



How to Handle the Public Health Impacts of Climate Change: A Community Role-Play Simulation

Teaching Notes

This is a seven-party role-play simulation involving city officials, university planners, business representatives, and environmentalists trying to figure out how their city should respond to the possible public health impacts of climate change. The exercise introduces a public health orientation that is often lacking from local efforts to figure out how to adapt to climate risks. Participants must consider the short-term and long-term public health impacts of climate change while assessing the pros and cons of specific (and conflicting) risk management strategies.

Background

Mapleton, a city of 100,000, has just completed a Climate Vulnerability Assessment. The assessment shows that extreme heat and possible flooding associated with climate change pose substantial threats to the city. City officials asked an Advisory Group to suggest ways of preparing for possible emergencies and preventing injury and loss of life. The Advisory Group will have to wrestle with different risk management strategies and come to agreement if they want to have an impact.

Logistics

This game requires seven players – one representing each of six stakeholder groups, plus a facilitator. Multiple groups of seven can play the game simultaneously (in a large space or in separate rooms), but the participants at separate tables should not interact once the negotiations begin. Assigned roles may be doubled if there are more than seven participants but not enough to create an additional full group.

The entire game experience requires approximately 2.5 – 3 hours. This includes 30-45 minutes for each player to prepare, approximately one hour to complete the group negotiation, and 30 – 45 minutes to debrief the results (first at each table, and then with the full group if there are

multiple tables). The hour that participants negotiate face-to-face should be structured as follows (this timetable is described in the Facilitator's Instructions):

- **5 minutes:** Review the ground rules and let the parties introduce themselves.
- **5 minutes:** Briefly review the purpose of the role play, the goal of the meeting, and the key issues on the agenda.
- **20 minutes:** Discuss the pros and cons of each strategy given the concerns of the stakeholders.
- **20 minutes:** Seek consensus on a full agreement.
- **10 minutes:** Finalize an agreement. Write it down on a flip chart or white board and test the level of group support

Ideally, General Instructions should be distributed to all participants in advance of the exercise so they can prepare for the negotiation. It is usually best to distribute Confidential Instructions immediately before play begins to ensure that everyone is present, and each person only reads the Confidential Instructions for the role they have been assigned.

The Facilitator should guide the group through a discussion of the policy options enumerated in their Confidential Instructions. The Facilitator is responsible for making sure the discussion stays focused on the public health impacts of climate change. It is permissible to invent hybrid policy options or to add conditions that go beyond those listed in the Confidential Instructions. If possible, **talk with anyone assigned the facilitation role before the exercise begins. Make sure they have the timeline clearly in mind.** It is often best to assign the Facilitator role to someone who volunteers to play this part.

The Facilitator(s) should inform the players at the outset that the goal is to seek unanimity on a *package of options* constructed by the group, not on each issue, one at a time. Towards the end of the game, the Facilitator should ask someone in the group to suggest a package of proposals that covers everything they talked about. If no one has a package to offer, the Facilitator should be ready to suggest a package consistent with the group's discussion. The Facilitator should remind the group that the city intends move ahead. The Advisory Committee must come up with a package that at least five of its six members can support if it wants to have an impact on the official city policy. The Facilitator is a neutral party and does not vote on the options.

It is okay for the parties to invent new options, **as long as everyone remains consistent with their assigned priorities and mandates.** If an option is unacceptable to a stakeholder, according to their Confidential Instructions, they cannot agree to it until the group modifies the option or greatly advances their interests on one of the other issues.

Sample Agreements

There are at least 10 permissible agreements given the five different strategies enumerated in the General Instructions. Other agreements are also possible if participants modify or combine initial strategy options. The following are possible agreements:

- Participants choose two of the suggested strategies.
- Participants choose two of the suggested strategies with slight modifications.
- Participants choose one of the recommended strategies combined with some other unique strategy.

When the MIT Science Impact Collaborative ran this game in the past, some of the outcomes have included:

- *Unanimous agreement*: This usually involves an emphasis on emergency preparedness and prevention strategies, with modifications to ensure vulnerable populations are served, co-benefits are prioritized, and public-private partnerships are encouraged.
- *Acceptable, but not unanimous agreement*: This usually involves an emphasis on emergency preparedness and resource allocation strategies, with modifications to include a community-wide alert system as a part of emergency preparedness.

Debriefing

Following the game, the players at each table should talk about their results. If consensus was not reached, what (or who!) was the key obstacle? If a unanimous agreement was reached, to what do they attribute their success? The following list of questions can be used to structure a full group debriefing and ensure that important lessons are not lost.

Allow at least 30 – 45 minutes for a full group debriefing. Add other questions to ensure that the discussion of the game results is tied to the most pressing climate adaptation issues in the communities represented by the participants.

Discussion questions:

1. What was the outcome in each group?
 - a. What were the major concerns discussed in each group?
 - b. Was agreement reached?
 - c. If so, what were the keys to getting agreement? If not, what got in the way?
 - d. How did public health concerns come into play and shape the discussion?
2. How did each group go about balancing competing interests and still come to an agreement? Were “trades” involved? If so, which were most significant?
3. What kinds of arguments were most persuasive?
4. What were the major public health concerns highlighted by this game? Do these reflect the reality in the actual communities represented by the participants?
5. Was anyone’s “real life” viewpoint changed by the results of the game? Do participants feel better prepared as a result of the game to engage in efforts in their own community to reduce vulnerability and enhance resilience in the face of climate risks?
6. How do participants think about climate change-related risks like extreme heat and severe flooding in their own community?
 - a. Do they think their municipality will do anything to address such risks? What actions are likely?
 - b. What might encourage members of their community to become more involved in addressing the public health risks associated with climate change?
 - c. Could a game like this motivate learning and reflection in their community?

Major lessons:

1. City officials should take public health risks into account when trying to prioritize strategies for climate adaptation.
2. Local climate change policies need to take account of both short-term and long-term public health risks and benefits.
3. In managing the public health risks of climate change, who should be responsible and who should bear the costs – residents, private sector, local government, state government, or the federal government?
4. Climate vulnerability assessments can be used to educate residents about localized risks and vulnerable populations. They are only useful, though, if they stimulate discussion about actions that can and should be taken.
5. Climate adaptation policies can provide co-benefits. That is, actions like building green infrastructure can reduce public health risks while simultaneously achieving environmental protection goals.
6. Local climate adaptation efforts should take account of the need for local governments to work together during emergencies and deal with public health risks through joint action.
7. It is hard to bring together representatives of numerous groups to engage in joint problem solving or collaborative risk management. Professional (neutral) facilitation can make the task much easier.
8. Infrastructure investments will continue to affect communities long after they are made. Building in flexibility and committing to ongoing monitoring of shifting circumstances can make it easier to adjust and adapt.
9. Stakeholders have competing interests and values that shape their views on proposed climate risk management policies. Groups can find solutions that meet their conflicting interests, but only if they listen carefully to each other's concerns and construct "packages" that seek to meet multiple interests simultaneously.

For more on each of these ideas, see Lawrence Susskind, Danya Rumore et. al. **Managing Climate Risks in Coastal Communities: Strategies for Readiness, Engagement and Adaptation** (Anthem, 2015) and Lawrence Susskind and Jeffrey Cruikshank, **Breaking Robert's Rules: The New Way to Run Your Meeting, Build Consensus and Get Results**, (Oxford, 2006).

Other Readings and Resources

City of Cambridge (2015). Climate Change Vulnerability Assessment.

<http://www.cambridgema.gov/CDD/Projects/Climate/climatechangeresilienceandadaptation.aspx>

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