

Lesson Plan FID- 4

Name of Instructor: Adam Miller

Program Title: Public Health and Safety

Course Title: *FID 4: Decision Making and Analytical Approach*

Unit Title :

Lesson Title: *FID 4:*

Decision Making and

Analytical Approach

Lesson Performance Objective: *Given a written materials packet, students will develop an understanding of effective decision making using analytical approach models. Upon returning to class, an examination will be delivered. For the take home lesson, a complete response for each question below represents the minimum performance objective.*

Students will complete a written analysis of the materials which will answer the following questions:

- 1) *What are some of the best techniques for reaching consensus in a group?*
- 2) *What are some of the key decision making pitfalls?*
- 3) *What are some important considerations for working in a collaborative group?*
- 4) *How will you use this information to improve your ability to effectively manage an emergency operation?*

Time (length of lesson): *Reading and Response: ~2 hours*

Equipment and Materials needed: *Computer (or type writer, or handwritten response is accepted) and handout materials*

Academic Standard(s) and Anchor(s) and/or Common Core Standard addressed by this lesson: CC.3.6.9-10.A Write arguments focused on discipline-specific content., CC.3.6.9-10.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. , CC.3.6.9-10.F Conduct short as well as more sustained research projects to answer a question (including

a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Technical Standard(s) or Competencies taught in this lesson:

NA

Course Overview

Being able to make decisions and solve problems effectively is a necessary and vital part of the job for every emergency manager, planner, and responder. This course is designed to improve your decision-making skills. It addresses:

- The decision-making process.
- Decision-making styles.
- Attributes of an effective decision maker.
- Ethical decision making and problem solving.

Lesson Introduction

This lesson reviews a five-step problem-solving model. At the completion of this lesson you should be able to:

- Describe how decisions made before an emergency affect decision making and problem solving during an emergency.
- Describe the steps in the problem-solving model.
- Identify attributes associated with an effective decision maker.

Problem Solving and Decision Making

Decision making and problem solving are closely related activities. Very often, if you're doing one you're doing both.

- **Problem solving:** a set of activities designed to analyze a situation systematically and generate, implement, and evaluate solutions.
- **Decision making:** a mechanism for making choices at each step of the problem-solving process.

Decision making is part of problem solving, and decision making occurs at every step of the problem-solving process.

Where Does the Process Begin?

Emergency decisions have their beginnings well before any emergency strikes.

- The number, type, and magnitude of decisions and problems that must be addressed during an emergency are a direct outgrowth of decisions that were (or weren't) made during the planning process.
- An organization that makes decisions thoughtfully and deliberately during planning will be in a much better position to make effective decisions under emergency conditions.

What Is At Stake?

The ability to make sound, timely decisions during an emergency is critical. Effective decision making can:

- Avert tragedy.
- Help manage incidents.
- Build community trust and support.
- Help the community recover from an event more quickly.

Conversely, poor decision making—or the absence of decisions—potentially can result in injury or death to victims and/or responders.

Audio Transcript

When U.S. Senator Dianne Feinstein was Mayor of San Francisco from 1978 to 1988, she held department head meetings once a week. One day, the Director of Public Works told her that if an earthquake occurred, the rim around Candlestick Park would come down. His estimate of the cost for strengthening the stadium was \$6 million.

To come up with the funding for the retrofit, the city made the decision to take money from other projects.

Just as game three of the 1989 World Series baseball championship was set to begin, with a capacity crowd at Candlestick Park, the Loma Prieta earthquake struck the Bay Area.

As Senator Feinstein commented afterwards, “The field rippled. The rim shook. But it held. That was a big learning lesson for me. When you’ve got information that could save lives and property, you’ve got to act.”

The decision by the Mayor and City to prioritize and fund the seismic protection for Candlestick Park was crucial in saving lives. The decision was most effective because it was made well before an actual emergency.

Case Study 1: Sebring County

Instructions: Read the scenario concerning flooding in Sebring County. As you read, identify the decisions that need to be made by the emergency manager or other emergency management officials. Enter the decisions you identify in the space below before continuing.

[Select this link for the scenario description.](#)

Case Study 1: Sebring County

Background: Heavy rainstorms have hit, and counties across the entire State are faced with flash flooding to varying degrees. The town of Westfield, located in Sebring County, one of the hardest hit counties in the State, sits high and well away from the river, so flooding is usually not a concern. Last year, a new spillway was built to increase the capacity of the town reservoir to about 44 million gallons. Two towns downstream, Ambry and Gilson, are less than a 5-minute drive from Westfield. Each town has about 2,400 residents, most of them along U.S. Route 270.

Event chronology:

Late afternoon	Rain begins, and weather forecasters predict it will be a strong, slow-moving storm that will produce heavy rain.
7:41 p.m.	A flash flood watch is issued by the National Weather Service.
8:00 p.m.	Heavy rains begin
9:30 p.m.	The county engineer stations an employee on the dam to watch for and report any problems. The employee sees water pouring a good 2 feet over the spillway. (It was later estimated that the

	reservoir was holding 65 million gallons during and after the storm.)
11:00 p.m.	Five inches of rain have fallen over the last 3 hours.
12:30 a.m.	The employee sees a section of dirt break away.
1:00 a.m.	When water recedes below the top of the dam, county employees discover that water has eaten around the spillway and is gradually carving away the side of the earthen dam. A first attempt at closing the hole with sandbags fails when the force of the water carries the bags right through.
1:30 a.m.	The Sebring County Emergency Program Manager is now meeting with the mayor of Westfield, the county engineer, the public works director, the fire chief, and the police chief to discuss the situation.

Case Study 2: Mandatory or Voluntary Evacuation?

Background: The town of Fort Rice, North Dakota, is located on the western bank of the Missouri River. A farming and ranching community, Fort Rice’s residents are known for their tenacity in fighting the weather—and the river—to earn a living.

It has been raining for 12 hours, and the National Weather Service has forecast severe flooding conditions through most of the upper Midwest. The Missouri River and the rivers and streams that feed it are on the rise and are expected to continue to rise over the next several days as the storm is held in place by a large high-pressure area that is currently stationary over the Ohio Valley. Despite the fact that sandbagging crews have been supporting all local levees, severe flooding is a near certainty.

The mayor and all emergency management professionals from Fort Rice have been keeping abreast of the situation since before the rain began. They have been communicating with the local Weather Forecast Office, as well as county and State emergency management personnel. The question on the table at this point is not whether to issue an evacuation order but whether to make the evacuation mandatory.

Historically, farmers and ranchers have been unwilling to evacuate, even when flooding is severe. Most have grown up in the area and are aware of the damage that flooding can cause, but they are also aware of their investment in their land and livestock and will fight to save what they can.

After considerable discussion, the mayor, with the emergency management group’s concurrence, makes the decision to activate the Emergency Alert System and issue the evacuation order. But although they decide to word the message strongly, they do not make the evacuation mandatory.

Case Study 2: Mandatory or Voluntary Evacuation Decision

The early decision to issue an evacuation order but to not make it mandatory can seriously affect later decisions.

Select each item for additional information. You may have additional examples as well.

- Emergency rescue may be needed.
- Increased risk for emergency responders.
- Response resources not available elsewhere.
- Increased cost of emergency rescue.

[Select this link to access all information presented.](#)

Potential Consequences of Voluntary Evacuation Decision

Potential Consequence	Description
Emergency rescue may be needed.	Farmers and ranchers who choose not to evacuate now may be in a position of needing to evacuate later, when evacuation will be more dangerous or impossible. How will the decision about how and when to effect an emergency rescue be made?
Increased risk for emergency responders.	Emergency responders who may later be required to assist with emergency rescues will potentially be placed at risk. Who will make the decision to send responders into the fast-moving waters? When will that decision be made?
Response resources not available elsewhere.	Response resources deployed for emergency rescues may cause resource shortfalls elsewhere. How does one weigh the overall benefit of deploying resources for emergency rescues versus the cost of those resources not being available for other purposes (which may also involve life-saving efforts)?
Increased cost of emergency rescue.	The overall cost for the response will increase if response resources must be deployed to assist with emergency rescues. While cost will not be an issue where the potential loss of life is involved, the decision not to require evacuation will affect later decisions about how to cover the overall costs of the emergency.

Keys to Effective Decision Making

Three key elements are essential for effective decision making:

- Clarity of values
- Quality of information
- Analytical approach

Let's examine what each element entails.

Values-Driven Decision Making

Many factors may influence decision making, including political, safety, financial, environmental, and ethical factors.

Unless you have a clear view of your values—what you want to achieve, preserve, prevent—and keep them in mind at each step in the process, it can become difficult to balance these factors in a meaningful way.

Although priorities may shift, and how you implement strategies may change over time, the underlying values must be clear.

Quality of Information

Data used in decision making must be accurate and reliable. The old standby, “Garbage In = Garbage Out” (GIGO), is especially true in decision making. You can't start with faulty or inadequate information and hope to reach the best decisions.

Failure to verify information can lead to poor decisions—sometimes with serious consequences.

Thoroughly screen the information used in making decisions!



Tips for Ensuring Quality Information



Do your research: Use the Internet, books, libraries, and people as sources of information. Find out if others have tried to solve this problem or a related problem. Build on lessons learned.



Use trusted sources as the primary sources of information, but talk to secondary sources as well. They can help build a broader picture.

	<p>Validate your information: Is it true? Is it accurate? Differentiate fact from rumor.</p>	 <p>Collate and cross-check against baseline data and against reports received from other sources. Carefully review conflicting opinions, and reconcile any discrepancies.</p>
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Analytical Approach

It is helpful to have a defined process that leads to a solution or a decision. The process needn't be complex—in fact, in many cases simpler is better.

There are many different decision-making models to choose from. A commonly used five-step process is shown in the diagram.

Although this process is circular, the steps are not necessarily completed in sequence. For example, knowledge gained during one step might send you back to a prior step before moving forward



Analytical Approach Process Steps

The steps in this process are:

- Step 1: Identify the problem.
- Step 2: Explore alternatives.
- Step 3: Select an alternative.
- Step 4: Implement the solution.
- Step 5: Evaluate the situation.

[Select this link to view a detailed job aid for the analytical approach process.](#)

[Select this link to access all information presented.](#)

Steps of the Analytical Approach

Step	Description
Identify the Problem	Determine the situation or condition that will exist in the future and is considered undesirable by members of the organization. Identifying the problem also involves analyzing the situation to determine the extent of the problem.
Explore Alternatives	This step includes generating alternatives and evaluating them. You can generate alternatives through brainstorming, surveys, discussion groups, or other means. Alternatives should be evaluated using a consistent process.
Select an Alternative	After you have evaluated each alternative, select the alternative that comes closest to solving the problem with the most advantages and fewest disadvantages.
Implement the Solution	Implementation involves the following: <ul style="list-style-type: none"> • Developing an action plan (what steps are needed). • Determining objectives or measurable targets. • Identifying needed resources. • Identifying details of the action plan (who will do what, by when, where, and how, as applicable). • Using the plan to put the solution in place.
Evaluate the Situation	Evaluation involves monitoring progress and evaluating the decision that was made. During evaluation, identify if: the situation has changed,

more or fewer resources are required, or a different alternative solution is required. Evaluation is an ongoing process.

Critical Thinking and Problem Solving

The particular decision-making model used is less important than ensuring that the process employs critical thinking to solve problems.

Critical thinking involves using knowledge, facts, and data to effectively solve problems.

“ Critical thinkers distinguish between fact and opinion; ask questions; make detailed observations; uncover assumptions and define their terms; and make assertions based on sound logic and solid evidence. ”

- **David B. Ellis, *Becoming a Master Student***

Tips for Analytical Problem Solving

In applying any problem-solving process:

- Look for patterns, similarities, bubbles, and differences in the data.
- Draw inferences from the data, and anticipate the unexpected.
- Challenge your assumptions and interpretations. If possible, don't depend on assumptions if you can check on evidence.
- Play devil's advocate—try to disprove your theories as well as confirm them—and don't ignore contrary evidence.
- Try to control biases, prejudices, and conflicts of interest.
- Divide difficult problems into sub-problems and attack them individually.
- Control variables in reasoning or testing to get better results.
- Keep environmental, legal, and social considerations in mind.
- Combine the use of imagination with rational thinking.

The Impact of Timing

A decision-making process can be applied in any situation—non-crisis or crisis.

The main difference is the urgency of the situation and the amount of time that can be spent on each step.

Non-Crisis Decision Making	Crisis Decision Making
Decisions can be made deliberately.	There is a quicker turnaround, less time for information gathering and consensus building.
Group process can be used.	Competing priorities play a bigger role.
There is time to consider all contingencies.	Outcomes are enhanced by effective decisions having been made during the planning phase.
There is time to obtain “buy-in” from stakeholders.	Stress may become a factor.

Lesson Summary

This lesson reviewed the following:

- How decisions made before an emergency affect decision making and problem solving during an emergency.
- Steps in a problem-solving model.
- Attributes associated with an effective decision maker.

The next lesson describes advantages and limitations and effective practices associated with group decision making.

Lesson Overview

When time allows, problem solving and decision making can be carried out by a group of people—a team—who have an interest or stake in the outcome.

This lesson will present strategies for effective group decision making.

When Is Group Decision Making a Good Approach?

Group or team decision making is often a good choice when:

- The situation is complex.
- Consequences are significant.
- Commitment and buy-in are important.
- There is time for deliberation and consensus building.

[Select this link for a job aid checklist on selecting a decision-making approach.](#)

Selecting a Decision-Making Approach

Use the questions below as a guide to developing a decision-making approach. Answer each of the questions below.

- If the response to question 1 is “No,” it may be preferable to make the decision individually or in consultation with key players.
- If the response to question 2 is “No,” it may be preferable to make the decision through consultation, with a group, or by delegation.
- If the majority of your responses are “Yes,” group decision making may be preferable.
- If the majority of your responses are “No,” individual decision making may be preferable.

Question	Yes	No
Do you have a reasonable amount of time to make the decision?		
Does the leader have enough expertise to make a good decision?		
Do the potential group members have enough expertise to make a good decision?		
Do the others involved share the organizational goals to be attained by solving the problem?		
Is the decision complex with many possible solutions?		
Is commitment to the decision by other people critical?		
Is the decision likely to cause serious conflict among the people affected by		

it?		
Will the decision directly impact many agencies, individuals, or community members?		
Will the decision directly impact only a select few?		

Group Decision Making: Advantages

Advantage	Description
Generates More Favorable Outcomes	Generates more favorable outcomes through synergy and shared information.
Provides Broader Perspective	Provides a broader perspective and taps a wider range of expertise by representing multiple viewpoints and areas of specialization.
Taps Creative Potential	Taps the creative potential of team members who may come up with alternatives not envisioned by a single individual.
Allows Increased Discussion	Allows for discussion to help answer questions and reduce uncertainties for the decision makers.
Makes Wider Use of Resources	Makes use of a wider range of resources in applying the process and implementing the solution.
Builds Ownership and Buy-In	Helps build ownership and buy-in by stakeholders.

Limitations of Group Decision Making

There are also limitations when making decisions as a group. Group decision making:

- Requires adequate time and good leadership to be successful.
- May result in a compromise rather than the optimal solution.
- Can be overly influenced by a vocal few.
- May get bogged down by overanalysis or influenced by haste to be finished.

[Select this link for additional information about common pitfalls associated with group decision making.](#)

Decision-Making Pitfalls

The pitfalls listed in the table below can create problems for decision making by groups. These pitfalls can reduce the willingness of individuals within the group to:

- Examine alternatives effectively and efficiently.
- Gather or acknowledge contradictory information contrary to the group consensus.
- Be critical of the group consensus.
- Introduce and defend new or different ideas.

In general, group leaders can avoid these pitfalls through the following actions: Encouraging everyone to air objections and doubts and to accept criticism.

- Describing the problem without revealing your preferred solution.
- Assigning the group into subgroups and asking each to evaluate the problem.
- Inviting outside experts to challenge the group's decision.
- Asking members to take turns playing "devil's advocate."

Lack of Time	<p>When group members are feeling pressured by time, they may fail to gather the information necessary to make a good decision, or to consider all of the information. The result may be a hasty decision that does not consider all alternatives.</p> <p>Groups can help to avoid this issue by slowing down the process, assigning specific research roles to individuals or smaller teams, and ensuring that everyone in the group has added his or her perspective.</p> <p>Voting may be an effective method when time is short, but may polarize the group if members feel their views have not been heard.</p>
Too Much Time	<p>Group members may spend so much time gathering and analyzing information that they fail to bring the issue to discussion or come to any conclusion. The additional time spent gathering and analyzing information may not add value to the decision that needs to be made.</p> <p>Groups can help to avoid this issue by facilitating agreement about the critical information needed to make the decision and by bringing the issue to discussion and decision as soon as that information is available.</p>

<p>Vocal Minorities</p>	<p>One or a few members of a group may express their opinions so strongly that others hesitate to disagree or add a different perspective. A group leader who begins the discussion with a proposed decision or solution may also limit discussion.</p> <p>Groups can help to avoid this issue by encouraging discussion and consideration of alternate perspectives.</p>
<p>Groupthink</p>	<p>Groupthink is a phenomenon that occurs in a cohesive group when members let their need to agree with each other interfere with their ability to think about the decision critically.</p> <p>As with vocal minorities, groups can help to avoid this issue by encouraging discussion and consideration of alternate perspectives.</p>

Effective Group Decision Making

The following practices will make a group's decision-making process more effective:

- Adding diversity.
- Forming smaller groups and working groups.
- Fostering consensus.
- Clarifying member roles.
- Establishing ground rules.

Additional details are provided on the following screens.

Diverse Makeup

A key characteristic of effective problem-solving groups is their diverse makeup. A group of people with varied backgrounds, knowledge, cultural viewpoints, and areas of expertise can usually generate a wider array of alternatives than a homogeneous group.

When selecting problem-solving group members, include people who:

- Can contribute something to the process.
- Have a stake in (will be impacted by) the outcomes.

Smaller Groups and Working Groups

Group size can be a tricky issue. Research has shown that groups of two to five people work effectively, and that the optimum size group may be two or three people.

The many different specialties and stakeholders in emergency management may quickly lead to an unwieldy group size.

Consider dividing into subgroups or working groups that focus on different aspects of the problem.

Consensus Building

Consensus building means bringing people together to express their ideas, clarify areas of agreement and disagreement, and develop shared resolutions.

It does not mean everyone agrees that a decision is optimal. Rather, it means a decision is reached that everyone can live with; in other words, the decision addresses stakeholders' most important issues.

Reaching Consensus

You know you've reached consensus when each member can say:

- "My personal views and ideas have been really listened to and considered."
- "I have openly listened to and considered the ideas and views of every other group member."
- "I can support this decision and work toward its implementation, even if it was not my choice."

Techniques for Reaching Consensus

Technique	Description
Agree on Criteria	Agree on criteria in advance that will be used to decide. This may help narrow options to a manageable field.
Avoid Win/Lose Techniques	Avoid win/lose techniques, such as voting or negotiating favors back and forth. However, weighted or multivoting (giving each member a set number of weighted votes to cast on multiple options) can be used to narrow options.

Expand the Alternatives	Expand the alternatives when an either-or debate is going nowhere. Look for alternatives that are next most acceptable as ways to break a stalemate.
Continue the Discussion	Continue the discussion. Don't encourage members to give in to keep harmony.

Member Roles

Collaboration is more effective when stakeholders are from varied backgrounds and perspectives. However, differences may lead to conflicts about power and control.

To foster collaboration among diverse stakeholders, it is important to get agreement on member roles and identify whether:

- All members are equal participants in the collaboration process.
- Members have decision-making authority.
- Members can make commitments for their organizations.

Ground Rules

A simple list of ground rules can make a huge difference in the tone and feeling of a meeting. Examples include:

- Establishing an agenda in advance for each meeting.
- Starting and ending meetings on time.
- Asking members to turn off cell phones, limit side conversations, listen before adding new ideas, and speak respectfully.

[Select this link for a sample list of ground rules for a collaborative group.](#)

Sample Collaborative Group Ground Rules

Confidentiality. Group members agree not to repeat what other group members have said outside of the meeting without their permission, even to other collaborative group members.

Play or Pass. Group members will help maintain forward progress by making decisions in meetings (announced reasonably in advance of meetings to all collaborative group members) with the group members present. Also, group members in attendance at a meeting have the right to pass in a discussion or decision, as long as they still do their part to make the group function.

Openness. Group members agree to remain open to other points of view, to all group members, and to the group process and its outcomes.

Listening. Group members agree to focus on each speaker rather than prepare their response, as well as allowing for no interruptions.

Fairness. Group members are committed to equal access and participation in the group.

Respect and Conflict. Group members agree that they may disagree without being disagreeable. Whenever there is conflict that interferes with the group's forward progress or performance, group members will cooperate to address the conflict.

Commitment to the Group. Group members will prepare for and attend meetings. They agree that they will begin and end meetings on time. If a group member cannot attend, he or she will send a representative and/or get briefed on what was missed.

Resources and Competition. Group members must be willing to make resource contributions to the group's success, including individually (e.g., their skills and talents), organizationally (e.g., providing meeting space for free), and collectively (e.g., working together to obtain resources for the group's work).

Commitment to Results. Group members will maintain a commitment to achieving results by working together.

Assume Good Intent. Group members agree to assume good intent when interacting in the group and to clarify meaning before jumping to conclusions.

Commitment To Work and Play Hard Together. Group members will work hard together, but also have fun and celebrate their successes together.

Strategies for Group Decision Making

Brainstorming

The focus of brainstorming is to generate ideas and solutions, not to evaluate them. It requires an environment in which the participants (individuals or group members) are free to "think out loud," without criticism. Ground rules for brainstorming should include:

- No criticism of an idea is allowed.

- Strive for the longest list possible. “Go for quantity.”
- Strive for creativity. “Wild and crazy ideas are encouraged.”
- Build (“piggyback”) on the ideas of others.

Pros and Cons

The group lists each option on a separate piece of paper with two columns: Pros and Cons (or Advantages/Disadvantages).

In each column list as many effects and implications as you can think of. If helpful, give each a weight factor from 1 to 5 to indicate its significance. When finished, total the scores and compare the pro and con scores for each option.

Multivoting

Multivoting is used to reduce a long list of items to a manageable number by means of a structured series of votes. Each person is given a number of votes to cast, equal to one-third of the total alternatives. (For example, if there are 30 alternatives, each person gets 10 votes.)

An easy way to use multivoting is to list the alternatives on separate sheets of paper and provide self-adhesive colored dots. After each person casts all his/her votes, the votes are tallied and the items receiving the fewest votes are eliminated. Rounds are repeated until a manageable list is achieved.

Lesson Summary

This lesson reviewed:

- The advantages and disadvantages of group decision making.
- Strategies for effective group decision making.

The next lesson describes the context for crisis decision making and presents strategies for applying the problem-solving model.

Lesson Overview

When time is of the essence, decisions need to be made quickly and are likely to be made by one or two people who have the necessary expertise to make the decision.

This lesson will discuss the context for crisis decision making and present strategies for applying the problem-solving model.

Incident Decision Making

Decision making in a crisis situation must take place quickly and efficiently and be based on a comprehensive view of the situation.

Effective crisis decisions take into account:

- **Past:** Standard practices, existing plans and protocols, and lessons learned. Good decisions made in planning and preparation will lay the groundwork for incident decision making.
- **Present:** Situational awareness and a common operating picture.
- **Future:** Contingencies and anticipated needs.

Common Operating Picture

Decisions made at all levels must be based on a common operating picture that is achieved through full and up-to-date situational awareness.

A common operating picture supports crisis decision making and provides all appropriate parties the same critical information about the incident, including:

- Current status and evolving situation.
- Availability and location of resources.
- Needed resources.

Impediments to Crisis Decision Making

Several factors can impede decision making in an incident, including:

- Time Pressure
- Problems with Information
- Losing the “Big Picture”

- Fatigue
- Conflicting Priorities
- Stress

[Select this link to access all information presented.](#)

Factors That Can Impede Decision Making

Time Pressure: Crises by their nature are dynamic and fast-moving situations. However, making a decision without taking even limited time for analysis can have negative consequences.

Problems with Information: Problems may include a lack of information, too much information, or inaccurate or conflicting information.

Losing the “Big Picture”: Focusing on insignificant details or tactical objectives may cause emergency management personnel to lose their ability to maintain an awareness of the evolving situation and their ability to make sound decisions.

Fatigue: Sleep deprivation and the resulting fatigue can lead to selective perception, where a person focuses on the most immediate physical setting or needs. A decision maker may miss important factors or ignore discrepancies as his or her ability to take in new information decreases. Fatigue is often combined with high or low blood sugar and overuse of caffeine, which can further impede effective decision making.

Conflicting Priorities: When key personnel have conflicting priorities, it can create uncertainty and cause delays in decision making and action planning.

Stress: Stress is a natural response to crisis situations that is heightened by many of the factors already described. Other sources of stress include:

- Uncertainty.
- High expectations.
- Information insufficiency or overload.
- Conflict.
- Decision consequences.
- Traumatic experiences.

Effects of Stress

Stress can be one of the biggest impediments to crisis decision making. Under stress, decision makers are more likely to:

- Get tunnel vision—selective perception due to sensory overload.
- Exhibit poor judgment, such as making hasty decisions or choosing risky alternatives.

- Consider only the immediate situation to the exclusion of long-range considerations.
- Have a greater tendency toward aggression or conflict with other key players.
- Engage in escape behaviors such as under- or overeating, overuse of alcohol, reckless behavior, or self-isolation.

Using a Problem-Solving Model

One of the best ways to minimize the impediments to decision making and the impact of stress is to be systematic. Having a problem-solving model, such as the one introduced earlier, has proven effective in emergency situations.

Let's take a closer look at how this model can be applied in a crisis.

[Select this link to view a summary of the Analytical Approach: Problem-Solving Model that describes how to apply the model in a crisis.](#)



Analytical Approach Problem-Solving Model and Crisis Decision Making

Step	Description
Step 1: Identify the Problem	<p>Determine the situation or condition that will exist in the future and is considered undesirable by members of the organization. In order to identify the problem, you need to size up the situation to make sure that you have the full picture. Size-up involves analyzing the current situation to determine:</p> <ul style="list-style-type: none"> • What is happening (and not happening). • Who is involved. • What the stakes are. <p>This information will enable you to identify the problem more accurately.</p>
Step 2: Explore Alternatives	<p>This step includes generating alternatives and evaluating them. You can generate alternatives through brainstorming, surveys, discussion groups, or other means. Alternatives should be evaluated using a consistent process.</p> <p>In a crisis, exploring alternatives involves:</p> <ul style="list-style-type: none"> • Identifying contingencies. Consider the future and think about all of the things that can get in the way of solving the problem you are facing. • Determining objectives. Develop objectives that clearly state what you need to do to be successful. • Identifying needed resources. Identify the people, information (data), and things needed to resolve the problem.
Step 3: Select an Alternative	<p>After you have evaluated each alternative, select the alternative that comes closest to solving the problem with the most advantages and fewest disadvantages.</p> <p>There may be repercussions to any solution selected. Carefully consider how the solution will be implemented before selecting an alternative.</p> <p>In a crisis, selecting an alternative involves building a plan that states:</p> <ul style="list-style-type: none"> • Who

	<ul style="list-style-type: none"> • Will do what (and with whom) • By when • Where • How <p>Plans need to be communicated to all parties involved.</p>
Step 4: Implement the Solution	<p>Take action to implement the selected solution. Implementation involves the following:</p> <ul style="list-style-type: none"> • Developing an action plan (what steps are needed). • Determining objectives or measurable targets. • Identifying needed resources. • Identifying details of the action plan (who will do what, by when, where, and how, as applicable). • Using the plan to put the solution in place.
Step 5: Evaluate the Situation	<p>Evaluation involves monitoring progress and evaluating the decision that was made. During evaluation, identify if: the situation has changed, more or fewer resources are required, or a different alternative solution is required.</p> <p>Monitoring the success of a solution is an ongoing process that is critical to fine tuning a course of action.</p>

Step 1: Identify the Problem

In order to identify the problem, you need to size up the situation to make sure that you have the full picture. Size-up involves analyzing the current situation to determine:

- What is happening (and not happening).
- Who is involved.
- What the stakes are.

This information will enable you to identify the problem more accurately.

[Select this link to access a list of questions that may be asked during the size-up.](#)

Size-Up Questions

- **What has happened?**
 - What initially happened to create the emergency?
 - How long has it been since the initial event?
 - What may have caused the emergency?
 - Do you suspect criminal activity?
- **What is happening now?**
 - Are there injuries or safety concerns?
 - Is immediate intervention needed to save lives?
 - What are the risks to emergency responders?
 - Are crowds and bystanders at risk?
 - Are there routes to gain access to the incident scene?
- **What is likely to happen next?**
 - Is the situation stable or getting worse?
 - Is there a possibility that secondary incidents could occur?
 - Are there continuing threats or hazards?
 - Can these and any other safety considerations be handled with resources on scene or en route?
- **What factors affect the response?**
 - Is the weather or wind affecting the response?
 - Is the time of day a factor? Is it getting dark?
 - Are responders familiar with the incident scene or building layout?
 - Are there hazardous materials or other dangers near the incident scene?
 - Are there security concerns?
 - Does evidence need to be preserved?
- **What resources are needed and available?**
 - What resources will be required?
 - Are those resources immediately available or will they be delayed?
 - How should the available resources be best deployed now?

Step 2: Explore Alternatives

In a crisis, exploring alternatives involves:

- Identifying contingencies.
- Determining objectives.
- Identifying needed resources.

[Select this link to access all information presented.](#)

Tasks Involved in Exploring Alternatives

- **Identifying contingencies.**

Contingencies are what can go wrong. Consider the future and think about all of the things that can get in the way of solving the problem you are facing.

- **Determining objectives.**

As a basis for identifying alternative solutions, develop objectives that clearly state what you need to do to be successful. Objectives should be based on the situation analysis and identified contingencies.

The objectives will drive the alternative solutions and, ultimately, the solution selected. They should also allow you to monitor progress and help you prioritize how time and resources are allocated.

- **Identifying needed resources.**

Resources include people, information (data), and things needed to resolve the problem. To identify needed resources, determine:

- What resources are needed?
- Where will I get them?
- How long will it take?
- What can others offer?
- Are there any special requirements?

Step 3: Select an Alternative

There may be repercussions to any solution selected. Carefully consider how the solution will be implemented before selecting an alternative.

In a crisis, selecting an alternative involves building a plan that states:

- Who
- Will do what (and with whom)
- By when
- Where
- How

Plans need to be communicated to all parties involved.

Step 4: Implement the Solution and Step 5: Evaluate the Situation

Finally, take action and monitor the results. For example:

- Has the situation changed?
- Are more (or fewer) resources required?
- Is a different alternative solution required?

Monitoring the success of a solution is an ongoing process that is critical to fine tuning a course of action.

Lesson Summary

This lesson discussed the context for crisis decision making and presented strategies for applying the problem-solving model.

The following lesson presents a framework for approaching ethical situations.

Lesson Overview

In an emergency situation, members of the public and coworkers count on you to carry out your responsibilities professionally. Public officials must avoid even the appearance of impropriety.

This lesson will present a framework for approaching ethical situations.

Ethics: A Simple Definition

Ethics are the standards that guide our behavior, both as individuals and as members of organizations.

Our values—the core beliefs that guide and motivate attitudes and actions—are the source of our ethics.

Ethical principles are based on values that we accept for “right” and “wrong.” They are the golden rules that we learn as children, such as being honest and fair and treating others with respect.

“ Values are like fingerprints. Nobody’s are the same, but you leave 'em all over everything you do. ”

- *Elvis Presley*

Ethical Issues and Emergencies—Higher Stakes

Emergency situations can transform routine decisions into higher profile turning points with serious ethical implications.

A poor decision with ethical implications can escalate an emergency into an unmanageable situation as the emergency response progresses.

Characteristics of Ethical Dilemmas

The difference between ordinary decision making and ethical decision making is the nature of the problem to be solved.

The following are examples of circumstances where ethical dilemmas often arise:

- Uncertainty about the consequences
- Rule book does not apply
- No good options
- Disagreement, with no time for consensus building

[Select this link to access all information presented.](#)

Circumstances Associated With Ethical Dilemmas

Circumstance	Description
Uncertainty About the Consequences	Making decisions is difficult when we are uncertain if our actions will work, or worse if they could cause negative consequences, such as someone being hurt.
Rule Book Does Not Apply	Applying rules takes some skill in interpreting the intent. As much as following the rules can be limiting, it is often more difficult to make a tough decision when there is no legal precedent, no clear policy guidance, or no established procedures.
No Good Options	When none of the options is a clearly positive choice, decision making is particularly difficult. In this case, the lesser of the two in terms of negative consequences frequently is the better option.
Disagreement, With No Time for Consensus Building	Often there is strong disagreement among coworkers, stakeholders, or the community about the best course of action, in conjunction with limited time to build consensus. Ethical decisions may end up being lose/win or lose/lose decisions rather than win/win.

Scenario: Train Derailment

Instructions: Read the scenario and answer the question that follows.

Scenario: On April 17 at 10 a.m., a train carrying 25 propane tankers derailed and began to burn. After an initial evaluation, the incident commander ordered an immediate evacuation of the community, telling evacuees the evacuation was “precautionary” and to expect it to last not more than 2 or 3 hours. After 4 hours, the incident commander, in consultation with Emergency Operations Center personnel and chemical experts, determined that the evacuation should continue until the fire burns out. People who were away from home when the fire started are now returning to the area and want to rescue their pets.

Question: What is the ethical issue involved in this scenario?

Solving an Ethical Dilemma

Ethical decision making requires being aware of your own and your organization’s ethical values and using them as a guide when making decisions.

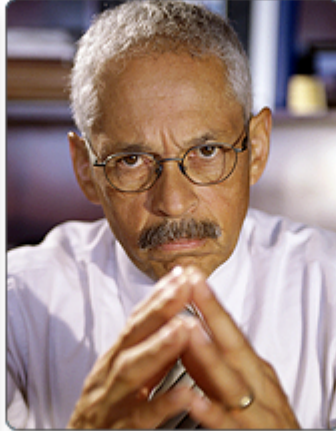
It also involves being sensitive to the impact of your decisions and being able to evaluate complex, ambiguous, and/or incomplete facts.

Components of Ethical Decision Making

Three major components of ethical decision making are:



Ethical commitment



Ethical consciousness



Ethical competency

Ethical Commitment

Ethical commitment (or motivation) is demonstrating a strong desire to act ethically and to do the right thing, especially when ethical action imposes financial, social, or psychological costs.

For example, evacuating community members in a crisis can be complicated by lack of cooperation. In this case, commitment to the whole community may necessitate allowing persons who are unwilling to evacuate to remain.

Ethical Consciousness

Ethical consciousness (awareness) involves seeing and understanding the ethical implications of our behavior.

It is important to understand that other people's perceptions are their reality. What we view as appropriate conduct may be seen by the public as improper or inappropriate.

For example, a decision to prioritize vaccination of public safety and health care workers when supplies are limited may be seen by the public as unethical (however practical). In this case, action could be taken to enhance public awareness.

Ethical Competency Skills

Evaluation

- Ability to collect and evaluate relevant facts.
- Knowing when to stop collecting facts and make prudent decisions, even when facts are incomplete and ambiguous.

Creativity

Capacity to develop resourceful means of accomplishing goals in ways that avoid or minimize ethical problems.

Prediction

Ability to foresee the potential consequences of conduct and assess the likelihood or risk that people will be helped or harmed by an act.

Ethical Do's and Don'ts

Here are some basic do's and don'ts that address ethical challenges in emergency management.

Do:

- Place the law and ethical principles above private gain.
- Act impartially.
- Protect and conserve agency/organization property.
- Put forth an honest effort in everything even remotely connected to your official position.
- Avoid even the appearance of ethical violations.

Don't:

- Use your position to seek personal gain.
- Use agency/organization resources for personal reasons.
- Appear to favor one group over another.
- Exceed your authority or make promises that can't be kept.

Applying the Problem-Solving Model

Ethical dilemmas can be paralyzing, but it is dangerous to get tied up in knots and stop making decisions entirely.

Using the problem-solving model can help you make difficult decisions.

When using the problem-solving model, when selecting an alternative (Step 3), you should eliminate any alternatives that are unethical—or even give the appearance of being unethical.

Considerations When Applying the Problem-Solving Model

When applying the model to ethical situations, be sure to consider:

- Who is affected.

- What is at stake.
- Stakeholder needs and values.
- Your values and those of your organization.
- All ethical perspectives that apply.

[Select this link for a list of questions that will help you apply the process to ethical situations.](#)

Questions To Ask When Applying the Problem-Solving Model to Ethical Situations

Step	Ethical Considerations	Questions To Ask
1. Identify the problem.	<ul style="list-style-type: none"> • Identify the situation, who is affected, and what is at stake. 	<ul style="list-style-type: none"> • What is happening? What could happen if action is not taken? • Who is affected? How? • What do the different parties have at stake? • Do some parties have a greater stake (or more to lose)?
2. Explore alternatives.	<ul style="list-style-type: none"> • Collect all the facts. • Consult experts. • Consider stakeholder needs/values. 	<ul style="list-style-type: none"> • What are the relevant facts needed to make the decision? • What facts are unknown? • What are the experts advising? Why? • What are the needs of all stakeholders? • How do the different stakeholders view the situation?
	<ul style="list-style-type: none"> • Evaluate alternative actions from various ethical perspectives. 	<ul style="list-style-type: none"> • What are the options for acting? • Have all the relevant persons and groups been consulted in the time available? • How do these alternatives look over the long run as well as the short run?

		<ul style="list-style-type: none"> • Think of the wisest person you know. • What would he or she do in this situation?
3. Select an alternative.	<ul style="list-style-type: none"> • Make a decision and test it. 	<ul style="list-style-type: none"> • How does your decision measure up against values such as honesty, fairness, equality, respecting the dignity of others, respecting people's rights, and recognizing the needs of the most vulnerable community members?
4. Implement the solution. 5. Evaluate the solution.	<ul style="list-style-type: none"> • Act, assess, and learn for the future. 	<ul style="list-style-type: none"> • What have we learned from this situation?

Ethical Decision Making: Know Your SELF

Ethical decision making requires taking the time needed to make sure that your decisions are consistent with your moral standards and values. This process can help to uncover small inconsistencies that can undermine personal integrity.

One way to ensure that you are making ethical decisions consistently is to apply the "SELF" standard.

Your decisions should:

S	... withstand Scrutiny	... by the community, the public, and the media.
E	... Ensure compliance	... with policies and the code of conduct.
L	... show Leadership	... through integrity, accountability, and consistency.
F	... be Fair	... to those we serve, staff, stakeholders, and yourself.

[Select this link to access questions you can use when applying the SELF standard.](#)

Applying the SELF Standard: Questions To Ask

Decisions Should:	Ask Yourself:
S: Withstand Scrutiny	<ul style="list-style-type: none"> • Will I be proud of my decision? • Will my decision reflect honesty, integrity, fairness, and truthfulness?
E: Ensure Compliance	<ul style="list-style-type: none"> • Will my decision or conduct comply with the law? • Will my decision or conduct create value?

	<ul style="list-style-type: none"> • Will my decision or conduct reflect and promote the core values of my organization?
L: Show Leadership	<ul style="list-style-type: none"> • Am I being pressured or unduly influenced by others? • Am I being driven by my emotions? • Have I filtered out my ego needs and my own self-interests? • Are there other alternatives I should consider?
F: Be Fair	<ul style="list-style-type: none"> • Will my decision be judged fair now and in the future? • Have I considered the needs and interests of those who might be affected by my decision or conduct? • What will be the consequences of my decision? • Who could be harmed by my decision? • Who will benefit from my decision?

Simple Scrutiny Test

A simple way to apply the scrutiny test to your decision is to ask yourself:



Could I explain my decision to Mom?



How well will I sleep?



What's the likely headline?

For More Information:

- Alsott, J. D. The Search for Honor: An Inquiry into the Factors That Influence the Ethics of Federal Acquisition. In J. A. Petrick, W. M. Claunch, & R. F. Scherer (Eds.), *Institutionalizing Organizational Ethics Programs: Contemporary Perspectives* (pp. 182-194). Dayton, OH: Wright State University, 1991.
- Atwood, D. J. Living up to the Public Trust. *Defense Issues*, Vol. 5, 1990, p. 1.

- Crawford, S. J., III. Wind and Well-Learned Lessons. *Defense*, Vol. 90, July-August 1990, p. 15.
- Josephson, M. *Making Ethical Decisions*. The Josephson Institute of Ethics, 1992, 1993.
- Karp, H. B. & Abramms, B. Doing the Right Thing. *Training and Development*, August 1992, pp. 37-41.
- Executive Order 12731, Principles of Ethical Conduct for Government Officers and Employees. *Federal Register*, Vol. 55, No. 203, October 19, 1990.
- Government Ethics Center of the Joseph and Edna Josephson Institute of Ethics. Ethics at the IRS: A Quest for the Highest Standards (Internal Revenue Service Management Training Program: Workshop and Resource Materials). Marina Del Rey, CA, 1991.
- Jennings, B. & Arras, J. Ethical Guidance for Public Health Emergency Preparedness and Response: Highlighting Ethics and Values in a Vital Public Health Service. Ethics Subcommittee, Advisory Committee to the Director, Centers for Disease Control and Prevention, October 30, 2008.
- Roberts, M. & Renzo, E. G. Ethical Considerations in Community Disaster Planning. In Phillips, S. J. & Knebel, A. (Eds.), *Mass Medical Care with Scarce Resources: A Community Planning Guide* (Chapter 2). AHRQ Publication No. 07-0001. Rockville, MD: Agency for Healthcare Research and Quality, 2007.

Lesson Summary

This lesson reviewed the following:

- Major components of ethical decision making.
- Ethical decision-making skills.
- Applying the problem-solving model to ethical decisions.

The next lesson provides a summary of the course.

Lesson Overview

This lesson provides a brief summary of the course contents. After reviewing the summary information, you should then take the course final exam. Remember, you must complete the final exam to receive credit for this course.

Lesson 1: Decision Making and Emergency Management

Effective decision making can:

- Avert tragedy.
- Help manage incidents.
- Build community trust and support.
- Help the community recover from an event more quickly.

Lesson 1: Analytical Approach

It is helpful to have a defined process that leads to a solution or a decision. The process needn't be complex—in fact, in many cases simpler is better.

There are many different decision-making models to choose from. A commonly used five-step analytical process is shown in the diagram.

[Select this link for a description of the steps of the analytical approach.](#)

Lesson 2: Advantages and Limitations of Group Decision Making

Advantages	Limitations
Generates more favorable outcomes.	Requires adequate time and good leadership to be successful.
Provides broader perspective.	May result in a compromise rather than the optimal solution.
Taps creative potential.	Can be overly influenced by a vocal few.
Allows increased discussion.	May get bogged down by overanalysis or influenced by haste to be finished.
Makes wider use of resources.	
Builds ownership and buy-in.	

Course Resources and Job Aids

For a printable version of the course resources and job aids, select the desired item(s) from the following list:

- [Analytical Approach Problem-Solving Model](#)

- [Analytical Approach Problem-Solving Model and Crisis Decision Making](#)
- [Applying the SELF Standard: Questions To Ask](#)
- [Decision-Making Pitfalls](#)
- [Key Elements for Effective Decision Making](#)
- [Questions To Ask When Applying the Problem-Solving Model to Ethical Situations](#)
- [Sample Collaborative Group Ground Rules](#)
- [Selecting a Decision-Making Approach](#)
- [Size-Up Questions](#)
- [Strategies for Group Decision Making](#)
- [Techniques for Reaching Consensus](#)

Course Summary

This lesson provided a brief summary of the course contents.

You must complete the final exam to receive credit for this course.

Decision-Making Pitfalls

The pitfalls listed in the table below can create problems for decision making by groups. These pitfalls can reduce the willingness of individuals within the group to:

- Examine alternatives effectively and efficiently.
- Gather or acknowledge contradictory information contrary to the group consensus.
- Be critical of the group consensus.
- Introduce and defend new or different ideas.

In general, group leaders can avoid these pitfalls through the following actions: Encouraging everyone to air objections and doubts and to accept criticism.

- Describing the problem without revealing your preferred solution.
- Assigning the group into subgroups and asking each to evaluate the problem.
- Inviting outside experts to challenge the group’s decision.
- Asking members to take turns playing “devil’s advocate.”

<p>Lack of Time</p>	<p>When group members are feeling pressured by time, they may fail to gather the information necessary to make a good decision, or to consider all of the information. The result may be a hasty decision that does not consider all alternatives.</p> <p>Groups can help to avoid this issue by slowing down the process, assigning specific research roles to individuals or smaller teams, and ensuring that everyone in the group has added his or her perspective.</p> <p>Voting may be an effective method when time is short, but may polarize the group if members feel their views have not been heard.</p>
<p>Too Much Time</p>	<p>Group members may spend so much time gathering and analyzing information that they fail to bring the issue to discussion or come to any conclusion. The additional time spent gathering and analyzing information may not add value to the decision that needs to be made.</p> <p>Groups can help to avoid this issue by facilitating agreement about the critical information needed to make the decision and by bringing the issue to discussion and decision as soon as that information is available.</p>
<p>Vocal Minorities</p>	<p>One or a few members of a group may express their opinions so strongly that others hesitate to disagree or add a different perspective. A group</p>

	<p>leader who begins the discussion with a proposed decision or solution may also limit discussion.</p> <p>Groups can help to avoid this issue by encouraging discussion and consideration of alternate perspectives.</p>
Groupthink	<p>Groupthink is a phenomenon that occurs in a cohesive group when members let their need to agree with each other interfere with their ability to think about the decision critically.</p> <p>As with vocal minorities, groups can help to avoid this issue by encouraging discussion and consideration of alternate perspectives.</p>

Techniques for Reaching Consensus

Technique	Description
Agree on Criteria	Agree on criteria in advance that will be used to decide. This may help narrow options to a manageable field.
Avoid Win/Lose Techniques	Avoid win/lose techniques, such as voting or negotiating favors back and forth. However, weighted or multivoting (giving each member a set number of weighted votes to cast on multiple options) can be used to narrow options.
Expand the Alternatives	Expand the alternatives when an either-or debate is going nowhere. Look for alternatives that are next most acceptable as ways to break a stalemate.
Continue the Discussion	Continue the discussion. Don't encourage members to give in to keep harmony.

Applying the SELF Standard: Questions To Ask

Decisions Should:	Ask Yourself:
S: Withstand <u>S</u> crutiny	<ul style="list-style-type: none"> • Will I be proud of my decision? • Will my decision reflect honesty, integrity, fairness, and truthfulness?
E: <u>E</u> nsure Compliance	<ul style="list-style-type: none"> • Will my decision or conduct comply with the law? • Will my decision or conduct create value? • Will my decision or conduct reflect and promote the core values of my organization?
L: Show <u>L</u> eadership	<ul style="list-style-type: none"> • Am I being pressured or unduly influenced by others? • Am I being driven by my emotions? • Have I filtered out my ego needs and my own self-interests? • Are there other alternatives I should consider?
F: Be <u>F</u> air	<ul style="list-style-type: none"> • Will my decision be judged fair now and in the future? • Have I considered the needs and interests of those who might be affected by my decision or conduct? • What will be the consequences of my decision? • Who could be harmed by my decision? • Who will benefit from my decision?

Sample Collaborative Group Ground Rules

Confidentiality. Group members agree not to repeat what other group members have said outside of the meeting without their permission, even to other collaborative group members.

Play or Pass. Group members will help maintain forward progress by making decisions in meetings (announced reasonably in advance of meetings to all collaborative group members) with the group members present. Also, group members in attendance at a meeting have the right to pass in a discussion or decision, as long as they still do their part to make the group function.

Openness. Group members agree to remain open to other points of view, to all group members, and to the group process and its outcomes.

Listening. Group members agree to focus on each speaker rather than prepare their response, as well as allowing for no interruptions.

Fairness. Group members are committed to equal access and participation in the group.

Respect and Conflict. Group members agree that they may disagree without being disagreeable. Whenever there is conflict that interferes with the group's forward progress or performance, group members will cooperate to address the conflict.

Commitment to the Group. Group members will prepare for and attend meetings. They agree that they will begin and end meetings on time. If a group member cannot attend, he or she will send a representative and/or get briefed on what was missed.

Resources and Competition. Group members must be willing to make resource contributions to the group's success, including individually (e.g., their skills and talents), organizationally (e.g., providing meeting space for free), and collectively (e.g., working together to obtain resources for the group's work).

Commitment to Results. Group members will maintain a commitment to achieving results by working together.

Assume Good Intent. Group members agree to assume good intent when interacting in the group and to clarify meaning before jumping to conclusions.

Commitment To Work and Play Hard Together. Group members will work hard together, but also have fun and celebrate their successes together.

Size-Up Questions

- **What has happened?**
 - What initially happened to create the emergency?
 - How long has it been since the initial event?
 - What may have caused the emergency?
 - Do you suspect criminal activity?
- **What is happening now?**
 - Are there injuries or safety concerns?
 - Is immediate intervention needed to save lives?
 - What are the risks to emergency responders?
 - Are crowds and bystanders at risk?
 - Are there routes to gain access to the incident scene?
- **What is likely to happen next?**
 - Is the situation stable or getting worse?
 - Is there a possibility that secondary incidents could occur?
 - Are there continuing threats or hazards?
 - Can these and any other safety considerations be handled with resources on scene or en route?
- **What factors affect the response?**
 - Is the weather or wind affecting the response?
 - Is the time of day a factor? Is it getting dark?
 - Are responders familiar with the incident scene or building layout?
 - Are there hazardous materials or other dangers near the incident scene?
 - Are there security concerns?
 - Does evidence need to be preserved?
- **What resources are needed and available?**
 - What resources will be required?
 - Are those resources immediately available or will they be delayed?
 - How should the available resources be best deployed now?

Strategies for Group Decision Making

Brainstorming

The focus of brainstorming is to generate ideas and solutions, not to evaluate them. It requires an environment in which the participants (individuals or group members) are free to “think out loud,” without criticism. Ground rules for brainstorming should include:

- No criticism of an idea is allowed.
- Strive for the longest list possible. “Go for quantity.”
- Strive for creativity. “Wild and crazy ideas are encouraged.”
- Build (“piggyback”) on the ideas of others.

Pros and Cons

The group lists each option on a separate piece of paper with two columns: Pros and Cons (or Advantages/Disadvantages).

In each column list as many effects and implications as you can think of. If helpful, give each a weight factor from 1 to 5 to indicate its significance. When finished, total the scores and compare the pro and con scores for each option.

Multivoting

Multivoting is used to reduce a long list of items to a manageable number by means of a structured series of votes. Each person is given a number of votes to cast, equal to one-third of the total alternatives. (For example, if there are 30 alternatives, each person gets 10 votes.)

An easy way to use multivoting is to list the alternatives on separate sheets of paper and provide self-adhesive colored dots. After each person casts all his/her votes, the votes are tallied and the items receiving the fewest votes are eliminated. Rounds are repeated until a manageable list is achieved.

Selecting a Decision-Making Approach

Use the questions below as a guide to developing a decision-making approach. Answer each of the questions below.

- If the response to question 1 is “No,” it may be preferable to make the decision individually or in consultation with key players.
- If the response to question 2 is “No,” it may be preferable to make the decision through consultation, with a group, or by delegation.
- If the majority of your responses are “Yes,” group decision making may be preferable.
- If the majority of your responses are “No,” individual decision making may be preferable.

Question	Yes	No
Do you have a reasonable amount of time to make the decision?		
Does the leader have enough expertise to make a good decision?		
Do the potential group members have enough expertise to make a good decision?		
Do the others involved share the organizational goals to be attained by solving the problem?		
Is the decision complex with many possible solutions?		
Is commitment to the decision by other people critical?		
Is the decision likely to cause serious conflict among the people affected by it?		
Will the decision directly impact many agencies, individuals, or community members?		
Will the decision directly impact only a select few?		

Questions To Ask When Applying the Problem-Solving Model to Ethical Situations

Step	Ethical Considerations	Questions To Ask
1. Identify the problem.	<ul style="list-style-type: none"> Identify the situation, who is affected, and what is at stake. 	<ul style="list-style-type: none"> What is happening? What could happen if action is not taken? Who is affected? How? What do the different parties have at stake? Do some parties have a greater stake (or more to lose)?
2. Explore alternatives.	<ul style="list-style-type: none"> Collect all the facts. Consult experts. Consider stakeholder needs/values. 	<ul style="list-style-type: none"> What are the relevant facts needed to make the decision? What facts are unknown? What are the experts advising? Why? What are the needs of all stakeholders? How do the different stakeholders view the situation?
	<ul style="list-style-type: none"> Evaluate alternative actions from various ethical perspectives. 	<ul style="list-style-type: none"> What are the options for acting? Have all the relevant persons and groups been consulted in the time available? How do these alternatives look over the long run as well as the short run? Think of the wisest person you know. What would he or she do in this situation?
3. Select an alternative.	<ul style="list-style-type: none"> Make a decision and test it. 	<ul style="list-style-type: none"> How does your decision measure up against values such as honesty, fairness, equality, respecting the dignity of others, respecting people's rights, and recognizing the needs of the most vulnerable community members?

<p>4. Implement the solution.</p> <p>5. Evaluate the solution.</p>	<ul style="list-style-type: none">• Act, assess, and learn for the future.	<ul style="list-style-type: none">• What have we learned from this situation?
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Job Aid: Analytical Approach Problem-Solving Model

This job aid presents a detailed description of the analytical approach process, including checklists and worksheets, and can be printed as desired. This process of making decisions involves five steps:

- Step 1: Identify the problem.
- Step 2: Explore alternatives.
- Step 3: Select an alternative.
- Step 4: Implement the solution.
- Step 5: Evaluate the situation.



Step 1. Identify the Problem

Problem identification is undoubtedly the most important and the most difficult step in the process. All subsequent steps will be based on how you define and assess the problem at hand.

What Is a “Problem”?

A problem is a situation or condition of people or the organization that will exist in the future, and that is considered undesirable by members of the organization.

Problem or Solution?

In carrying out Step 1, you must distinguish between a problem and its solution. The most common error in problem solving is defining problems in terms of their solutions. Sometimes people think that they are articulating problems when actually they are stating a potential solution.

Here’s an example: Someone might say, “The problem is that we don’t have an EOC.” The problem, however, is not that there is no EOC. The problem is really that the emergency management community cannot coordinate communications adequately during the response phase. Establishing an EOC is a solution.

Delineating the Problem Parameters

Identifying the problem also involves analyzing the situation to determine the extent of the problem. Problem parameters include:

- What is happening (and is not happening).
- Who is involved.
- What the stakes are.

The checklist on the following page presents a set of questions that can help you define a problem accurately.

Checklist for Identifying, Defining, and Analyzing Problems

Question	Yes	No
1. Is this a new problem?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the problem clearly and precisely stated?	<input type="checkbox"/>	<input type="checkbox"/>
3. What assumptions am I making about the problem? (List.) Are they true?	<input type="checkbox"/>	<input type="checkbox"/>
4. What would happen if nothing were done about this problem?		
5. Can the problem be restated in other terms? If yes, how?	<input type="checkbox"/>	<input type="checkbox"/>
6. What data are known that bear on the problem?		

**Checklist for Identifying, Defining, and Analyzing Problems
(Continued)**

Question	Yes	No
7. Is the information accurate?	<input type="checkbox"/>	<input type="checkbox"/>
8. Are there any precedents or rules about other procedures that apply to the problem? If so, what precedents or rules apply?	<input type="checkbox"/>	<input type="checkbox"/>
9. What additional facts are needed to analyze the problem? (List.)		
10. Is it possible to interpret the facts differently? How would that affect the problem's solution?	<input type="checkbox"/>	<input type="checkbox"/>
11. Do I have to make this decision, or does someone else? If this decision is someone else's to make, whose is it?		

Step 2. Explore Alternatives

The second step in the decision-making process is to explore alternative solutions to the problem identified in Step 1. This step really consists of two parts:

- Generating alternatives.
- Evaluating alternatives.

Techniques for Generating Alternatives

- **Brainstorming** can be done individually or in a group. Brainstorming requires an environment in which the participants (individuals or group members) are free to “think out loud.” Participants blurt out as many ideas as possible within a specified time period. No evaluation of ideas is permitted so as to encourage the free flow of creative ideas. These ideas are recorded. When the specified time period ends, then evaluation of the ideas begins.
- **Surveys** economically tap the ideas of a large group of respondents. Surveys present respondents with the problem and a series of alternative solutions.
- **Discussion groups** should consist of those who are directly involved in decision making. In generating alternatives, the group members should:
 - Be comprehensive.
 - Avoid initial judgments (as in brainstorming).
 - Focus on the problem, not on the personalities of the people involved in the decision-making process. (But be sensitive to the impact of personalities on the process.)

Criteria for Evaluating Alternatives

After you have generated alternative solutions, you must have some means of evaluating them. The job aid on the following page lists criteria by which you can evaluate alternatives.

Another part of evaluation is identifying contingencies—what could go wrong. Think in terms of Murphy’s Law (“If anything can go wrong, it will.”) and identify what could get in the way of solving the problem you are facing.

Criteria for Evaluating Alternatives

Step	Questions To Ask
1. Identify Constraints	Do any of the following factors serve as a limitation on this solution? <ul style="list-style-type: none">• Technical (limited equipment or technology)• Political (legal restrictions or ordinances)• Economic (cost or capital restrictions)• Social (restrictions imposed by organized groups with special interests)• Human resources (limited ability of relevant people to understand or initiate certain actions)• Time (requirements that a solution be found within a prescribed time period, thereby eliminating consideration of long-range solutions)
2. Determine Appropriateness	Does this solution fit the circumstances?
3. Verify Adequacy	Will this option make enough of a difference to be worth doing?
4. Evaluate Effectiveness	Will this option meet the objective?
5. Evaluate Efficiency	What is the cost/benefit ratio of this option?
6. Determine Side Effects	What are the ramifications of this option?

Step 3. Select an Alternative

The third step in the problem-solving model is to select one of the alternatives explored in Step 2 for implementation. Selecting an alternative is a critical step in the problem-solving process. After you have evaluated each alternative, one should stand out as coming closest to solving the problem with the most advantages and fewest disadvantages.

Implementing the solution may not be easy, however. There may be repercussions, and you should complete a “reality check” to identify and evaluate the possible consequences of implementing the solution. Carefully consider how the solution will be implemented before selecting an alternative.

When selecting an alternative, you will encounter factors that affect your decision making. These factors may include:

- Political factors.
- Safety factors.
- Financial factors.
- Environmental considerations.
- Ethical factors.

Not all of these factors may be readily recognizable. As you examine the situation and apply the problem-solving model, be alert for these potential limits on the solutions that you can implement.

Selecting Alternatives: Best Solutions

Solution:
Limiting Factors:
Political:
Safety:
Financial:
Environmental:
Ethical:
Other:

Solution:
Limiting Factors:
Political:
Safety:
Financial:
Environmental:
Ethical:
Other:

Solution:
Limiting Factors:
Political:
Safety:
Financial:
Environmental:
Ethical:
Other:

If you have more than one clear solution, can any be combined?

Step 4. Implement the Solution

The fourth step involves five subparts as detailed below.

- **Develop an action plan.** Implementation requires a series of steps to:
 - Articulate who has to do what, with what resources, by what time, and toward what goal.
 - Identify who must know about the decision.

The Action Planning Checklist on the following page will help you to plan the details needed for implementation.

- **Determine objectives.** Objectives are measurable targets that are:
 - Used to monitor progress and establish priorities.
 - Based on analysis of the situation and contingencies.
- **Identify needed resources.** Resources include people, information (data), and things. Ask yourself:
 - What resources do I need?
 - Where will I get them?
 - How long will it take?
 - What can others offer?
 - Are there any special requirements?
- **Build a plan.** Your plan should state:
 - Who
 - Will do what (and with whom)
 - By when
 - Where
 - How

Remember: Communicate the plan to all parties involved!

- **Implement the plan.** Use the action plan to put the decision in place.

Action Planning Checklist

Use the following questions to help you develop any details needed to plan for implementation of the decision.

Question	Yes	No
1. Will the decision be implemented as it stands or will it have to be modified? <input type="checkbox"/> As it stands <input type="checkbox"/> With modifications (list)		
2. Does the decision fit the problem and conditions specified earlier?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is this decision still the best option? If no, what has changed?	<input type="checkbox"/>	<input type="checkbox"/>
4. What are the side effects of this decision?		
5. Who is responsible for taking action?		

Action Planning Checklist (Continued)

Question	Yes	No
6. Are the specific targets to be accomplished and the techniques for accomplishing them defined?	<input type="checkbox"/>	<input type="checkbox"/>
If no, what targets and techniques required further definition?		
7. What specific activities must take place to implement this decision? In what sequence?		
8. What resources will be needed to implement this decision?		
9. What is the schedule or timetable for implementation of each step in the action plan?		

Step 5. Evaluate the Situation

Evaluation involves two parts:

- **Monitoring progress.** Ask:
 - Has the situation changed?
 - Are more (or fewer) resources required?
 - Is a different alternative solution required?

Monitoring the success and results of a decision is an ongoing process that is critical to fine-tuning a course of action.

- **Evaluating the results.** Use the following checklist to help you evaluate the decision.

Evaluation Checklist

Use the questions below as a guide for evaluating the results of your decision making.

Question	Yes	No
1. How will you know if the proposed decision has worked?		
Is it measurable? If yes, how?	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the decision and action plan make use of existing channels of communication to generate feedback?	<input type="checkbox"/>	<input type="checkbox"/>
3. Will the feedback test the effectiveness of the decision?	<input type="checkbox"/>	<input type="checkbox"/>
4. Will the feedback be sufficient to reflect changing circumstances and conditions that might occasion the need to modify the plan?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the solution achieving its purpose?	<input type="checkbox"/>	<input type="checkbox"/>
6. Is timely information generated so that it can be supplied to operational, administrative, and policy units in the jurisdiction?	<input type="checkbox"/>	<input type="checkbox"/>

Analytical Approach Problem-Solving Model and Crisis Decision Making

Step	Description
Step 1: Identify the Problem	<p>Determine the situation or condition that will exist in the future and is considered undesirable by members of the organization. In order to identify the problem, you need to size up the situation to make sure that you have the full picture. Size-up involves analyzing the current situation to determine:</p> <ul style="list-style-type: none"> • What is happening (and not happening). • Who is involved. • What the stakes are. <p>This information will enable you to identify the problem more accurately.</p>
Step 2: Explore Alternatives	<p>This step includes generating alternatives and evaluating them. You can generate alternatives through brainstorming, surveys, discussion groups, or other means. Alternatives should be evaluated using a consistent process.</p> <p>In a crisis, exploring alternatives involves:</p> <ul style="list-style-type: none"> • Identifying contingencies. Consider the future and think about all of the things that can get in the way of solving the problem you are facing. • Determining objectives. Develop objectives that clearly state what you need to do to be successful. • Identifying needed resources. Identify the people, information (data), and things needed to resolve the problem.
Step 3: Select an Alternative	<p>After you have evaluated each alternative, select the alternative that comes closest to solving the problem with the most advantages and fewest disadvantages.</p> <p>There may be repercussions to any solution selected. Carefully consider how the solution will be implemented before selecting an alternative.</p> <p>In a crisis, selecting an alternative involves building a plan that states:</p> <ul style="list-style-type: none"> • Who

	<ul style="list-style-type: none"> • Will do what (and with whom) • By when • Where • How <p>Plans need to be communicated to all parties involved.</p>
<p>Step 4: Implement the Solution</p>	<p>Take action to implement the selected solution. Implementation involves the following:</p> <ul style="list-style-type: none"> • Developing an action plan (what steps are needed). • Determining objectives or measurable targets. • Identifying needed resources. • Identifying details of the action plan (who will do what, by when, where, and how, as applicable). • Using the plan to put the solution in place.
<p>Step 5: Evaluate the Situation</p>	<p>Evaluation involves monitoring progress and evaluating the decision that was made. During evaluation, identify if: the situation has changed, more or fewer resources are required, or a different alternative solution is required.</p> <p>Monitoring the success of a solution is an ongoing process that is critical to fine tuning a course of action.</p>

Key Elements for Effective Decision Making

The following key elements are essential for effective decision making

Clarity of Values	<p>Many factors may influence decision making, including political, safety, financial, environmental, and ethical factors.</p> <p>Unless you have a clear view of your values—what you want to achieve, preserve, prevent—and keep them in mind at each step in the process, it can become difficult to balance these factors in a meaningful way.</p> <p>Although priorities may shift, and how you implement strategies may change over time, the underlying values must be clear.</p>
Quality of Information	<p>Data used in decision making must be accurate and reliable. The old standby, “Garbage In = Garbage Out” (GIGO), is especially true in decision making. You can’t start with faulty or inadequate information and hope to reach the best decisions.</p> <p>Failure to verify information can lead to poor decisions—sometimes with serious consequences.</p> <p>Thoroughly screen the information used in making decisions!</p> <p>Tips for Ensuring Quality Information:</p> <ul style="list-style-type: none">• Do your research: Use the Internet, books, libraries, and people as sources of information. Find out if others have tried to solve this problem or a related problem. Build on lessons learned.• Use trusted sources as the primary sources of information, but talk to secondary sources as well. They can help build a broader picture.• Validate your information: Is it true? Is it accurate? Differentiate fact from rumor.• Collate and cross-check against baseline data and against reports received from other sources. Carefully review conflicting opinions, and reconcile any discrepancies.
Analytical Approach	<p>It is helpful to have a defined process that leads to a solution or a decision. The process needn’t be complex—in fact, in many cases simpler is better.</p> <p>There are many different decision-making models to choose from. A commonly used five-step process is shown below.</p>



Although this process is circular, the steps are not necessarily completed in sequence. For example, knowledge gained during one step might send you back to a prior step before moving forward.

The steps of the process will be described in more detail in this lesson.