Survivors of a disaster, whether natural or man-made, will often experience significant event-related distress, fear, and anxiety; with some developing longer-term disorders such as posttraumatic stress disorder (PTSD), depression, generalized anxiety disorder, and substance use disorder. After a severe disaster, overall population rates of mental health disorders, such as depression, anxiety disorders, and PTSD, can be expected to increase. Among people directly exposed to a disaster, about 75% will experience mild and transient psychological distress, 20% to 40% will experience more sustained distress that may become more severe after the events have subsided, and 0.5% to 5% will develop one or more long-term mental health disorders.

Following the anniversary of Hurricane Sandy, the New York City Health Department reminds providers that exposure to a disaster may have long-term mental health effects, so it is important to remain alert and screen for trauma-related disorders, not only days and months—but even years—after the event.2

Primary care providers (PCPs) are often the first point of care for patients with disaster-related mental health disorders and have a unique opportunity to identify these patients and manage their care. In the wake of a disaster, clinicians should educate patients about normal stress reactions and their physical and emotional symptoms, diagnose and manage mental health conditions according to accepted guidelines, and make referrals when appropriate.

An online interactive CME/CNE course on recognizing and managing trauma-related mental health disorders is available at no cost for health care providers in New York City (Resources—At-Risk in Primary Care).

Exposure, Risk Factors, and High-Risk Populations

Anyone affected by a major disaster such as Hurricane Sandy can develop exposure-related mental health disorders, but certain factors place some individuals at higher risk. Ask patients about their exposure to the event and be alert to any risk factors for trauma-related mental health disorders (Box 1).1,2,5-7

<table>
<thead>
<tr>
<th>Event-specific risk factors</th>
<th>General risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe exposure, such as threat to life</td>
<td>Female gender</td>
</tr>
<tr>
<td>Severe initial stress reaction</td>
<td>Young age (child or adolescent)</td>
</tr>
<tr>
<td>Injury and personal loss</td>
<td>Middle age</td>
</tr>
<tr>
<td>Economic loss</td>
<td>Low socioeconomic status</td>
</tr>
<tr>
<td>Displacement</td>
<td>Immigrant status</td>
</tr>
<tr>
<td>Major disruption in neighborhood or community</td>
<td>Previous trauma or disaster exposure</td>
</tr>
<tr>
<td>Role in rescue/recovery</td>
<td>History of psychiatric or medical disorders</td>
</tr>
</tbody>
</table>

Box 1. Risk Factors for Developing Mental Health Disorders After a Disaster1,2,5-7,11
Trauma-related Risk Factors

The strongest risk factor for trauma-related mental health conditions is severe exposure to the event such as witnessing people being killed or injured. People who experienced strong initial stress reactions are also at higher risk. Stress reactions can be psychological (e.g., fear, anxiety, numbness, anger) or physical (e.g., insomnia, headaches, reduced appetite, somatic complaints).

Other risk factors include participation in rescue and recovery efforts; financial loss such as loss of a home or income; anxiety or stress due to evacuation or displacement to a shelter or temporary housing, especially for an extended period; and stress due to service disruptions such as power outages and lack of transportation or access to essential care and medication.

General Risk Factors

Some people are at higher risk for trauma-related mental health disorders because of factors unrelated to the event. People aged 40 through 60, females, people with a history of trauma exposure (including the World Trade Center disaster), people with psychiatric and medical disorders (including a substance use disorder), and people of low socioeconomic status are at higher risk for developing mental disorders after a disaster. Older adults are likely to have medical conditions that increase their risk. Children are also at higher risk due to their age and the effect that their caretakers’ reactions can have on them (Resources—City Health Information: World Trade Center Children).

POSTTRAUMATIC STRESS DISORDER

Posttraumatic stress disorder may develop in individuals exposed to traumatic events involving the threat of serious injury or death to self or others. Posttraumatic stress disorder is characterized by all of the following symptoms, arising either immediately after the event or after a lag time and causing significant distress or impaired functioning for more than a month:

- Reexperiencing the traumatic event such as experiencing distressing memories, nightmares, or flashbacks;
- Avoiding reminders of the event such as thoughts, feelings, conversations, activities, places, or people; inability to recall an important aspect of the trauma; feeling emotionally detached or numb;
- Chronically increased arousal symptoms such as insomnia, irritability, poor concentration, hypervigilance, or an exaggerated startle reaction.

Screening

Posttraumatic stress disorder can be difficult to recognize, because many patients are reluctant to disclose traumatic experiences unless asked. Patients with PTSD may initially report somatic complaints with increased functional impairment. Certain nonspecific symptoms often associated with trauma include:

- Palpitations
- Shortness of breath
- Insomnia
- Nausea
- Unexplained pain
- Tremor
- Mood swings

If the patient reports being affected by the disaster, or you suspect exposure to trauma, use the Primary Care PTSD Screen (Box 2).

In your life, have you ever had any experience that was so frightening, horrible, or upsetting that in the past month you

1. have had nightmares about it or thought about it when you did not want to?
2. tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
3. were constantly on guard, watchful, or easily startled?
4. felt numb or detached from others, activities, or your surroundings?

Patients who answer yes to 3 of the 4 questions may be suffering from PTSD.

Patients with PTSD may also suffer from other psychiatric disorders, such as major depressive disorder or another anxiety disorder, that place them at higher risk of suicidal thoughts and behaviors.

Diagnosis

Symptoms of PTSD can overlap with those of depression or other anxiety disorders. Therefore, PTSD can be missed if the patient hasn’t disclosed a traumatic event. New diagnostic criteria for PTSD are available at the US Department of Veterans Affairs National Center for Posttraumatic Stress Disorder (NCPTSD). Diagnostic tools conforming to the new criteria are being updated. Check the NCPTSD website regularly or sign up for e-mail updates (Resources) to obtain the new criteria. Refer patients to mental health providers if you are unsure of the new criteria.

Treatment

Counsel the patient in a supportive manner. Explain that PTSD symptoms result from psychological and biological reactions to overwhelming stress and that psychotherapy and pharmacotherapy (Box 3), alone or in combination, can be beneficial. Always consider comorbid conditions when selecting treatment.

Psychotherapy. Exposure-based cognitive behavioral therapy helps to reduce the arousal and distress associated with memories of trauma and has proven efficacy in treating PTSD. Exposure therapy is often combined with relaxation and breathing techniques that help patients manage anxiety and cope with stress. Individual or group trauma-focused therapy, eye movement desensitization and reprocessing (EMDR), and stress management are also effective in the
BOX 3. PHARMACOTHERAPY FOR PTSD

Two selective serotonin reuptake inhibitors (SSRIs), sertraline (Zoloft®) and paroxetine (Paxil®), are FDA approved for treatment of PTSD. Zoloft is especially effective in treating non-combat-related PTSD. If there is no response to an SSRI, try venlafaxine (Effexor®) or other antidepressants such as mirtazapine (Remeron®) and duloxetine (Cymbalta®). For treatment-resistant PTSD, consider tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs). Because of their side effects, do not consider TCAs and MAOIs as first-line treatment.

For patients who show partial response to antidepressants, an additional psychotropic medication (antiadrenergic medications, antianxiety agents, and atypical antipsychotics) may be helpful. A combination of psychotherapy and pharmacotherapy may be indicated for some patients. Always account for other co-occurring psychiatric comorbidities before deciding on treatment.

* Use of brand names is for informational purposes only and does not imply endorsement by the New York City Department of Health and Mental Hygiene. Please consult product prescribing information, including Boxed Warnings, for complete safety information.

For the PHQ-9 and guidance on suicide risk assessment. PHQ-9 is positive, evaluate the patient for suicide risk. If the response to question 9 (“Thoughts that you would be better off dead, or hurting yourself in some way”) on the PHQ-9 is positive, evaluate the patient for suicide risk. See Resources—City Health Information: Depression for the PHQ-9 and guidance on suicide risk assessment.

PHQ-2—PATIENT HEALTH QUESTIONNAIRE-2

Screen for depression by asking the following 2 questions:

Over the past 2 weeks, have you been bothered by:

- Little interest or pleasure in doing things?
- Feeling down, depressed, or hopeless?

A “yes” to either question requires further evaluation.

If the patient screens positive on the PHQ-2, consider evaluating the patient further with the Patient Health Questionnaire-9 (PHQ-9). This 9-item questionnaire can reliably detect and quantify the severity of depression and can be used to help monitor response to treatment. If the response to question 9 (“Thoughts that you would be better off dead, or hurting yourself in some way”) on the PHQ-9 is positive, evaluate the patient for suicide risk.

See Resources—City Health Information: Depression for information on locating mental health services.

MAJOR DEPRESSIVE DISORDER

Major depressive disorder is a disabling condition that affects many aspects of a person’s life and overall functioning (Resources—City Health Information: Depression). People exposed to traumatic events such as Hurricane Sandy may be at increased risk for developing depression, with or without PTSD. Depression is typically characterized by many or all of the following: feelings of extreme sadness; loss of interest or pleasure in doing things; guilt; helplessness; hopelessness; aches, pains, or digestive problems; insomnia; inability to concentrate; irritability; loss of appetite; and thoughts of suicide and/or death. Depression may occur only once in a lifetime, but is more commonly a recurring condition. Providers should diagnose depression through observation and active listening, as patients may not be aware that they are suffering from depression and may only report unexplained physical complaints (eg, headache or pain).

Screening

When interviewing any patient, observe, listen, and ask questions about the patient’s mood, level of functioning, energy, motivation, and any work-related or social problems. Use the Patient Health Questionnaire-2 (PHQ-2) to screen for depression simply and quickly.

Treatment

The comprehensive management of depression may include pharmacologic treatment and nonpharmacologic approaches such as psychotherapy, patient education, and increased physical activity. Advise patients to maintain good sleep hygiene and avoid alcohol, tobacco, and caffeine. Consider the patient’s treatment preference, severity of symptoms, psychosocial stressors, comorbid conditions, and availability of resources when choosing treatment. Patients with psychosis, suicidal ideation, or severe functional impairment usually need medication and may require hospitalization. Monitor patients frequently for treatment effectiveness, suicidality, and adverse effects if they are taking antidepressant medication.

Psychotherapy. Cognitive behavioral therapy and interpersonal psychotherapy, with or without medication, can be considered as initial treatments in patients with mild to moderate depressive disorder. Antidepressant medications in combination with psychotherapy should be considered for patients with moderate to severe major depressive disorder.

Exercise. Aerobic exercise improves symptoms of depression and, at recommended amounts, may by itself be an effective treatment for mild to moderate major depressive disorder. The amount of exercise needed for this effect is equivalent to at least 30 minutes of moderate-intensity physical activity on most or all days of the week (Resources—CDC Physical Activity Resources for Physicians). Exercise also has many other benefits such as improving cardiovascular health and reducing arthritis pain.

Pharmacotherapy. Selective serotonin reuptake inhibitors (Box 4) or other agents are generally preferable to tricyclic antidepressants when treating depression. It is easier to titrate the doses of bupropion, mirtazapine, and venlafaxine, and they have less severe side effects, allowing for a quicker response, better adherence, fewer office visits, and lower cost. During treatment with an SSRI, patients may complain of feeling jittery, increased anxiety, nausea or gastrointestinal...
Generalized anxiety disorder is characterized by persistent, excessive, and uncontrollable worry and anxiety about daily life and routine activities. The anxiety and worry are associated with at least 3 of the following 6 symptoms, with at least some symptoms present for more days than not during the past 6 months: feeling restless, keyed up, or on edge; being easily fatigued; having difficulty concentrating or mind going blank; irritability; muscle tension; and sleep disturbance. Patients suffering from generalized anxiety disorder may consistently expect the worst and experience physical symptoms of anxiety, including myalgias, trembling, jumpiness, headache, dysphagia, gastrointestinal discomfort, diarrhea, sweating, hot flashes, and feeling lightheaded and breathless. Patients with anxiety disorders are more likely to seek treatment from a primary care physician than from a psychiatrist, so it is important to be alert to possible manifestations of anxiety.

Screening
Screening includes assessing symptoms of generalized anxiety disorder, level of functional impairment, and presence of comorbid psychiatric conditions. If you suspect generalized anxiety disorder, use the GAD-7 assessment tool to help confirm the diagnosis (Resources—City Health Information: World Trade Center).

Differential Diagnosis
Rule out other possible causes for the symptoms before beginning any form of treatment. Anxiety may be caused by hyperthyroidism, Cushing’s disease, and arrhythmias, among other disorders. Medications such as steroids, over-the-counter sympathomimetics, SSRIs, digoxin, thyroxine, and theophylline, as well as alcohol, caffeine, nicotine, and cocaine and other illicit drugs (whether during intoxication or withdrawal), can also cause or exacerbate anxiety symptoms.

Treatment
Treatment involves psychotherapy, pharmacotherapy (Box 5), or both. The short-term treatment goal is to rapidly reduce symptoms and overwhelming anxiety; long-term goals include full recovery, relapse prevention, and management of any comorbid disorders. Consider pharmacotherapy for patients whose anxiety affects their daily functioning.

Psychotherapy
Psychotherapy is most effective when used in combination with pharmacotherapy, but psychotherapy alone can be used as the initial treatment for patients with mild generalized anxiety disorder. Treatment approaches include:

- cognitive-behavioral therapy to focus on the relationships among thoughts, feelings, and behaviors and modify unhealthy and harmful patterns and relations,
- behavioral therapy to modify the patient’s behavior,
- cognitive therapy to change unproductive and harmful thought patterns,
- psychodynamic therapy to identify and resolve internal conflicts,
- relaxation therapy to develop techniques to deal effectively with stress.

Substance use disorders
Exposure to stress and trauma may increase the risk of substance use disorders. Primary care providers can play an important role in creating a treatment plan and supporting the patient in locating the appropriate specialty addiction treatment, support service, or network. These referral services can help patients recover, maintain remission, and reduce the risk of relapse. For patients with existing substance use disorders, exposure to stress can increase cravings and therefore the likelihood of a relapse.
Alcohol

Screening. While most patients seen in primary care settings who are exposed to disaster-related stress will not engage in high-risk drinking, stress can increase alcohol use, especially in people who drink unsafe amounts of alcohol before the disaster. Prescreen all patients by asking, “Do you sometimes drink alcoholic beverages?” If the answer is yes, use the single-question screen, “How many times in the past year have you had X or more drinks in a day?” where X is 5 for men and 4 for women. If the answer is 1 or more, assess the level of risk with the AUDIT for adults or CRAFFT for adolescents (see Resources—Brief Intervention for Excessive Drinking for screening tools). Following screening, you can also use current American Psychiatric Association diagnostic criteria, available at http://www.psychiatry.org/practice/clinical-practice-guidelines, or other assessment tools to determine presence of a substance use disorder (Resources).

Intervention and referral. Use the brief intervention technique to help patients reduce unhealthy drinking:

- Provide clear, personalized advice about cutting down or abstaining.
- Listen reflectively—summarize and repeat what your patient says.
- Show concern and avoid confrontation.
- When possible, link alcohol use to a specific medical condition, such as liver damage or memory loss.
- Set mutually acceptable goals—involves your patient.
- Help patients identify drinking triggers and practical ways to cope.
- Provide regular follow-up to support efforts to reduce or stop drinking.

The AUDIT score can be used also to determine the level of intervention needed. Patients at low risk (AUDIT score 0-7) require educational messages about safe alcohol use, which means no more than an average of 1 drink per day for women and 2 drinks per day for men. For patients with an AUDIT score between 8 and 19, offer a brief intervention, that is, simple, personalized advice in addition to education. An AUDIT score of 20 or higher is associated with a greater likelihood of having an alcohol use disorder requiring specialized treatment, which may include supervised detoxification. Offer patients with alcohol use disorders a referral to specialty care for further evaluation and treatment (Resources—Brief Intervention, and Referral to Treatment for Pediatricians) (Resources)

Pharmacotherapy. Medication can help patients with alcohol use disorders decrease their alcohol use—and may be prescribed as part of specialty or primary care. Naltrexone, acamprosate, and disulfiram are approved for the treatment of alcohol use disorders.

Drugs

Screening. Ask all patients the screening question, “How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?” If the patient answers 1 or more, use a standardized tool such as the NIDA-ASSIST (Resources—City Health Information: People Who Use Drugs) for further assessment, or consult the American Psychiatric Association diagnostic criteria for substance use disorders (Resources).

Intervention and referral. Brief interventions may reduce substance use and improve the health of primary care patients who use illicit drugs. Offer patients referral to drug-treatment and harm-reduction programs when necessary (Resources—Referrals). Patients using opioids are at risk for overdose; refer to an overdose prevention program for the patient to receive training in layperson-administered naloxone (Resources—Overdose Prevention). PCPs can also prescribe sterile syringes under the New York State Expanded Syringe Access Program. Address primary care needs of drug-using patients, including appropriate screening for infectious diseases and counseling safer sex.

Pharmacotherapy. Buprenorphine and methadone in combination with counseling are effective in reducing illicit opioid use, decreasing craving, and improving social function in patients with opioid dependence (Resources—City Health Information: Buprenorphine). For information on obtaining a waiver that allows you to prescribe buprenorphine, visit the Substance Abuse and Mental Health Services Administration website (Resources—SAMHSA: Buprenorphine).

See Resources—City Health Information: Improving the Health of People Who Use Drugs for information on addressing the needs of these patients.

REFFERING TO A MENTAL HEALTH PROFESSIONAL

Some patients with trauma-related mental health disorders will need specialty care. Refer patients to a mental health professional if they

- have a history of psychotic or manic symptoms, suicidal ideation, or attempts,
- display severe symptoms or functional impairment,
- have multiple psychiatric comorbidities,
- have a significant history of somatization of psychological problems,
- are not responding to standard treatment,
- have complex psychopharmacologic needs,
- are difficult to engage in treatment or have difficulties following up with previously agreed-to treatment plans,
- live in highly unstructured environments.
SUMMARY

Some New Yorkers will experience mental health problems as a result of their exposure to traumatic events. Primary care providers are often the first point of care for patients with disaster-related mental health disorders and have a unique opportunity to identify these patients and manage their care. While evaluating their patients for physical ailments and other health problems, clinicians can identify, screen, treat, and, if necessary, refer patients for additional evaluation and treatment for the 4 most common trauma-related mental health disorders: PTSD, depression, generalized anxiety disorder, and substance use disorders.

RESOURCES

FREE CME/CNE ACTIVITY
At-Risk in Primary Care

At-Risk in Primary Care is an interactive, web-based training designed to prepare NYC primary care providers to identify and manage patients with trauma-related mental health disorders, including PTSD, alcohol and other substance use disorders, depression, and generalized anxiety disorder. The training, which offers 1.5 CME/CNE credits and is divided into four 10- to 20-minute modules, is available at no cost to primary care providers working in NYC. Go to www.kognitomed.com/34. Use Enrollment Key: nyc34

New York City Department of Health and Mental Hygiene
City Health Information archives:
Clinical Guidelines for Adults Exposed to the World Trade Center Disaster
Clinical Guidelines for Children and Adolescents Exposed to the World Trade Center Disaster
Detecting and Treating Depression in Adults
Brief Intervention for Excessive Drinking
Buprenorphine: An Office-based Treatment for Opioid Dependence
Improving the Health of People Who Use Drugs

Overdose Prevention
Includes information for patients and link to directory of overdose prevention programs:

Project Hope
Free crisis counseling for New Yorkers affected by Hurricane Sandy:

WTC Health Program

American Academy of Pediatrics
Substance Use Screening, Brief Intervention, and Referral to Treatment for Pediatricians:
http://pediatrics.aappublications.org/content/128/5/e1330.full

American Psychiatric Association
Information on diagnosis and management of mental health disorders:
http://psychiatryonline.org/index.aspx

Centers for Disease Control and Prevention
Physical Activity Resources for Physicians:
www.cdc.gov/physicalactivity/resources/index.html

Massachusetts Department of Public Health–CRAFFT brochure
Provider Guide: Adolescent Screening, Brief Intervention, and Referral to Treatment—Using the CRAFFT Screening Tool:

New York State Department of Health
Directory of Registered Opioid Overdose Programs:
www.health.ny.gov/diseases/aids/harm_reduction/opioidprevention/programdirectory.htm

SAMHSA
Buprenorphine Waiver Qualifications:
http://buprenorphine.samhsa.gov/waiver_qualifications.html

SAMHSA-HRSA Center for Integrated Health Solutions
Substance Abuse and Mental Health Services Administration Screening Tools:
www.integration.samhsa.gov/clinical-practice/screening-tools

US Department of Veterans Affairs
National Center for PTSD:
www.ptsd.va.gov/professional/pages/assessments/pc-ptsd.asp

Referrals:
All Mental Health Concerns
• LIFENET telephone numbers and website:
  (24 hours a day/7 days a week)
  In English: 1-800-LIFENET (1-800-543-3638)
  In Spanish: 1-800-AYUDE SE (1-877-298-3373)
  In Chinese: 1-800-ASIAN LIFENET (1-877-990-8585)
  TTY: 1-212-982-5284
  For other languages, call 1-800-LIFENET or 311 and ask for an interpreter:
  www.800lifenet.org

• National Mental Health Association
  Find a mental health professional:
  www.mentalhealthamerica.net/

12-Step/Self-Help Groups
• Alcoholics Anonymous (AA):
  212-870-3400 or www.alcoholics-anonymous.org

• Narcotics Anonymous (NA):
  212-929-6262 or http://newyorkna.org

• New York City Al-ANON
  Support for families and friends:
  www.nycalanon.org/212-941-0094, or 888-4AL-ANON (888-425-2666)
  from 8 AM to 6 PM, Monday–Friday
  E-mail: nycalanon@verizon.net

Online Substance Use Treatment Locator
• Substance Abuse and Mental Health Services Administration (SAMHSA) National Drug and Alcohol Treatment Referral Routing Service:
  800-662-HELP (x4357) or www.findtreatment.samhsa.gov
REFERENCES


Parachute NYC is a new Health Department program that offers adults experiencing psychosis-related symptoms free home-based treatment and short-term residential alternatives to hospitalization for up to 1 year. For more information, go to www.nyc.gov and search for “parachute.” You or any health care provider can call 1-800-LIFENET to refer an individual to Parachute NYC.

Falls are the leading cause of hospitalization and injury death among older New Yorkers. NYC REACH and the New York City Health Department are offering a free 20-minute recorded webinar on falls prevention. Access the program at https://nyc-reach.webex.com/nyc-reach/lr.php?AT=pb&SP=EC&rid=7967137&rKey=cead7033eb596b.