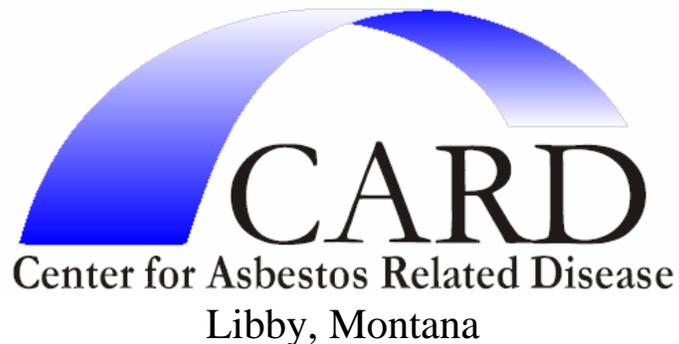CORA
Community Outreach Recovery Assistance

ADDRESSING THE PSYCHOSOCIAL ELEMENTS OF SLOW MOTION TECHNOLOGICAL DISASTERS

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CHAPTER #1
<u>PURPOSE AND OVERVIEW OF TRAINING MANUAL</u>

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<u>1.1 Purpose of This Manual</u>

This training manual has been specifically created to assist in the development of psychosocial disaster relief services for Slow Motion Technological Disasters (SMTDs). Because they are experienced quite differently than other disasters, SMTDs—with their unique characteristics and consequences—require alterations and adaptations to the previously established psychosocial disaster responses methods.

Some of the information offered in this manual will apply to any type of technological disaster, slow motion or event focused. When giving this type of information, we will use the broader term technological disaster (TD). For the purposes of these training materials, we will be addressing SMTDs that have direct impacts on human health.

Despite the many beneficial advances in technology over the past 100 years, unanticipated consequences and new challenges have also emerged. In today's world we are faced with a new type of disaster: the technological disaster, or TD, usually the result of a human failure of some kind. For the purposes of this document, in describing this important aspect of TDs we will be using the term "human causation," which encompasses deliberate or accidental human error; malfunctioning equipment and safeguards; poor decision making with disastrous consequences; intentional deception or 'looking the other way;' carelessness; or other failings. Whatever the nature of the human causation, in contrast to the uncontrollable disasters of nature, the technological disaster might possibly have been avoided. This impacts how people respond: everyone wants to know who is responsible and the blame game often begins. In addition, because technological disasters are a relatively new phenomena in the world, they bring with them a heightened sense of fear, anxiety, and uncertainty.

Human causation means that, again unlike a natural disaster, there will be a responsible party or parties. This may be a corporate or business entity, a government agency—such as the Department of Energy at Hanford, Washington—or possibly an individual. Often, exactly who or what is the responsible party is not clear at the outset of remediation efforts. Additionally a responsible party may never be legally determined, or proven. However, certain factions in the community may have a belief or strong perception about who is the responsible party, and will act accordingly. For the purposes of this manual, the term responsible party may refer to the entity in a TD whom is widely believed to be so.

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There are two main types of technological disasters. The first is a Sudden Technological Disaster. This is event focus and occurs suddenly, such as the radiation leak at Chernobyl or the chemical spill at Bhopal India. The second type of technological disaster is the Slow Motion

Technological Disaster (SMTD). The SMTD has a diluted onset and a diluted course, which leads to a very different disaster experience. For example, in 1984 the residents of Fernald Ohio, were informed that a Department of Energy Feed Materials Production Center had been negligent in the storage and disposal of toxic waste, and that they had been exposed to a variety of contaminants in both air and water over the course of several decades.

In fact, most disasters in the history of the world have occurred suddenly. For example, the destructive earthquake at Kobe, Japan in 1995, the nuclear accident at Three Mile Island in 1979, and the release of the deadly chemical methylisocyanate at Bhopal India in 1984 would all be termed "event focused" disasters. Thus, most psychosocial disaster response materials to date have been focused on the effects of this type of disaster.

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1.2 Overview of the Manual

This training manual includes a mix of narrative, case examples from The Libby Experience, slides, handouts, and a video that illustrates—via the Libby Experience—some of the unique psychosocial characteristics of an SMTD.

This manual is broken down into 11 chapters.

1. Purpose and Overview
2. Introduction: The Libby Experience
3. Characteristics and Phases of SMTDs
4. Psychosocial Impacts of SMTDs
5. Psychological Reactions and Processes in SMTDs
6. Key Events in SMTDs with Mental Health Implications
7. Preparation – Assessment of the Community, the Disaster and the Response
8. Addressing Target Populations and Special Populations
9. Models for Intervention in SMTD
10. Barriers to Effective Psychosocial Responses in SMTDs
11. Conclusions and Resources

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1.3 Goals of the Training Materials

Overall Goals:
Participants completing this training should be able to:

1. Identify the characteristics of technological disasters, slow motion and event focused

2. Make a contrast/comparison between slow motion technological disasters (SMTDs) and other event focused technological or natural disasters

3. Identify characteristics of psychosocial responses to both event focused and slow motion technological disasters

4. Conduct an assessment of a community impacted by a technological disaster

5. Identify both primary and secondary psychosocial impacts and reactions to a technological disaster

6. Describe key events in a technological disaster with mental health implications

7. Describe components of intervention strategies in terms of populations and methodology

8. Identify barriers to healthy, adaptive responses in SMTDs

1.4 Chart of Chapter Objectives

Chapter	Topics	Learning Objectives
1	Purpose and overview	1. Identify intended audience. 2. State goals of training. 3. Describe manual materials and format. 4. Describe alternative methods of using training materials.
2	Introduction	1. Define an SMTD. 2. Describe "The Libby Experience." 3. Explain how manual came to be.
3	Characteristics and phases of SMTDs	1. Identify and describe origins. 2. Identify and describe the course of a disaster. 3. Identify and understand what are visible and invisible features of disaster destruction. 4. Describe the scope of individual and collective trauma. 5. Identify the role of "continued threat." 6. Be able to contrast and compare the characteristics and phases of event focused vs. slow motion and technological vs. natural disasters.
4	Primary psychosocial stressors in an SMTD impacted population	1. Describe the role of information as a primary stressor. 2. Understand 'invisible' vs. 'visible' aspects of disaster and how they effect responses. 3. Describe consequences of SMTD in terms of predictability and length of impact. 4. Identify and describe impacts of disempowerment in SMTDs. 5. Understand dynamics of 'safety' vs. 'danger' in shaping responses. 6. Describe the dynamics of "helpless/hopeless" responses to SMTD.

Chapter	Topics	Learning Objectives
4	Secondary psychosocial stressors in an SMTD impacted population	1. Understand and describe the impacts of a media siege on a community. 2. Describe how community conflict develops, and identify impacts. 3. Describe the consequences of mistrust and betrayal in relations with officials and the media. 4. Identify and describe the role of cultural pressure and cultural losses in secondary stress. 5. Identify how political and legal controversies develop in, and affect, an SMTD impacted population. 6. Identify and describe the impacts of multiple frustrations, family, and economic stress in reactions to SMTD. 7. Describe how social stigmatization and alienation can occur in an SMTD impacted population.
4	The role of perception in psychosocial responses to SMTDs	1. Understand and describe processes of becoming aware of SMTD. 2. Describe impacts of focused attention. 3. Identify how identification vs. misidentification effect individual's perception of and responses to disaster.
5	Psychological responses to SMTD	1. Identify and describe initial responses to an SMTD. 2. Identify and describe longer-term responses to an SMTD. 3. Describe the "overlay" effect of multiple psychological processes found in individuals and communities with an SMTD.
6	Importance of key events in psychosocial responses to SMTDs	1. Understand and describe key events in an SMTD response. 2. Understand and describe how different individuals, families and organizations may follow different timelines in response process. 3. Define the role of information in each phase of response timeline. 4. Describe how the initiation and continuation of cleanup activities impacts individuals, family, groups and community structures. 5. Identify and define the role of official decision making on SMTD impacted individuals and community groups.

Chapter	Topics	Learning Objectives
6	The impact of screening and diagnosis on psychosocial responses to SMTD	1. Describe general responses to the initiation of health screening activities. 2. Describe diagnosis as stressor, and typical responses.
6	The role of environmental and criminal justice investigations in SMTD	1. Describe individual and community reactions to the initiation of investigations and actions pertaining to legal responsibilities and liabilities for SMTD.
7	Assessing the community characteristics and history	1. Identify characteristics of the community, i.e. social, economic and cultural demographics. 2. Identify and describe the origin of SMTD and role of disaster initiator (agency, company, or individual). 3. Identify how disaster information came to be known. 4. Understand how to assess history of exposure.
7	Understanding the "player" dynamics	1. Identify key bureaucratic structures, their role in the response and any significant local history. 2. Develop an organizational chart illustrating lines of communication and authority. 3. Define the characteristics of the response from different players. 4. Understand the role and characteristics of the spokesperson(s). 5. Understand the role of the media in shaping community response.
7	Identification of factions and in / out groups	1. Define and identify community, inter-agency, and individuals and their interactions. 2. Identify and describe role of the "responsible parties" in the community response to SMTD.
8	Target populations and special populations to be considered in designing interventions	1. Describe a model for assessing levels and nature of impacts. 2. Describe process for identifying and assessing populations at risk. 3. Describe process for identifying and recruiting "gatekeepers" and professional responders in population. 4. Describe process of identifying and reaching high-risk groups. 5.

Chapter	Topics	Learning Objectives
9	Key concepts in SMTD intervention	1. Describe two key concepts in SMTD.
9	Multi-level intervention themes	1. Identify how loss of control affects people in SMTD. 2. Describe the overlay of multiple time frames and multiple processes in SMTD. 3. Identify how integration of services might be used in SMTD interventions.
9	Use of community outreach and community wide interventions	1. Identify methods for developing accessible programs and services. 2. Describe different formats and venues for presenting information and services. 3. Describe gatekeepers and identify how they are utilized in SMTD response. 4. Understand the role of public meetings in enacting interventions. 5. Describe methods for delivering public education. 6. Describe strategies for building community response capacity over the short and the long term. 7. Describe the role of community healing events and rituals, and any barriers to their success.
9	Group intervention strategies	1. Define the goals of group interventions. 2. Describe advantages of and barriers to peer support group models. 3. Describe the purpose and use of work groups in interventions. 4. Describe the purpose and use of focus groups in interventions.
9	Individual and family interventions	1. Identify barriers to accessing services and methods to overcome. 2. Describe the role of problem solving by disaster relief workers in meeting immediate needs. 3. Define some goals of individual and family interventions. 4. Describe disaster mental health services, and how they differ from psychosocial response. 5. Describe strategies for mobilizing natural coping skills.

Chapter	Topics	Learning Objectives
10	How SMTD and TD response dynamics create barriers to remediation efforts	1. Describe the role of and reactions to agency response and program funding in technological disasters. 2. Describe the impact of trust/betrayal issue on remediation efforts. 3. Identify how agency responses create culture of disempowerment.
10	How characteristics of SMTDs create barriers to remediation	1. Describe SMTD characteristics that increase distrust and anger in effected populations. 2. Describe how diffuse onset, elongated processes, and uncertain time frames impact responses to remediation. 3. Identify role of inadequate information or misinformation in remediation efforts.
10	How population and/or human characteristics create barriers to remediation efforts in SMTDs and TDs	1. Identify cultural components that may hamper access to services and resources. 2. Define "hyper vigilance" and how it can impact remediation with individuals. 3. Describe the role of values and education in shaping individual and community responses to remediation efforts. 4. Describe dynamics of Maslow's hierarchy of needs in shaping individual and community responses to remediation efforts.

1.5 Intended Audience

These training materials are primarily designed for people attempting to develop a psychosocial disaster response plan for a community facing an SMTD. The manual in its entirety is designed for the program developer who will most likely not only be developing their community's psychosocial remediation plan, but will also be training and educating their staff, volunteers, and possibly various other groups and individuals in the community. These might include mental health providers and trained pastoral counselors, as well as other community "gatekeepers" such as human service providers, senior center coordinators and other individuals or organizations in contact with community members. The training manual is designed to be an adaptable tool to assist in meeting all of these various needs.

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1.6 How to Use This Training Manual

This training manual is designed to be utilized with a variety of audiences. Depending on your audience, you will select specific portions of the manual to use. You will identify the goals for this particular audience and determine the amount of time you have. All materials are designed to be modified to meet these variable characteristics.

Below are a variety of training scenarios in which you could utilize this module.

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Scenario #1   **Program Developer/Director (for example, an agency coordinator, or key mental health/social service entity on the ground)**

Goals: To develop a community wide psychosocial disaster remediation plan for an SMTD.

Format: Independently read material.

Materials: Entire manual that incorporates all mediums in an integrated format plus video.

Time frame: Variable and ongoing.

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Scenario #2   **Psychosocial Disaster Responders from Mental Health Perspective (for example, local and non-local agency personnel charged with assisting in community remediation and education efforts)**

Goals: Educate about SMTD impacts and reactions.

Format: Part or all of chapter #3, all of chapter # 5 and appropriate sections and/or handouts from chapters 6, 7, and 8.

Materials: Narrative, handouts, slides, and introductory video.

Materials for attendees: Handouts, manuals in full or part.

Time frame: 2-3 days of training and/or independent study and review of materials.

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Scenario #3   Disaster Response Workers (for example: Medical Providers, EPA, Red Cross, and others from a non-mental health background)

Goals: Educate response workers about the unique features of an SMTD.
        Prepare them for what they might expect in dealing with community members.

Format: Introductory video
        Slide show presentation of appropriate chapters with discussion.
                -Explain/discuss basic principles, characteristics, or phases described on the slide.
                -Give specific examples of current disaster or The Libby Experience.

Materials: Introductory video, followed by chapter 3 slide show.

Materials for attendees: Handouts, printout of slides for note taking.

Time frame: 1-3 hours depending on desired depth of information and discussion.

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Scenario #4   Community Based Mental Health Providers (for example, community based Counselors, Clergy, Chaplains, Substance Abuse Workers, Support Group Leaders)

Goals: Educate local mental health providers about possible SMTD impacts and reactions of residents they may see in their daily practices.

Format: Introductory Video
        Slide show presentations of appropriate chapters with discussion.
                -Explain/discuss basic principles, characteristics, or phases described on the slide.
                -Give specific examples of current disaster or The Libby Experience.

Materials: Introductory video, slide presentations of all or part of chapter #3 and all chapter #5.

Materials for attendees: Handouts, printout of slides for note taking.

Time frame: 1-3 hours depending on availability of time, space, and participants, and the desired depth of information and discussion.

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Scenario #5   **Community Gatekeepers (for example: Public Assistance, Case Management Services, senior center coordinators and other points of contact)**

Goals: Provide basic information on SMTDs and teach them to be aware of possible
                psychosocial impacts.

Format: Introductory video
                Slide show presentations of appropriate chapters with discussion.
                        -Explain/discuss basic principles, characteristics, or phases described on the slide.
                        -Give specific examples of current disaster or The Libby Experience.

Materials: Introductory video, slides from chapter #3 and slides about stressors from chapter #5.

Materials for attendees: Handouts, print out appropriate slides for note taking.

Time frame: 1-2 hours depending on desired depth of information and discussion.

CHAPTER #2
INTRODUCTION: THE LIBBY EXPERIENCE

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2.1 Defining the Psychosocial Issues in Slow Motion Technological Disasters

The issues we see in a slow motion technological disaster (SMTD) are different in nature from those following a sudden onset disaster event. Primary among these differences is the failure of what is termed "the therapeutic community" to form. Unlike the fire, flood, or oil spill, in an SMTD there is typically a lack of consensus about what occurred. Therefore, conflict may be more prevalent than teamwork after an SMTD. Additionally, the long term nature and the multifaceted impacts of the SMTD—which may span two or more generations—significantly increases the chronic stress on individuals, families, and systems.

2.2 The Libby Experience

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Throughout this training manual the authors will be utilizing **The Libby Experience** as an example. The tremolite asbestos exposure disaster in Libby, Montana is an extreme example of a slow motion technological disaster (SMTD). Because of the severity of the disaster, including the multiple deaths over many decades, the various components of responding to an SMTD have been illustrated here "in neon lights." The Libby Experience offers a clear example of the general principles and issues to be aware of, while keeping in mind that these dynamics may not be as intense in all SMTDs.

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What Happened in Libby, Montana?

The community of Lincoln County Montana is as "frontier" as they come, this status has historically represented both strengths and obstacles. Although the residents are surrounded by the splendor of the northern Rocky Mountains, they face some difficult challenges, which are exacerbated by *where* they live. The conditions of: being rural and geographically isolated; having a low population density; a declining economy; and high levels of poverty and unemployment; have challenged Lincoln County over the years.

The genesis of Libby's asbestos disaster was over six decades of vermiculite ore mining on a mountain just six miles north of town. Beginning from a small mining claim, the operations expanded over the years until it was yielding 300,000 pounds of ore per day, which was 80% of the entire worlds vermiculite for commercial use. Vermiculite ore expands, or pops, when heated, making a very light, fire resistant material that is used in many products and it can also be used to provide drainage in soils. The product was highly marketable, and was sold globally under the name Zonolite.

Unfortunately, the vermiculite ore was contaminated with tremolite asbestos, a very toxic form of asbestos fiber, which can cause asbestosis, a lethal form of cancer known as Mesothelioma, and it can also promote the development of lung cancer. Local mine workers were exposed to clouds of "the dust" while excavating, milling, and transporting the ore; other worker were exposed during the exfoliation, bagging, and loading processes conducted adjacent to the railroad tracks and the downtown area. Exposure to the toxic fibers was also extremely widespread. In addition to the occupational pathways, the dust from the mining operations was blown into town by the wind, and the contaminated vermiculite—made available at low or no cost by the company—was heavily utilized all over town in gardens, homes, and public places. Consequently, this SMTD, characterized by high levels of asbestos exposure to an entire community, was ongoing for nearly 70 years.

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Like many smaller communities dependent on the extraction of natural resources for their livelihood, the towns of Lincoln County—of which Libby is the county seat—have tended to be "company towns" in which one of two large employers have dominated the local economy, both in terms of the number of people employed and the proportion of wages coming into the community. This status tends to engender an over dependency on the largesse of the dominate corporate entity, and a relationship between the company and it's workers with paternalistic qualities. Loyalty to the company is seen as necessary to economic survival, and an assumption may develop that the company is equally loyal to its workers. These dynamics were all evident in the Libby community's relationship to, first, the Zonolite Corporation—which ran the mine from 1919 to 1963 and later to W.R. Grace—which ran the mine from 1963 to its closure in 1990. Later, these dynamics also had a significant impact on how the community responded to information about the disaster.

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After the closure in 1990, the majority of the residents of Libby and the surrounding area wanted only for the mining –and the high paying jobs it brought to an otherwise uncertain economy-- to return. However, not everyone did. For over twenty years a small group of local "asbestos activists"—mainly family members of mine workers who had succumbed to "the dust"—had been writing letters to the governor and other officials. They were talking about the high and early mortality rates among former mine workers to anyone who would listen. Finally, they found the ear of Andrew Schneider, a staff journalist with the Seattle Post-Intelligencer, a major daily with widespread regional influence. When the Intelligencer broke the story which ran a comprehensive series on the "Libby Asbestos Disaster" the public eye was riveted, and this small, rural community was rapidly thrown into a state of crisis.

The Environment Protection Agency (EPA), the Agency for Toxic Substance Disease Registry (ATSDR), and the National Public Health Service swept into town on the heels of public outcry—and the health risks of the asbestos contaminated vermiculite were finally disclosed. Information also emerged at that point indicating that corporate and some government agencies had been aware of health risks for decades, while the local community was kept in the dark.

Federal agencies rented buildings and set up information and health screening centers, and began a thorough investigation of the community, while a series of public meetings provided a forum for questions, answers, and the expression of a community's confusion and anger.

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The Libby community became aware that the vermiculite ore was interlaced with tremolite asbestos fibers, and that the workers, their families, and the entire community had been being exposed since the mining operation began in 1919. They learned that Libby's tremolite asbestos is a very toxic form of asbestos and that its microscopic needle-like structure is undetectable by the senses at the time of exposure. Once the fibers are inhaled, they penetrate the lungs and are practically impossible to remove. Their needle like structure prevents the lungs from removing them through the usual process of encompassing them in mucous so they can be coughed out like any other substance is removed. Instead, the unsuccessful mucous buildup eventually turns to scar tissue, resulting in the lungs slowly becoming encased in scar tissue that then leads to many respiratory symptoms and complications. This process occurs very slowly over many years and therefore, it may be 10 to 40 years before symptoms become evident. This span of time, after exposure, but before symptoms present, is referred to as the latency period, which is present with most asbestos related diseases (ARD). Asbestos exposure also greatly increases the chances of developing various types of lung cancers and is directly linked to a lethal form of cancer called mesothelioma, which is a cancer of the lining surrounding the lungs.

In addition, the community also learned that tremolite asbestos, the specific type in Libby—often referred to as "Libby asbestos"—is different than the chrysotile asbestos that the majority of the country is encountering in shipyards and various other industries. The characteristics of the disease progression are more severe and more disabling. The course and characteristics of the Libby tremolite asbestos do not fall within the traditional definitions of asbestos exposure and asbestos related disease. Unfortunately, the community was also told that there is no cure for these types of diseases.

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Not only did the community learn this terrifying health information, over the next several years they continued to be flooded with new distressing information. They learned that over 200 people had died in their community thus far related to ARD. As investigations continued, they learned of the many places that exposures were still occurring; nearly 10 years after the mine had closed. It is estimated that over 1,000 local homes and businesses had asbestos tainted vermiculite in their walls, attics, gardens, and yards; and new sites continue to be occasionally uncovered. The local community ball fields, the high school track, and other school properties, among many other public places, were also contaminated. Health screening services were set up, and initially 7,000 people were screened to identify who had lung abnormalities and who needed immediate medical follow up. Once the initial round of screening was completed, it was determined that at this point in time, of those who were screened, 1,500 people had lung abnormalities. This distressing news was even more overwhelming when it was realized that many people, and most children, are still potentially in the latency stage of the disease process and may not know for years if their future will involve health complications related to asbestos.

Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

CHAPTER # 3
CHARACTERISTICS AND PHASES OF SLOW MOTION TECHNOLOGICAL DISASTERS

Disaster Characteristics: Natural versus Technological Disasters

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3.1 Origin of the disaster :

There are many reasons why we are becoming aware of more Slow Motion Technological Disasters (SMTDs) in recent years. In the post WWI and WWII years, the development and use of new chemical compounds -many of them based on petroleum- boomed. New techniques and products associated with mining, agriculture and manufacturing were also initiated, some of which enabled quantum leaps in quantity production, but concurrently brought with them problems associated with waste by-products, and air, soil and water pollution. In addition, a heightened awareness of the potential of substances to cause toxic reactions in humans followed incidents such as Love Canal in 1976 and Three Mile Island in 1979. These health-related technological disasters began to catch the attention of both scientists and the general public, particularly those living close to chemical and manufacturing plants.

> **The Libby Experience:** The asbestos disaster in Libby was caused by the mining of vermiculite (which was interlaced with toxic tremolite asbestos fibers), six miles north of town. Mine workers in this scenic valley community worked in the thick of "the dust" for years. During the same time period, dust from the mining operations was blown into town by the wind. Contaminated processed and unprocessed vermiculate was utilized all over town in gardens, homes, and public places. Therefore, this SMTD, consisting of exposure to high levels of asbestos fibers throughout an entire community, had been occurring for nearly 70 years. When the story broke in 1999, the danger from the asbestos was publicly disclosed. It was also learned then that corporate and government agencies had been aware of health risks for some years, while the local community was kept in the dark.

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3.2 Course of the disaster:

Let's first look at the course of a natural disaster, such as a tornado. Most often there is some type of warning, the disaster then hits suddenly, does its damage, and the threat is gone. During the height of the disaster, a social network known as a "therapeutic community" often forms, as neighbors help neighbors, area churches, schools and agencies offer shelter, and donations pour in from surrounding communities. Afterwards, the rescue and rebuilding phase begins as the affected individuals, families, and communities commence working towards returning to their previous state.

There are many variations in these elements when considering the course of a technological disaster.

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3.21 Warning time

Warning is typically non-existent for a technological disaster. At times certain sub-groups of the population may be aware of a potential threat, or there might even be rumors around the community about the possibility of a threat. Adding to the ambiguity, there might be disagreements within the community regarding the genuineness of the threat, even after information has been released by some officiating agency confirming that a threat definitely exists.

> **The Libby Experience:** There was no warning that the dust was dangerous. The dust was familiar to the community members for several decades, and it had been repeatedly referred to by the corporation as "nuisance dust" that was not dangerous. The earliest warnings began as a gradually increasing current of talk and rumor, inspired by "asbestos activists." These activists were finally successful in 1999 in bringing the information into the forefront. One of these activists was a woman who lost her father (in his mid-fifties) to asbestosis. Then, two decades later, her mother also died of the disease, but not before extracting a promise from the daughter—who cared for her during her slow decline—to get justice from the company for causing their suffering. This individual fought for years to bring attention to the disaster, and –three years after public disclosure— still devotes herself full-time to ensuring that her community is cleaned up "beyond a doubt."

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3.22 Length of onset

In the past, most disasters, natural and technological, have had a sudden, event-focused onset. In SMTDs the effects of the disaster occur subtly over many years, without anyone being aware that they are occurring. The process by which awareness of an SMTD develops can be lengthy. First, it can take years for those being impacted to become aware that something out of the ordinary is happening to the health of the local population. Additionally, it can take time for that initial evidence to build, and more time for the development of measures and methodology to study the problem. After that, the required hard evidence that proves it is occurring must be documented. And, for most of the above to happen a political climate is required that has the willingness and allocated resources to confirm and address the fact that an SMTD is actually occurring.

> **The Libby Experience:** In Libby onset occurred over an unusually extensive period of time. Exposure to the dust was unavoidable: throughout its history, the vermiculite mine was one of the primary employers in this small town. The workers, who were literally covered in the dust all day, carried it home to their

families, and to all of the other community members they interacted with at the end of the shift or on their lunch breaks. Additionally, the ore and processed vermiculite were made available at low or no cost, and subsequently were used all over town as fill, insulation, and soil amendments. The latency period for asbestos related diseases from tremolite fibers can be up to 40 years between exposure and the development of disease symptoms. Because of these factors, the general public saw few visible signs that a disaster was in the making. However, as in the example cited above, certain families having sick or deceased mine workers suspected early on that something was amiss. While for most of the community, asbestos had in 2003 been a household word for only three years, for some individuals and families it has been a daily reality since the 1970s or earlier.

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3.23 Length of the disaster

Not only can the length of onset vary, so can the length of the disaster itself. Most natural disasters have a relatively short life span, with the flood or forest fire lasting a few weeks and then ending, so that a recovery process can begin. But, with technological disasters, there are a number of reasons why we are seeing a longer duration of the actual disaster. One is that many toxic chemicals themselves are hard "to get rid of," and can last a very long time. For example, once radiation is in the atmosphere it can be many decades before it is diminished, and asbestos fibers deteriorate at an extremely slow rate, over thousands of years. Because the long "shelf life" of many toxic substances can lead to extended exposures, the cumulative effects of the exposure can precipitate the disaster. The poison, as we know, may be in the dose. In addition, the long latency periods associated with some types of toxic exposures further draws out the disaster's timeline.

> **The Libby Experience:** The cumulative effects of Libby's high rate of exposure to tremolite asbestos over several decades has resulted in very serious health complications for hundreds of residents. Many deaths related to ARD have occurred, and both asbestos related illness and death will continue to be evident for generations, as those who were exposed reach the end of their latency period and begin to get sick with this potentially fatal disease. Even though the exposure will no longer be occurring—once the community is thoroughly cleaned up—the disaster will continue as the community grapples with the ongoing negative impacts to their health, economy, and sense of security.

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3.24 Length/degree of the recovery

As with natural disasters, depending on the scope of the destruction from the disaster, the length of the recovery process -be it repairing and rebuilding homes or cleaning up a toxic substance in a community—can vary greatly. However, a unique component with technological disasters is that, even after the community's structures have been repaired, the disaster persists as potential

health, social, and psychological impacts continue. Therefore, what can be hoped for, and how we define a complete recovery, varies greatly in different types of disasters.

> **The Libby Experience:** Although in 2003 the EPA is actively cleaning up asbestos contamination throughout the community so that future exposures will no longer occur, the people and community will continue to grapple with asbestos related diseases (ARD), lower qualities of life due to physical limitations, the many demands of increased health care needs, political turmoil, economic hardships, and the multiple losses associated with early death. As a gentleman in his mid-fifties noted at a support group meeting, "This business defines the rest of my life. Whether I get sicker or not, or get lucky and get hit by a truck. For the rest of my days I'll be worried about the kids, worried that they didn't get it all cleaned up and that my grandkids will get it. Or, worried that we got lied to again. I'll never get over knowing I made my wife sick from washing my clothes. And we sold the family property to pay for my Dad's illness, so that's the end of any real inheritance for my kids. That's why I may as well go to all these meetings, I'll never get away from this stuff."

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3.3 Visible vs. Invisible Destruction

As opposed to the vivid images we are used to seeing associated with natural disasters, a key characteristic of technological disasters is that they are often invisible. They cannot be perceived by any of the fives senses: sight, touch, sound, smell or taste. Often the only evidence of the disaster occurring is information from some source. This frequently makes information itself the primary stressor for individuals, families, and the community. The source of the information, and the style in which it is presented, significantly shapes the initial response of the community. This will be discussed further in chapter #4.

> **The Libby Experience:** Although "the dust" was visible, the actual asbestos fibers were not. The asbestos was not only in the dust, but also in the processed vermiculite and raw ore that was used throughout town. As children played in the piles of it by the ball fields, and families tilled it into their gardens, they had no idea they were breathing in an undetectable toxic substance. Most residents were unaware that their health was at risk until the information was disclosed to them, as is often the pattern with technological disasters.

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3.4 Scope of Individual and Collective Trauma

Another variable to consider is the scope of the disaster, including *how many* individuals and families have been impacted, and to *what extent* they have been impacted. It is important to assess the impacts holistically, including how basic needs have been affected (housing, food,

clothing, etc.); economic impacts; physical and mental health impacts; and community support and relationship impacts. Another component of the scope of damage is the extent to which community structures—such as schools, hospitals, and fire departments—are required to utilize, and stretch, their existing resources to respond to an overwhelming situation.

> **The Libby Experience:** The scope of the Libby disaster has been remarkably extensive both individually and collectively. As of 2003, over 250 deaths have been clearly attributed to ARD and it is suspected that many other death are ARD related. Some family groups who had multiple exposure routes have already mourned several deaths, and may have numerous family members who are currently ill or diagnosed. These impacts are exacerbated by the knowledge that - due to widespread exposure and the long latency period- younger generations will be at risk of illness for many years into the future. Because multiple members are impacted across so many aspects of their lives (economic, mental and physical health, and ability to meet basic needs) some family groups are facing severe challenges of adaptation. In addition, the community and its organizational structures face extraordinary challenges of crisis and conflict management, economic adaptation, and public relations recovery over the long haul. These secondary stressors will be discussed in more depth in chapter # 4.

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3.5 Level of Continued Threat

With any disaster, any continued threat of recurrence—such as an after shock with earthquakes or future accidental leakages at a nuclear energy plant—constitutes another significant factor in assessing the disaster characteristics. A continued threat can consist of measurable, immediate dangers, or of a lingering, low-level, "potential" threat of health complications at some unspecified point in the future. It is important to remember: the *actual* possibility of future threat and the *perception* of future risks are equally significant. The demands of dealing with continued threats and the importance of perception are appreciably intertwined with the psychological response to SMTDs and will be discussed in detail in the final section of chapter #4.

> **The Libby Experience:** The continued threat of exposure is being eliminated at this time, (Summer of 2003) as the EPA is diligently working to clean up the Libby community. While it's not statistically possible to achieve zero-percent risk, the EPA states that, after the cleanup, the Libby community will have far less asbestos risk then any other community in America. But—given the history of the exposure and the sense of betrayal—even the slight risk that does remain is and will be magnified in the perception of many. A handful of residents have even campaigned vocally to have the town site abandoned and the population relocated. The many impacts of the disaster and the fear of further consequences will be at the forefront of the community's consciousness for the foreseeable future.

With all of the above disaster characteristics, in all types of disasters, it is important to remember that *perception* of these factors is as significant to people's responses as the *actual* factors themselves.

Chart A: "Characteristics of Disasters: Comparisons of Disaster Types" illustrates the preceding information by comparing Natural, Sudden Onset Technological, and Slow Motion Technological disasters can be found at the end of this chapter.

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3.6 Phases of Disaster

There are seven main phases of a disaster that are discussed throughout various disaster mental health documents. Based on the world's past experiences with disasters, it has been presumed and stated that these phases apply to all types of disasters regardless of how much they vary in terms of intensity or origin (National Institute of Mental Health, 1983). The seven phases include: the warning of a threat; the impact; the rescue or heroic; the remedy or honeymoon; the inventory; the disillusionment; and the recovery phase. It has also been acknowledged that these phases often overlap and at times do not necessarily follow in a smooth orderly fashion. However, we will not discuss each of these phases at length, as they have been thoroughly covered in other materials, which you can access through The Center for Mental Health Services, Emergency Mental Health and Traumatic Stress Services Branch.

The reason for discussing these important disaster phases in this chapter is that in an SMTD the accepted premises of these phases do not necessarily completely apply, as the slow motion nature of the disaster presents the world with a new variety of disaster. The aftermath and disaster impacts of an SMTD do not follow these same phases, in part because the consequences can be very long term, and because the therapeutic community does not always develop.

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Chart B: "Phases of Disaster: Comparison of Disaster Types" illustrates the different phases experienced in different types of disasters, and can be found at the end of this chapter.

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Conclusion

In summary, SMTDs share many characteristics with other types of disasters, especially the influence of perception on the person's experience and responses. Also common to all technological disasters is that the length of the actual disaster and the length of the recovery process can be very extended. Additionally, the degree of recovery can be difficult to define, as the after-effects are present for many decades, and possibly for multiple generations.

The primary characteristic that is unique to SMTD is the type of onset. A diluted and/or subtle onset that occurs over many years, or decades, significantly alters the disaster experience. The phases that individuals and the community as a whole progress through, are dramatically different in a slow motion disaster. When it's difficult to define to what intensity, or if the disaster is actually occurring, there is a high potential for disagreements to surface. It is not uncommon with this type of onset for vast divisions and conflicts to emerge within families, work places, and the entire community.

Therefore, because of the ambiguous onset and the social divisions, the "rescue/heroic phase," the "remedy/honeymoon phase," and the "recovery phase" do not recognizably occur in an SMTD. Unfortunately, these phases are the ones that illicit mutual support, energy, and hope for the future. The lack of these phases increases the level of difficulty faced in coping with the psychosocial aftermath of the disaster.

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CHAPTER #4

PSYCHOSOCIAL IMPACTS OF SLOW MOTION TECHNOLOGICAL DISASTERS

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Introduction

When working with a community impacted by a slow motion technological disaster (SMTD), all of the previously discussed disaster characteristics (in chapter #3) and community characteristics (which will be covered in chapter #7) will significantly influence the psychological and social responses encountered. Thus, it is important to make an initial assessment of both disaster and community characteristics as you begin to plan for psychosocial remediation efforts.

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Stressors Associated with Slow Motion Technological Disasters

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4.1 Defining Stressors

Stressors can be described as any type of stimulus or situation that causes mental distress, which then requires the individual to use some type of coping skills. Coping skills are behaviors, emotional responses and/or thoughts that allow a person to adapt to a distressing situation. The individual attempting to cope with a given stressor always has at least two options: they can find a way to make a significant change in the actual situation; or they can adjust their own thinking, behavior, or attitude about the event. These might be further categorized as either making an *external* adjustment, or an *internal* one. Some coping strategies will utilize a combination of these two approaches, while some will focus on only one.

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In an SMTD, primary stressors refer to those stressors that are directly related to the disaster, while secondary stressors refer to those stressors that result from the impacts of the disaster, as well as stressors that are a secondary result of the primary stressors. This will become clearer as we discuss the specific primary and secondary stressors related to SMTD.

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4.2 Primary Stressors

4.21 Information as the Initial—and Ongoing—Stressor

In an SMTD, the presence of the disaster is not always self evident, due to its invisible nature and the fact that there is usually no clear or dramatic onset or obvious trigger point when the disaster is undeniable (Green, Lindy, & Grace, 1994). The initial stressor most people experience related to these types of disasters is the information that it has occurred. Therefore, the content of the information and how it is communicated is very significant to how people will respond. The credibility and validity of the source, along with the clarity of the message, among many other factors, become instrumental in shaping the perception and psychological response of individuals who become suddenly aware that they are involved in an SMTD. As more information is discovered and disclosed about the nature of the disaster and its aftereffects on individuals, families, and the community, information continues to be an *ongoing* stressor.

> **The Libby Experience:** For most of its duration, the Libby community as a whole was oblivious to the disaster, except for a few families that were aware of the illnesses and deaths related to "the dust." Then in the fall of 1999, this dramatically changed when Andrew Schneider, a reporter for the Seattle Post-Intelligencer, wrote a series of articles disclosing the disaster occurring in Libby, Montana. Suddenly, the community was thrown into a state of crisis. After the EPA arrived and began investigating the situation, multiple other sources of information became stressors as the community was informed that exposures were still occurring in homes, businesses, and public places such as schoolyards, the high school track, and the local ball fields.

4.22 The Invisible Nature of the Disaster

The invisible nature of an SMTD contributes to a sense of shock and denial that the disaster is even occurring, as it can't be perceived by any of our senses. When a natural disaster occurs, there is usually a type of sensory overload, with graphic images, sounds, and sights severe enough at times to cause a Post Traumatic Stress (PTS) response. A PTS response typically involves nightmares, flashbacks, and environmental triggers that cause intense fear and emotional distress.

However, in a technological disaster there is often nothing to see, feel, hear, smell, or even taste; all that their senses are able to comprehend is the information that something has occurred. This *informational* stressor usually results in the person feeling an overwhelming sense of dread that others and themselves might have been contaminated, and fears of the possible consequences of that contamination (Speckhard, 2002). Lacking the usual sensory routes of detecting danger, the person struggles with fears about this *invisible* and *undetectable agent* that is out there, which often leads to the feeling or belief that the environment is pervasively unsafe. In contrast, some will respond to this invisible disaster by denying that it is even occurring. It's very easy to

maintain a state of denial when the disaster is invisible, especially true if you do not know anyone who has experienced the delayed negative health impacts.

> **The Libby Experience:** Asbestos fibers are completely undetectable by any of the five senses. When it was disclosed that the community had multiple exposure pathways to asbestos, there was a feeling that the community was pervasively and lethally unsafe. The media further enhanced this anxiety and fear as articles and news features implied that you could get sick in Libby by simply walking down the street. As the EPA further investigated the multiple potential exposure pathways in Libby, it was discovered that there were even more of these pathways than previously suspected, such as the contamination at the school track. This led to even greater fears and anxieties about undetected exposures.

4.23 Unpredictable Consequences and Impacts

Not only does the invisible nature of the event heighten fear and anxiety, so does the uncertainty surrounding the consequences of the exposure. Medical and scientific ambiguity is often present in technological disasters, since often no one can predict the immediate or long-term impacts of the exposure. The slow motion onset of the disaster convolutes the picture even more, as it cannot be determined with certainty if, when, and where the exposure occurred, or the severity of the exposure, making the impacts of the exposures even more unpredictable. Therefore, in an SMTD, not only is there uncertainty and a lack of information about what occurred throughout the onset of the disaster, there is also the uncertainty—regardless of knowing what did or did not occur during the disaster—surrounding the long-term outcomes of the disaster.

Further exacerbating feelings of uncertainty and anxiety are the latency periods of many substances, as symptoms of exposure may not present for many decades. Individuals do not know if they and their family members have escaped the negative impacts of exposure or if they are "simply victims waiting for their personal disaster to appear" (Green, Lindy, & Grace, 1994). The burden of the stress and anxiety associated with this uncertainty is on the community members, as it is their lives and their futures at stake. The uncertain long-term health impacts become the source of much psychological distress, (Lundberg & Santiago-Rivera, 1998) especially if, by either exposure or genetics, the impacts may be transgenerational.

> **The Libby Experience:** Asbestos exposure is known to cause a variety of chronic and acute diseases that can be fatal. However, many uncertainties remain about who, how and why people will become ill. The latency period for diseases caused by asbestos exposure can be anywhere from 10 to 40 years, further increasing anxiety. Uncertainty and ambiguity rose as evidence came to light that "Libby asbestos"—also known as tremolite asbestos—may be different than chrysotile asbestos, the type that the majority of previous research had been done on. As the scientific and medical experts began to question if the "Libby asbestos" had a more serious and potentially more fatal disease progression, individuals, and community members felt an increased sense of threat. This still undecided issue has further heightened the emotional stress of those attempting to regain a sense of control under uncertain and threatening conditions.

4.24 Long Term Nature of Consequences

The negative health impacts of a technological disaster, when or if they do appear, may become chronic and/or incurable (Green, Lindy, & Grace, 1994). In essence, this means that the disaster will now continue to impact people for the rest of their lives, and they must adjust physically and psychologically. Even if actual illness or disease is not present, the anxiety and fear of developing an illness—and the related long term psychological distress—may lead to chronic physical and mental health problems. This is particularly true if future negative health impacts are highly visible in other community members who are already experiencing symptoms and declining health. Additionally, even those residents or employees who never suffer health impacts from the exposure, will experience secondary impacts—which will be further discussed later in this chapter—they will be unable to put the disaster completely behind them for many years to come (Lundberg & Santiago-Rivera, 1998).

> **The Libby Experience:** Though the effects of asbestos exposure may not present for 10 to 40 years, the results may last for the rest of one's life. Exposure in Libby has resulted in high rates of asbestosis, a disease that gets progressively worse, and is potentially fatal. People struggling with asbestosis often become dependent on oxygen. Carrying the oxygen tanks, this highly visible equipment with its weight and tubes running to the nose, has become a symbol of the fate that might lie ahead for anyone who lived in Libby. Various kinds of cancer are also associated with exposures in Libby, many of them progressive and incurable. These health issues have impacted the community across the spectrum of its social-emotional, economic, and political systems, and will continue to do so into the foreseeable future.

4.25 Confusion from Trying to Understand Very Technical Information

In day-to-day life, the non-scientist tends to rely on information that they see and hear from a variety of sources—in a 'non-controlled' setting—to form beliefs about cause and effect. But, among scientists in industry or government, observation and/or anecdote are not sufficient to prove causation. Instead the steps of the scientific method must be applied, and measurable, repeatable results documented before a theory of causation is ruled to be fact.

This schism between the layperson's common sense judgment and the more rigorous appraisal of the scientific method can further complicate the responses of the general public to an SMTD. Experts rush to the scene to address the problem, and begin a lengthy, scientific and highly technical process of evaluating the nature of -and the anticipated or potential consequences of- the toxic substances. The source of the information also becomes critical, as the public may be skeptical in trusting the source if it is perceived to be coming from a "responsible party." Decisions about containment, cleanup, and risk management may also be presented in a manner that is complicated and difficult for the general public to comprehend. These factors can increase the feelings of disillusionment and distance from the disaster, as the discussion is beyond the comprehension of many in the impacted community.

The Libby Experience: The issues of asbestos exposure, asbestos cleanup, and long-term health implications are exceedingly complex and technical. For example, while different types of asbestos fibers have different characteristics, properties, and potential toxicity, community members just knew that their family members and neighbors had quit fishing and hiking because they were short of breath. While residents here looked for quick decisions as to just how toxic the local exposure was, the EPA and Public Health staff were required to collect and analyze months worth of data before any warnings could be officially announced. These delays led to escalating feelings of frustration, and suspicions that the problem was once again going to be shoved under the rug.

4.26 Feelings of Loss of Control and Helplessness Over the Present and Future

Among individuals, families, and communities experiencing an SMTD, there is a pervasive sense of a loss of control: lack of control over being exposed in the first place, and lack of control over how the disaster is responded to. As described above, outside experts arrive on the scene charged with 'handling' the situation, and they hold the authority and power to decide how the response will be managed. Lack of control begins with the pattern and extent of the initial exposure and continues through the uncertainty of to whom, how, and what negative health impacts will appear. Persistent uncertainties exacerbate these feelings of loss of control. In dramatic contrast to sudden disasters, when there are many practical activities that need to be done by community members, in an SMTD, there is also nothing to physically do. The loss of control, and the lack of outlet for the physical energy of crisis, can often translate into feeling victimized. This can lead to either, apathy and withdrawal, or outrage and anger directed at any available target related to the disaster.

The Libby Experience: Lack of awareness that the dust from the mining operations was dangerous set the stage for later anger and suspicion. This was especially true for the miners who had—in ignorance—brought the dust home on their clothes and exposed their wives and children. When the SMTD was finally exposed, there was a sense of helplessness: the damage had already been done. EPA officials swarmed into town to begin addressing the disaster; again the locus of control was external. Cleanup work is governed by dollar availability and EPA policy and procedures, the community must sit on the sidelines and wait, hoping that the disaster gets cleaned up as efficiently and as thoroughly as possible. Issues of who will and will not get sick, and who will or will not die of asbestos related diseases, have no resolution, increasing the perception that life in Libby is out of control. Libby has been left feeling helpless and powerless in the face of adversity, with few actions open to them as they think about and fear the potential negative impacts that they and their children will live with into the future.

4.27 Anger Over Loss of Security and Safety in the Community

The pervasive impacts of the disaster combined with the lack of control over the situation, can leave many SMTD victims angry over the loss of security and safety in the community. Often people are angry at various entities involved in the disaster whom they believe should have

protected them, or at least informed them of the risks so that they themselves could have taken appropriate precautions. Given the complexity of losses that may be associated with SMTDs, anger at those perceived to be responsible parties could be amplified to quite intense levels.

> **The Libby Experience:** Many people who live in Libby, a small, isolated, rural community, came here (or were born here) because it is set in the beautiful Cabinet Mountains and is a very safe and secure place to live and raise a family. The knowledge that a slow motion technological disaster had been occurring, and was still occurring, dramatically altered this intrinsic sense of a safe community. This loss of security angered many, especially when they discovered that their health and future had been betrayed by entities they had relied on to protect and warn them. The rising number of fatalities, and many other associated losses, resulted in escalating levels of anger and rage as individuals and the community made their way through the grieving processes. Currently, a significant number of Libby residents struggle with the grief of having lost multiple family members to asbestos related diseases, coupled with the fear of what the future may hold for themselves and for the young people in their families.

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4.3 Secondary Stressors

4.31 Media Siege

Remember, information is the primary stressor, because it is what notifies everyone that a disaster is, or has been, actually occurring. The media rush to the scene, covering the latest breaking news. The type and quality of news coverage substantially impacts the reactions of people inside and outside the community. Thus media activities are often a determining factor in shaping the perceptions of the event, and the media "portrait" may define the issues of debate.

4.32 Community Conflict

Because of the overwhelming number of uncertainties and unknowns involved, a community's reaction to an SMTD most often includes conflict. This is in sharp contrast to the therapeutic community that can form immediately after a sudden onset disaster, when people pull together to help one another through the central crisis. In an SMTD, community conflict often emerges at the onset, when the information in officially released that a disaster has and is occurring, and there is a sudden escalation in discussion and disagreement over problem definition, assignment of blame, and determining the proper actions to take (Pam Tucker, ATSDR). Community conflict may also erupt around such issues as: what, if anything, actually occurred; who, if anyone, was actually injured; and how, if at all, they were injured. Additional conflict can develop between different factions in the community; between community members and scientists; or between the community and other experts who have shown up on the scene to assist in the clean up and recovery process. Such community conflict may endure for many years, as debate persists over what actions should be taken to restore health and security.

4.33 Mistrust of Officials and Media

Technological disasters, caused by human failures, create pervasive feelings of mistrust in mankind, while shattering assumptions of a safe world (Speckhard, 2002). Feelings of betrayal, and the perception of abused trust, make the impacted population skeptical and distrustful. This is further compounded by a lack of reliable—or inconclusive—official information, another characteristic typical of technological disasters.

4.34 Cultural Pressures

As a result of pervasive mistrust, a community culture develops that defines what and whom to believe, and how to behave and respond to disaster related agencies, people, and issues. In this climate, unofficial channels of information may become as influential, or even more influential, then official channels. In a population desperate for information, misinformation and rumors can carry tremendous weight, often leading to increased confusion and chaos.

4.35 Political and Legal Controversies

After a technological disaster occurs, political and legal controversies emerge over who is or should be responsible, and what is the most appropriate course of action to take. Certain entities may exert power by suppressing research findings and information, or by shaping the "facts." In addition, the immense costs associated with a technological disaster are often overwhelming, especially when life long and possibly multigenerational consequences may need to be addressed. The disaster and its long-term impacts are full of ambiguity, further fueling the dispute between opposing sides. As different political or legal groups present inconsistent or contradictory information, the atmosphere of debate and doubt feeds conflict and mistrust.

4.36 Multiple Frustrations

Typically, multiple frustrations -or disturbances of equilibrium- result from an SMTD, and are intensified by the length of the disruption. Frustration develops over the cleanup process, over dealing with the agencies in charge of clean up, and over the controversies surrounding every aspect of the disaster. Once the cleanup process is completed, frustrations continue as psychological, social, health, economic, and community issues remain unresolved. The life disruptions associated with getting health screening and appropriate health care frequently continue for decades, as people attempt to move towards a more normal future.

4.37 Social Alienation and Social Stigmas

Feelings of isolation, stigmatization and social alienation may be present in a variety of ways and on different levels. People outside the community may now view the community as forever contaminated, and a harmful place to move or visit, further isolating the community. There might also be social stigmas within the community, as certain groups may view those who are involved with the disaster as troublemakers who are ruining the image and vitality of their town, or who may even be contagious. This fear of contagion or contamination is often at the root of such stigmatization, as each person or group grapples with their own loss of safety and feelings of vulnerability. Divisions—sometimes even within families, conflict, and negative social

stigmas can create a culture of "blaming the victim" that further alienates and disturbs those associated with the disaster.

4.38 Economic Stresses

Strains on economic resources frequently follow an SMTD, especially for families that develop negative health impacts from the disaster. Decreasing property values and a general slowing of the local economy are secondary economic impacts that may be present. Negative public perceptions of the community combine with economic stressors, resulting in some families being "trapped:" they cannot sell their homes to relocate because of the poor market, and decreased property values can result in an inability to realize even their remaining mortgage obligations. Another economic stressor relates to a decreasing job market, as few new businesses are willing to move into the SMTD impacted community (Green, Lindy, & Grace, 1994).

4.39 Family Stress

The many primary and secondary stressors associated with SMTDs we have discussed can cause or exacerbate excessive family stress, leading to the disintegration of previously supportive relationships. The lingering disaster may lead to a state of chronic stress, in which a perpetual strain is placed on the family unit as it tries to cope with the variety of new problems. In a vicious cycle, these taxing family interactions increase the overall stress load of those already struggling with disaster related stressors.

4.310 Destruction of Cultural Traditions

Negative health impacts associated with an SMTD can also effect cultural traditions, resulting in further decreases in quality of life measures (Lundberg & Santiago-Rivera, 1998) for those already struggling with the damaging physical, psychological, and social impacts of the disaster. For example, the culture of the Libby area is intimately connected with the outdoors. Hunting, hiking, fishing, and camping are integral parts of the people's lives from an early age. Therefore, when negative health impacts are overwhelming and it is no longer possible to pursue such activities, a loss of cultural traditions is also experienced and more losses and grief are added to their personal disaster.

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4.4 The Importance of Perception

Perception becomes a critical component of a slow motion technological disaster—particularly because the disaster itself is not easily defined. We can all agree that an orange is an orange if it is round, has a thick orange colored peel, and has a juicy sectional center. We can also all agree that it is "bad" if it has green fuzzy mold on the surface and is noticeably hard or shriveled. Comparatively, we cannot simply define a slow motion disaster in the initial stages, as it is often unclear, even to parties who are intimately involved. In addition, a "bad" slow motion technological disaster is even harder to determine because different people will perceive it to be more or less severe and some may not considered it to be an issue at all. Therefore, because

SMTDs lack concrete definable characteristics, the individual's perception is at the core of defining the situation in their mind.

Past experiences and the cultural, political and physical environment also shape perception. As discussed, the community culture can often be paramount in shaping people's perceptions. One's past experiences with government agencies, disasters, or a variety of other life events, can also greatly shape a person's perception of the disaster and of the world in general.

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4.41 Dawning of Awareness

With SMTDs, the process of becoming aware of the disaster can occur gradually and at different rates for different people in the population. There is no specific initiating event or visible danger that symbolizes the beginning of the disaster. The awareness that a disaster is occurring tends to be an independent journey as people who have different experiences, are exposed to different amounts of evidence, and are more or less receptive to the concept that this type of disaster is even possible. For example, in Libby, one individual watched her father and then her mother die of respiratory problems, and was also aware of many other deaths related to respiratory problems in the community. Her awareness that something out of the ordinary was occurring came over time and with conviction: she became one of the earliest activists here. In contrast, a nurse who moved to the community well past the mine's closure, experienced the dawning of awareness at later date, but in a shorter time span as she began noticing the disproportionate number of respiratory related problems coming into the hospital. A teacher from outside the local area, working primarily with kids and young families, might have a very different dawning of awareness, as he/she would have fewer avenues to be exposed to evidence that the disaster was occurring.

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4.42 Lack of Perspective/Focused Attention

Once it is undeniable that the disaster is occurring, people tend to respond in two distinct patterns. Those who do not have any direct personal impacts from the disaster continue to focus on the daily components of normal life, paying very little notice to—or even avoiding—disaster related issues.

Conversely, those who have had multiple and/or serious impacts related to the disaster, may develop excessively focused attention related to disaster issues. There is a tendency to become engaged in—or even obsessed with—topics related to the disaster, as those involved experience persistent, intrusive concerns. Given the lack of control and multitude of ambiguities that people are struggling with, the search for information becomes a logical coping effort in the attempt to regain some control and perspective over the disaster. Unfortunately, when information does not lead to any increased sense of control or mastery, or diminish intrusive feelings of dread, coping fails and the person can become obsessed with finding some way to master the situation. Because their focus intensifies as they strive to have some control through the avenue that they have already invested in, it is as if they are wearing blinders, and it becomes difficult for the individual to return to a more wholistic balanced perspective.

Conclusion

Slow motion technological disasters can create a wide range of stressors, requiring individuals and communities to make adaptive responses. Such responses can take a variety of forms, including both internal and external adjustments, and may be more or less successful in restoring a sense of balance and control in the individual or collective lives of the community.

Primary stressors directly related to the SMTD may be information and how it is presented; the invisible nature of the destruction; the unpredictability and long term nature of the disaster's consequences; and the feelings of anger, confusion, grief, powerlessness, and despair that victims experience.

Less direct, secondary stressors in SMTDs may include media activities; conflicts and controversies which may arise in community debates or within the political and legal realms; pervasive mistrust; and losses of family and economic stability. A multitude of uncertainties and frustrations; cultural pressures and changes; and generalized anger and bitterness will also constitute sources of psychosocial stress in these communities. These collective stressors constitute an array of psychosocial impacts that must be effectively addressed by and within communities experiencing SMTDs before stability can be re-established.

CHAPTER #5

PSYCHOLOGICAL REACTIONS AND PROCESSES IN SLOW MOTION TECHNOLOGICAL DISASTERS

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5.1 Initial Psychological Responses

In a slow motion technological disaster (SMTD), the immediate psychological impacts are the most obvious and definable, especially after the initial release of information. Because people are now on notice that a crisis situation is occurring these psychological responses and reactions may be glaring and quite noticeable. The following are some examples of the forms these responses may take.

5.11 Post Disaster Distress

Although all disasters create a high level of distress, human caused technological disasters tend to create higher overall levels than do natural disasters. Distress is often felt by residents not involved in the actual disaster, because they can be impacted by secondary stressors, as discussed in chapter #4. SMTDs may cause additional distress, especially if the onset was gradual and unidentified for many years. In this situation, when the disaster is eventually exposed, polarization occurs as some people experience intrusive thoughts and a sense of panic and dread over what has occurred, while the others have avoidant thoughts and are in a state of disillusionment, shock and/or denial.

5.12 Disillusionment/Shock/Denial

Shock and disillusionment are likely components of the psychological response to initial information that the disaster is or has been occurring. Feelings of disillusionment are further compounded by the fact that technological disasters, and in particular SMTDs, are usually unperceivable by the senses. These characteristics make denial an easy to grasp approach for those who have not yet had any personal impacts or losses: if I cannot see it, hear it, or experience it, it can't be happening. The dawning of awareness, discussed in chapter #4, explains how the denial process is slowly broken down for many, although a sense of shock and disillusionment may persist.

5.13 Anxiety/Dread

Anxiety and dread are normal responses to the news that you have been part of an SMTD and that you may possibly have future negative impacts as a result. Uncertainty is often present in these situations, further heightening anxiety and dread of an unknown and possibly out of control future.

The anxious response has many similarities to a post-traumatic stress response, as there is a state of hyper-arousal, and thoughts that represent time distortions. However, the response to an SMTD, or any toxic exposure situation, is more often characterized by flash-forwards than by flash-backs (Speckhard, 2002). Whereas flash-backs involve vivid images of what occurred in the past, flash-forwards are images and thoughts the fearful mind creates about what could possibly happen in the future. Flash-forwards are potentially worse because they do not have to be grounded in reality and since they are driven by fear, the imagination may get completely carried away.

Related to the intensity of fears that may be present, we have also noted that a significant factor in the social stigmatization of victims is the fear of contamination. Even when ample evidence is presented that the exposure or resultant disease is not contagious, victims may be avoided or stigmatized by those who are responding with anxiety and dread.

5.14 Blame/Anger/Betrayal

Although it is possible to blame God, fate or astrology for natural disasters, it is rarely one of the primary psychological responses to natural disaster. In a human-caused technological disaster, blame becomes a very significant component of the psychological response. Blame, and feelings of betrayal and anger rise to the surface because it is believed that the disaster could have been avoided if…

5.15 Depression

Depression is another frequent response to acknowledging exposure to an SMTD. Depression may be accompanied by grief and despair, as the person feels powerless to control their present or their future, especially if life long health impacts are involved. Resultant feelings of hopelessness and a breakdown of meaning in their lives (Havenaar & Van Den Brink, 1997), leads some victims to withdraw from relationships and activities, further increasing their depression.

5.16 Belligerence

According to Webster's Dictionary belligerence can be defined as an aggressive or ferocious attitude, atmosphere, or disposition. High levels of belligerence are reportedly a very common characteristic of the psychological response to technological disasters. As we have said before, technological disasters are avoidable and this seems to lead to anger and aggression rather than the acceptance that usually is reached by those confronting a natural disaster (Weisaeth, 1994). The aggressive and ferocious behavior of people struggling with a technological disaster can be verbal and/or physical. It can be directed at parties involved in disaster issues, or it may inadvertently be directed at whoever passes by. When we add the slow motion element to the disaster, it lengthens the time period that belligerence is present. Belligerence is initially associated with the primary stressors, but the multiple of secondary stressors also can result in, and heighten, belligerent attitudes and actions. Belligerence heightens the level of anger and conflict in the community as people feel attacked and must adopt a defensive and protective

stance in working with others, as they try to navigate through the emotionally charged, ambiguous issues associated with the SMTD.

5.17 Somatic Concerns

As we have discussed, SMTDs can have serious negative health impacts, though of what nature or in which time frame is usually hard to predict. Living with this type of uncertainty leads to a heightened awareness of physical symptoms, and subjective changes in physical health are frequently reported after a person has experienced a technological disaster. It is believed that increased reporting may reflect changes in health behavior. Heightened awareness of their physical health -because of information about potential health impacts of the disaster- leads to a greater likelihood of reporting any type of physical symptoms. This change in health behavior not only leads to an increase in symptom reporting, but also leads to an increase in seeking more physical health care (Havenaar & Van Den Brink, 1997).

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5.2 Long Term Impacts

One of the primary distinguishing characteristics of the psychosocial response to an SMTD is its long-term nature. In general the long-term psychological effects of an SMTD appear to be at a sub-clinical level, but at the very high end of the normal range (Bromet, 1989) (Green, Lindy, & Grace, 1994). This means that while depression and anxiety symptoms may be very psychologically distressing, they are not severe enough to qualify as a clinical mental health diagnosis. For example, a person might have significant psychological impacts, but they are still able to go to work and/or attend to their household while suffering significant personal distress. Some people may never return to their pre-disaster way of being, as the health, psychological, and social problems resulting from the disaster can often become chronic.

In some sudden, event-based, toxic disasters in which latent negative health impacts could potentially present themselves at any point in the future, the sub-clinical (yet significantly distressing) depression, anxiety, somatic concerns, obsessive thoughts, social isolation, and suspiciousness have been present for up to 6 years after the disaster was over (Havenaar & Van Den Brink, 1997). Other event-based technological disasters have reported states of dread and hyper-arousal for many years following the disaster (Speckhard, 2002). The Three Mile Island radiation leak, which was a sudden event-based disaster, found that one and a half years after the disaster, scores were still high on anxiety and alienation, with the highest levels being in somatic distress and obsessive-compulsive thoughts. Five years after the disaster, the scores on the above psychological symptoms actually increased, with suspiciousness and hostility showing particularly dramatic increases (Green, Lindy, & Grace, 1994).

The long-term psychological impacts of an SMTD are clearly illustrated in Libby because the asbestos exposure occurred over many decades. It is hoped that the community will be completely cleaned up of residual contamination by 2005, and at that point for some the disaster will be over. However, although clean up activities may have a distinct end point, we believe

that the health impacts following toxic exposures do not allow the personal disasters of families' and individuals' to end until far later, as those who are currently in the latency stages of the disease become sick and begin to face a chronic and potentially fatal disease. In Libby, the negative psychological impacts will potentially continue for many more years, as people struggle with asbestos related diseases and the many premature losses it has brought into their world: somatic concerns, depression, obsessive thoughts, suspiciousness, and social isolation may continue for a life time. Because SMTDs are a new experience in the world, no research exists to date that proves that the long-term psychological impacts of disasters are more chronic and severe in slow motion technological disasters. But there is a strong possibility that this will be verified in the future.

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5.21 Chronic Anxiety

Chronic anxiety is often present as people ruminate over and discuss past exposures and future negative health impacts. The fear and dread associated with these intrusive thoughts are often difficult to escape and sometimes the person can become quite obsessed. Frequently this can also lead to a variety of somatic concerns as they develop heightened awareness about any physical symptoms.

The process of trying to cope with chronic anxiety, and the associated psychological impacts and related outcomes, have been successfully summated in the work of Green, Lindy, and Grace. In their book, *Psychological Effects of Toxic Contamination (1994)* they describe what they have termed the Informed of Radioactive Contamination Syndrome (IRCS). Although the syndrome they defined is oriented to radioactive contamination, the themes it represents are very beneficial for those trying to understand the long-term psychological impacts of people attempting to live with an SMTD. They describe the stressor as an ongoing and future oriented event, which is outside the range of normal, expected human experience. They explain that it mimics an obsessive-compulsive disorder and contains features of depression and anxiety. The initial fear, anxiety, and dread associated with the initial stressor, probably the information that an SMTD is occurring, sets off an unsatisfactory cycle of mental activities as the person attempts to psychologically cope.

1. The person struggles with the tendency to worry.
2. Denial techniques are utilized to try and escape the worrisome thoughts.
3. The effort of denial decreases the energy of the person, so they have less energy available to engage in pleasurable activities. This may lead to a low-grade agitation and depression.
4. The presence of any new stressors (such as information disclosed at a community meeting or in a local newspaper) can catalyze the worry.
5. When the person is no longer able to cope through attempting to deny and minimize, the person enters the action-oriented phase.
6. The person takes concrete steps to inform themselves, get involved, and make any possible changes in the situation on both a personal and community level.

Steps 1 through 6 are "normal" psychological stages someone goes through as they psychologically prepare to adapt to an undesired situation or circumstance in their life. Taking concrete action usually leads to a greater feeling of control over the situation and alleviates some of the worrisome thoughts.

7. However, in an SMTD -in which mastery and control are severely limited- the normally successful coping method of confronting difficulties actually increases intrusive symptoms, and as these coping strategies become less effective, people become more anxious, depressed, and hopeless. People may also become angry and frustrated, particularly with public officials and spokespersons related to the disaster. These people may often become alienated from family members and neighbors who are still engaged in attempts to deny or minimize the problems.

Through this model you can see how SMTDs and their extensive time frames lead to many chronic psychological symptoms. Beginning with the disaster and its immediate impacts, the ongoing uncertainty, and chronic anxiety related to the future can lead to many other long term psychological symptoms. As the disaster will not end quickly or abruptly, neither will the psychological impacts.

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5.22 Adaptation Dilemmas

Throughout our lives, life presents us with many challenges, both positive and negative. It is a natural human response to take in new information or circumstances and then do our best to adapt to the new situation. Some people are more successful than others in adapting and the more stressors you are faced with the more difficult it is to successfully adapt. As we have previously discussed, those impacted by an SMTD are faced with multiple stressors. Their ability to adapt to a new situation can also be hindered by the multiple ambiguous and uncertain components of the disaster. As people make initial efforts to adapt to the situation, they may be told new or different information, requiring another adaptation, and making it difficult for them to re-establish a new state of equilibrium. The frustration of being at the mercy of external forces, of trying repeatedly to adapt without success, can result in hopelessness and helplessness as the individual feels overwhelmed by the effort and unable to adapt anymore to their ever changing and uncertain situation.

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5.23 Chronic Stress

The body's stress response was originally designed to assist us in short-term (acute) stressful situations when our options were simply fight or flight. Chronic stress occurs when an individual has been under excessive stress for a prolonged period of time. This is experienced

more frequently in today's world as we struggle with multiple ongoing stressors in our lives. Experiencing chronic stress related to an SMTD is a normal response to this type of abnormal situation. However, the body is not prepared to handle a prolonged stress response, and many physical, cognitive, emotional, and behavioral symptoms can result. Some of the symptoms that can result from chronic stress include the following:

Physical symptoms:

High blood pressure
Tension, aches and pains
Digestive upsets
Impaired immune system
Fatigue, lack of energy
Breathing difficulties

Behavioral symptoms:
Impulsiveness
Repetitive Movements and/or Behaviors
Withdrawal and/or Inactivity
Dependency (drugs, alcohol, food, etc.)
Arguing and/or Fighting
Reduced Productivity
Compulsive behavior
Appetite changes
Sleep disturbance

Cognitive symptoms:
Short attention span
Poor concentration
Memory Problems
Confusion
Difficulties making decisions
Slow thinking
Difficulty seeing alternatives

Emotional symptoms:
Mood swings
Agitation and Irritability
Frustration, Anger and/or Aggression
Frequent worrying or obsessing
Uneasiness and/or Insecurity
Anxiety
Depression
Grief

Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

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5.3 The Overlay of Multiple Psychological Processes

During an SMTD there are many psychological responses and processes occurring at the same time in a single individual, they will be impacted by an SMTD in their own unique way based on the many different experiences they encounter. These factors strongly relate to how an individual will progress through multiple psychological processes. All of these psychological processes taken alone can be difficult to cope with, while multiple processes occurring simultaneously can be overwhelming.

Not only will people experience these processes differently, they will be at various points in various processes at the same time. This further stresses their ability to cope. In addition, unlike sudden event disasters, individuals and smaller family groups will be on their own timelines. They may feel isolated and alone, as the chance of others sharing their complicated multifaceted psychological experience is minimal. Because people are experiencing their own processes, the community does not move as a whole through the phases of a disaster. This lack of a "therapeutic community" is one of the most challenging aspects of working to restore balance in an SMTD impacted community.

While there may be many different ways of categorizing psychological responses to change, we have identified four primary processes that may occur individually or together as overlays in SMTDs.
- **The Psychological Response to Disaster**
- **The Grief Process**
- **The Change Process**
- **Adapting to Chronic Illness**

Some of these have a cognitive foundation while others are more grounded in an emotional realm. The different stages of these processes relate to specific emotions (which were discussed in more detail above in section 5.1, initial psychological responses) or they relate to phases of a disaster (which were discussed in more detail in chapter #3).

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5.31 The Psychological Response to Disaster

As people realize that a disaster is, and has been occurring, they enter the psychological process of responding to a disaster. As we have previously discussed, the phases and psychological reactions of an SMTD are unique in some ways. However, there are also many similarities to other crisis events, especially when we consider the experiences of some individuals, families, and subsets of the general community.
- Feelings of shock and numbness
- The energy of rescue and heroism

- Honeymoon of common support and hope for the future
- Feelings of disillusionment and frustration
- Coming to terms with realities and losses
- Reconstructing and investing in the new normal

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5.32 The Grief Process

Grief is a natural reaction and process to any type of loss. It could be the loss of possessions, the loss of loved ones, the loss of a person's own health and functioning, or the inevitable loss of their own life. This is a very emotional process as the person moves from denial to acceptance. All types of disasters can involve many different types of losses.
- Feeling of shock and denial
- Expression of anger
- Bargaining for an alternative reality
- Feelings of depression and sadness
- Acceptance that the loss has, or will, occur and reinvestment in life

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5.33 The Change Process

As we all know, the process of changing is never easy. This is particularly true when—as in a disaster—the person does not desire to change, but is forced to change due to circumstances beyond their control. In SMTDs, people not only have to adapt to these types of changes, but they may also have to adapt by making permanent changes in their lifestyle.
- Pre-contemplation: denial, rationalization, and attempting to minimize the need to change
- Contemplation: assessing the new information and situation, and weighing pros and cons
- Preparation: preparing to adapt physically (environmental changes) and mentally
- Action Plan: taking the steps to adapt, monitoring the environment, making substitutions, and having rewards
- Maintenance: keep using action plan skills, adjusting to and accepting the new "normal'

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5.34 Adaptation to Chronic Illness

Chronic illnesses frequently result from technological disasters as they often involve toxic exposures. The process of adapting to chronic illness is centered in the cognitive realm as the person learns how to adapt to this new way of being. However, because the person is also experiencing the loss of their old way of being, they usually are also experiencing the more emotion based grief process as well.
- Initial diagnosis, receiving, and seeking out information
- Anxiety about future: health, social and economics impacts
- Making lifestyle changes and adaptations
- Progressive physical deterioration, and resultant adaptations
- Acceptance of and contentment with 1) new way of being 2) inevitability of end of life

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Conclusion

The impacts of SMTDs are extremely multifaceted and affect virtually every component of the lives of those who are experiencing the disaster. Perception is a critical element throughout all stages of the disaster and beyond, as the majority of those impacted will live with some SMTD consequences forever.

In the first phase of the disaster, when it is initially realized or disclosed, the primary stressors and the initial psychological responses go hand in hand. The uncertainty associated with the invisible, unpredictable, and potential long-term impacts of the disaster yield the psychological impacts of disillusionment, shock, denial, anxiety, and dread. Somatic concerns also begin to develop out of the fear that they are experiencing negative impacts from the disaster. Issues of anger, betrayal, and blame arise, related to the perception of human error that is intrinsic in SMTDs. Inherent beliefs that the world is fair and that their community is safe and secure may be shattered, leading to further anger, belligerence and/or depression. In addition, the lack of control over what has occurred and what the future holds can lead to feelings of helplessness, hopelessness, and depression.

As time passes in the SMTD community, secondary stressors begin to emerge, further taxing the ability of those impacted to cope and adapt. The media siege, community conflict, political and legal controversies, social alienation and stigmas, economic stressors, and destruction of cultural traditions lead to increased frustration and family stress; over time this can lead to a condition of chronic stress. Chronic anxiety is also present as those that are impacted attempt to cope with the ongoing uncertainties and potential threats which they have little or no control over. Adaptation dilemmas also emerge as the chronic stress, chronic anxiety, and ongoing uncertainty demand multiple adaptations and amazing levels of flexibility. Adapting to multiple levels of change and possibly chronic illness, while also dealing with the psychological response to disaster and the emotional turbulence of grief, is a lot for any healthy, well functioning individual to handle.

With so many stressors occurring both initially and longer term, and the resultant complicated psychological responses, intervention is essential to support people in utilizing their strengths and resource to enhance their resiliency and ability to adapt and cope with SMTDs.

CHAPTER # 6

<u>KEY EVENTS IN SMTD WITH MENTAL HEALTH IMPLICATIONS</u>

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Introduction

As was covered in chapters 4 and 5, many psychosocial impacts and reactions result from a Slow Motion Technological Disaster (SMTD). We discussed the multiple primary and secondary stressors, the initial and long-term psychological responses, and the various psychological processes faced by disaster victims. Not only do those impacted by the disaster face these multifaceted psychosocial challenges, they also experience several key events that occur throughout the disaster and disaster response timeline that carry their own unique mental health implications.

It is not easy to clearly separate the various components of SMTDs, and the implications presented here are interwoven with the characteristics and consequences previously discussed. Therefore, to assist those involved with psychosocial responses, the focus of this chapter will be on identifying various key events in a disaster, and the mental health implications associated with them.

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<u>6.1 Suspicious Information Mounting</u>

One of the unique elements of an SMTD is the slow diluted onset of the disaster. We discussed in Chapter #3 how it often takes many years for the information and evidence to build that triggers disaster recognition. Commonly, a particular segment of the population –such as workers at a company or residents of a particular neighborhood—will be the first to experience suspicion and alarm. The mental health implications associated with this process can include feelings of uncertainty, self doubt, or possibly alienation and stigmatization from others who may not be receptive to the idea that such an incident is occurring.

As more people begin to develop suspicions, a group may form which will provide mutual encouragement, and possibly a unified effort, that will then illicit more self confidence and motivation to confront the issue. This diminishes their collective alienation and self doubt, but it may increase their division and separation from other community factions who do not want—for whatever reason—the issue brought to light. This leads to various community factions, an aspect discussed in depth in chapter #7. Such community divisions constitute one of the most difficult challenges in SMTDs. They can block the development of unified efforts to address the disaster, making it much more difficult for individuals, families, and the community as a whole to confront and overcome the multiple impacts of SMTDs.

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6.2 Information Exposing the Situation

As discussed in chapter #4, the *information* that an SMTD is actually occurring, is often the initial stressor that most people experience related to the disaster. Becoming aware of a disaster without the multi-sensory input experienced in other disasters makes it difficult to absorb. Without immediate, physical, tangible evidence, people must trust the source of information before they can begin to believe that a disaster is occurring at all. The mental health implications of such an invisible and illusive disaster vary significantly from the implications of an intensely visible disaster.

People who do not trust—or choose not to credit—the source of information, may continue to deny that a disaster is occurring. In essence, the person in denial says, "prove it" and an SMTD may be very difficult to clearly prove. In Libby for example, many of the miners and their family members began to get ill and even die of respiratory complications, often several years after they ceased to work at the mine. When someone would try to say that the problem was something related to the mine, others could, from their perspective, logically argue against it. They could say there was no visible evidence of it being associated with the mining, that is was something else that gave them the respiratory problems, such as smoking tobacco or living with someone who did. The intrinsic characteristics of SMTDs enable people to maintain the security of denial.

The opposite response has very different mental health implications. The person who *does* trust the source of information may suddenly feel overwhelmed and anxious about this invisible and pervasive threat to their families and themselves. This perspective leads to feelings of vulnerability and fear: an invisible enemy is difficult to hide from or avoid. Such lack of security leads to a chronic state of stress and anxiety (discussed in detail in chapter #5) as the individual attempts to navigate the disaster response process.

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6.3 Decision Making

Mental health implications associated with toxic exposure from an SMTD can result in two very different perspectives, one manifested by denial and the other by anxiety. These contrasting perspectives often lead to the development of two opposing factions within the community, complicating decision making on issues related to the disaster. Initially, the community will struggle as it seeks to determine the parameters of the disaster, or if there is a disaster. But this is only the first step, as there are many decisions to be made in each of the various stages of disaster response. The decision making process often leads to increased frustration and agitation on all fronts, with decisions being hotly debated, and delayed, slowing progress. Typically, none of the parties walk away happy. The remaining key events discussed in this chapter are areas where decisions will need to be made, and where potential conflicts and disagreements are likely to emerge.

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6.4 Displacement

Depending on the severity and level of danger associated with the SMTD, short or long-term evacuation of the area may be warranted, and this may or may not be a clear cut decision. Once again debate and disagreement are very possible. There will most likely be a variety of perspectives, with some believing that the entire community needs to be evacuated while others are convinced that the community is completely safe. If evacuation is warranted, agreement on establishing a safe and adequate perimeter is essential. It is unfortunate and a source of further conflict when—as occurred in the Chernobyl radiation leak—the initial perimeter is later determined to be unsafe.

It is difficult to cope with involuntary displacement, short or long term. This interruption in the routines of people's lives can be exhausting in and of itself, as people try to adapt to the disruption while simultaneously attempting to deal with the stresses associated with the disaster and attend to all of their customary daily needs. This chronic stress continues through the readjustment period of returning to their original location. At this point, there even may be apprehension at returning, as people wonder if the invisible threat is truly gone. All of the multiple adjustments associated with displacement can result in chronic stress, taxing the individual's ability to cope and adapt, as discussed in chapter #5.

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6.5 Superfund Designation

In SMTDs with a wide area of impact, or where toxicity is determined to be high, there may be recommendations to conduct long term clean up under the EPA's Superfund designation of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The decision to be listed as a Superfund site is an important one, as listing can have negative economic consequences, and also signals that clean up will likely be a very long term process. The backdrop of debate and conflict that has been described further complicates the issue, as factions argue for and against listing.

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6.6 Clean Up

When an SMTD has been occurring for many years, or even decades, taking the steps to clean it up may be no easy task, if clean up is even possible. Many decisions need to be made about how to go about the clean up process, including which procedures should be used; how areas of contamination should be prioritized; and what should constitute "clean." Once again frustrations and conflict are likely to emerge in initial discussions, as well as throughout the—sometimes lengthy—clean up process.
If explanations of remaining risk are not acceptable to the public, chronic anxiety and fear may also surface as individuals question whether the invisible danger is truly gone. Often, attaining zero-percent risk is not statistically possible, but this may not be understood by—or acceptable to—the general public, who genuinely fear future impacts from the disaster.

Disagreement with official decisions related to the clean up exacerbates feelings of helplessness, loss of control, and betrayal. These feelings can fuel angry and belligerent behavior towards

officials and key spokespersons responsible for the clean up. Once again, chronic stress levels are escalated for community members and others associated with the disaster response.

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6.7 Personal Medical Assessments

Often, regardless of the type of onset, personal medical assessments may be warranted after a technological disaster in which toxic elements have been present. This may involve participating in a formal screening protocol, or simply receiving a recommendation to see your doctor for a check-up. Personal medical assessments can have varying mental health impacts, depending on the extent, and invasiveness, of the medical screening and the information received *or perceived* about potential negative health effects.

Having a personal medical assessment of some kind may explain previously unexplained symptoms, it may provide some with reassurance that at this time they are safe, it may increase or decrease an individual's sense of health and well being. In some individuals, it could escalate somatic concerns (as discussed in chapter #5). However, if latency periods are a characteristic of the exposure resulting from the disaster, even passing an initial screening will not necessary quell anxieties related to the questions: Do I or don't I have it? Was I or wasn't I exposed? and, What about my spouse, my kids? These uncertainties surrounding medical testing and diagnoses can also result in chronic fears and anxieties, and in some, a state of hyper-vigilance about their health.

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6.8 Diagnosis

If an individual is diagnosed as having a medical disease, syndrome or condition resulting from the SMTD, a whole process of adaptation to illness must begin, both physically and mentally. If fatal illnesses are associated with the diagnosis, the difficulty of adapting to this new state is naturally intensified.

Having some type of diagnosis—for an individual, family member, or both—involves very different mental health impacts from those experienced by the person struggling with uncertainty over their health status. In addition to being besieged with the myriad emotions that come with adapting to illness—which can include the effort to make lifestyle changes, and grieving losses of health, ability, and self-image—the person attempting to cope with an SMTD generated diagnosis, terminal or not, will also be struggling with anger, mistrust, and sometimes even rage against the responsible parties.

Additionally, a positive diagnosis in one family or residential group member may intensify concerns that others suffer the same diagnosis. In Libby, this was an especially powerful source of distress, and guilt, for those who had exposed household members by bringing the toxic fibers home from the mine on their clothes. These emotional impacts were discussed at length in chapter #5.

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6.9 Justice

Because any type of technological disaster includes the factor of human causation, the element of justice often becomes very significant to community members. Individuals and families who are suffering effects from the disaster may invest a lot of energy in the processes of civil litigation, appeals, hearings, and political lobbying. They may campaign for criminal charges to be brought, join class action lawsuits, or become involved in legislative actions. Yet, obtaining justice—however the individual defines it—may not be possible. The responsible individuals, company, or agency may or may not accept that responsibility, and they may or may not attempt to make amends or provide compensation to disaster victims. Failing to attain the desired sense of justice can result in intensified frustrations, anger, a defeated state of apathy, or a sense of pervasive injustice and loss of faith in the world and its workings.

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6.10 Financial Benchmarks

Other key events that may impact an individual's mental health will include financial benchmarks, such as receiving, or failing to receive, a favorable monetary judgment in a civil suit; filing for disability for an SMTD related illness; facing large medical bills and expenses related to the SMTD; loss of home valuation and equity; or declaring bankruptcy. Even the seemingly positive news of a financial windfall from a settlement may trigger conflict with others who may not have received that amount of, or any compensation, or with those who do not believe compensation was warranted. The extent of conflict and personal disruption, and the individual's own coping skills, will determine the degree to which these benchmarks will disturb an individual's mental equilibrium.

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6.11 The Future

As has been discussed in chapter #4, those impacted by the disaster often experience an all-encompassing sense that control over the present and future has been lost to the SMTD. The pervasive and far reaching impacts of an SMTD leave communities fearing for the future both for their current generation and their children's generation. Issues related to future safety; the need for life long health care to address the chronic medical conditions resulting from the disaster; and the many other economic, social, interpersonal, and psychological issues resulting from the disaster; present ongoing challenges to the psyche. There are various mental health implications associated with worrying about the future. There is the fear, chronic anxiety, and chronic stress that people will continue to confront as they experience the unfolding process of the SMTD impacts, possibly for many decades and generations into the future.

CHAPTER #7
PREPARATION: ASSESSMENT OF THE COMMUNITY, THE DISASTER, AND THE RESPONSE

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Introduction

In this chapter we will explore how to assess the community, the disaster history, and the players and personalities involved in a slow motion technological disaster (SMTD). As was discussed in chapter #3, it is vital to understand what type of disaster you are responding to, and the variety of disaster phases that individuals, families, and the community may be experiencing. The characteristics and phases will be wide-ranging in different types of disasters, resulting in a variety of psychosocial reactions. Therefore, an initial assessment of the disaster situation should be followed by an assessment of the community and of the players therein. Each disaster and community is unique, and these two assessment steps will provide a foundation for developing an appropriate and effective psychosocial response plan.

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This chapter will cover the assessment of:
- The history of the disaster and the community
- The characteristics and dynamics of players in the community and in the disaster response
- Any factions that are present in the community
- The available resources and unmet needs relative to the disaster's psychosocial issues

We will also discuss methods to determine the optimal placement and modeling of your psychosocial services, and using your assessment information to avoid pitfalls and unintended barriers to program utilization. Facts and commonly held perceptions sometimes diverge, especially in the hazy atmosphere of an SMTD. Your careful assessment, as outlined in this chapter, will help you understand why and when this schism occurs.

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7.1 Methodology

Methodologies for community assessment cover a continuum from formal to informal; in most cases you will be utilizing a combination of these. Obtaining input from a range of people with differing involvement and viewpoint will ensure that you have a 360 degree outlook on the dynamics of the disaster and it's response. For example, conducting informal interviews with disaster victims, local business owners, social and medical service providers, and local government officials will prove useful in obtaining a range of perspectives on both the history and present status of the disaster. Cultivating positive relationships with key players, informants,

and stakeholders in the disaster is an additional benefit of this type of informal information gathering process.

In addition to interviews and informal meetings, surveys and questionnaires can also be useful tools in identifying people's knowledge base, opinions, areas of concern, and biases about the disaster and it's response. These too can be either quite informal, such as a brief questionnaire passed at a meeting, or formal, such as a comprehensive survey mailed county wide.

Information obtained from newspapers, census records, state health and welfare agencies, and county registration offices can paint an objective picture of the disaster's history and of the demographics of the population you will be working with. See the chart at the end of the chapter for a sampling of assessment target groups, methodologies, and questions.

7.2 Educate Yourself About the Health Impacts and History of the Disaster

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7.21 Health Impacts

It's the impact on human health that makes an SMTD a source of chronic stress on individuals and their communities. Understand that as an intervention worker, people will look to you for reliable information about the possible or actual health effects of the SMTD. Information that you will need to have, from the best authorities available, includes:
- The nature of the toxic substance
- The sources of information about the substance and its effects (studies, research, etc.)
- The symptoms and health effects
- The length of the latency period, if any
- The progression and outcomes of exposure linked diseases
- The degree of contagion or spread, if any
- How exposure related disease is screened for and/or diagnosed
- What popular misconceptions are held about all of the above that may vary from "expert" information?

7.22 History

In responding to an SMTD, it is vital to educate yourself about the history of the community and the history of the disaster itself. Often there are multiple perspectives regarding the disaster, and it's essential to remain objective and open-minded throughout your assessment process. The person—or team—in charge of addressing the psychosocial needs of an SMTD should remain as neutral as possible so they can be of assistance to the largest possible number of groups and individuals.

7. 221 History of the Community

Understand the history of the community and how this history has impacted and shaped the community dynamics and multiple perspectives. A good place to start is learning about the demographics of a community. This may include information and statistics about education and literacy levels; income levels; employment rates and traditional employment patterns; and distributions of varying ages, religions, ethnicities, and cultures. It is important to remember that understanding the culture of a community can also involve more subtle cultural and value based characteristics. A community may be predominately white, Anglo-Saxon, but still contain a range of cultural variety. Is it a conservative or liberal community? Are there dominant community wide values such as a reverence for nature, or a pronounced appreciation for hard work and self-reliance? Understanding these more subtle, value based characteristics will further assist you in understanding the community, enabling you to create an effective response plan.

In many rural communities, and even in some urban and suburban neighborhoods, there may be one or two principal employers playing a disproportionate role in the local economy and community. This can result in the development of strong loyalties to the company by individuals and families whose livelihood is dependent on the company. In addition, the community as a whole may develop a great loyalty to the company since many companies will donate and assist in the development of parks, ball fields, and other community nonprofit efforts. This "company town" loyalty can play a significant role in how a community responds when the company turns out to be a responsible party in a technological disaster (TD).

You will recall that all TDs contain an element of human causation, and therefore could potentially have been avoided. Consequently, when a TD strikes a community, some segments of the community may disbelieve that such an event could even occur, while others are immediately outraged. This leads to polarization within the community triggered by the release of information. The TD might strengthen divisions already present in the community—such as between blue- and white-collar workers—or cause new divisions between groups that were once united. Rumors, speculation and accusations may be mingled with the truth, leading to heightened feelings of betrayal and outrage, and exacerbating community divisions. Because of the complexity of uncertainties involved, such divisions will be further pronounced after an SMTD. The importance of understanding the community's history will be further discussed in section 7.4 of this chapter.

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Community history factors to consider:

- What are the demographic characteristics of the community?
- What were the community groups, and what were their relationships like prior to the disaster?
- Are there a lot of old timer family groups? or, Are there a lot of newcomers?

Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

- How do those and other groups get along?
- How would you characterize the community's economy? Stable? Boom/Bust? High Tech? Agricultural?
- What are the cultural, religious, and value based characteristics of this community?
- What was the responsible party's role in the larger community? Were they an integral part of the community? Did they contribute to local charities and causes?
- How did the community feel about and perceive the responsible party prior to the disaster?

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7.222 History of the Disaster

It is important to also assess the history of the disaster itself. First, because "how it happened" can significantly impact and shape the psychosocial impacts and reactions that your response plan hopes to address. And, secondly, because having—and being a source of—accurate and reliable information is critical to a successful intervention. This is particularly essential in SMTDs because people are bewildered, suspicious, and confused from the outset, wondering who knew what and how the disaster might have been avoided. If a subset of the population has taken on the activist role in exposing the disaster, some community members may view them as troublemakers, while others may perceive them as heroes. It is necessary in educating yourself about the history of the disaster to understand the cultural and interrelationship history as thoroughly as the "fact history" of who, how, what, when, and how much. Identifying intervention target populations and other community segments will be further discussed in Chapter #8.

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Disaster history factors to consider include:
- How long has the SMTD been occurring?
- What actually happened? What do the agencies believe happened and what do other factions believe happened?
- How did it happen and who was responsible?
- What toxic substance(s) were involved, and what is known about them?
- Were any individuals or groups aware that the SMTD was occurring?
- Was anyone trying to get the issue exposed? And if so, for how long?
- Was anyone trying to hide the disaster or cover it up? For how long?
- How was the SMTD fully exposed or discovered?
- Who, if anyone, could have prevented or stopped it from occurring?
- What health impacts are suspected or established?
- Are there any community divisions, and if so, what types or what groups?
- What controversies and public perceptions relate to the above questions?

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7.3 Understand "Player" Dynamics

In disaster response, many different groups, agencies, and organizations become involved in efforts to respond to the disaster. They may be either community based or outsiders, and may have differing agendas. Different players are likely to have their own internal and external relationship dynamics. Often new agencies and organizations will come to town to assist in the response, while new groups and coalitions may be emerging out of the existing systems in the community. This can be overwhelming and confusing for those impacted by the disaster, as everyone begins trying to define the disaster and determine what remedial actions to take.

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7.31 Key Bureaucratic Structures, Roles, and any Significant History

When an SMTD is identified, the Environmental Protection Agency (EPA) and/or the Agency for Toxic Substances and Disease Registry (ATSDR) are likely to be the first outsiders on the scene, spearheading the disaster response. Other agencies, such as the federal or state Department of Public Health, or the State's Department of Environmental Quality (DEQ) may also rush—or be coaxed and cajoled—onto the scene. In any disaster, responders may be mandated, that is legislatively charged with taking action. Or there may be organizations or agencies that step up to the plate for a variety of reasons. Sometimes that "stepping up" may be motivated more by political gain than by compassion, a perception that a victimized community will find offensive. There may also be "non-players who should be players" who are perceived as shirking their duty to respond to the disaster.

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Responders must be knowledgeable about which State and Federal agencies are involved, what their roles are, and what—if any—previous history they have related to the disaster. Considerations might include: was one of these agencies aware, at any point in history, that an exposure was occurring? In the past, did they get complaints from concerned citizens and do nothing about it? Is this their second time around because an incomplete job was done previously or the funding ran out? These past dynamics not only influence how the community receives these agencies, but they also influence potential psychosocial responses to the agencies and the disaster as a whole.

Other key players to consider may be local non-profit entities or governing bodies charged with, or volunteering to, assist in the disaster response. County governments, local hospitals, schools, churches, and other local grassroots organizations may become significantly involved in the disaster response. Understanding their roles, responsibilities, and their relationships with the other players will be necessary for disaster remediation efforts. Also, remember that these roles and relationships will not be static. A state of constant flux is normal in emergent response efforts.

In Libby, for example, one of the key players became the Center for Asbestos Related Diseases, or CÄRD Clinic. The CÄRD was established in the spring of 2000 by the local community hospital in order to provide a mechanism for responding to the results of an ATSDR screening protocol that eventually included over 7,000 individuals. Anticipating that quite a few of these people would receive letters advising that they receive a more extensive assessment of identified possible "lung abnormalities," the CÄRD was set up with a nurse and physician who could provide follow up assessments, diagnoses, health education, and referrals to specialized care. Over the course of the next three years, the mission of the clinic grew to also include ongoing follow-ups and long term health care for asbestos related disease (ARD), oversight and coordination of research efforts related to ARD, and the provision of psychosocial services. Thus, the CÄRD became the ideal site for holistically addressing the multiple issues that this SMTD has brought to the community of Libby.

If it has been demonstrated—or is widely believed—that the SMTD was blatantly or criminally caused by some company or industry, it is less likely that the responsible party will be one of the players in the disaster response effort. It is not uncommon for community members to feel betrayed and to express anger, usually proportionate to the degree to which they believe they were intentionally injured by the responsible party. Understanding the community's perspective, historically and currently, of the responsible party and understanding that party's dynamics and relationships with other key players is crucial.

7.32 Organizational Charts

It can be very beneficial to create organizational charts, to define and illustrate the various players, their role in disaster response, their formal and operating structures, and their relationships to one another. This will help to minimize the confusion and frustration experienced by community members as they try to sort out the players and understand who can help them with their questions and concerns.

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7.33 Dynamics of the Response

Responses to disasters generally follow a formal, established process. Agencies will have, or quickly create, response protocols that set parameters and establish order for their response efforts, following predetermined steps over time. In order to have a uniform response, policies and procedures are often concrete and rigid. This may compound the frustration of community members, who may not understand the established policies and procedures or be discouraged by a response slower than what they feel is needed.

Key agencies, such as the EPA, should set up community forums where they can disseminate and regularly update information to the public, and address any questions that community members might have. So named Community Advisory Groups (CAG) can also be used as a two way street, giving the community a chance to contribute, as well as receive, important information. In Libby, for example, the EPA actively solicited information from the public

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about areas around the community that may have been contaminated with the asbestos laced vermiculite ore through announcements at the CAG meetings.

Assessing the range of player characteristics in the disaster response will reveal how the community perceives the players. This community perspective significantly affects the psychosocial impacts and reactions people may be confronting, and thus an effective response plan. Do they feel that they have some control or significant involvement in the disaster response? Do they have confidence that these "outside" agencies understand what is going on? Is there trust or mistrust of these agencies?

7.34 Characteristics of the Spokesman

Agencies in charge of disaster response typically appoint one key individual who leads the response and is their public spokesperson. It is necessary to understand the characteristics of this spokesperson—and perhaps more importantly how he/she is perceived by the community—as they will greatly influence how the community receives the agency, and how the community psychologically responds to the remediation efforts.

A positive and effective spokesperson is essential. Important characteristics of the spokesperson include always telling the full truth, being honest when they don't know something and willing to try to find out, and showing their human side, that they actually do care and empathize with how difficult this must be for the community. If there is any negative disaster history related to the agency –for example, a previous cover up or failure to act— the spokesperson's ability to honestly acknowledge this without denial or minimization will be crucial to moving forward. This is just an introduction to some of the issues that surround an effective and dynamic spokesperson. There are more extensive materials available on this topic in the resources listed in Chapter #11.

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7.35 The Role of the Media

Media coverage and involvement plays a critical role in setting the mood of the community. As one of the main sources of *information*—which is the primary and ongoing stressor in SMTD (discussed in chapter #5)—the perspective of the media can have a huge impact on overall community reactions and player dynamics. Based on the way it represents various players and what it chooses to focus on and report, the media exerts tremendous influence over the community's viewpoint and psychological response. Whether in the form of feature stories, commentaries, or letters to the editor, these influential sources of information shape the perception of the community about the disaster and the players in the disaster response, becoming in their own right one of the players. Therefore, include the role of the media, relationships, and dynamics with other players in your assessments.

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7.4 Identify any factions

As discussed above, and in more depth in chapter #3, the characteristics of an SMTD usually preclude the development of the therapeutic community typical of event-focused disasters. In contrast, because of the immense uncertainty and ambiguity surrounding the disaster, conflicting factions with differing perspectives and opinions often develop. The when, how, where, why, and ifs of an SMTD can be hotly debated, fanning the fires of conflicting factions. In developing a psychosocial remediation plan, it is important to identify and understand the perspectives of these factions, while adopting the most neutral position possible. Steering clear of faction politics will allow you to effectively assist a full range of people, and avoid alienating those from any particular group.

7.41 Community

Community factions often emerge out of sub-groups of the population having different perspectives about the disaster, how it should be defined, and if it does or does not need to be addressed. For example, in Libby, one of the first and most persistent divisions was between an activist group of families with personal knowledge of the lethality of the problem, and members of a business community already hard hit by mill closures and other economic downturns. Understanding community factions is grounded in educating yourself about the history of the disaster and the history of the community. If the community is small and close-knit, there may be additional divisions between or within certain families or groups based on past histories unrelated to the disaster. These preexisting historic divisions may have the intensity to carry through and impact how different groups respond to one another on any issues related to the disaster, or for that matter, any issue at all.

7.42 Inter-agency

In addition, different agencies may have different protocols and criteria for defining the problem, different priorities and personalities, and may advocate for differing responses. These factors can potentially lead to inter-agency tensions and factions which make for a longer, more fragmented, and less efficient disaster response.

7.43 People Being Blamed

If individuals, agencies, or business interests are being blamed for the disaster—or for not responding to the disaster appropriately—antagonism, mistrust, anger, and frustration can be directed at these entities. If, for example, a company is being blamed for the disaster, anyone who defends or associates with the company may be in one camp, while community members taking a stand against the company may be in the other camp. Company managers or employees who were not directly involved in the disaster may be in either camp, or caught in the crossfire between the two opposing factions. These types of divisions can emerge within families, workplaces, faith communities, and other segments of the community, creating a pervasive atmosphere of conflict, suspicion, and unrest. This is an important factor to assess when

considering the psychosocial impacts of the disaster, as people who previously have stood together through tough times find themselves on opposing sides of the issues.

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7.5 Assess Community Needs and Resources

Once you have educated yourself about the history of the community and the disaster, and you understand the player dynamics and recognize any factions, the next step is to assess the community's psychosocial needs and resources related to the disaster so you can begin to develop an effective psychosocial remediation plan. As in any intervention, there will always be barriers and obstacles to overcome; these will be covered in chapter #10.

The psychosocial sphere of practice encompasses an individual's emotional, physical, spiritual, financial, environmental, and interpersonal worlds. Psychosocial needs relative to an SMTD can range from the need for emotional outlets, to stress management education, to such concrete needs as financial assistance and transportation to disaster related services. In Libby, an economically depressed community prior to 1999, many individuals found it easier to ask for help with emotional coping after we had assisted them in applying for a medical benefit plan that had been established, or after arranging for help with yard chores they could no longer manage. As in Maslow's hierarchy, meeting basic needs for food, shelter, and security came before the exploration of discovering growth and meaning within loss and grief. By addressing the largest practical realm of "needs," a more effective and positive intervention is possible.

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Assessing community needs:
- What psychosocial related education is needed for those impacted, the general public, and those assisting in the remedial efforts?
- What unmet needs do those impacted by the disaster have?
- What are the priority needs?
- What services need to be set up? (health or exposure screenings?)
- What will be needed to expand the existing structure's response capacity?
- What will it cost to meet the needs?
- What are the financial or other barriers to getting resources to those who need them?

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Assessing community resources:
- What financial and social resources are available to address basic needs?
- What resources are available to address mental health and spiritual needs?
- What formal –and informal— structures and networks are already established and serving social needs?
- Do the existing community resources have the practical capacity to address these increased needs?

- Do existing community resources have the information or expertise to address issues specific to the disaster?
- What additional training and/or resources will they need in order to meet the demands of responding?

When assessing your community's resources, bear in mind that there may be no previously existing cohesive structure to the community based services that will be involved in response. They may even be fragmented at the outset. Ideally, such a structure—in the form perhaps of a resource council or network comprised of representatives from a range of agencies and organizations—can be developed in the early stages of the SMTD response.

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7.6 Decide Where to Place the Psychosocial Service Venue

As is well known in disaster response mental health services, people don't typically perceive themselves as needing mental health services in response to a disaster. However, the emotional and social impacts of a disaster can be overwhelming and coping can be extremely challenging. In psychosocial disaster response materials, it is usually recommended that the psychosocial services be placed along side other disaster relief services. This is also true in SMTDs, as people will not typically seek out psychosocial remediation services, especially if they have already been coping with the slow onset of the disaster for many years.

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7.61 Factors to Consider

Consider the following factors when deciding where to locate psychosocial services, as this will greatly impact the utilization, and thus the effectiveness of psychosocial interventions. It will be worth the time invested to completely assess the disaster, and the community, prior to establishing your service venue.

7.611 Access

Psychosocial services must be easily accessible: they should be located where they are convenient and central to those who will be using them most. The service location must also be an appropriate place for people with illness or physical limitations, such as those who are wheelchair or oxygen dependent. If there is no public transportation to your location, an alternative system of transportation or home visits may be set up. If there are current medical needs associated with the disaster, a link to a medical facility—and ideally one dedicated to the SMTD's health impacts—can be invaluable.

7.612 Stigma

As stated above, people do not typically seek out psychosocial services related to a disaster. Therefore, in deciding where to locate your services, a good strategy is to work in collaboration with others, providing more generally accepted disaster response services. If psychosocial services are normalized as services that everyone receives as part of the disaster response system,

people will be less hesitant to use them. Collaborating with other disaster service providers also provides the opportunity to deliver services such as education, resource referrals, and informal emotional support.

Normalizing psychosocial needs and service utilization, and avoiding stigma, is essential. Your message should be that people utilizing your services are normal people having normal problems associated with this abnormal situation. You will want to be certain that you avoid anything that triggers a negative association when you are deciding on a location for psychosocial services. This could be too boldly associating yourself with the feared and stigmatized arena of mental health, associating yourself with the responsible party, or doing anything that promotes the perception that people who access psychosocial services have severe problems or are somehow deficient.

7.62 Considerations Specific to SMTD:

In deciding where to locate psychosocial remediation services for an SMTD, there are several unique factors to consider.

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7.621 Time Frames

One of the primary factors to consider is the timeframe of the disaster and remediation activities. Due to the long-term nature of SMTD, it is important to locate psychosocial remediation services where they will be accessible over the long haul of the disaster, which could span decades. This may not be practical initially, as such a systemic structure may not be in place yet. However, it is important to keep this factor in mind so that these services can be consistent and convenient for the duration of the disaster to assist with the impacts people will be confronting.

7.622 Factions

It is also important to locate the services in a place that is neutral and not particularly associated with any of the community or agency factions. Avoiding alignment with any particular faction, including any particular religious group or sect, will maximize accessibility to the broadest range of people, regardless of their loyalties or opinions.

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Conclusion

In order to develop effective psychosocial disaster response services, a complete assessment of the community is essential. Educating yourself about the history of the community and the history of the disaster is the logical starting point and provides the foundation on which to build your assessment. The next step involves educating yourself about the various players, and their

formal and informal relationships with one another. This leads to identifying and understanding any factions and conflicts, either between agencies or between different sub-groups of the community.

Once you are aware of these underlying issues, you can then turn your focus to assessing the specific disaster related needs and the community resources available to address these needs. You must identify what resources are already available to meet specific types of needs, and any gaps that might exist due to new, unmet needs emerging from the disaster.

Now that you are knowledgeable about the disaster characteristics and phases covered in Chapter #3, and you have completed your community assessment process, you are now prepared to make an informed choice about where to most effectively locate psychosocial disaster response services. In SMTDs it is especially critical to avoid stigmatization or alignment with any conflicting factions, and to find a location that will be convenient and accessible for the long-term duration of the disaster response.

CHAPTER # 8

ADDRESSING TARGET AND SPECIAL POPULATIONS

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Introduction

Once you have completed your assessment of the community, as discussed in chapter #7, you will be ready to begin planning your intervention strategies. You will want to first consider what groups or different populations of people you will be hoping to reach, since each group, family, and individual is unique and has different needs related to the disaster. You must consider the varying ways the disaster affects different groups—such as workers, families, business owners, and visitors—while also considering the characteristics unique to special populations that may be vulnerable to any type of situation that requires increased resources and/or coping skills.

Giving consideration to the identified needs of certain populations will allow you to format your intervention strategies in the most effective way possible to assist them in dealing with their psychosocial needs resulting from the slow motion technological disaster (SMTD). This chapter will discuss some of the basic factors to remember when working with various populations, and it will also point out characteristics that are of special significance when working with SMTDs. A number of materials are available from the Center for Mental Health Services that provide in-depth information on these topics. These resources are listed in chapter #11.

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8.1 Target Populations: Levels and Types of Impact

The impacts of an SMTD do not occur evenly across a community or geographic area, but paradoxically no one who "sees" a disaster is untouched by it either. All community members are impacted by the disaster, but in a variety of ways and at varying levels of intensity. In an SMTD, knowing how the exposures happened and who was potentially exposed becomes essential to identifying populations in need, and the level of services that will be required.

Because of the invisible nature of the disaster, it is not always visually obvious who was a primary victim of the SMTD. In Libby, for example, when the information was released that an SMTD involving exposure to tremolite asbestos had been occurring, an obvious first look was at the mine workers and their families. But then, it became apparent that a number of other exposure pathways were present which widened the circle of who was, potentially, a primary victim of the disaster.

Libby was very unique—and an extreme example of an SMTD—because one of the identified exposure pathways was via the ambient air: the asbestos laden dust blew throughout the entire area from the mine activities north of town. Therefore, in the case of Libby, the entire community had the potential to be primary victims of this disaster. In other disasters, patterns of exposure may be through above or below ground water supplies; through the food chain; from occupational exposures; or through the air.

Secondary victims are also present in a disaster area. These may be people who were not directly impacted by the SMTD, but have family members or close friends who were directly impacted. Secondary victims would also include those who experience some of the primary and secondary stressors associated with the disaster. These can include stressors such as the atmosphere of intense community conflict, and the sudden negative community stigma, both of which may lead to negative consequences for local tourism, real estate, businesses, and the community's overall economy. These secondary negative effects cause a ripple effect, in which a poor economy leads to fewer jobs, scarce resources, and increased family stresses for everyone, regardless of their level of personal connection with the direct impacts of the SMTD.

8. 2 Special Populations

There are several populations and special groups of people that are at particularly high risk when faced with an SMTD. Potentially high risk groups include: children, older adults, ethnic and cultural groups, people with low socioeconomic status, people with serious mental illnesses, people with disabilities, and disaster response workers.

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8.21 Children

The common denominator of SMTD impacts is the chronic stress it creates. Children are not immune to this stress, and for them—just as with adults—it can have physical, behavioral, mental, and emotional symptoms and consequences that can disrupt their daily lives for a significant period of time. Children's lives may already have been impacted by the SMTD if family members were struggling with health effects from toxic exposures before it was recognized as such.

Children lack experience in dealing with stress, especially chronic stress, and this may make it more difficult for them to cope. They often lack the vocabulary and the appropriate skills to express their needs or concerns and therefore, do not actively illicit support from the adults in their lives. Children also lack the life experience and cognitive skills to develop a well rounded perspective, so with all of the confusion, uncertainty, and ambiguity surrounding an invisible SMTD children may feel very overwhelmed and out of sorts. Children might be directly affected by disaster results such as: the sickness or death of a family member or the family member of a close friend, having to relocate, or disruptions at school. They may also experience secondary effects such as their parents and caretakers being unusually preoccupied with their own disaster response issues and concerns. Parental adjustment directly influences the recovery of children: parents who are not coping well will be distracted and may fail to react to their children's signals of distress. Children may develop or escalate attention-getting behaviors in the chaos of disaster recovery.

Providing psychosocial services to children is most appropriate through families, schools, churches, and other groups already providing services for children. There may be different levels of needs for services at various points of time, especially if the SMTD is of long duration. All children in the community should be helped in age appropriate language to understand the basic facts of the disaster.

Community conflict makes it more difficult for children to understand what is going on—they may even reflect some of the tension they feel around them—so it is important for parents to keep their children appropriately informed. Often in an SMTD, there are different viewpoints about whether there is a need to involve the children, especially if the debate over the fact of the disaster is still active. Interactive programs—disaster related coloring books, poster contests, poem writing, essay writing, art, and puppet activities—that allow children to work through their uncertainties and/or anxieties related to the disaster can effectively promote discussion and the expression of feelings. They also provide an avenue for adults to offer children accurate, appropriate information. In Libby, for example, it was only through interactive activities related to the disaster that one child asked his mom if both his parents were going to die soon from the disaster; the child had heard a friend saying that both *his* grandparents had died from it. This opportunity allowed the mom to educate and reassure the child that his worries were disproportionate to the actual risks. When working with children it is always important to tell the truth in age appropriate ways that they can comprehend.

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8.22 Older Adults

Becoming older often involves facing many changes and, often, multiple losses. Retirement, declining health, widowhood, and the loss of many friends can be difficult transitions. Health problems often develop as people age, threatening mobility and independence. All of these normal stressors of aging increase the risk of psychological problems such as low self esteem, anxiety, and depression. Rural, older adults are often in poorer health, have lower incomes, and are more restricted and isolated by inadequate, or sometimes non-existent, public transportation as compared to their urban counterparts. Fixed incomes also decrease their tolerance for any added expenses, such as needing to go to a lot of appointments, or an increase in uncovered health care expenses.

Problems and difficulties may be under reported by older adults. Often they are hesitant to acknowledge their needs, and prefer not to have to ask for help. As one gentleman stated, "I've overcome many bumps in the road of life all on my own before this happened. I don't want to trouble others or be a burden at this point in life either."

Service locations should always be as convenient as possible for older adults, families, and caregivers. Information and services should be presented in an easy to understand and casual manner which makes them easy to accept without stigma. Establish partnerships with other agencies already serving older adults—such as Meals on Wheels program, local churches, senior

citizen centers, and senior residential facilities—as a conduit to provide older adults with the information that psychosocial disaster response services are available.

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8.23 Ethnic and Cultural Groups

If we intend to make our psychosocial disaster response available to all people impacted by the SMTD, the ability to target various cultural and ethnic groups in a specific and sensitive manner will be necessary. Educate yourself about their specific cultural norms, practices, and traditions. In addition, learning about their cultural viewpoints on family; helping and cooperation; spiritual practices; mental health issues; death; and grieving is vital to providing culturally appropriate psychosocial services. Value diversity and differences, and remember to ask about cultural variations when you are not sure.

Information and services must be provided in the appropriate language, and culturally accepted and courteous speech and behavior must be demonstrated. Take time to establish rapport as you develop and adapt intervention approaches to fit within the relevant cultural values. Establishing working relationships with trusted organizations, service providers, and community leaders indigenous to the specific cultural group, will give credibility to your services. If at all possible, hire workers from within each local ethnic and cultural community, as this disaster intervention approach has proven to be the most effective way to reach cultural and ethnic populations.

Even if a community appears to be homogeneous, look for subtle cultural values that may be present. Rural communities, for example, often have their own unique culture, even if it is not grounded in racial or multicultural factors. Rural communities are often marked by hard working, prideful people. Independence and self determination are highly valued in rural areas and, therefore, rural residents may not actively seek help for any issues related to disaster, least of all psychosocial help. Outreach activities to rural communities must pay particular attention to creating respectful, non-threatening, and acceptable services. With all cultural traditions, the need for services must be normalized as a natural response to an extremely unnatural and stressful situation.

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8.24 People with Low Socioeconomic Status

Residents of rural areas are more likely to be poor, and rural communities are more likely to be dependent "company towns" and subject to boom/bust cycles of economic activity. Those who are economically disadvantaged in turn have fewer resources, often live paycheck to paycheck, and have more chronic stress already present in their daily lives. Many lack stable living arrangements, stable employment, and stable social relationships. All of these stressors can be overwhelming in and of themselves, and therefore when an SMTD unexpectedly hits this population, the impacts can be devastating, and the level of immediate need much higher than for other groups.

Individuals from traditionally low economic strata may be so focused on addressing the daily stressors of living; they may appear to be in denial as they choose not to trouble themselves over an invisible, confusing, and highly debatable SMTD. This can be a functional response. If we consider Maslow's hierarchy of needs, we will understand that basic needs for food, shelter, and safety must be addressed before individuals will be able to respond to the challenge of the much more ambiguous threat an SMTD poses to their already shaky future. As with cultural groups, sensitivity and responsiveness will be essential to developing effective psychosocial interventions for the economically disadvantaged, as background stress levels may be much higher, and there will be fewer personal resources to utilize.

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8.25 People with Serious Mental Illnesses

If essential services and support networks have not been interrupted, many people with serious mental illnesses continue to function at their baseline level following a community disaster. Their previous experience in making adaptations is highly valuable as the ambiguity surrounding an SMTD calls for multiple adaptations over time as new information continues to be revealed. Of course, the risk for those with serious mental illness is much higher if their existing support systems and structures are also stressed or negatively impacted by the disaster.

Some individuals with mental illnesses may need additional mental health support services, medications, or hospitalization to regain stability if disaster issues become overwhelming. In particular, those who are already struggling with anxiety related disorders will need additional assistance, as SMTDs themselves can generate considerable anxiety, even for people with no history of anxiety disorders. See chapter #5, for information on initial and chronic anxiety issues related to an SMTD.

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8.26 People with Disabilities

People with physical, cognitive, and developmental disabilities also need special attention when determining what intervention strategies to utilize in psychosocial remediation responses to an SMTD. It is important to provide information and services in an adaptive format and setting that will be most appropriate for the specific group with whom you are working. People with disabilities may hold specific concerns that the general population would not even consider, so be prepared to accept them as the experts on what psychosocial disaster issues are unique to their situation, and on what long term solutions are most appropriate to meet their needs.

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8.27 Disaster Response Workers

All types of disaster response workers experience considerable demands as they try to meet the needs of individuals, families, and community groups impacted by the disaster. When we consider the very long duration of SMTDs, it is appropriate to assume that response workers are at particularly high risk for burnout, chronic stress, and other related symptoms. Depending on their role, response workers may be exposed to human suffering, fatalities, community anger, and the demands and anguish of victims on a daily basis. In an SMTD with wide spread impacts, workers may also be grappling with their own personal connections and losses as they attempt to assist others. Disaster response workers may show the physical and psychological signs of work overload or the signs of stress overload, yet they are not always prepared or willing to slow down to take the time to ask for support or assistance. Therefore, if psychosocial support services can be built into disaster response models, they will provide a casual, non-threatening means for workers to get needed psychosocial support and services.

It is also important to consider structuring mental health support mechanisms for workers who are providing the psychosocial support services. It can be very demanding and emotional work at times, and psychosocial response workers must have their own avenues to process stress and illicit support from others who are sharing a similar experience. On all levels of disaster response, meetings that bring together staff and/or response network partners can provide an excellent forum for discussing and processing some of the feelings and stresses of disaster response work. Opening such meetings with an opportunity to share experiences, challenges, and successes before proceeding with the business at hand can be a worthwhile strategy for validating worker's emotions and reducing their stress overload.

For all response workers, adequate time off and balanced living are important components of healthy and successful efforts, especially in an SMTD, when the disaster remediation work will be of a much longer duration than in a most sudden onset disasters. As one Libby response worker put it, "We're not running a sprint here, this is a marathon. We have to pace ourselves for the long run."

Conclusion

All of the specific populations discussed in this chapter may require special considerations and accommodations in assisting them to address their personal psychosocial needs resulting from an SMTD. It's always important to begin assisting the individual, family, or group from the starting place of **where they are at**. With all population groups, successful SMTD responses will include intervention strategies for immediate implementation, and it will also incorporate a long-term plan that can function for the duration of the disaster's consequences. The following chapter, chapter #9, will discuss various models of intervention to utilize on an individual, group, and community wide basis.

CHAPTER #9

MODELS FOR INTERVENTION IN SLOW MOTION TECHNOLOGICAL DISASTERS

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Introduction

This chapter will discuss various models of intervention to utilize in addressing the psychosocial issues associated with slow motion technological disasters (SMTDs). When you begin to develop your psychosocial response plan, it is best to utilize a multilevel response that consists of multiple, simultaneously occurring interventions on a community, group, family, and individual level. This enables you to address the psychosocial needs of all community members with varying intensities, as not all people will be experiencing the same response to the revelation that an SMTD has been, and is currently, occurring in their community. It will also become important to have intervention strategies that are flexible and can be adapted over time to meet the changing needs—and overcome the identified barriers—encountered in the psychosocial remediation efforts.

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9.1 Key Concepts of Intervention

There are key concepts of psychosocial disaster response that apply to all types of disasters. First, mental illness is not a general response to a disaster, and it is not appropriate to categorize or label people experiencing chronic stress and other disaster impacts as mentally ill. The psychological responses and stress reactions that people experience are normal reactions to an abnormal situation, and validating the psychological response processes they are experiencing is key. Some people will have pre-existing mental illnesses that may or may not be exacerbated by the SMTD. Specific issues in dealing with this population were discussed in chapter #8.

Secondly, providing psychosocial education at all levels of intervention and across a range of contact points can assist with normalizing the experience and enhancing the development and utilization of natural coping skills. Education should be offered on post-trauma/stress reactions, chronic stress, grief, and bereavement, along with information on developing effective coping and adaptation strategies. The topics covered will depend on the type of disaster as long-term stress and other chronic issues are more prevalent with SMTDs.

Initial responses will focus on the psychosocial and practical needs of all people. They will involve helping people cope with a range of emotions, identifying and solving problems, and assessing their resources, natural support systems, strengths, and potential options. Assume that all who use your services will have the competence to address their needs once they are provided with the additional information, support, and resources they need to overcome the many challenges they face as a result of the disaster.

9.2 Multi-level Intervention Themes in SMTDs

As noted, there are many characteristics that are unique to SMTDs—not only in how the disaster occurs, but also in how it affects the lives of those involved—and thus the assistance that will be required to restore stability will also involve unique elements. There are several themes applicable to the psychosocial response to SMTDs that you will find relevant across a range of interventions. Familiarity with these underlying themes is important as you work to provide different forms of assistance to organizations, groups, families, and individuals within the community experiencing the SMTD.

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9.21 Empowerment and Control

When a sudden disaster occurs in a community, there is typically a lot to be done. If a tornado strikes, damage must be assessed, shelters must be established, food must be distributed, and homes must eventually be rebuilt. These active steps involve people in the disaster response, utilizing the physical energy released by the crisis, and allowing them to establish some sense of control over their lives again.

In an SMTD, the disaster "starts" when the information is released that an SMTD has been, and continues to be, occurring in their community. They may hear that an invisible disaster has been occurring in their community for many years or decades. At this "official onset" of the SMTD, the disaster is not even detectable by the senses, and the revealing of information creates a sense of crisis. However, there is little that people can actively do to respond to the news. Proactive responses may be limited to waiting for professional response teams to arrive, attending meetings at which the experts offer more information and remediation plans, and getting together in groups to speculate and commiserate about what has occurred.

The community that becomes aware of a local SMTD, has virtually no control over the disaster or the disaster response. If restoration of autonomy and control is an essential part of the post-disaster healing process, it is necessary at all levels of psychosocial intervention to increase peoples' confidence in their competence and coping ability. Incorporating empowerment and strengths based perspectives into all activities and interventions is therefore essential. The language utilized by psychosocial disaster response workers can foster a belief in a person's strengths. For example, a worker could say to an impacted community member, "You are doing a really good job of maintaining, despite the many stressors you are currently confronted with.

What could I tell other people who aren't coping as well? Do you have any advice I could anonymously pass on?" An example of how to foster a sense of control is to educate community members about the methods and "tools" used to take active steps so that their voices are heard. Be cautious about doing too much for people, as a sense of competency and control will be more successfully reached if they are allowed—with support—to do as much as possible for themselves.

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9.22 Time Frames –Multiple Phases, Multiple Timelines

The primary disaster characteristic unique to SMTDs is the elongated time frame over which it occurs. In the past, most disaster mental health response programs have been designed to last one calendar year. This is sufficient for a sudden disaster that occurs in a community in a relatively short period of time (days, weeks, or months), after which the community begins to rebuild itself. SMTDs are exceptional, since the course of the disaster, even after it has been revealed through initial information, may continue for many years or decades. Consequently, the psychosocial issues will continue to exist and emerge throughout this span of time. The evidence suggests that all technological disasters will have long-term psychological effects (Bromet, 1989).

Therefore, in addressing psychosocial needs related to an SMTD, it is important to provide not only initial response disaster interventions, but also to simultaneously plan ways to identify long term needs and provide long term interventions. Different types of intervention may be more or less effective at various points on the extended SMTD timeline. In addition, different groups, families, and individuals may be on their own unique timelines in relation to how aware or impacted they were by the disaster before or after it was officially revealed. Timelines may often be associated with when a diagnosis is given or when physical limitations from disaster impacts become visible and undeniable. Because of these factors, it is important to remain very creative, flexible, and adaptive: you may need to repeatedly adapt interventions being utilized to meet the various psychosocial needs of different populations at different points in time.

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9.23 Integration With the Community and Other Disaster Services

Different levels and different types of intervention may be more or less effective depending on the culture of the community being served. For example, a conservative rural community might be receptive to widespread and generalized psychosocial public education and individual interventions for personal issues, while rejecting the support group model. Different interventions may also be more or less effective in different sub-populations or with special groups in the community. It appears that because psychosocial disaster issues will need to be continually addressed over the long term, it is most appropriate to merge with other long term services that will continue to be provided after the initial disaster response services end. If there

will be long term health impacts, it is appropriate to have the mental health and social impacts also addressed in the setting where these needs will be met, so people will receive a holistic plan of care to address all ongoing needs resulting from the SMTD. In addition, this minimizes any stigma associated with receiving psychosocial services, which can be a barrier to providing needed care.

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9.3 Using Community Outreach

Since people do not usually seek out psychosocial services following a disaster, community outreach is a vital component of a psychosocial disaster response plan. One of the best techniques that has been used by response teams is to visit sites where survivors gather. With sudden disasters this is often in shelters, where food is being served, or where people are waiting in lines to get assistance with other concrete needs. However, in SMTDs, naturally occurring gathering points don't typically emerge. As noted, community members attempting to respond to the disaster are most likely to attend public meetings to learn more about the situation. Therefore, the most effective place for psychosocial response workers to access those impacted by the disaster may be at public meetings. Arriving early, listening carefully to community comments, and staying afterwards to mingle with those affected can provide a solid starting point for interventions.

Outreach models include services that are mobile enough to go to wherever they are needed. For example, in the Libby disaster, it became known that there was a cluster of diagnosed cases of asbestos related disease among people living in several small communities about 80 miles north, who had formerly either worked at the mine or lived and worked in Libby during the mining operations. The community outreach workers initiated a series of educational efforts that resulted in the facilitation of a peer support group that met monthly in that community. Community bingo halls, senior citizens centers, and local service groups all provide appropriate venues for an outreach program.

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9.31 Timing

Timing of outreach efforts is critical, and must be appropriate to the phase and psychological state that community members are experiencing. Because there is no defined onset in an SMTD, community outreach efforts may require a variety of strategies to reach certain target populations. Initially, some community members may not accept outreach efforts, particularly if there are factions that deny that a disaster is even occurring. However, months or even years later, the same group may become very receptive as the SMTD becomes undeniable and those around them began to experience visible, physical impairments related to the disaster. Some of the examples in Libby included the subtle visual signs, such as when a friend gets very winded going from the car to the church or into the post office, or the more obvious signs such as people

Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

wearing oxygen in public or riding the electric carts at the supermarket to do their shopping. As discussed in chapter #7, assessing the community and maintaining good relationships with all groups and factions constitutes a sound foundation for effective psychosocial interventions, regardless of when they are utilized, so that when the specific group is ready, there is no barrier to receiving them.

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9.32 Gatekeepers

One effective outreach activity, designed to create a trickle-down effect to all community members, is to provide educational outreach to community "gatekeepers." Gatekeepers can be defined as individuals who work in agencies or organizations that have a lot of contact with the general community. This might include social service providers, mental health and health care providers, faith community leaders, volunteers at the senior citizens centers, and any other appropriate community agencies or organizations. Through educating gatekeepers it is possible to secondarily reach other community members with your information and it is also a way in which referrals to psychosocial services can be provided.

Gatekeepers can be an effective group to assist you in evaluating psychosocial impacts and needs. By assessing gatekeepers' perceptions, you can indirectly assess the impacts and needs of the community members they come in contact with. Gatekeepers can also be educated about the normal psychosocial stressors and normal psychological reactions people may be encountering related to the SMTD. General disaster resources, and specifically psychosocial disaster information and resources, can be provided to gatekeepers for their own personal use and to pass on to the community members with whom they are in contact. Networking with gatekeepers is also a way to engage, and coordinate with, local resources to develop collaborative relationships that can comprehensively address psychosocial problems related to the disaster.

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9.4 Community Wide Interventions

Community wide interventions are designed to be available to the entire community, but will be of most value to those who are receptive.

9.41 Public Meetings

Public meetings will be an important component of the disaster response, since they often become the primary format for the dissemination of information about the disaster. People with questions and concerns are likely to attend, and this may be a good forum to provide psychosocial education and to inform people of the resources and support that you have available. Attendance at and participation in public meetings may become a form of therapy for those attempting to exert some control over the disaster by playing a role in determining the disaster response plan.

The EPA is often one of the primary responders to SMTDs. They have developed procedures not only to assess needs and formulate a clean-up plan, but also to facilitate establishment of a Community Advisory Group (CAG). This is an attempt to hear the local community's voice and provide an opportunity for local input into the disaster assessment and response. The groups can form in a variety of ways either by initial invitation from EPA to community leaders and representatives or by the initiative of community members themselves. The group's process can also be more or less formal depending on what the group decides. EPA can provide different types of administrative support to the group. Therefore, CAGs may look and function very differently from one community to the next, and over the course of the disaster, the same CAG may change dramatically. Some CAGs can address psychosocial needs either through emotional expression or through sharing information while others may be strictly technical and problem solving focused.

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9.42 Public Education

Public education is an essential component of the psychosocial response plan. "Pubic information is probably the single most important factor for influencing the stress response,"(Cwikel, Havenaar, & Bromet, 2002). As we have discussed, constantly emerging, confusing, and ambivalent information often characterize SMTDs. Having accurate information and a sense of understanding about what is occurring is one way of regaining a sense of control over a situation. From a psychosocial perspective, there are two main categories of disaster information, one is information about the disaster itself, and the other is information about stress responses and coping. In providing the public education, it is important to have appropriate experts who have credibility and are accepted and trusted by community members. When people understand the basic facts of the disaster, what its consequences are, and what things are still currently unknown, they may feel more relieved then when everything is up in the air. In addition, public education is an opportunity to put risks in perspective, to offer resource information, and to explain the normal stress responses they are experiencing.

Public education can occur through many mediums: it can be written via news articles, pamphlets, flyers, and handouts to be distributed; verbalized with radio spots or community wide or group specific, presentations; placed on a web site; or presented in the form of slide shows, television spots, art exhibits, or videos. Different mediums may be more appropriate for different communities or specific sub-sets of the community, so using a variety will enable you to maximize your effectiveness. It is also important to take into consideration the characteristics you learned in your assessment phase. For example, if illiteracy rates are high in your area, then presentations, radio shows, and videos may be a better choice than written information. Remember to be versatile and adaptable to what is working in your specific community.

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9.43 Community Healing Events

Another community wide intervention is to facilitate the development of healing events. This might involve a spontaneous event—such as the placement of roses at the Oklahoma City bombing site—or a campaign to promote symbolic gestures such as wearing ribbon pins, having commemorative rituals, or establishing a permanent memorial. Over the long-term duration of the SMTD, an event or gathering place may emerge which offers the opportunity for the community to validate their losses, honor their experiences and strengths, and even celebrate the progress that has been made.

It is important to be aware of when the time is right -or wrong- for these types of events, as they can be controversial in an SMTD impacted community. Presume that there will always be some resistance to these types of activities, as debates over their validity will continue far into the future. Nevertheless, for those who have suffered, or are still suffering, significant losses related to the SMTD, community healing events provide the opportunity to experience mutuality and support, and should be encouraged to the greatest extent possible.

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9.5 Group Interventions

Interventions with different groups of people are generally more effective when there is some element of homogeneity: members must share one or several commonalities. Demographics, experiences, and goals can all constitute areas of common ground. Facilitated peer groups that offer support and/or practical assistance offer benefits to all participants, as they embody a sense of shared experience and understanding.

At times, interventions might be addressed at already existing groups within the community, such as at clubs or organizations. The characteristics of the SMTD sometimes make it difficult to access certain groups. Flexibility and openness will be required: after all, this group may have been living, if unaware, with the disaster for some years already. Once again, timing is critical in reaching groups with information about psychosocial impacts.

9.51 Support Groups:

Social support as a form of emotion focused coping decreases the emotional distress people are experiencing related to SMTDs. Support groups provide an opportunity for people to experience validation and normalization of their thoughts, emotions, and other symptoms related to the SMTD. Group efforts in problem solving and stress management may help individual members feel more competent and more hopeful.

Social supports from within and outside the family are naturally very beneficial when attempting to deal with an SMTD. Families who are able to achieve a level of sharing and mutual trust and

support about SMTD impacts are typically more successful in coping, and may develop stronger relationships through the crisis. However, social support may be critically lacking in the context of an SMTD. Therefore, formally established support groups offer a venue to receive the benefits of social support from peers. Initially, at least, support groups should involve a mental health professional, and preferably a co-facilitator, so that if severe trauma/stress reactions present there are qualified staff capable of handling the situation.

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9.52 Work Groups

Not all people are receptive to the emotional tone that support groups imply, and this can be especially true in traditional, rural, working class communities, where self-reliance and stoicism are highly valued. Emotional needs will still be present, however, and peer support in some form is essential.

When people come together, shared experiences and shared problem solving often naturally emerge. Therefore, another potential group intervention is to establish work groups that are designed around some common goal. It may be to exert influence over some element of the disaster response, or it may involve meeting some need visible in the community, such as establishing a memorial fund or assisting people with transportation. Turning trauma into a vehicle for helping others is a well recognized aspect of healing for those who have been victimized (Ellis, Greenberg, Murphy, & Reusser, 1992), and being victimized through an SMTD is no different. Setting goals and taking active steps gives people a sense of involvement and control over the disaster impacts they are attempting to address.

In a work group, it is the role of psychosocial disaster response workers to assist with group organization; the development of group structure and goals; and to facilitate and empower the group's process. To be effective, the members of the group must retain ownership of the group's goals and direction by taking an active role in translating values into actions.

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9.53 Shared Meals

This is the most informal type of group intervention in which people meet for the simple objective of getting together for conversation and a shared meal. Such a setting can be utilized to provide psychosocial or other types of educational and resource information related to the disaster. Shared meals also offer an opportunity for the facilitation of interactions, shared stories, and shared problem solving among community members, leaders, and disaster response workers. Shared meals provide an informal setting in which real—and sometimes unexpected—things get addressed and/or accomplished.

9.54 Focus Groups

If efforts to engage individuals and groups are proving less successful than hoped for, a focus group might be initiated. Focus groups involve a gathering of specifically invited guests and it is called together for a particular reason, or focus. Typically they are designed as a one-time event, although a series of meetings may be scheduled. Often people are very willing to come and help out when asked to assist with a specified, time-limited goal.

For example, a focus group could be utilized to assist your response project in trouble shooting a lack of service utilization or to simply get some feedback and/or evaluation midway through your program efforts. You could hold a series of focus groups with different sub-sets of the population—disaster response workers, gatekeepers, and community members—to discuss with them how they perceive the disaster related psychosocial concerns in the community and how they think they could best be addressed.
This approach, which turns the tables on the "come and let us help you" model of the support group, can be empowering for all individuals involved, and may open up powerful discussions about experiences and challenges that they and others are encountering. Often, this naturally segues into emotional expression and social support. Brainstorming and collaborative problem solving will also emerge regarding the focus of the meetings, benefiting all.

In utilizing focus groups, be creative. There are no solid rules, specific structure, or formats required. Often a formal vs. a general invitation to a group meeting results in a higher level of attendance, as those invited will feel a greater sense of value and self worth in being asked specifically to come and provide their expertise and knowledge. In addition, the sense of community and collaboration that can emerge in focus groups helps to counterbalance the atmosphere of isolation and emotional challenges that are typically inherent in SMTDs.

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9.6 Individual and Family Interventions

Individual and family interventions (which will be referred to as individual interventions) are designed to assist people in identifying and coping with their personal psychosocial disaster issues. This is often a very private and sensitive interaction. Many of the people who may need, and benefit from, psychosocial disaster assistance services will have no history of utilizing formal assistance programs in the past. Designing individual psychosocial disaster services in a manner that avoids a sense of stigma is essential, because for many people, it may be difficult— in and of itself—to ask for any kind of help in the first place.

9.61 Access

Even if individual psychosocial disaster services are readily available, and are presumably stigma free, people will not necessarily utilize them. The majority of people who are attempting to cope with SMTDs have successfully coped with many other challenges throughout their lives. In addition, the invisible nature and diluted onset of an SMTD does not instantly rattle people's coping abilities as a visible, sudden disaster does. Therefore, people may initially simply continue living and coping in the manner they were previously. However, as explained in chapter #4, most individuals will gradually begin to struggle with the primary and then the secondary psychosocial impacts of the disaster.

Over time, SMTDs challenge an individual's ability to cope, as many of the social and psychological stressors occurring will become chronic. Some of these chronic stressors include: economic hardships resulting from increased health care expenses and lower wages earned due to physical limitations; the stress of providing care for ill and/or dying family members; accumulating grief from multiple losses; and the chronic worrying and dread about the future possibility of testing positive with a disaster related illnesses. All of these elements strain a person's ability to cope. Chronic stress from attempting to cope with stressors such as those mentioned can result in increased depression, suicidal ideation, marital conflict, domestic violence, and substance abuse. For all of these reasons, individual psychosocial services will be needed, perhaps not so much initially as in the case of sudden disasters, but more so over the long haul of the disaster as people reach their individual thresholds for coping with the psychosocial impacts of the SMTD.

As discussed in chapter #7, it is important to find an appropriate systemic niche for the provision of psychosocial services. Ideally, it can become an intrinsic component of other locally based disaster response services, as this will increase the service's visibility, while simultaneously normalizing the utilization of psychosocial disaster services.

Services provided in such a setting can provide information, assessment, and counseling to a broader group of individuals than stand alone services. In addition, if interacting with those who provide psychosocial services is a predictable component of each visit to disaster response services—even if the primary focus is a physical health checkup or some other activity—then those impacted by the disaster will have rapport with psychosocial response workers if and when future needs emerge, as is often the case with SMTDs. Outreach to individuals identified by family and friends as needing psychosocial assistance will also be better received because the initial rapport and relationship may have already been established.

9.62 Problem Solving for Immediate Needs

"Knowledge and understanding (about the disaster and disaster impacts) may foster realistic expectations and strengthen the patient's sense of competence and control" (Lundberg & Santiago-Rivera, 1998). Overcoming personal barriers and coping with personal stressors can be very difficult at times and psychosocial disaster response workers can assist individuals in identifying and prioritizing their needs. In an SMTD, tangible needs such as food, shelter, and drinking water, are less likely to be lacking than in a natural disaster. However, the need for long term resources such as health care, child or elder care, medical coverage/insurance,

assistance paying for prescription drugs, adequate transportation services, and adequate income for those disabled by the SMTD can present formidable challenges. Psychosocial disaster response workers will be knowledgeable and able to assist by providing information and referrals to appropriate and available resources.

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9.63 Disaster Mental Health Services

There is a full spectrum of disaster mental health services that can be provided to those impacted by SMTDs; all should be available, to meet the varying levels of mental health needs. Disaster mental health differs from the overarching array of psychosocial response services, as it's primarily focused on mental status and the ability to cope psychologically.

The essential function of disaster mental health workers is to normalize the emotional reactions people are having related to the SMTD, and to provide reassurance and psychosocial education, while also being prepared to offer practical assistance if any needs should be identified. Crisis counseling, informal consultations and assessments, and individual empowerment are mental health interventions that can be provided by all trained psychosocial disaster response workers. Brief therapy may also be a component of the disaster mental health response, provided that qualified mental health professionals are available to deliver these services. A good intervention program will assess each individual or family to determine the appropriate level of disaster mental health services.

Providing emotional support and understanding, while allowing people to process their emotional response to the impacts of the SMTD is necessary to their successful coping, especially if community or family divisions related to the disaster still exist. A brief informal assessment of the individual's functioning should be conducted to determine if they are in need of long term clinical counseling, and to rule out any possible risk of harming themselves or others. If such a risk is identified, they should be referred to, or followed up by, a mental health professional.

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9.631 Crisis Counseling and Intervention

Crisis counseling related to SMTDs will most likely be needed when the initial information that a disaster is occurring is released, or when an individual receives a health diagnosis related to the disaster. People may be overwhelmed by this news and need support and education from disaster mental health workers. This is an appropriate time to allow individuals to discuss their personal experience related to the disaster, as people often feel the need to tell their story.

One unique component of disaster mental health services with SMTDs is that not all people will experience the initial information as their own personal crisis. For some in the community, a personal crisis might not occur for months or even years after the emergence of the SMTD. One

likely trigger of a "delayed" need for crisis counseling in SMTD is the diagnosis of a chronic or terminal illness from exposure to toxic elements of the disaster.

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9.632 Informal Consultations and Assessments

Supportive listening and education about chronic stress and other psychosocial disaster impacts can often be provided in very informal ways. In SMTDs you do not necessarily have the traditional disaster response contact points, so it is unlikely that you will have these informal conversations while waiting in lines to receive food or assistance services. However, other contact points can be utilized to facilitate this informal intervention.

For example, an individual who is receiving follow up health services related to the SMTD impacts might be offered the opportunity to have a psychosocial response worker sit with them while they are waiting to talk to the doctor. This situation is well suited to providing supportive listening, while the individual processes thoughts and feelings related to the disaster experience. It's also an opportunity to casually provide psychosocial education and teach coping and other maintenance skills. If the individual is receptive, i's also a good time to inquire about personal stresses and fears, such as asking what they worry, ruminate, or dream about (Green, Lindy, & Grace, 1994). This is another avenue in which psychosocial disaster response workers can normalize people's experiences and struggles and provide some reassurance. Other venues for providing this informal type of service is while waiting for a public meeting to start, during breaks at public meetings and gatherings, or in a casual passing situation. Psychosocial providers should be prepared to provide informal consultations and assessments at any opportunity that arises.

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9.633 Individual Empowerment

SMTDs often leave people feeling confused, frustrated, and angry as they had no control over the occurrence of the SMTD and its aftermath, which they are now being forced to live with forever forward. As with other forms of victimization, regaining a sense of mastery and control over their lives is an essential component of the recovery process. This process may be further compounded if the SMTD also resulted in health effects in which the individual will have to adapt.

Learning to regulate one's emotional response might be a realistic way of exerting some control in a basically uncontrollable situation (Green, Lindy, & Grace 1994), especially if little can be solved through practical problem solving. Therefore, teaching people effective ways to regulate their emotions and manage their chronic health impacts and chronic stress—while also maintaining a satisfying quality of life—may be one of the most important components of a successful intervention. In efforts to assist those impacted, disaster mental health workers should teach cognitive reframing skills and identify the individual's personal strengths, while

encouraging them to utilize their social supports and any available informal and/or formal resources. Spiritual or religious beliefs can also be an excellent resource in efforts to recover from the adversities related to an SMTD. Often by engaging in creative problem solving and utilizing an eclectic array of resources, creative and innovative solutions can be found. In Libby, oxygen tanks which have been modified to be more mobile have accompanied many people on a variety of fishing expeditions allowing people to attend to their personal needs while still enjoying the good things in life.

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9.634 Brief Therapy

Brief therapy may be necessary for people having significant difficulties coping with issues related to an SMTD. Brief therapy should be provided by a mental health professional, preferably by one who has a thorough understanding of the SMTD and it's array of potential impacts. Brief therapy can assist people in confronting and working with the realities associated with an SMTD. It can provide a safe place for the expression of feelings, and help the individual learn ways to effectively regulate emotions, which at times can be perceived as unbearable. Chronic anxiety, depression, and stress are often experienced in attempting to deal with the long term impacts of an SMTD. If disaster impacts also involve terminal illnesses, multiple grieving—and coming to terms with the possibility of one's own death—are additional potential issues that could require brief therapy services.
Traumatic events often lead to a locking up of emotions out of fear of the overwhelming emotional fallout, especially related to an SMTD that is invisible and ambiguous. However, the slow weight of suppressed anxiety, stress, dread, and fear need to be addressed (Speckhard, 2002). People need to find their own ways for unlocking and processing these emotions. Disaster mental health service providers can offer individual assistance and support through this process, but it should only be provided when sought. It should not be forced on people, but rather it should continually be available and easily accessible for people when they are ready to utilize it. Considering the long term and pervasive impacts of SMTDs, coming to accept the disaster impacts and resulting losses can require sensitive and knowledgeable therapeutic assistance, and for many, occurs gradually in stages over time. Mental health services are another component of the psychosocial disaster response services that should remain available over the long term impacts of the disaster.

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Conclusion

One of the most challenging elements of the psychosocial response to SMTDs is that the response needs to keep going and going as long as the negative psychosocial impacts continue to be present. Most disaster mental health programs are designed to last one calendar year. As we have illustrated, in SMTDs significant psychological and social distress will be seen for many

years after such programs are discontinued. Community capacity must be built utilizing local strengths and resources to meet the challenge of these ongoing needs.

Based on research conducted on previous technological disasters, it can be predicted that the long-term psychological effects of SMTDs will be at a sub-clinical level, but at the very high end of the normal range (Bromet, 1989)(Green, Lindy, & Grace, 1994). This means that while depression and anxiety symptoms will continue to be very psychologically distressing to victims, they will not be "severe enough," or "interfere with daily functioning enough," to qualify as a clinical mental health diagnosis. It is fortunate for those impacted that a clinical disorder is not the usual course. However, it's also problematic because insurance programs, state assistance programs, and other pay sources usually require a clinical diagnosis before allowing coverage for long term mental health services. Finding creative ways to sustain psychosocial disaster response services must always be an additional component of your multi-level psychosocial disaster response plan. This is one of the primary barriers to developing an effective psychosocial response plan and it is discussed more in-depth in chapter #10.

CHAPTER #10

BARRIERS TO EFFECTIVE PSYCHOSOCIAL RESPONSES IN SLOW MOTION TECHNOLOGICAL DISASTERS

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Introduction

Barriers to psychosocial, or any type of, interventions can be reliably anticipated. These barriers could include a lack of awareness about available services; a negative community perception of the services, the sponsoring organization, or the personnel involved; or a social stigma associated with the services. While it is important to assess all types of potential barriers, this chapter will focus on barriers that most frequently present in slow motion technological disasters (SMTDs). In chapter #8, the discussion about target and special populations also provides guidance in identifying and overcoming specific challenges to particular populations. In this chapter, we will again utilize examples from the Libby experience to more clearly illustrate these barriers and their possible resolutions.

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10.1 Streams Of Funding For Psychosocial Services

In order to launch a psychosocial response to any disaster, resources are required. Often disasters create community needs that far exceed the systems that are already in place. In addition, existing psychosocial service providers may not be prepared to address the particular problems or issues resulting from the disaster. This is why specific initial psychosocial response services are needed for all types of disasters. Often, in an SMTD—when there is no sudden onset—there is a lack of focus and mobilization among the local population, retarding the process that must begin in order to secure the financial resources needed to develop a psychosocial response. Therefore, the initial barrier to funding is often getting the appropriate parties involved and moving together, in the right direction.

If and when funding for psychosocial response services is secured, SMTDs present us with an additional challenge. Most emergency services and psychosocial disaster response services have been created for the sudden onset, short course disasters such as an earthquake, flood, or radiation leak. In these situations, an intensive, relatively brief, psychosocial response is the most appropriate way to assist individuals, families, and communities stabilize and begin working towards recovery. Funding streams for emergency services have been historically set up to serve this purpose. When faced with a SMTD that will not be over in a relatively brief period of time, it becomes challenging to meet needs related to the disaster, as not only are the disaster impacts chronic, the associated costs are as well.

It is important to remember that, although those in the helping professions do not generally like to focus on the financial aspects of their mission, it is a very relevant and inescapable element of disaster response. Without committed financial resources, there will be only a minimal capacity to develop a psychosocial disaster response plan. It is vital to dedicatedly pursue a variety of potential funding streams by soliciting support and assistance from as many different agencies and individuals as possible. In Libby, initial funding for a psychosocial response came in the form of a contract between the EPA's Office of Emergency and Remedial Response and two local counselors to facilitate a series of support groups. When that short-term stream of funding ran out, Senator Max Baucus was instrumental in getting additional funding through the Center for Mental Health Services to sponsor the CORA project.

Another significant barrier faced in securing funding is that one size does not fit all: the service models that funding sources utilize are often not what is most appropriate or best for the community being impacted by an SMTD. Consequently, response programs may be structured to fit "fundable" parameters, instead of being specifically designed to best meet the identified psychosocial needs. Since funding is not typically available for a comprehensive, holistic response, the result is often a patchwork system of service provision. However, community capacity to address all facets of the SMTD's impacts must be established and—despite significant funding barriers—where there is a will, there is a way.

> **The Libby Experience:** In Libby, a multitude of agencies, special grant funded projects, and non-profit organizations have materialized as a result of efforts to establish a holistic response to the asbestos disaster. Among these are the Center for Asbestos Related Diseases that focuses on medical care; the State of Montana's Asbestos Screening and Surveillance Activities (health screening): the Asbestos Related Disease (ARD) Network (service coordination and case management); the CORA project (psychosocial and mental health services); the LAMP project (health coverage supplemental to the Grace Medical Plan); the Libby Asbestos Relief Organization (support and advocacy); the Environmental Protection Agency (EPA), and multiple private contractors (community clean up); the Agency for Toxic Substance Disease Registry (ATSDR); the Technical Advisory Group (reviews and critiques EPA activities); and the Community Advisory Group (community voice on all of the SMTD related issues). All of these organizations utilize different funding streams as they attempt to manage specific components of response. Securing and maintaining these funding streams has represented a major investment of energy, while developing a system of overall coordination that maximizes both resource utilization and response effectiveness which has been an ongoing challenge for local and outside agencies alike.

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10.2 Community Integration

When something like an SMTD hits a community, especially if the community lacks resources and infrastructure, the community does not know how or through what channels to respond. Several outside agency systems might respond to the scene, and they may or may not be coordinated or integrated with the already existing services. These services should be integrated in order to most effectively meet the needs of those that are being impacted by the SMTD. Effective communication and collaboration are essential, although, as we have noted, cooperation and unity may not be the natural response of the community. However, it is important to utilize strategies—such as outreach, collaboration, and networking—that can overcome this obstacle so that accessible and comprehensive disaster response services can be developed and implemented.

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10.3 Integrating Into Health Care Settings

Health care settings are one of the most logical places for psychosocial response services to be offered during an SMTD, due to the actual or potential negative health impacts related to a toxic exposure. A screening or specialty care clinic is also most likely to provide access to the maximum number of exposed individuals. However, health care settings, like schools, are typically self-contained entities, and it may be difficult to gain access to their established structure and become an intrinsic part of their system. This is not impossible however, and diplomatically educating fellow professionals about psychosocial impacts and the importance of psychosocial well being, will help build collaborative relationships. Such "common goal" relationships can become the foundation on which to build a system of holistic and integrated care for people impacted by the disaster.

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10.4 Not Utilizing Available Services

People often do not recognize their need for psychological or social services following a disaster, although they might recognize and be concerned about stress related symptoms in those they care about. In some communities or sub-populations, a belief and value in self-reliance may outweigh the desire to have support and assistance: whatever the psychological costs, at least they will still have their pride. Another possibility is that people will flatly refuse assistance, even when directly offered, because they believe other people need it more than they do. This barrier is significantly reduced when psychosocial services can be offered as part of a comprehensive disaster response service plan.

> **The Libby Experience:** Beginning in the spring of 2003, psychosocial services were made available at the medical clinic where ongoing health care is provided for asbestos related diseases. The psychosocial provider sees every patient after they see the nurse, but before they see the doctor. Because it is a customary service provided to each patient at the clinic, this format has been very effective in overcoming barriers to services utilization. In this way, pride has been preserved, stigma avoided, and services are accessible and used.

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10.5 The Chronic Nature of the Disaster

Due to the pervasive and chronic nature of an SMTD, individuals may develop a fatalistic attitude. They may believe that all is doomed, especially if a large segment of their community has been impacted, and if there is no effective cure for the health issues that resulted. The chronic nature of an SMTD also accentuates feelings of being overwhelmed, as the disaster related problems appear to be so vast and ongoing that an effective response seems impossible. All of this can lead to a paralyzing feeling of defeat, in which people lack the ongoing energy to try to effectively deal with emerging problems that may seem to be only the tip of the iceberg.

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10.6 Uncertain Onset

The fact that there is no sudden onset in an SMTD typically results in a lack of galvanizing energy; this is entirely contrary to the typical response that people encounter when a sudden disaster strikes. There is no excitement and rush of motivation to conquer the adversities resulting from the disaster. Rather, with a slow diluted onset, people may not even be able to acknowledge that they are experiencing a disaster. They may not be aware of any personal needs related to the disaster because they have remained detached from the disaster's effects. Additionally, they may not be aware that they are eligible for disaster responses services.

> **The Libby Experience:** For many decades, people in Libby had been experiencing high rates of serious respiratory illnesses, and many had also died from respiratory related illnesses. The majority of the population did not realize that this was related to the asbestos exposure from the vermiculite mining operation. Without a sudden onset, the relationship was not obvious to the majority, and there was no major momentum to take action or seek answers. Even now, when evidence amassed by the EPA and Public Health Services has shown that it is very appropriate to do so, people still do not necessarily attribute

their respiratory symptoms to asbestos exposure. Health care providers are still likely to hear, "I'm simply winded cuz I'm getting old."

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10.7 The Role of the Invisibility Factor in Denial

The lack of an indisputable event increases the likelihood that people will remain in denial about the risks they may face from toxic exposures. This denial maintains the individual's sense of safety can serve as a coping mechanism for some period of time. Unfortunately, denial can keep those at risk from accessing disaster response services intended to increase the safety and/or health of themselves or their family members. Therefore, denial of the disaster and denial of any personal impacts, can both be significant barriers to the appropriate utilization of psychosocial and other disaster related services.

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10.8 Maslow's Hierarchy

Maslow's hierarchy of needs supposes that a person will not be concerned about higher human needs such as mental health, personal growth, and psychological development until their more fundamental needs of food, shelter, and basic safety are met. In slow motion disaster response, the same principle follows: a person must first have their fundamental needs met. When shelter, food, and security are lacking, individuals will not be likely to expend energy to formally address their depression, grief, or anxiety.

When an individual is not receptive to talking about emotional, cognitive, or spiritual issues, it does not necessarily mean that those issues are not present. Rather, it could be a logical prioritization of what needs are most important at a specific time. This is not necessarily a barrier, but tells us that psychosocial response workers must be sources of information and assistance for a spectrum of needs. Being able to help someone apply for assistance to relocate, or get needed medical care, often provides the opening for establishing oneself as a reliable and trustworthy source of assistance. This opening can lead to further successful interventions, as the individual is able to "climb the ladder" and address their more complex human needs.

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10.9 Focused Attention and Over Simplification

While attempting to cope with the ongoing complexities and multifaceted problems that result from an SMTD, two patterns of coping mechanisms can emerge that may delay or block healthy

adaptation. First, individuals might focus their attention on particular components of the disaster. While breaking down an overwhelming problem into bite size pieces can be a healthy coping mechanism, in long term SMTDs it can become an over utilized, extreme response that actually becomes a barrier to progress. If the individual continues to invest increasing amounts of energy into their own, narrowed perspective, others may distance themselves from the individual and their "causes." This can lead to spiraling levels of isolation, agitation, and frustration for the individual.

Another type of coping skill that can be over utilized and result in greater frustration is over simplification. Originally, simplifying a confusing or overwhelming situation can be an effective way to cope until more information can be gradually incorporated and adapted to, when the individual is prepared to do so. However, if the person becomes stuck in simplified terms or in a simplified perspective, this creates a barrier to real understanding of the situation. This type of coping can easily arise in the confusing and uncertain atmosphere of an SMTD.

> **The Libby Experience:** The toxic asbestos fibers that were in Libby's vermiculite were pervasive: they blew into town on the wind; were brought into homes and businesses on worker's clothing; and were also freely given away to be utilized as fill dirt, soil conditioners, and as insulation in homes. Now that the toxicity of those fibers is publicly known, the EPA is undertaking a major, community wide clean up. Some community members have demanded that the standard for a "clean town" means that every particle of tremolite asbestos be removed from the community. This is an appropriate request when considered in simplistic terms. However, if the complexity and pervasiveness of the contamination—and the economic realities of clean up—are fully understood, it is also understood that this standard of zero contamination will be impossible to meet. Those who are unable to negotiate and accept these complexities are left feeling angry, frustrated, and misused when the EPA declines to guarantee that there will be zero risk of future exposure to tremolite fibers at the end of the cleanup.
>
> Likewise, when individual community members have cultivated an intensive, narrow focus on one aspect of the many problems created by the contamination, such as work procedures at one specific clean up site, they have been unable to grasp other important information presented by the EPA about other sites. Additionally, their over-focused attention has caused others to discount their comments, and even exclude them from ongoing dialog.

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10.10 Issues of Trust and Betrayal

Another barrier to providing psychosocial services may be encountered in groups and individuals who are feeling profoundly betrayed—either with or without just cause—by the responsible

party or parties. Remember that responsible parties can include those who intentionally or unintentionally caused harm, were derelict in their job responsibilities, or failed to report and follow up on safety problems. When feelings of mistrust and suspicion are strong, the individual or groups former assumptions about safety and trust are dramatically challenged, and their ability to trust, in general, will be damaged. "Trauma caused by the hurtful betrayal by another is among the most difficult to work through and heal" (Lifton & Olson, 1976). Therefore, trusting someone either related to past misdeeds, or newly arrived on the scene, is very difficult. Psychosocial responders should build into their timeline ample time to develop rapport and trust with those they seek to assist.

> **The Libby Experience:** As information from depositions, internal memos, and investigations was released to the public following the initial news that an SMTD had occurred, the mood of betrayal and distrust mushroomed. This mood
>
> catalyzed a lack of trust in both new information and official remediation actions. This lack of trust further amplified all of the stressors that the community was experiencing, and complicated the recovery processes considerably.

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10.11 Cultural Barriers

Those providing psychosocial services can anticipate some degree of cultural barriers, especially when working within a multicultural population. Cultural barriers can involve race and ethnicity issues, but they also can involve barriers between blue- and white-collared populations or city versus rural populations. Specific values, beliefs, and education can also be cultural factors that present as barriers to effective service provision. Refer to chapter #8 regarding specific cultural considerations and potential approaches to overcome these varying types of cultural barriers.

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10.12 Illiteracy

Illiteracy can present barriers, particularly to providing outreach activities or wide spread psychosocial education. It is important to have a thorough understanding of your community and the populations you hope to specifically outreach. Local libraries and reading assistance programs should be able to provide information on a community's percentages and demographics of illiteracy. This information will allow you to adapt your educational and informational materials to meet the skill levels of those you are hoping to reach. It may be necessary to find new and creative ways to provide educational and outreach services without dependence on the written word. Additionally, it is necessary to provide materials in all languages used within the target population.

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Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

Conclusion

This discussion on barriers is not intended to be all-inclusive, as each disaster and each community will present their own unique challenges. Being proactive in identifying, addressing, and overcoming barriers is an essential component of any psychosocial disaster response plan. In SMTDs it is especially important to remain aware of barriers, and to be prepared to adapt creatively to new ones that may arise. Maintaining successful psychosocial interventions over long term disasters will require ongoing adaptation and flexibility.

CHAPTER #11

CONCLUSIONS AND RESOURCES

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11.1 Conclusion

Slow motion technological disasters (SMTDs) differ significantly from sudden onset disasters. The psychosocial and mental health issues that result from SMTDs tend to be more complex and of longer duration than those experienced in other disasters. This manual intends to provide a usable and appropriate framework for intervening in the psychological and social issues that will result from SMTDs in efforts to mitigate some of the long-term psychosocial impacts, or at least give people the understanding and skills to cope more effectively.

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Part I of this manual defines the psychosocial problems associated with an SMTD, while Part II covers responding to an SMTD. The material is focused on special considerations that must be recognized in SMTDs responses, and will be most useful if employed in conjunction with other resources that teach the general principles and skills of psychosocial disaster response. It's always essential to remember that each disaster is unique, and the experience and reactions of each community impacted are unique.

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11.2 Resources

The following are different resources that can assist you in developing and providing psychosocial services for an SMTD. These psychosocial disaster response materials were created—although not intentionally—for sudden disasters, as SMTDs were not yet prevalent. Many of the materials can be applied to SMTD situations, but they should be utilized with some scrutiny, as all principles may not apply.

For example, The Field Manual for Mental Health Workers gives a list of suggests of what to say and what not to say. They state, "Do say: Things may never be the same, but they will get better, and you will feel better." This is not necessarily an honest statement when dealing with an SMTD, as unfortunately things may not get better and they may actually progressively get worse. In Libby, many of the people who experienced the SMTD directly, will continue to live—for the rest of their lives—with a progressive and potentially fatal illness. Therefore, remember to carefully assess the utilization of general disaster materials when responding to an SMTD.

Center for Mental Health Services (CMHS) Publications

All CMHS publications are available for free and can be ordered over the Internet at http://www.mentalhealth.samhsa.gov/cmhs/EmergencyServices/ or by making a phone call to CMHS at 1-800-789-2674.

Crisis Counseling and Mental Health Resources:
- An Overview of the Crisis Counseling Assistance and Training Program
- Disaster Mental Health Response and Recovery: A Strategic Guide
- Disaster Mental Health: Crisis Counseling Programs for the Rural Community
- Field Manual for Mental Health and Human Service Workers in Major Disasters
- Disaster Counseling
- Training Manual for Mental Health and Human Service Workers in Major Disasters
- Substance Abuse Services within Crisis Counseling Programs (Program Guidance)
- Crisis Counseling and Mental Health Treatment Similarities and Differences (Program Guidance)
- Staff Roles and Services Within Crisis Counseling Programs (Program Guidance)

Crisis Counseling and Mental Health Resources continued:
- Case Management and Advocacy with Crisis Counseling Programs (Program Guidance)
- After A Disaster: Self-Care Tips for Dealing with Stress
- Fear and Anxiety
- How to Deal with Grief

Special Populations:
- Psychosocial Issues for Older Adults in Disasters
- Older Adults
- How to Help Children After a Disaster
- After A Disaster: A Guide for Parents and Teachers
- Helping Children Cope with Fear and Anxiety
- Psychosocial Issues for Children and Adolescence in Disasters
- After a Disaster: What Teens Can Do
- Responding to the Needs of Persons with Serious and Persistent Mental Illness in Times of Major Disasters
- Self Care Tips for Emergency and Disaster Response Workers

The Libby Experience:
- Dust to Dust –film documentary by Michael Brown Productions
- Libby, Montana –film documentary by High Plains Films
- Fatal Deception by Michael Bowker
- Libby, Montana by Andrea Peacock
- Andrew Schneider (reporter who broke the story about Libby through the Seattle Post Intelligencer series) will be releasing his book in the fall of 2003.

Center for Asbestos Related Disease   (Hernandez & Sedler, 2003)

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