective presentation slides, see communications consultant Garr Reynold's website post.

### Have a follow up mechanism

Often, you will emerge from a F2F event with outstanding audience questions that you didn't have time or the full information to answer, or new action items based on discussions during the event. If you don't follow up on these items, or if you follow up but your audience does not know about it, then you will lose credibility. For a small group, it may work to follow up by email. For a larger group, you could use social media or a website to broadly publish your follow-up information.

### Practice, practice, practice

Know your presentation inside and out plus anticipate and practice answering questions. This is particularly important if your audience could be hostile or if the stakes are high. You can do this by practicing in front of friends or colleagues to get feedback. Alternatively, try filming or recording your presentation to have a better sense of your speaking manner and pacing.

Further, it is important to ensure you have all the necessary equipment and aids ready so you're not taking up people's time or coming off as unprepared during set-up. Having back-ups of your speaking notes, presentations slides or other necessary aids can also be helpful.

### Consider the setting

Is the location somewhere that people will feel comfortable? Locations that are on the audience's 'home turf' or at least a neutral location may be preferable over asking people to come to you. If you are not familiar with the location, visit it in advance with an eye towards accessibility, seating, acoustics, and lighting. For example, theatre-style seating is often the norm, but it can be subconsciously adversarial by creating an us vs. them sort of arrangement. If it is a small enough group, opt instead for boardroom-style seating that puts everyone on an equal plane. Similarly, can people hear you from all parts of the room or will you need a microphone? Does the lighting allow people to see both you and your presentation?

### Be as inclusive as possible

One of the main reasons that you would have chosen F2F communication over other media is that it allows audiences to interact with you. This means that you should do everything in your power to efficiently and effectively include audience interaction in your communication plan and that all members of your audience have an equal opportunity to interact, not just the loudest voices. For example, instead of having people stand up and ask questions at an event, which can feel daunting for many, use audience engagement sites like Slido, Menti or Poll Everywhere so audience members can connect to a presentation through their smartphones and submit questions anonymously.

Equity and accessibility are also important considerations to ensure your F2F messaging reaches as many people as fairly as possible. This often entails analyzing your expected audience demographic for preferred language, linguistic comprehension and ability. Do you need interpreters at your event, including sign language interpreters? Are you speaking in lay language that is comprehensible to audiences who don't have any expertise in the subject matter or who may not have post-secondary education? Accommodating the needs of all your audience members will reinforce the credibility of your message and spokesperson and lower the chances that your message will be lost or misunderstood.

*Even on video call presentations, many of the same principles to traditional F2F communication apply.*

## Takeaways

Key Takeaways

- Face-to-face (F2F) communication is one of the most engaging and persuasive media you can use thanks to its direct and responsive nature.
- F2F communication can be delivered in small groups or as a presentation, either in-person or online. The delivery method you use should depend on your goal, the complexity of your message and your relationship with the audience.
- Choose a credible spokesperson who can deliver the message using language that can be easily understood by the intended audience.
- Always consider accessibility, whether it be for in-person meetings (e.g. space accessibility, translation, etc.) or online (e.g. access to internet and the platform being used).

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# 3.6 Stakeholder Engagement

Learning Objectives

- To understand why and whether you should engage stakeholders in your communication program.
- To have an overview of stakeholder engagement techniques.
- To describe some considerations for successful stakeholder engagement.

Stakeholder engagement uses face-to-face (F2F) communication to build a relationship with stakeholders—those who are likely to have an influence on and/or be impacted by the initiative. The purpose of engaging stakeholders is to foster support, receive feedback and demonstrate accountability. Through building trust and shared understanding between a communicator and key stakeholders, a communication campaign can more effectively achieve its objectives while mitigating potential risks. Additionally, in acknowledging the needs of all stakeholders, a program can be more equitable and responsive to a broader swath of its intended audience.

## Should you engage?

Encouraging stakeholder participation during communication planning can help to make sure the actual program will reach the intended audience. However, as discussed in the ethics section, communicators who are consulting stakeholders only for the optics rather than finding ways to create appropriate, meaningful and reciprocal dialogue, can do more harm than good. In short, poorly done stakeholder engagement is often worse than no stakeholder engagement at all.

Therefore, before you start down this path, ask yourself the following questions:

Supplementary Material

1. ***Is it possible to engage your key stakeholders?***
For issues that impact a huge number of people spread over a wide geographic area, it will be an enormous challenge to have

full representation of your stakeholders at the table. In addition, such a diverse group will not likely reach consensus. Instead, consider sessions to inform audiences about upcoming activities that may interest them and anticipate and address issues that could incite hostility.

2. ***Will stakeholder feedback have any influence over decision making?*** If your stakeholders have little say in decisions around a particular policy or program, conducting highly involved engagement sessions could create unrealistic expectations among stakeholders about the final results.
3. ***Do you have the necessary resources?*** Effective stakeholder engagement will require a significant investment of time, people and money. Make sure to identify the inputs needed for engagement early on in communication planning. Also be sure that everyone in the organization understands the importance of the engagement and will commit to actively listening to participants.

If you conclude there is a need and ability to conduct meaningful stakeholder engagement for your communication program, you will then need to create a plan for how you will conduct those engagements.

**International Association for Public Participation**

The International Association for Public Participation (IAP2) is a fantastic organization whose mission is to "extend the practice of public participation through professional development, certification, standards of practice, core values, advocacy and key initiatives with strategic partners around the world." If you think you may be involved in stakeholder engagement, visit the IAP2 website for opportunities and resources.

## Stakeholder analysis

The first step to stakeholder engagement is to actually find out who your key stakeholders are! This involves asking two simple questions: first, who will be impacted by your program; and second, who exerts influence over your program? Create a list of all groups who fall under either, or both, of those categories.

Once you have your list, map out the profiles of each group by determining their interests, their stance with respect to your program and how you will engage them. This is usually done using a stakeholder analysis matrix, such as the one below.

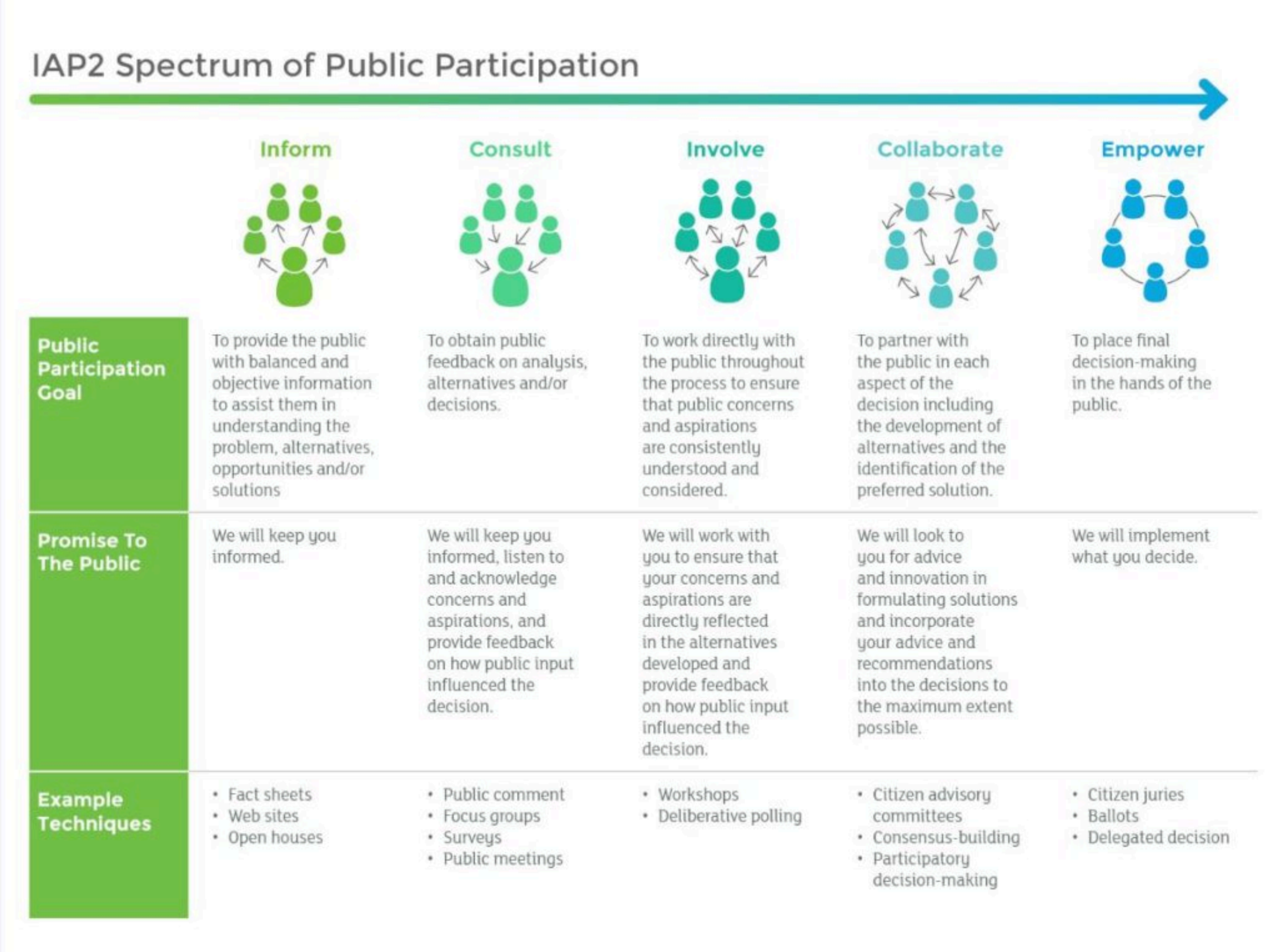
| STAKEHOLDER GROUP | LEVEL OF IMPACT/ INFLUENCE | LEVEL OF SUPPORT | INTERESTS | ENGAGEMENT TECHNIQUE |
|---|---|---|---|---|
| **Stakeholder 1** | High/Moderate/ Low<br>Impact/ Influence | Supportive/Neutral/ Resistant | Needs and expectations | Appropriate ways to be engaged |
| **Stakeholder 2** | … | … | … | … |

*Table adapted from GoLeanSixSigma.com.*

## Stakeholder engagement techniques

A key part of stakeholder analysis involves identifying the best technique or suite of techniques to engage each stakeholder group. The techniques you choose will depend on each stakeholder’s communication preferences, the level to which that group should be engaged and your objective for engaging that group.

The International Association for Public Participation has constructed a spectrum of public participation that is a useful tool in planning stakeholder engagement. The spectrum ranges from ‘inform’ (the lowest level of engagement) to ‘empower’ (the highest level). Your engagement objective, and therefore where on the spectrum your engagement efforts will fall, can help to inform the most appropriate techniques to use.



IAP2 Spectrum of Public Participation

| | Inform | Consult | Involve | Collaborate | Empower |
|---|---|---|---|---|---|
| **Public Participation Goal** | To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions | To obtain public feedback on analysis, alternatives and/or decisions. | To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered. | To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution. | To place final decision-making in the hands of the public. |
| **Promise To The Public** | We will keep you informed. | We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. | We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision. | We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible. | We will implement what you decide. |
| **Example Techniques** | • Fact sheets<br>• Web sites<br>• Open houses | • Public comment<br>• Focus groups<br>• Surveys<br>• Public meetings | • Workshops<br>• Deliberative polling | • Citizen advisory committees<br>• Consensus-building<br>• Participatory decision-making | • Citizen juries<br>• Ballots<br>• Delegated decision |

*The IAP2 Spectrum of Public Participation*

In addition to the examples listed in the IAP2 spectrum, other engagement techniques include conversation mapping, Socratic circles, community visioning, dotmocracy, and stop-start-continue exercises.

## Additional considerations for stakeholder engagement

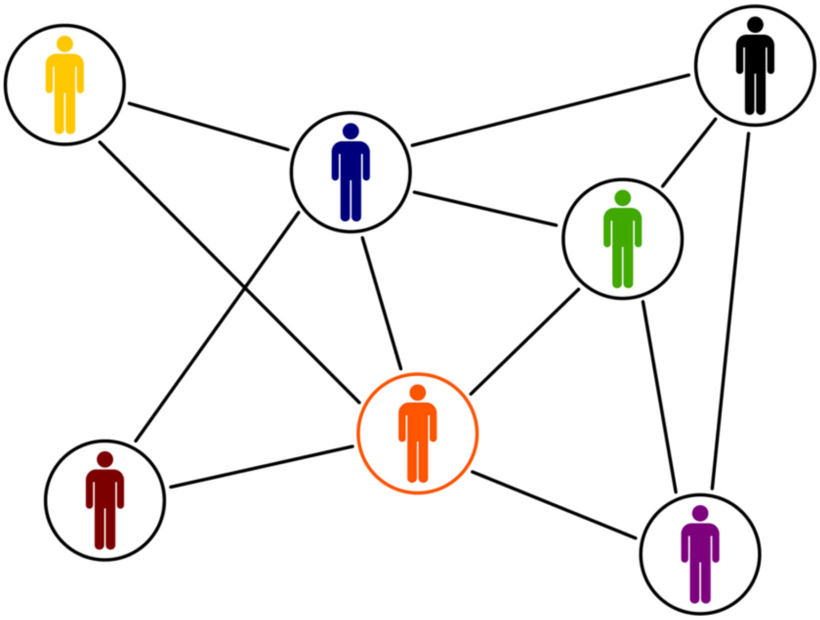
Before you launch your stakeholder engagement session, be sure to do an overall assessment of your plan. You should ask yourself:

1. ***Will you get representation from all key stakeholders?***
   In other words, are those who will be most impacted, or have the most impact on your communication program, able to meaningfully engage? Not only should you have reached out to all the relevant groups, you should make sure your engagement efforts consider accessibility of location, timing, space and language for each of the groups identified.

2. ***Have you selected the appropriate attendees from both sides of the table?***
   The stakeholder representatives you invite should have the political, organizational, or social authority to represent their group. Meanwhile, your team should include both subject area experts and key decision makers. Additionally, you may require a neutral moderator to facilitate the engagement.

3. ***Have you selected the most appropriate techniques based on the needs of your stakeholders?***
   Consider the strengths and drawbacks of each technique. For example, while advisory groups can offer feedback over a long period of time, this technique is also time consuming and requires a high level of commitment and interest among participants. Conversely, online surveys are quick to complete and can reach a wide audience but they often have low completion rates and offer shallow information.

4. ***Have you set clear terms of engagement?***
   Make sure everyone is clear on and in agreement about both the objectives and process of the engagement. Ideally, these terms should be established collaboratively and prior to the initial meeting.



*Stakeholders are integral in much of the risk messaging that occurs. Engaging stakeholders throughout the communication process is important and requires thoughtful consideration of each stakeholders' interests and values.*

## Takeaways

Key Takeaways

- The purpose of engaging stakeholders is to foster support with, receive feedback from, and demonstrate accountability to groups that will be affected by or have impact on your communication project.
- Before engaging stakeholders, carefully reflect on whether engagement is feasible and appropriate.
- Plan your stakeholder engagement by mapping out your key stakeholder groups and selecting the engagement techniques that reflect the preferences of that group and your communication goals.

Media Attributions

- IAP2 Spectrum of Public Participation © International Association for Public Participation adapted by Patient Voices Network
- Network of people © Unknown

## 3.7 Film

Learning Objectives

- To discuss the benefits and drawbacks of film as a medium for science and risk communication.
- To describe features of films that have been used effectively for science and risk communication.

People are naturally attracted to film, making it a powerful tool for communication. However, it is important to understand the benefits and drawbacks of this medium. Film is very good at catching people's interest and motivating them. It's likely not hard for you to think of a movie, video or even a commercial that moved you in some way. However, film is not the best for education. For people to really learn something , the information needs to be repeated over and over again; unfortunately, repetition would make for a boring film. Additionally, watching a film is a passive process and if you want your audience to learn complex concepts, you may need engage them in a more active way. The take home message is that film is really more about style than substance and should be used judiciously.

*Film can grab our attention and take us on an emotional journey. The 2017 documentary Chasing Coral has won critical acclaim for its portrayal of coral reef decline as a result of climate change. Much of what makes this film so powerful is the intersection of imagery and science.*

## Tips for the effective use of film as a communication medium

It is beyond the scope of this textbook or course to provide you with all the details on how to produce a good film. After all, people spend a whole degree, or even an entire career, learning this. For this reason, it is probably prudent to enlist the help of someone with some sort of expertise or training in this medium to help you. Our science film guru is Randy Olson and he provides some excellent tips on the basic principles of good science film-making.

### Show, don't tell

Film is a primarily visual medium, meaning that the images are the most important part, with the sound playing a supporting role. The hallmark of a good film is that you should be able to turn off the sound and understand the message just by watching the images. This is why long periods of footage featuring someone talking at the camera makes for a bad film.

### There needs to be a narrative

From a 3-second commercial to a 3-hour drama, films need to have a compelling story. A film without a clear narrative is guaranteed to bore your audience. I bet you can recall being subjected to a number of story-less 'educational' videos in your academic career.

Summary

**5 Steps of film narrative**

Exposition (description of starting state) → Inciting incident (usually raises a question and creates suspense) → Exploration (audience does not know which way the story will go) → Climax (the truth is revealed) → Resolution (tension is released and the audience is left with some transcendent wisdom)

## Incorporate tension

This is part of developing a good narrative but it bears repeating. You can't have a resolution (i.e., message delivery) without some sort of climax where the truth is revealed, and you can't have that climax without first creating some form of tension, whether it is suspense or conflict.

Example

**Barnacles Tell No Lies**

How do you get people interested in barnacles? Juxtapose barnacle facts with humour and sex appeal. Seriously! Watch [Barnacles tell no lies.]()

## Juxtaposition can help to catch people's attention

This is when you bring together two unrelated themes or concepts to create something unique and memorable. Science films are often very serious and literal, but if you can contrast the dry science with something funny, silly, or even sexy, then you have the key to creating a really captivating film.

## Bring in details

Details and specifics make things memorable. If you think of your favorite movie, what you will probably remember are the details rather than generalities. It may seem counter-intuitive, but it is those details that actually drive the message.

### Don’t forget to fulfill

Film is great for achieving the ‘arouse’ component of ‘arouse and fulfill’, but don’t leave it there or you will be missing out on the real opportunity to deliver your message. You can both motivate and educate within a film or by making film one component of a larger communication strategy. For example, you could use film to generate audience interest before directing them to other resources (i.e., websites, in person talks or meetings, etc.) where they can receive additional information.

Example

**Fava Beans and a Nice Chianti**

If you have watched Silence of the Lambs, you probably remember the pivotal prison scene between Hannibal Lecter and Dr. Clarice Starling. If not you need to watch it. Would it have been as memorable if Hannibal had said “I’m a cannibal so I ate him.” instead of ‘I ate his liver with some fava beans and a nice chianti….hisss!’

## Takeaways

Key Takeaways

- Film is more about style than substance. While films can be engaging and memorable, the medium is not suitable for deep engagement and education about complex topics.
- A good film will make use of captivating visuals and memorable details to tell a compelling narrative.

Media Attributions

- Coral outcrop on Flynn Reef © Toby Hudson is licensed under a CC BY-SA (Attribution ShareAlike) license

# 3.8 Podcasting

Learning Objectives

- To contrast podcasting to other forms of risk communication
- To identify the benefits and drawbacks to using podcasts to deliver a message.

Today, everyone seems to have a podcast. As of September, 2019 there are over 700,000 active podcasts worldwide. Regular podcast listeners spend an average of 6.5 hours listening to podcasts each week. That's a lot of audio content!

Why has there been a movement towards podcasting? Compared with traditional print media or television, podcasts are an alternative way to reach people who are busy. The audience can listen to a podcast while commuting, grocery shopping, or out on a run. They are also easily shared and distributed. Interestingly, podcast listeners are 81% more active on social media than the entire population, which highlights the potential for content sharing. Despite the potential value of podcasts for risk communication, they are also difficult to maintain. Many podcasts end before 7 episodes and generally a first season of episodes would consist of around 10 episodes.

Example

**Have a Listen**

Science Vs. is a podcast which features both expert interviews and narrator-synthesized content. Listen to the following episode on vaping and ask yourself:

- Where does this issue fall on the Hazard x Outrage spectrum?
- What do you think are the goals of the episode?

- How do they engage their audience?
- How do they address uncertainty?
- How do they convince the listener that they are credible?

## Creating a podcast

When creating a podcast, consider the following components.

### Goals and Format

Are your aims to persuade or to provide listeners with several positions on an issue? This will inform the format you choose, who you interview, and how you share that information. To determine how you want to share that information, listen to other podcasts to get a sense of styles that speak to you and would be appropriate for your content. Some podcasts incorporate humour while others are more professional. The style will depend on your audience. Some successful science communication podcasts use expert interviews (e.g. Broad Science, Ologies and Science Vs.) while others share synthesized scientific information (i.e., Radio Lab, Dope Labs) or a combination of both (check out: How to Save a Planet).

### Audience

No matter the medium you choose, you will always be making a choice that will impact who you reach. Podcasts tend to be more popular among younger individuals with higher education. Approximately 50% of listeners are aged 25-44, and listeners are more likely to have a college degree. For a more detailed description of podcast audiences, see: The Meteoric Rise of Podcasting. Another interesting thing to keep in mind is that when and how often we listen to podcasts changes. The COVID-19 pandemic initially resulted in a decrease in the amount of time people spend listening to podcasts, which could be due to changes in commuting (many people listen to podcasts while transiting to work or other social activities). And so audience composition and size is constantly changing!

### Length

Podcasts can range widely in length. Some podcasts deliver quick bits of information in a few minutes while others can be hours long! The length of your podcast will depend on your topic, your communication goal, and your format. Keep in mind that 22% of podcast listeners say they listen while driving, so when considering length, it's worth thinking about commute times. In Canada, the average commute time is 25 minutes so podcasts of approximately this length or slightly less will be more attractive for listeners looking for digestible commute content. But, as mentioned above, this landscape is constantly changing!

## Plan

Planning your podcast script in advance can be really handy and help to improve the flow of your questions and information that you share. Remember that podcasting is another form of storytelling. What is the setting? Who are the characters (i.e., experts or members of the public)? What are the issues that are being overcome or addressed? Consider all these factors when structuring your podcast. And, like a good story, think about how you will “hook” the audience at the start to engage them!

## Equipment

Once you have a message, format, and plan, you now need to record. We suggest starting small. While there are certainly high-quality microphones and software that can be used, these are not necessary at the start. All you need is a computer and microphone. There are plenty of free software for recording and editing you can download; OSX users can use Garageband and PC users can use Audacity. There are also online platforms like Zencastr which will record separate audio files for multiple people (so handy for editing), which can and works well for interviews where people aren’t all in the same room. While it might be tempting to get a fancy microphone, many basic microphones either already on headsets or USB microphones will provide satisfactory audio for a new podcast.

## Podcast guest vs podcast host

It is entirely possible that your communication goals don’t align with starting a podcast. They can be challenging to build an audience, they require lots of work and coordination, and they may be more suited for long-term communications campaigns vs. short-term issues. However, you may have the opportunity to be a guest on a podcast which in turn can help you to share your message and many of the same considerations still apply. Ensure you have a headset with a mic for recording, think of your audience (in this case, the audience of the podcast you are guesting on), your aims, and how you will tell your story within the time available.

*Very little equipment is needed to start a podcast. There are free software tools for editing and decent microphones run under $100. As you progress, you can consider adding additional tools to improve sound and mixing.*

## Takeaways

Key Takeaways

- Podcasting is an increasingly popular medium that can be easily produced and has potential to reach a wide audience.
- Creating your own podcast can be a large endeavor that requires careful consideration about the ideal format, tone, length, frequency of release, and more.

Media Attributions

- Podcast equipment © Nicolas Solop is licensed under a CC BY-SA (Attribution ShareAlike) license

# 3.9 Visual Aids for Communication

Learning Objectives

- To understand the role of visuals in risk communication.
- To appreciate the variety of visual aids that could be used to communicate scientific information.

When used thoughtfully, visuals can help to engage an audience and clarify a message that may be unclear with words alone. Because visualization is a useful tool for communication, it can also be applied to risk communication. But how do you include visuals in a meaningful way?

Example

**Visualization in Public Health**

For examples of how data can be displayed using visuals in an engaging and digestible way see:

1. CDC Malaria
2. American Lung Association

## Principles from information visualization

Information visualization, also called ‘infovis’, is an emerging discipline in computer science that combines aspects of computer science, human-computer interaction and psychology. Infovis is used to help a viewer (i.e. the audience) find patterns in data and discover new questions or avenues of inquiry. This kind of visualization summarizes data in a more intuitive, easily interpreted manner. There are a number of principles from infovis that can be applied when considering using visuals to enhance risk or science communication:

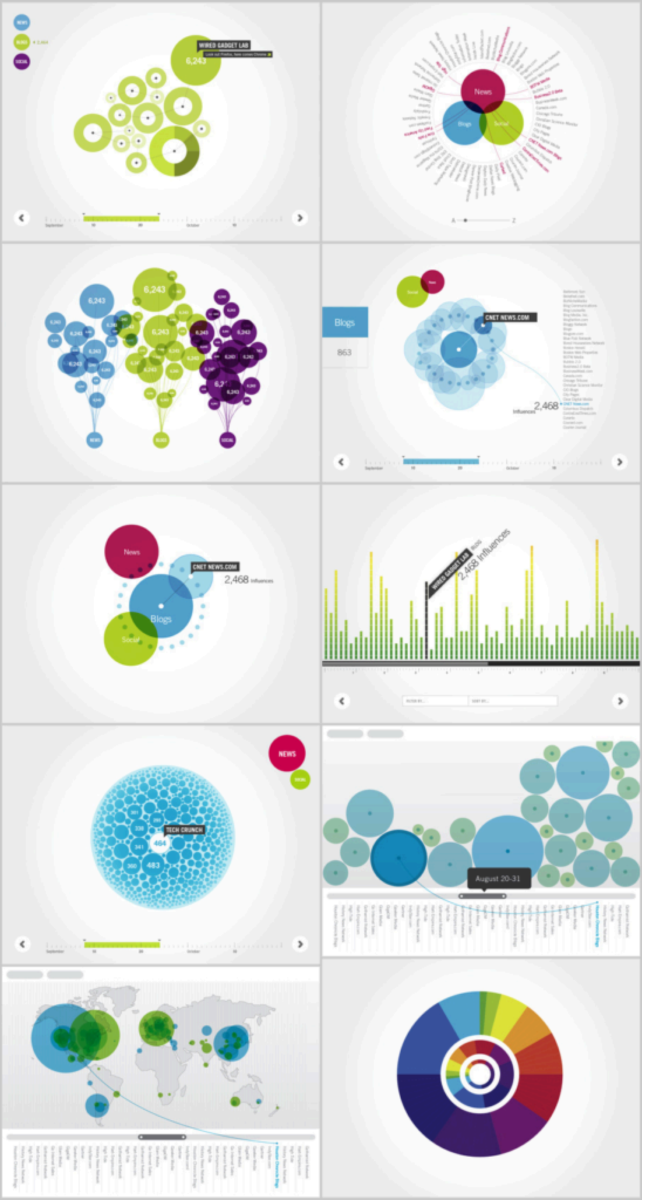
Example

**The best stats you've ever seen**

Dr. Hans Rosling's presentation at the 2006 TED conference remains one of the most popular TED talks ever. Watch his presentation to appreciate the power of data visualization in reshaping how we think about the world.

1. Use visuals when data are needed to communicate a message but, on their own, the data is difficult to understand. Visuals can help to highlight the most important trends in the data while de-emphasizing less important information.
2. When developing visuals, first identify your problem (why do you need visuals?), then break down the solution into domains that each require a data visual.
3. When using tables to display data, use rows for items and columns for dimensions. Dimensions could be quantitative (e.g. age), ordered (e.g. shirt size), or categorical (e.g. favourite food).
4. Visual encoding is the process of assigning a graphical representation to a specific item and dimension.
   - The graphical representations of items are called marks—the symbols we use to indicate a data point. A mark might be a dot, a line, or 3D volume.
   - The graphical representations of dimensions are called visual channels. These are things like size, colour, shape and spatial position. We can use multiple visual channels to encode multiple dimensions on a single mark.

   Different channels are effective for different types of dimensional data.
5. In choosing visual channels, ensure they are distinguishable (i.e. the value can be clearly identified in the graph) and separable (i.e. the marks can be accurately perceived).
6. When using volume and 3D visualizations, be mindful of occlusion and perspective distortion. Occlusion occurs when a chunk of 3D data blocks the view of another piece of data, while perspective distortion occurs because the most distant point in a 3D visualization can't be seen as easily as a closer point.
7. Colour occupies three separate visual channels: hue (what we think of when we think colour), saturation (a scale from greyish to full hue), and lightness (a scale from black to white, with the full hue in the middle). Hue works well for categorical data when there are fewer than eight categories, while saturation and lightness work well for ordered data. Avoid rainbow maps for qualitative data and try to stick to colour maps that use continuous gradients of saturation or lightness.
8. Remember that your audience may include some people who perceive colour in different ways. Consider using colour pallets that can be viewed by persons with colourblindness.
9. Choose the right chart for the type of data you're trying to visualize. And for any chart you use, remember the remove to improve principle: your chart should contain no redundant ink.



*Data can be visualized in a number of ways, but not all visualizations will be informative to the audience. Consider the information you intend to share and how best to demonstrate the most important aspects of that data.*

## Communicating risk using visuals

Displaying risk using visuals can be an effective way to distill complex probabilities into intuitive symbols. The book "Risk Communications: A Handbook for Communicating Environmental, Safety, and Health Risks" by Lundgren and McMakin (2018) makes several recommendations for communicating risk using visuals. For instance, they recommend using visuals to:

1. ***Display the risk and its effects.*** Where possible, show visuals of the risk or use symbols to

represent things like health effects (e.g. a skull and crossbones to indicate death).

2. ***Show the size and significance of the risk***. Use visuals to demonstrate "who" is at risk or "how" risk changes with time. These types of information can be displayed using lines or bar graphs. When using numbers, remember that those numbers should be comparable (i.e., use denominators).
3. ***Display the likelihood of the risk.*** Flowcharts, tables, charts, and numbers can be used to demonstrate the probabilities of a risk as well as show uncertainties. For example, Lundgren and McMakin (2018) demonstrate how health risks can be visualized by illustrating a group of people and indicating how many of these people have acquired an illness (e.g., a probability of 1/10 people acquiring X disease could be indicated by drawing the outlines of 10 people and indicating one person with the illness by either using a symbol or by filling in the outline of 1 person).
4. ***Personalize the risk.*** When communicating about risk, people ultimately want to know how this risk might affect them, their family, and friends. To provide a visualization people can connect with, communicators can use photos that show some of the symptoms/warning signs of certain health conditions. To depict magnitude, risks can also be visualized in terms of "lifetime" or "annual" risk (i.e., how many people are affected per lifetime or per year).
5. ***Provide comparisons and a scale.*** Visuals are especially useful for comparing the effects and magnitudes of risk. Consider using visuals to compare and contrast risks (e.g., for lung cancer risks, you could compare risks from radon exposure versus smoking). You can also use analogies where appropriate to help make the risk relevant. One way to draw comparisons (while using an analogy) is to use a 'risk ladder'. A 'risk ladder" can be used to provide the upper and lower levels of a risk, and a viewer can look at the ladder and place themselves at the appropriate level, which can help contextualize their risk in relation to other people. One issue with risk ladders as identified by Lundren and McMakin (2018) is that those who see themselves at "lower on the ladder" can become complacent.
6. ***Show as many aspects of the risk as possible.*** Where there are multiple contributors to risk, consider using multiple (but simplified) visuals as compared to fewer complex visuals.

## Adapting risk visuals for different media

How risk is displayed will also depend on the medium. While the above principles about communicating risk using visuals apply generally, it is important to remember that different media will be digested differently by the audience. You can use social media or polling as a tool to understand which visuals might be received best by your target audience. Below are some recommendations for visuals depending on the medium.

### Printed materials (newsletters, fliers, fact sheets, brochures, etc.)

Because an audience can grab printed materials to read at their leisure, these materials can often contain more content and be more comprehensive than other forms of communication. For this reason, they are often the only medium where number-intensive graphs, charts or flowcharts can be incorporated appropriately.

### Posters

Posters are designed to draw in an audience's attention and highlight a few key messages. For this medium, make sure text and visuals are visible from at least a couple of feet away and the message is immediately evident.

### Presentations

Similar to posters, consider distance—will everyone in the room be able to see what is on the slide? Try to tailor any visual content to the background, knowledge, and interest of the audience. See the section below on slide design.

### News Media

As discussed in previous sections, news media can be a quick way to reach a large audience. As such, graphics shared in this medium should grab attention quickly and be kept uncluttered and simple. For television, consider drawing on emotion by showing images of people or things affected by the risk, where appropriate.

### Social Media

Social media products can be interactive and tailored towards specific interests of the audience. This is a suitable medium for animations and short videos that people will want to share.

## Slide design

Before you begin making presentation slides, jot down what you want to say before you open your slideware and begin designing. To do this, reflect on your audience, motivation for presenting and the overall narrative. Once you have your script, identify the key messages and sections of your presentation in order to see where slides can support our messaging.

When you're ready to design your slides, keep the following in mind:

- ***Don't fall into the standard template trap.*** Break out of the mold by trying a new tool like Keynote or Prezzi or by beginning your Powerpoint deck with blank white slides. You can also use alternative fonts—try fontsquirrel.com. Be aware though that if you aren't using your computer to present, some of these features or fonts won't show up on another device, so you may first need to save your presentation as a PDF to preserve the formatting.
- ***Say a duck, show a duck.*** Have a visual to support each key idea you present. This might be actual data, or it could be an image that reflects an abstract concept. For royalty-free images, try Freeimages.com, compfight.com, and thenounproject.com. Tweak your images using apps that apply colour and lighting effects, and don't be afraid of making full-screen graphics.
- ***Apply a consistent colour theme.*** Use the eyedropper tool to pull a colour out of an image you've used on a slide and use that colour to accent text you want to highlight.
- ***Keep text to a minimum.*** Instead of writing full sentences on your slides, prompt yourself

with keywords and key phrases. Try the 5 x 3 rule to limit the text: 5 lines x 3 words per line, or 3 lines x 5 words per line.

For more on slide design and presenting, check out Nancy Duarte's book Slideology, and Garr Reynolds' sites presentationzen.com and garrreynolds.com.

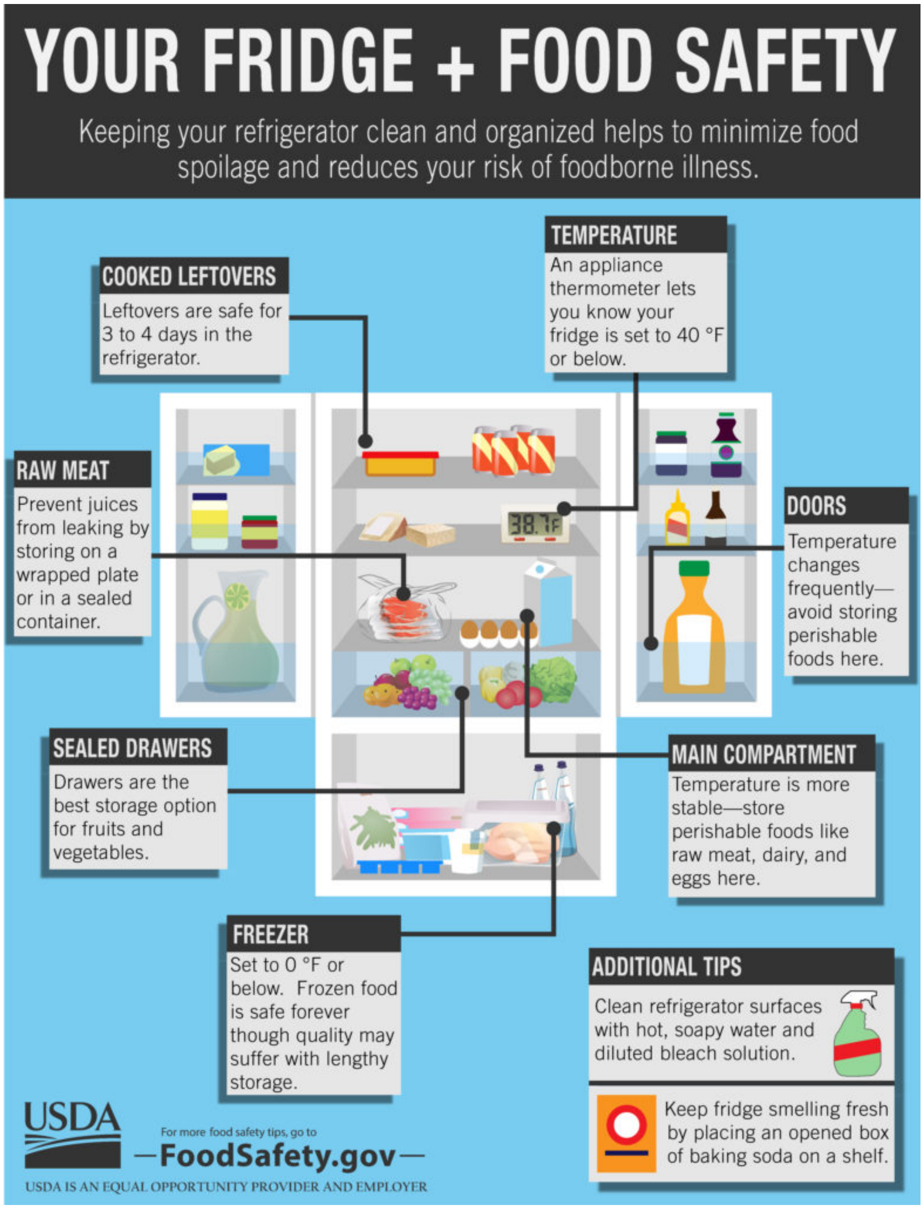
## Infographics

A visualization is a single static or interactive representation of some data, while an infographic is a textual narrative supported by multiple visualizations.

An infographic has three parts: 1) the **visual** (the graphical elements, colour scheme, etc…); 2) the **content** (the underlying numbers, statistics and data); 3) and the **knowledge** (the main insight you want to communicate).

When designing an infographic, consider:

- First identify your key message, or the knowledge you want to convey, before collecting support data.
- Some of the data you use can be represented visually while others may need to be written out into a brief text.
- Placing elements in an orientation that leads the viewer through the data and the text to a big a-ha! moment.
- Use online tools like piktochart.com, canva.com, and venngage.com to easily create infographics.



# YOUR FRIDGE + FOOD SAFETY

Keeping your refrigerator clean and organized helps to minimize food spoilage and reduces your risk of foodborne illness.

**COOKED LEFTOVERS**

Leftovers are safe for 3 to 4 days in the refrigerator.

**TEMPERATURE**

An appliance thermometer lets you know your fridge is set to 40 °F or below.

**RAW MEAT**

Prevent juices from leaking by storing on a wrapped plate or in a sealed container.

**DOORS**

Temperature changes frequently—avoid storing perishable foods here.

**SEALED DRAWERS**

Drawers are the best storage option for fruits and vegetables.

**MAIN COMPARTMENT**

Temperature is more stable—store perishable foods like raw meat, dairy, and eggs here.

**FREEZER**

Set to 0 °F or below. Frozen food is safe forever though quality may suffer with lengthy storage.

**ADDITIONAL TIPS**

Clean refrigerator surfaces with hot, soapy water and diluted bleach solution.

Keep fridge smelling fresh by placing an opened box of baking soda on a shelf.

USDA

For more food safety tips, go to —FoodSafety.gov—

USDA IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER

*Infographics relay information using visual tools to help improve messaging. In this infographic, the visual of a fridge helps the audience better compare their own food storage practice with the highlighted food safety issues.*

## Takeaways

Key Takeaways

- Visuals can serve as an engaging and concise medium by itself (e.g. infographic, poster) or to enhance another medium (e.g. presentation slides, graphs and diagrams in reports).

- Visuals can help communicate complex ideas about risk by making the scale and significance of the risk more cogent, personalized and tangible for the audience.

### Media Attributions

- Data visualization project for Google © Push and Play is licensed under a CC BY (Attribution) license
- Your Fridge + Food Safety infographic © U.S. Department of Agriculture is licensed under a CC BY (Attribution) license

# 3.10 Communication Through Art

Learning Objectives

- To reflect on the value of art for risk communication.
- To understand how to incorporate an artistic component into a communication campaign.

A recurring theme in this text is the importance of engaging audiences with a message. There is a growing body of work that suggests that art can be used to engage audiences because humans are naturally visual creatures and art has the ability to elicit emotion.

While much of risk communication focuses on the cognitive domain of learning (i.e. comprehension and understanding), art can also stimulate the affective domain (i.e. appreciation, attitudes and feelings) (Friedman 2013). Perhaps because of its power to change attitudes, some work has also articulated that community-driven art engagement can affect meaningful change in some areas, such as around environmental issues (Evans 2014). Lesen et al. (2016) suggest that art can be a particularly effective medium for issues such as climate change which evoke emotional responses that promote behavioural change. Further, arts-based communication efforts have been shown to be particularly impactful when they are interactive and when the audience participates (i.e., the audience becomes a collaborator making the art as opposed to a passive observer of the art) (Lesen et al. 2016). See this article by Dr. Timothy Caufield for a more detailed description of the value of bringing art to science communication.

Example

**Art for Communication**

The Crochet Coral Reef Project: A global participatory project to raise awareness of coral reef bleaching due to climate change.

All of this sounds good, right? Engage your audience, involve them in the process, make some art and affect change. But perhaps you're saying, how do I get started? I'm not an artist, so how can I use art to communicate my message effectively? This is where the value of collaboration comes in. Collaboration with artists at the outset of a communication campaign can help to identify appropriate uses of art and opportunities to engage communities in risk-based art communications. This requires ongoing communication with collaborators as well as synchronizing goals, motivations and key outputs from the campaign.

When developing a communication campaign involving art, Lesen et al. have outlined a number of important considerations, including:

- What are your goals? Are the goals of the scientist and artist aligned?
- Who are your collaborators and what is the extent of the collaboration?
- Who is participating in the project?
- Who is your audience and what are the learning outcomes for the audience?
- How will you assess if your goal is achieved (e.g. participant surveys, audience size/attendance)?
- How will you evaluate both the scientific and artistic value of the project?

For more detailed information on how to conduct project evaluation and collaborative team performance measures using art, see the 2016 Lesen et al. article.

*This crocheted coral reef is made by people around the world and aims to teach people about the diversity and fragility of coral reefs.*

Risk and Time: A Data Sculpture on Nature, Disasters, and Finance. At a forum on the impact of natural disasters on finance co-hosted by the World Bank and the Government of Vanuatu, a data sculpture summarized 25 years of disaster data.

#SciPop: Twitter users employ this hashtag to share ongoing efforts to communicate science via art.

## Takeaways

Key Takeaways

- Art can be a valuable medium for risk and science communication because it appeals to people’s visual sense and can elicit emotions.
- To incorporate artistic components in your communication campaign, engage artists from the community and identify shared goals and outputs early on in the project.

Media Attributions

- Crocheted coral reef © Steve Jurvetson is licensed under a CC BY (Attribution) license

## 3.11 Poetry

- **Learning Objectives**

- To articulate the value of using poetry to communicate science and risk.
- To practicing distilling risk communication messaging into pieces of poetry.

When you think of poetry, what comes to mind? Is it the iambic pentameter of Shakespearean plays or the sad tale of J. Alfred Prufrock written by T.S. Elliot? But beyond these famous poets, there is also Ronald Ross, the scientist who first discovered that malaria was carried by mosquitoes in 1897. Both a scientist and a poet, Ronald Ross wrote of his frustrations and discoveries both in scientific journals and in poetry. In his poem “Indian Fevers”, Ross describes his work trying to uncover the cause of malaria, termed the ‘million-murdering cause’. In many ways, Ross’ poetry has been noted more often than the writing of his scientific papers.

**Indian Fevers**
In this, O Nature, yield I pray to me.
I pace and pace, and think and think, and take
The fever’d hands, and note down all I see,
That some dim distant light may haply break.

The painful faces ask, can we not cure?
We answer, No, not yet; we seek the laws.
O God, reveal thro’ all this thing obscure
The unseen small, but million-murdering cause.

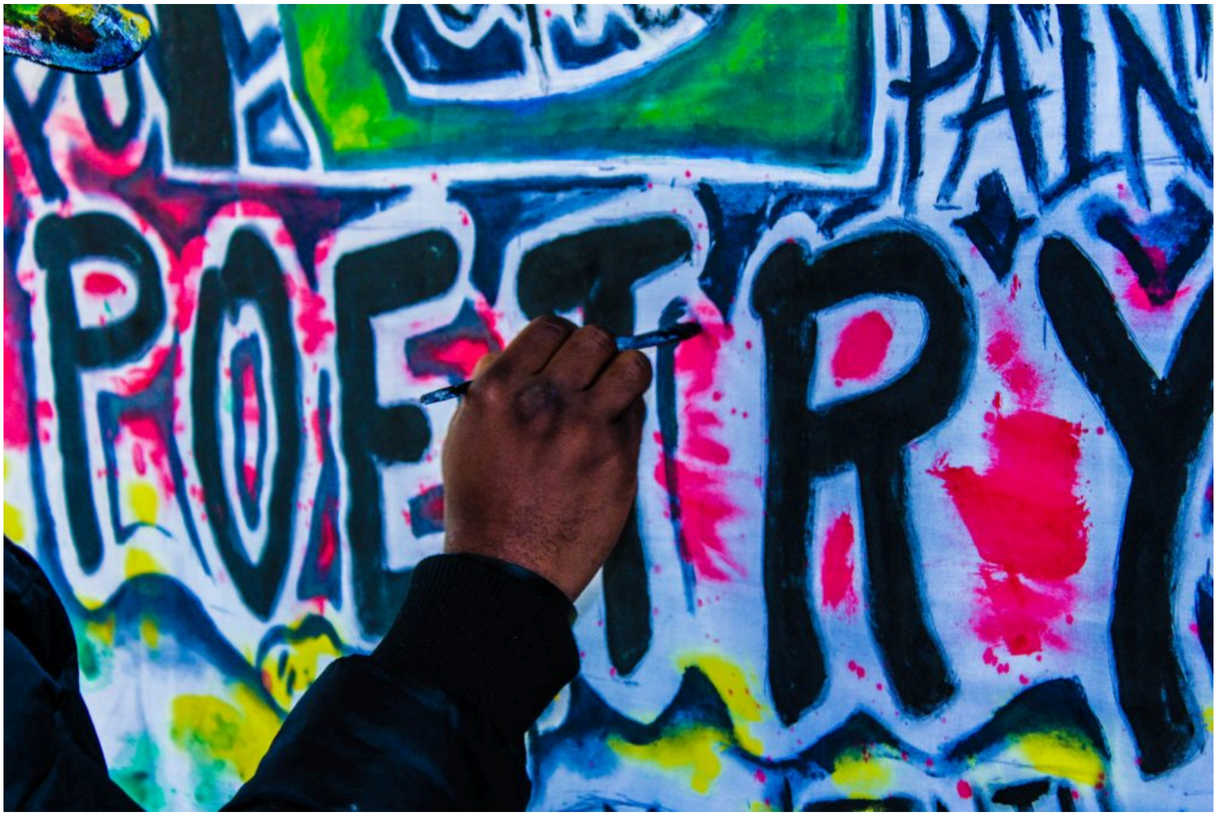
In this poem, Ross not only touches on his work to uncover the cause of malaria, but also focuses on the people suffering from it. His poetry evokes emotion in the reader, which helps to make a deeper impression of his key message and to facilitate a ‘call to action’.

Example

**Science Poetry**

See Dr. Illingworth's website "The Poetry of Science" which features poems distilling recent research findings with additional information of the research below the poem. We particularly like this poem called "Plastic Paradise".

Sharing science in poetry can also help to remove barriers between scientists and non-scientists. Remember that the perceived elitism of scientists was listed as a reason for a decrease in science engagement among Canadians in a survey in 2019. Science poet Dr. Sam Illingworth states,"By writing and sharing poetry together, nonscientists are given permission to express their opinions, and scientists are given permission to express their emotions. This creates a sense of shared vulnerability which helps to remind people that scientists are part of society; once you hear a professor stand up and read a forcibly rhymed sonnet about the intricacies of fluvial dynamics, you realise that they are indeed fallible. It is not the aesthetic quality of the poems that are important here but rather the construction of them that enables ideas and experiences to be meaningfully exchanged."



*Poetry can offer communicators a way to re-frame and rephrase concepts.*

While poetry can be written about science, it can also be written from science. Found poems are written by taking words or phrases from some other source. For the purposes of risk communication, this could mean taking phrases from a brochure, scientific article, or from interviews with a study group (provided you have their consent to do so). For example, let's take this piece of risk communication from the National Collaborating Centre for Environmental Health (NCCEH) entitled "Growing at Home: Health and Safety Concerns for Personal Cannabis Cultivation".

**Text from the NCCEH Report:**

This document provides a review of the evidence relating to five key environmental health risks anticipated from growing at home: 1) access and accidental poisoning; 2) indoor air quality; 3) inappropriate use of pesticides; 4) electrical and fire hazards; and 5) radiation hazards. These risks may be present during cannabis cultivation, harvesting, and handling, and as a result there may be concomitant existence of each of these types of risks. Multiple intervention tactics may then be required within the same category of risk and may differ between the steps. Note that although we draw on learning from illicit cannabis grow-ops, the concerns raised here are those deemed relevant for personal cannabis cultivation as envisioned in the proposed *Cannabis Act (2017)*."

**Words taken from the text for the found poem are highlighted.*

**Found Poem:**
Growing at home
Cannabis cultivation has risks
Concerns: accidental poisoning
Hazards: fire
Concerns: air quality
Hazards: radiation
Concerns: pesticides
Hazards, Concerns, Hazards
Cultivation, Harvesting, Handling
Concerns, Hazards, Concerns

Alright, we wrote this poem and we admit it gets a 3/5 at best, but it conveys the key message of the abstract: that there are risks to growing cannabis at home that we need to be aware of. Beyond conveying the main message, the poem also taps into emotion (in this case, a sense of danger), and can be more quickly read than the full written abstract. And so, depending on the audience, this might be a more accessible and engaging piece of risk communication. However, remember that distilling a message into another form can come with trade-offs.

## Takeaways

Key Takeaways

- Sharing science through poetry elicits audience emotion to improve message recall and engagement.
- Using the poetry medium helps remove barriers between scientists and non-scientists.

### Media Attributions

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# Developing a Communication Plan

Now that we thought about the different aspects of communication, we are going to bring it all together to formulate a communication plan. There is not much new material here as our framework is largely based around what we have presented thus far. Similar to pieces of art, communications programs will be unique to the issue, the situation, and the communicator; however, there are some basic elements that (we believe) should be common to all of them and which are highlighted here. We have fleshed out this framework with additional considerations that might help you to develop your own plan.

1. **Assess the issue or problem**
    1. review available data (what is the problem, its prevalence, who is affected, how does it impact society, what causes it, what could prevent it, what could treat it, etc.)
    2. identify existing activities and gaps (what are others doing, what have they learned, etc.)
    3. gather new data if needed
    4. identify what could be solved with communication and what can't and what's within your organizational mandate and capacity.

**Goal post:** You should leave this process having a pretty good idea with regard to what you want to achieve with your communication program.

2. **Do a critical thinking check**
    1. Is your mission in any way controversial? Are or could there be opposing points of view or arguments?
    2. Go through the process of identifying and comparing the arguments for and against your mission.

**Goal post:** You should leave this process confident in the integrity of your mission and able to defend it against your strongest detractors.

3. **Define your communication objectives and evaluative criteria**
    1. What is your overarching goal?
    2. What are your more specific process and outcome goals?
    3. What are the evaluation criteria that you will use to define success?

    4. How might you assess those criteria?

**Goal post:** You should leave this process knowing very specifically what you want to achieve and how you will know if you have achieved it.

4. **Identify your audience**
    1. Decide on who your primary (and possibly secondary, tertiary, etc.) audience should be.
    2. Use some form of audience analysis to characterize them and identify the types of communication that will speak most to them
    3. Determine how your audience characteristics will impact your mission, message, and medium

**Goal post:** You should leave this process knowing exactly who you are messaging to and know that might impact the design and delivery of your message.

5. **Identify potential roadblocks**
    1. Are there any ethical issues to consider?
    2. Are there any organizational, audience, or personal barriers?
    3. Will you need to deal with audience outrage (or apathy)?

**Goal post:** You should leave this process with an in-depth understanding of your communications landscape and be able to use that information to develop an efficient and effective message.

6. **Develop your message**
    1. Identify your message concepts – this is the core information that you want to relay to your audience.
    2. Use narrative or other techniques to translate your concepts into a message.

**Goal post:** You should leave this process knowing exactly what you are going to say.

Example

A concept would be something like “everyone benefits from cancer research” whereas a message derived from that would be “Cancer research: because cancer touches us all”.

7. **Select your media**
    1. Identify which channels are optimal for you, your message, and your audience
    2. Plan out how you will use those channels to deliver your message
    3. If using multiple channels, plan out how they fit together
    4. Adapt your message to each platform and develop platform-specific materials

**Goal post:** You should leave this process knowing exactly how you are going to deliver your message.

8. **Develop an evaluation plan**
    1. Define the goals of the evaluation(s).
    2. Determine what information will be needed to assess those goals and how that information will be obtained and analyzed.
    3. Determine the timing of the evaluations
    4. Develop a process for the implementation of evaluation findings.

**Goal post:** You should leave this process with a plan for keeping your communication program on track.

9. **Parameterize your implementation strategy**
    1. Highly dependent on the specific plan but could include defining specific roles and responsibilities within your communication team, identification of partners who could aid in implementation, timing of communications and evaluations, budget and funding, etc.

**Goal post:** You should leave this process with all the details started out and ready to launch your communication program!!

Supplementary Material

### Good Communication Ensures Good Times: Perspectives on the 'Good Times Guide' communication campaign

*by Yinghong (Amy) Wu (SPPH 552 2020W1)*

Since the start of phase 3, B.C. has experienced an increase in COVID-19 cases over July and August, with the highest number of cases among young people in the 20-29 and 30-39 age groups.

http://www.bccdc.ca/Health-Info-Site/Documents/BC_Surveillance_Summary_Sept_17_2020.pdf

*(Some of those within the 20-29 age range are Generation Z. The Millennials aren't to blame for everything!)*

The higher counts may be explained by this population generally having less perceived personal risk of severe COVID-19 complications due to good overall health and absence of pre-existing conditions, along with the socializing tendencies and activities typical to this group, particularly during Summer months.

To address the high incidence of COVID-19 cases and to decrease the rate of transmission within this population, the BCCDC released a behaviour-change communication campaign:

**Dr. Bonnie Henry's Good Times Guide**

The "guide" portion includes practical tips that are targeted to the 20-29 and 30-39 age groups, such as "Don't pass around snacks, drinks, smokes, tokes, and vapes." and "Hooking up? Do it Safely.". The guide also includes general COVID-19 prevention best-practices, such as staying home when sick and cleaning your hands often. Catchy and simple phrases are used, including "Spread fun – not COVID-19." and "Good Times can be had, safely". Bright, colourful, summery, and fun graphics accompany these messages – including a flip flops, recreational beverages, and a campire. Of course, what B.C. Good Times Guide would be complete without a casual-looking Dr. Bonnie Henry?

https://goodtimes.gov.bc.ca/

The guide is accompanied by social-media "Shareables": curated messages, tweets, and videos from other young adults and relevant local public figures to promote healthful covid-related practices. The audience is encouraged to distribute these shareables through social media networks, along with the hashtag #GoodTimesBC.
https://goodtimes.gov.bc.ca/shareables

Several key communication concepts are identified in this campaign:

1. As the intended audience is highly social and connected, this campaign utilized the **social contagion approach** in targeting the networks that individuals frequently consume from, benefitting off of digital interactions and spread of the shareables.
2. This campaign also utilized the **Sandman's Hazard x Outrage framework**. There appears to have been much effort put towards understanding target audience priorities and perspectives related to changes (or lack thereof) in their socialization behaviours with regards to COVID-19 precautions. These insights were used to produce a campaign that was relevant and appealing in its messaging, graphics, and delivery methods.

3. Finally, it is worth observing how the campaign leveraged the established **trust and credibility** of Dr. Bonnie Henry by placing her name within the title and a rendition of her image at the forefront of the content.

Although this campaign appears to be a great example of a well-planned approach to changing COVID-19-related risk behaviours in young adults, it will be interesting to see if it is successful in achieving its intended process and outcome goals. Did the campaign reach the intended users and to what extent? Did it make an impact in reducing COVID-19 transmission and preventing potential new cases among the 20-29 and 30-39 age groups? Time will tell.

# Sample Student Communication Plans

## Communication Plans from SPPH 552: Risk and Communication in Public Health 2020W

Keeping the Pop-Up Plaza Past COVID-19: A Communication Plan by Claire Styffe

We're open, we're ready: Changing parent attitudes about visiting the BC Children's Emergency Department by Taneille Johnson

Communicating with Vaccine Hesitant Parents in Vancouver by Marika Pollock

Addressing Nutrient Deficiencies for Celiac Disease Patients on a Long-Term Gluten Free Diet by Yinghong (Amy) Wu

Eat Food for Good: Student Wellness and Food Sustainability Communication Plan by Julie Zhang

A Plan to Prevent Cardiovascular Disease in BC by Sean Sinden

Climate and Health Vulnerability Communication Plan by Laura Chow

Communication Plan for Brain Donation by Nilou Tafreshi

Communicating Concussion Risk A British Columbia Injury Research and Prevention Unit (BCIRPU) Outline for Risk Communication by Gabrielle Hadly

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# Versioning History

This page lists major changes to this guide. A new version of the textbook is released each calendar year marked with a 1.0 increase in the version number. Changes made within a year are each marked with a 0.01 increase in the version number.

| **Version** | **Date** | **Change** |
|---|---|---|
| 1.0 | November 2019 | Original textbook created. |
| 2.0 | August 2020 | • Created 1.1 Purpose of Communication<br>• Edited 1.2 Goal Setting and Evaluation<br>• Moved 1.1 How do you decide on and defend your position? to Section 2 and re-named to 2.1.1 Developing a Good Argument<br>• Re-organized chapters in Part 3<br>• Removed "How to motivate yourself and others when the task seems impossible: Sisyphus and climate change."<br>• Added student knowledge products (mini-essays, briefing notes, communication plans)<br>• Revised the introductory sections of all three Parts.<br>• Removed supplemental material from 1.3 Audience<br>• Edited 3.2 Written Communication Materials<br>• Added Section 3.2.2 Newsletters and Section 3.2.3 Self-publishing and Op-Eds<br>• Re-wrote sections 1.4, 1.5, 2.5, 3.5 and 3.6.<br>• Renamed section 3.6 to "Stakeholder Engagement"<br>• Added key takeaways to all chapters in Part 3 |
| 3.0 | June – August 2021 | • Added student knowledge products from SPPH 552 2020W1 including communication plans, mini essays, blogs, and briefing notes.<br>• Added Chapter 2.2 Truth and Denial<br>• Removed removed Chapter 2.1.1<br>• Revised Chapter 2.1 Practical Reasoning as a Tool for Message Development |