

Exercises: Healthcare Communication Under Uncertainty

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These exercises ask students to move beyond the conventional question, “Is this message clear?” Instead, they should ask: What consequential meaning must survive, what could go wrong when the message is perturbed, and how should the communication architecture be redesigned accordingly?

Case 1 — “Vaccinated People Can Still Get Infected”

The situation

A national public-health agency is preparing a campaign for a new seasonal respiratory-virus vaccination program.

Its scientific team proposes the following message: “Vaccination substantially reduces the risk of hospitalization and severe disease. It also reduces the probability of infection, although protection against infection is incomplete and may decline over time. Breakthrough infections therefore remain possible.”

The communications department produces the following social-media version: “Get vaccinated. Protect yourself and others.”

During a television interview, however, the agency's scientific director says: “Of course vaccinated people can still become infected.”

Within hours, the sentence circulates independently on social media: “Vaccinated people can still become infected.”

A widely shared post adds: “Then why vaccinate?”

The agency must decide whether to respond and, if so, how.

Student task

You are the agency's communication advisory team.

Prepare a communication response that can be used within the next 12 hours.

Your analysis must answer four questions:

1. What is the consequential signal that the public needs in order to make the vaccination decision?
2. What happened to that signal when the statement was extracted from its original context?

3. Which elements must survive if the scientific explanation is compressed into:

100 words;

25 words;

one headline?

4. Should the agency respond by adding more scientific information, simplifying the message, or restructuring it?

Produce a final message of no more than 50 words.

Hint: contextual fragility, semantic survival, consequential signal.

Case 2 — The 30-Page Heatwave Advisory

The situation

A city expects five consecutive days above 38°C.

Its public-health department has prepared a comprehensive 30-page heat-health advisory covering dehydration, heat stroke, medication interactions, occupational exposure, air pollution, exercise, hydration, cooling centers, vulnerable populations, pet safety, emergency symptoms, and climate trends.

Everything in the document is scientifically relevant.

The mayor objects:

“Nobody is going to read this. Give me five things residents need to know tonight.”

The medical director disagrees:

“If we simplify this too much, we may omit something clinically important.”

You have 45 minutes before the mayor's press conference.

Student task

Students must transform the advisory into a five-message public communication architecture.

They must first classify information into:

Core claim → Recommended action → Evidence → Population-specific qualification
→ Uncertainty

They must then produce:

one headline;

five essential messages;

- one additional message for adults over 75;
- one message for people taking medications that can increase heat vulnerability;
- a link-layer description explaining what information belongs on the full public-health webpage.

Students must explicitly identify what they removed and why.

Hint: communication by subtraction, remove before adding, consequential signal, layered communication

Case 3 — “30 Minutes a Day”: One Message, Five Audiences

The situation

A cardiovascular-disease prevention campaign proposes the message: “Move for at least 30 minutes every day. Your heart will thank you.”

Pre-testing with healthy adults produces excellent results:

- high comprehension;
- high recall;
- positive attitudes;
- increased intention to exercise.

The campaign is therefore ready for national rollout.

Before launch, however, clinicians raise concerns.

How will the same message be interpreted by:

- a healthy 22-year-old student;
- a sedentary 58-year-old with obesity;
- a 70-year-old recovering from myocardial infarction;
- a person with limited health literacy;
- someone already exercising intensively?

The campaign team has two options.

Option A: Preserve one simple national message.

Option B: Create multiple audience-specific versions.

Option B is more expensive and may reduce campaign consistency.

Student task

Students act as the campaign steering committee.

First, identify the core consequential meaning that should remain stable across audiences.

Second, identify the information that legitimately should vary.

Third, design a layered communication architecture for at least three of the five audiences.

Finally, answer: When does adaptation improve communication, and when does adaptation begin to fragment the core message?

Hint: audience fragility, P(correct interpretation), stable core, audience-dependent layer, semantic survival.

Case 4 — “One Pill Can Kill”: The Fentanyl Campaign

The situation

A health authority is responding to a sharp increase in deaths involving illicitly manufactured fentanyl.

Its advertising agency proposes a highly memorable campaign: ONE PILL CAN KILL

Focus-group results are impressive.

After one exposure:

- 94% remember the slogan;
- 86% correctly associate counterfeit pills with fentanyl risk;
- 72% say the campaign makes them more cautious.

The agency recommends immediate rollout.

A harm-reduction team objects. They argue that the campaign could unintentionally produce fear, stigma, fatalism, or the perception that any exposure inevitably causes death. They are particularly concerned about people who already use drugs and about families trying to discuss substance use.

The campaign has excellent average performance. Should it be launched?

Student task

Students receive the aggregate results above and are initially asked to make a recommendation.

They are then given a hypothetical second dataset:

- 90% interpret the intended warning correctly;

- 7% exaggerate the probability of immediate death but change no important behavior;
- 2% become less willing to discuss drug use openly;
- 1% interpret the message fatalistically and become less likely to seek help.

Students must reassess the campaign.

They should calculate conceptually:

$$\text{Expected consequence} = \sum P_i \times C_i$$

No numerical value for C is provided.

Students must therefore discuss what additional evidence would be required before assigning severity. Then ask:

- Which single phrase or image in the campaign could dominate its consequences if extracted, misunderstood, or repeatedly circulated?
- Finally, redesign the campaign while preserving its warning function.

Hint: tail fragility, tail consequences, extraction test.

Case 5 — “The Guidance Changed Again”

The situation

A new respiratory pathogen has emerged.

During the first three months, the public-health authority issues the following statements.

Week 1 “There is currently no evidence that the general public needs to change its daily activities.”

Week 3 “As a precaution, people should avoid crowded indoor environments.”

Week 6 “Current evidence indicates that ventilation substantially affects transmission risk.”

Week 9 “Masks are recommended in crowded indoor settings during periods of high transmission.”

Week 12 “New evidence suggests that recommendations can now be targeted primarily toward high-risk settings and vulnerable populations.”

Each statement was defensible given the evidence available when issued. Nevertheless, media coverage now reads: PUBLIC-HEALTH EXPERTS CHANGE THEIR ADVICE AGAIN
Public trust is declining.

The director has two proposed responses.

Response A

“The science is clear. The public should follow the current recommendations.”

Response B

“Our recommendations reflect the best evidence currently available. We monitor new

evidence continuously and will change our recommendations when the evidence changes.”

Which communication architecture should the authority adopt for the next six months?

Student task

Students should analyze the problem at two levels.

Level 1 — Individual messages

Assess each statement for clarity, uncertainty, and consequential signal.

Level 2 — Communication trajectory

Ask:

What happens if this becomes the institution's habitual way of communicating?

Students must then design a six-month communication protocol containing:

1. how uncertainty should be expressed;
2. how recommendations should be updated;
3. how previous guidance should be referenced;
4. how corrections should be communicated;
5. what evidence should trigger message revision;
6. how audience misunderstanding should be detected.

Finally, students must rewrite the authority's current statement.

Hint: trajectory fragility, accountability, calibrated uncertainty, antifragile communication.