

Brainstorming Techniques

Brainstorming is one way CoP Leaders and Core Members can elicit information and ideas from other community members about the tasks at hand. Use brainstorming techniques to get a handle on what is important to the group, to identify the priorities to which the group will devote its time and energy, to get the creative juices flowing, and to ensure that all member perspectives are considered.

Multiple tools and processes can be used to get your community started on defining its SMART Goals and Objectives. From the outset, it is critical that your community develop a shared framework for sustainable agreements on areas of community work and how to work together. Creating these agreements may take more than a couple of meetings—the key is creating an environment that supports collective problem-solving over time. Brainstorming is one straightforward method to help your community develop a shared framework for working together and start the process of developing goals and objectives.

Brainstorming is a technique by which a group produces ideas, but you can also use the technique to help community members:

- Be comfortable sharing and listening to ideas even when they do not agree with them.
- Have the opportunity to feel involved in contributing to the work that will be done.
- Develop a basic sense of trust among members and the facilitator.

To take advantage of the wisdom and experience of a Community of Practice, it is necessary to create a supportive environment where all ideas are welcome. Alex Osborn, who first promulgated the technique as a means of tapping into creativity, developed four basic rules for brainstorming to reduce inhibitions and create synergy. Facilitators may find it helpful to share these rules before starting a brainstorming session, particularly emphasizing the concepts of suspended judgment and inclusion.

1. **Take critical evaluation off the table.** While many of the ideas your community generates may never take root, it is important to allow members to voice any and all the ideas they wish. To be successful, brainstorming participants are required to suspend judgment. Suspending judgment does not mean there is never a critical review of the ideas, but that an analytical assessment is placed on hold during the brainstorming process.² The focus during brainstorming is on generating ideas and lots of them.
2. **Don't limit the group—quantity is the goal.** Quantity in brainstorming will eventually lead to quality concepts. This rule is based on the assumption that the more ideas you have, the better your chance of yielding a couple of really great ideas.
3. **Every contribution makes the list.** Treat each idea as valid no matter how off the wall or silly it may seem at first to you or to the community. By welcoming and supporting the development of unique and unconventional ideas, you may spur innovative solutions to a traditional challenge.
4. **The group should combine and improve upon ideas.** While each contribution becomes part of the collective and documented end product, members should work with each other's initial ideas to associate them with others, to elaborate on the ideas, and to consolidate similar ideas to build them into priorities.

Four Basic Steps for Leading a Brainstorming Session

Step 1: Define the topic. Brainstorming does require some focus, but it need not be complicated. To help generate ideas about the issues or priorities most important to your community, start by asking just that: "What priorities are important to you?" "On what issues should our community focus?" "What sort of problems should we tackle?" If possible, provide the brainstorming topic to members before meeting with the community at large so they can prepare to consider the issue. Remember to ask clear, concise questions that are relevant to your community and that members are able to answer based on their experiences. Have the scribe or facilitator write the questions on newsprint or a board ahead of time so the group can jump into the activity quickly.

Step 2: Ask members to generate ideas. If members are initially resistant to stating their ideas, ask someone to start the process. Have a couple of ideas in mind, and voice them if the flow of ideas is slow to start or stalls in the middle of the session. Remember, the rule for brainstorming is to encourage as many ideas as possible, regardless of the perceived merit of the ideas. If the group stalls, ask to hear from someone who has not spoken or issue a challenge to the group to develop a target number of ideas. "We have 23 ideas now—can we shoot for 30?" Generate a list of this sort of questions in advance to help stimulate dialogue. If time allows, consider taking a quick break or having the community stretch their legs a bit to generate some additional energy.

As an alternate approach, give each person five minutes to think about a response to the question or issue. Then have them record their responses on as many sticky notes as necessary. When called upon, each person gives the notes to the facilitator, who reads them aloud and sticks them on the wall or newsprint. You can also make this an anonymous process by collecting the sticky notes, reading, and recording them without attributing the comments to specific members. If clarification is needed, you can query the group for voluntary elucidation. By building in some initial anonymity, you may generate more ideas, particularly if members are just starting to get know and trust one another.

Step 3: Record the answers. Use newsprint, a dry-erase board, sticky-notes, or an electronic medium (such as a laptop and projector) to record all of the ideas. Be sure to display the ideas where everyone can access them and ensure that all ideas are recorded accurately. Lengthy concepts may need to be summarized. If so, have the recorder repeat the summary to confirm that the concept expresses the meaning intended by the person who contributed the idea.

Step 4: Combine similar or redundant ideas. Ask members how two or more ideas can be combined into one succinct idea or be combined to produce another distinct idea. Asking the group to combine ideas acts as a quality improvement process, allowing them to consider the original concept and elaborate and improve on it. Participants may discover a common understanding of the issues as they share the meanings behind their ideas and new ideas may surface as a result—remember to add those to the list. Don't force the amalgamation of ideas if a member feels the concept will not be accurately or adequately represented by combining it with another. If you are spreading your priority-setting activities over multiple sessions, this is an excellent task to do after members have developed an initial set of ideas. Forward the community's output to the group and ask them to consider this task before the next meeting. Refinements can be addressed at the next meeting or members can send their ideas to the facilitator or other leader before the next meeting.

Step 5: Document your session. Ensure that you are recording, summarizing, and distributing the results of your brainstorming activities. This lets members know that they have been heard and that the information will be used. Documentation and distribution of the summary is also a good way to share with other members who may not have been able to participate.

Electronic Brainstorming

Since members of your CoP are likely spread out geographically, you will need electronic mechanisms to communicate your work across the larger public health informatics community. As time goes on, your CoP may wish to use additional tools to increase communication and collaborative efforts among group members.

Although the easiest type of communication is an in-person meeting, geographically dispersed communities face challenges with a lack of resources for meeting space and scheduling. Electronic brainstorming is a tool that you can use to advance your group towards more collaborative work, innovation, and educational opportunities. Your CoP can use electronic brainstorming, or EBS, synchronously (during a chat room event) or asynchronously (via e-mail or discussion boards) to generate ideas, problem-solve, or work collaboratively to sustain the CoP.

Benefits of Electronic Brainstorming

Some research indicates groups that brainstorm electronically generate more ideas than they do in face-to-face settings.⁸ Several facets of electronic brainstorming may explain why:

- Space and time constraints. It is often difficult to set up a face-to-face meeting. One or more of the desired participants may not be able to attend a face-to-face meeting. With electronic brainstorming, the size of the group no longer has to be restricted. All of the participants do not need to be present at the same time and place.
- Cost savings. Compared to the costs of face-to-face meetings, the operational and maintenance costs of electronic brainstorming are minimal.
- Documentation. The ideas gathered in the electronic brainstorming sessions can be archived and shared with the participants. Ideas are recorded electronically, so they won't be forgotten, and they can be considered at any time.
- Comfort. Participants can reflect on the problem in the comfort and privacy of their desks and even their homes.

Managing a CoPs Electronic Brainstorming Session

CoP Leaders or Facilitators can assist with the coordination of CoP electronic brainstorming sessions. The person serving as the electronic facilitator could perform the tasks of compilation and sending and receiving emails. Community members who handle the technical management responsibilities should possess a strong understanding of technology and be familiar with a wide array of methods. CoP Technical Managers should ensure that technologies function properly and that all members understand how (and when) to use the tools available.

Electronic brainstorming sessions can follow the same general guidelines as face-to-face brainstorming sessions. Remember to:

- Rule out criticism.
- Encourage "freewheeling" or generating ideas without restraint or restriction.
- Go for quantity.
- Seek combination and improvement on ideas.

Your CoP can use the following steps to incorporate electronic brainstorming into your next meeting:

Step 1: Identify a particular community-related topic/issue and ask members to submit their best ideas and to be prepared to discuss the issue in a future meeting.

Step 2: Distribute the topic/question to participants in advance and specify how they should submit their brainstorming ideas. Send questions pertaining to the topic to attendees via e-mail or another electronic delivery method (listserv, web page, other software, etc.).

Step 3: Compile the ideas for distribution to the group for discussion.

Step 4: The participants work through the ideas or issues presented via e-mail or discussion boards. A designated note taker or electronic facilitator organizes the topics and feedback, removing duplicates. Feedback is posted via the discussion board, website, or other software for the CoP members to review.

Step 5: Compile and distribute the summary of additional discussions to members. You can also post the summary and action items to the community's shared workspace.

Next Steps: Categorize and Prioritize

Once you have a robust list of ideas, you can categorize and prioritize them to develop a manageable set of goals or priorities. The first step is to categorize the ideas. This can be accomplished by the group as part of the process, or a predefined set of categories can be suggested by a facilitator. Although your group may intuitively be able to categorize, diverse groups have different frames of reference and operational definitions may vary widely. A list of predefined categories for sorting the ideas can help move the group along. If you are brainstorming priorities, suggest categories such as importance to the field or expertise within the community. You may also ask the group to propose sets of topical categories and determine whether the group can agree on the categories, particularly if topic categories seem evident from the brainstorming list of ideas. The important thing is to identify some criteria to help guide the decision-making process.

Begin to sort the ideas into categories. Ask the group to dialogue and sort the ideas collectively. It is also effective to recruit two or three trusted members to sort the ideas into the selected categories while the rest of the group takes a break. If you used sticky notes to capture distinct ideas, the sorters can move the ideas around into categories; if you used newsprint, consider having sorters use different colored markers to note different categories. Each sorter can then review the categorical choices with the larger group to gain consensus. Revisions can be made if necessary.

The brainstorming and subsequent categorization process may produce a few manageable clusters or a long, daunting list. If you have a long list, propose a vote to select high-priority items. By voting, your community can develop three to five priorities for action.

Option 1: Give each member votes to distribute however they see fit. Each member can use one vote per idea or can vote more than once for the same idea. Have each member mark his or her votes with a marker or provide sticker dots. Give each member slightly fewer dots than half the items to force them to make choices. For example, if there are 10 to 12 items under consideration, allow each member three to five votes.

Ask members to vote on the items under consideration. When everyone has voted, tally the votes to arrive at the community's current priorities. Items with the most votes represent priority items for the community.

Option 2: Use a decision grid to help members rank the priorities against some determined criteria. By ranking the categorized items against a matrix of criteria, members can assess the set of ideas to determine which should take priority.

First, ask members to develop the criteria against which the ideas or priorities will be judged. Criteria might include: helps achieve compliance, is something we can likely influence, is timely, is doable, etc.

The top three to five criteria are placed along the top of a grid and the items under consideration are listed down the left hand column. Each option is then evaluated against the determined criteria. Members should score each idea using a one to three scale.

- Score 1 = does not meet the criteria
- Score 2 = somewhat meets the criteria
- Score 3 = meets the criteria

Criteria of particular importance can be weighted by assigning a multiplier factor. Once each member has scored the items against the criteria, add up the scores and multiply them according to any weighted factor to determine which items represent community priorities. Items with the most points represent priority items for your community.

In the example below, members of a coalescing Community of Practice are ranking three ideas to determine which should be a priority for a small, but committed work group. Forty members rank the ideas against their determined criteria on a one to three scale; one item has been weighted to stress its importance to the community. The scores are added and Idea #3 stands out as the priority for the group, based on their stated criteria and the members' response.

	Supports Goals (x3)	Is Realistic	Is Timely	Results in a Product	Total per Idea
Idea #1	24 scored 1 (72) + 12 scored 2 (72) + 4 scored 3 (36) = 180	32 scored 1 (32) + 6 scored 2 (12) + 2 scored 3 (6) = 50	16 scored 1 (16) + 16 scored 2 (32) + 4 scored 3 (12) = 60	4 scored 1 (4) + 6 scored 2 (12) + 20 scored 3 (60) = 76	180+50 +60+7 6 = 366
Idea #2	36 scored 1 (108) + 0 scored 2 (0) + 4 scored 3 (36) = 144	12 scored 1 (12) + 16 scored 2 (32) + 12 scored 3 (24) = 68	6 scored 1 (6) + 26 scored 2 (52) + 8 scored 3 (24) = 82	40 scored 1 (40) 0 scored 2 (0) 0 scored 3 (0) = 40	144+68 +82+4 0 = 334
Idea #3	7 scored 1 (21) + 8 scored 2 (48) + 25 scored 3 (225) = 254	21 scored 1 (20) + 16 scored 2 (32) + 4 scored 3 (12) =64	36 scored 1 (36) + 4 scored 2 (8) + 0 scored 3 (0) =44	8 scored 1 (8) + 6 scored 2 (12) + 26 scored 3 (78) =98	254+64 +44+9 8 = 460