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## **Occupational Psychiatry, Community Psychiatry, and Cultural Considerations in an Aviation Disaster**

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On September 2, 1998, Swissair Flight 111, bound from New York's JFK International Airport to Geneva, Switzerland, crashed at about 10:30 p.m. six miles off the coast of Nova Scotia, Canada, approximately 30 miles southeast of its capital city, Halifax. All 229 passengers and crew members aboard this McDonnell-Douglas MD-11 jumbo jet perished immediately. Subsequently, the Canadian government requested a large U.S. Navy diving and salvage ship with excellent lift capacity and many divers to assist Canadian Navy divers in recovering passenger remains and plane debris. Although U.S. Navy divers are used to working in hazardous diving environmental conditions and have recovered victims from military aircraft disasters, they have much less experience in recovering a relatively large amount of human remains, including those of children. This is where I came in.

On July 16, 1996, TWA Flight 800, bound from JFK to Paris, crashed off the Long Island coast after exploding in midair, killing all 220 passengers and crew members. Navy divers provided the major effort to recover human remains and debris. Mental health support was established for the divers by the navy's Special Psychiatric Rapid Intervention (SPRINT) Team 2 based at Naval Medical Center, Portsmouth, Virginia. Members of this team were sent in case divers or the ship's crew members had significant psychological distress in dealing with the human remains that had to be retrieved and then transferred to a temporary morgue. The diving conditions were murky, and the currents were strong. Diving operations took place around the

clock, so divers were separated from their families for weeks. Few of the divers had any experience in recovering a large quantity of human remains.

I was involved on site as a member of the SPRINT team during the latter part of the operation. Subsequently, Lieutenant (LT) Chris Leffler, M.D., a navy physician assigned as diver support, and I conducted a cross-sectional survey of many of the divers to investigate the possibility of posttraumatic stress disorder (PTSD) or other anxiety disorders stemming from the operation (Leffler and Dembert, 1998). We found that the TWA 800 navy divers reported the recovery of adults' and children's remains and personal effects in an isolated diving environment, far from home support, to be more stressful than the hazardous nature of the diving. There was no evidence of cases of PTSD among the divers, compared with a set of navy divers unexposed to TWA 800. Last, the best coping factors were the rigorous navy diving training, phone contact with families, a sense of mission purpose and duty, and humor (especially gallows humor).

When the Swissair 111 disaster occurred, I was quickly requested to participate on site in a preventive occupational psychiatry role. Aside from being an experienced military psychiatrist with many years experience on SPRINT teams, I had additional preventive medicine residency, public health, and epidemiology training and practice. Perhaps most important for this mission, I had been a navy diver and diving medical officer for many years at the beginning of my career, and I had continued to work professionally with navy divers in various clinical and research policy positions up until the Swissair disaster. The divers saw me as "one of them"—I had maximum credibility and entry into their tightly knit group.

I made detailed preparations for a trip of uncertain duration, weather extremes, and both physical and psychological demands. Aside from military uniforms and leisure clothes, I packed outerwear for the cold, blustery, late-autumn Canadian Atlantic maritime weather and athletic gear for exercise. Regular toiletries were augmented with a one-month supply of prescription and nonprescription items that could treat a spectrum of potentially impairing health problems. I also included a well-equipped Swiss Army knife, a glasses repair kit and an extra pair of glasses, an assortment of bandages, a finger cot in case of a small fingertip cut (especially problematic for typing and for pushing the camera shutter release, if on the dominant index finger), and a moleskin patch to cut and place on any foot blisters. I packed my toiletry kit keeping in mind that disaster response efforts would not wait while I took time, personnel, and a vehicle to search out a pharmacy in a far-off town to replace forgotten items.

I wore around my waist a flat, waterproof, under-the-shirt security pouch that contained my checkbook, my passport, my credit card, cash, and traveler's checks to cover any money requirements. I pared my wallet down to a minimum of photo identification cards. I wore dog tags around my neck that had basic information (civilians could have something similar made) for ease of identification if I were injured, for example, in a jogging accident or killed in a plane crash or other accident en route or on site. I also made sure my will was current and readily available to my wife. I never viewed myself as immune from a disaster befalling me when I traveled to a separate disaster affecting others.

I then completed the other arm of preparation, which was local briefings (with disaster mental health colleagues, flight surgeons with forensic aviation accident investigation experience, and navy diving and salvage authorities) and long-distance telephone briefings with navy staff on the diving and salvage ship USS *Grapple* at the crash site. I was most concerned about the divers regarding the environment (weather, ocean, living, and eating conditions), their mission readiness, their morale and camaraderie, the emotional climate on the ship in preparation for a psychologically unsettling task, and the current working relationships between the senior and junior divers.

My previous research on TWA 800 divers was put to good use in this operation, because a process of staged desensitization was used by the senior divers for the junior divers' advantage. In this, there was a gradual exposure, in the days before departure and after their arrival in Canada, to increasing amounts of information—technical diving, logistics, travel, and, most important, grisly aspects of remains recovery and hazardous diving conditions. A final step in this preparation involved showing underwater video footage, taken by a unmanned underwater drone, of the crash scene at the ocean floor, including whole and fragmented bodies either in the wreckage or floating eerily free in the currents.

The often turbulent, five-hour journey by small twin-engine military turboprop aircraft from Norfolk, Virginia, to the Halifax military airport on September 12 was an anxious one. I was queasy from the roller-coaster ride. I also frequently wondered if this was the type of ride and the anxiety the passengers and crew on the doomed Swissair jet experienced before it became clear the plane was doomed. I was happy to land safely at the Halifax airport, despite a driving late-afternoon rainstorm. The next morning I took a long walk through fog-enshrouded suburban Halifax streets. In practicing a previously helpful pattern of acclimation, I got a feel for the weather, the

terrain, the tempo of daily life, the traffic, the commercial aspects, the history, the recreation resources, the media, the language, the cultural nuances, and the people through these initial walks. I stopped at a convenience store for needed currency exchange and a newspaper and talked with the clerk about how the disaster was seen locally.

Later that morning, at the large naval installation in Halifax, I met up with the rest of the U.S. Navy contingent in time for a comprehensive briefing by the Canadian admiral in charge of the entire operation. Assembled in the windowless command center were Canadian military personnel, Royal Canadian Mounted Police (RCMP), Canadian and U.S. transportation board investigators, Canadian government and ambassador representatives, and U.S. consular representatives. The RCMP were the overriding authority on the handling of all wreckage, remains, and personal effects, because these were considered evidentiary in light of the undetermined and thus suspicious cause of the crash.

The tempo and procedure of the daily briefings for the admiral were set: the answers to his probing questions were to be brief, informative, and without speculation; no one spoke unless first asked a question by the admiral. When I impulsively offered a spontaneous comment on the challenge of recovering human remains, I was met with uniformly disapproving glances from the admiral and his staff. I had learned this protocol lesson the hard way.

I had first requested quarters on the *Grapple* but was informed that there was no extra room. Thus, by midafternoon I was settled at the Century House, a homey bed-and-breakfast inn along the tiny shoreline of the wind-whipped village of Blandford, some 40 miles by car from Halifax. I asked for the room whose window faced the direction of the crash site over the near horizon. Looking out of the window provided a sobering emotional link to the mission on days I didn't visit the *Grapple*.

Daily support runs by boat of personnel and supplies to the crash site left from Blandford; the local fishing industry made available its factory and docks in full support of boat transportation (including their own boats at times) and storage of supplies and diving gas. This was also the staging point for transporting VIPs to the site.

About 15 driving miles back up the coast was the 55-inhabitant village of Peggy's Cove, apparently the land point closest to the crash site, six miles away. Peggy's Cove had been a tourist attraction primarily because its scenic location, its massive shoreline granite rock formations, and its whitewashed lighthouse above the crashing waves had become a photo

opportunity and a post office rather than the crucial navigation beacon it had been for generations of fishermen. In response to the Swissair disaster, the international media congregated in Peggy's Cove because one could see diving and support ships on the horizon directly from this village, and the historic stone promontory and lighthouse became a backdrop for all of the media-generated human interest stories as well as for updates on diving operations.

By evening that first day at Blandford, I had formulated a comprehensive plan of goals and roles for me, not limited to mental health support for the divers.

My disaster psychiatry work over the years had been informed by two philosophies. First was a caveat I conceived: *When you see an individual, think of a group; when you see a group, think of an individual.* Simply explained, every person I come in contact with during a response effort brings with him or her the family of origin, family mythologies and traumas, personal successes and failures, personal traumas, relationships to the community, as well as past and present work relationships and attachments to the organization and the formal building(s) where work is done. All of these shape the current physical and mental state of that individual. When I work with a group, I look at preexisting and expected within-group interactions and dynamics and the group's relatedness in the context of the larger community of families and businesses. But I also keep in mind how each individual within the group shapes group context and response. Both aspects of that caveat are mutually dependent and interlocking and represent the essence of the challenge of disaster mental health efforts.

My second philosophy has always been that I could be the most effective consultant and counselor when I knew as much as possible about the lives of the dead and the survivors, as well as the jobs that first responders and those who recovered wreckage and human remains had to do. I had to put myself in others' shoes no matter how physically or emotionally challenging the experience. I knew that there was a risk of becoming so involved in some aspects such as mortuary work that it could be psychologically traumatizing for me, but I countered that with good judgment, controlled exposure, and informal talks with workers such as pathologists and mortuary technicians during coffee breaks. I also knew that taking photographs of every situation and every community provided me with a sustaining visual connection to the land, the people, and the culture, both for my time there and for after I returned to Virginia. Finally, I also knew that by traveling around to local communities and through the city

of Halifax—walking, talking, sitting, seeing—or even to places where I could sojourn and simply absorb the weather, the coastline, and the geography, I would further immerse myself in the culture and local perspectives of recent events.

To be the most effective consultant and resource in disaster mental health work requires taking on many roles, many of which I have assumed in clinical psychiatry work. I have routinely served as a parent, a family authority figure, a religious figure, an anthropologist or sociologist, a journalist, a historian, a teacher, and so forth—sometimes for a single patient, at other times for a group. Following are among the roles I foresaw as most challenging and most fruitful in this operation, pending approval (later granted) from my seniors:

1. To serve as a consultant to my boss the commodore on any mental health matter, even if not applicable to the divers.
2. To provide routine or emergent psychiatric evaluations for any military personnel at the site or billeted nearby on shore.
3. To set up a surveillance system for mission-impairing psychopathology among ship's crew and divers, both during the operation and on return to Virginia.
4. To work closely as a disaster mental health expert with assigned Canadian military physicians.
5. To be available as a mental health consultant on the psychological hazards to military mortuary personnel and RCMP staff handling human remains and personal effects of adult and children.
6. To serve as a consultant resource for Canadian military or civilian mental health care providers in conducting short-term or crisis intervention groups, as well as setting up long-term support groups in Halifax and coastal communities around the disaster site.
7. To travel to local coastal communities around the crash site and informally assess the impact of the crash on each community's daily life, its citizens, and its economy.
8. To immerse myself in the history of maritime and other disasters in Nova Scotia.
9. To set up an effective reunion-and-homecoming adjustment program for the divers and the *Grapple* crew on their return to Virginia.

My mission began in earnest the morning of September 14 and finished on September 28 with my flight back to Virginia. I established a daily routine: a long walk for stress management, regular meals and good sleep as

much as possible, review of notes and writing while observations were fresh in my mind, planning for the next day, review of newspapers and magazines for coverage of the disaster and all of the international commercial and legal manifestations, laundry, and venturing out in the nearby towns and villages. I was on call 24/7 by cell phone for meetings, briefings, advice, emergencies, consultation, telephone calls from the SPRINT team leader in Virginia, and changes in departed boat runs from Blandford to the *Grapple*.

When I first arrived in Blandford, I met with the navy diving medical officer LT Fred Lindsay and the *Grapple*'s master diver about the work schedules and the rotations to allow each diver a 24-hour period on shore to "recharge batteries" mentally and physically. The ocean water was very cold, and the currents, both at the surface and 190 feet below, were strong. The operations would involve precise timing of divers entering the water, reaching depth, leaving the bottom, going through partial required decompression stops on the way up, and then being quickly brought up for rapid removal of diving suits and gear and immediate recompression in the shipboard hyperbaric chamber (down to the equivalent pressure of the outside last depth stop in the water) with a final controlled decompression to the "surface." This was truly hazardous diving all around. The risk of injury from sharp debris, air embolism from unplanned sudden ascent, decompression sickness from too long at depth, or emotional shock from human remains suddenly popping up into the beam of an underwater light—essentially right in the diver's face—were omnipresent.

I phoned the *Grapple* for updates on days when I was not scheduled to visit it. When LT Lindsay and the master diver were on shore for brief R&R, I could catch up on how things really were, over a cup of coffee or a beer. It was important that I worked behind the scenes. The divers knew I was around, several of them knew of my past work as a navy diver and diving medical officer, but the last thing needed on a small ship was a psychiatrist watching everyone. It would be distracting for routine, the ship's crew would use a lot of energy to keep away from me for fear of being evaluated, and divers would worry that something must be going wrong for me to be there so often.

In the military, the psychiatrist is challenged every day with fitness-for-duty and workplace evaluations. There are many personnel who welcome the chance of an evaluation and hope to convince the psychiatrist of the need to recommend discharge from the service. For those with special training and positions such as divers or pilots, however, a psychiatric evaluation for whatever reason, even if for brief counseling or stress management for nonmilitary issues, is generally feared as a black mark in the health record

and a likely recommendation for removal from special duties. This is unfortunately based on stigmatization of mental health problems, the frequent use of mental health evaluations to remove a “bad apple” from a command without any chances for rehabilitation, and lore among specialty groups that to see a psychiatrist means one is “crazy.” From a system perspective, in my experiences, military psychiatrists are traditionally viewed as tools used to find out what is wrong in a situation, an organization, or a person, not what is right or adaptive. For me to accomplish the latter on the *Grapple*, I needed to be involved, aware, and vigilant, yet only peripherally visible. I had to be an observer of group dynamics and varying stress levels. So I maximized my time by getting around unobtrusively: talking to crew at cigarette breaks, going inside to watch underwater video surveillance of the operations, visiting the communications “shack,” hanging out with the cooks in the galley, perusing maps and weather charts, and using my binoculars to watch what all the other ships out there were doing.

I walked out to the fantail area at the stern of the *Grapple* when there was a break in diving operations. I looked out over the water, and then looked down at the water surrounding the ship. We were moored directly over the crash site. Water does not soften the impact of an airplane crash. It is like hitting concrete at high speed. I thought of people on board at that time, realizing imminent death as the crippled and smoke-filled plane lost flight ability and turned downward, perhaps rolled, and then dove several thousand feet straight down. I thought of the words of Nova Scotia’s chief medical examiner, Dr. John Butt, in his makeshift office at the airfield hangar morgue. He privately told me the impact was so great that the sudden acceleration forces caused some bodies literally to pop out of their skin. He described how the huge tail engine compressed the rest of the fuselage in front of it at impact, shattering the plane into possibly millions of fragments. This was supported by the divers’ recovery efforts to date, which found, aside from intact landing gear, few pieces as big as a small car and most less than 10 feet in any diameter.

I shuddered when I looked at the water around the ship and thought of the terrible destruction below. Previously seeing it on the basically two-dimensional ship’s video monitor did not elicit a comparable emotional reaction. I hoped that the flight surgeon present with Dr. Butt and me was right when she said that passengers and crew may have lost consciousness before impact due to the tremendous G-forces of the plane’s final dive. The likely voices and screams of passengers during that initial dive were hard to keep out of my mind. I looked around the fantail at the fenced-off piles of wreckage. I looked at some of the body bags, filled at the bottom with remains and

zippered shut so that no one would have to see them here at the surface. They were taken by small boat transfer to the Canadian command ship and then flown by helicopter directly to the large morgue set up back at the Halifax military air base.

In my previous disaster response work, I had made sure that I got to know the expectations and ground rules quickly, not only from the highest in charge but also from the person who was responsible for overall site operations and safety. In the present situation, my commodore was completely responsible for my well-being and my performance at all times, and I knew what he expected from me. But I also met with the commanding officer (CO) of the *Grapple*, Lieutenant Commander (LCDR) Dave Davis. A ship CO has ultimate authority and responsibility for the welfare of everyone on his or her ship as well as for who can be on the ship and who cannot. The CO is like the old-fashioned boss mayor of a small city. The captain's eagle on my collar and the diving and submarine insignias and the ribbons above my uniform shirt pocket all gave me initial visual credibility with him and his officers. How I conducted myself, however, first as a naval officer—knowing when and how both to speak and act in a military manner and then in other situations with familiarity—and how I presented my professional role in supporting his ship and divers earned his respect. I told him he could reach me for assistance in any matter, psychiatric or not. He knew I would stay out of his way on the ship and generally not talk with him unless, again, he spoke first. When diving operations were at a lull, chatter and banter did appear, however.

Although all of this traditional protocol was commonplace in the military, it applied equally well in civilian operations, including the earning of respect, because of the increasing use of an incident commander and the hierarchy of command, control, and emergency operations center systems.

LCDR Davis was also ultimately responsible for the safe conduct of everything diving and nondiving that went on aboard the *Grapple*. He and the diving operations were under constant scrutiny from the media, U.S. and Canadian admirals, consular officials, RCMP, Swissair representatives, and the Canadian and U.S. transportation safety board senior investigators. In my opinion, it seemed that these and other stakeholders who were not ship's crew or involved in diving operations wanted to be on *Grapple*, even for a very brief visit. I sensed a hint of entitlement or insistence that many times lurked behind altruism. It was enough to be on the ship, but meeting the CO appeared to confer almost reverential status on the visitor. There were bona fide reasons related to the mission to visit, but other reasons could have had deeper psychological explanations.

Bottom line, this was a disaster in which a large number of people from all walks of life and ages had lost their lives suddenly, in a situation beyond their control, and yet they were undoubtedly aware of facing death and had time to reflect on it for several minutes. It happened at night, and thus there was no visual orientation, no ability to see land or to gauge distances to a hoped-for safe landing. Most did not have their full families present, for comfort. Although death happened instantaneously on impact, it is up for speculation whether passengers and crew were awake and aware of impending death during the agonal dive. This method of dying, in contemplation, is for the average person the “worst nightmare.” Perhaps in a sense of unconsciously confronting one’s worst fear of dying, visiting a crash site and especially people in charge, may confer a magical sense of “This can’t happen to me, now, because it happened to so many other people, right here.”

By visiting the site and seeing the operations and talking with people in charge, it may additionally confer a sense of undoing or absolution: “I am having these grisly and morbid thoughts, but these people here must have these also. Therefore, it is okay for me to have them, and I won’t be punished for them or die like the people here did.” Perhaps there is a healthy element to this: “If I visit this site where this happened to so many people, I can conquer my fear [of an interpersonal conflict, extreme emotion, or impairing behavior] and go about my life in a renewed and more satisfying way.”

I based these explanations on what came into my own awareness as I monitored my feelings and thoughts during my visits to the crash site and to the morgue; I assumed they could apply to others. I emphasize another caveat: This “I was there” phenomenon should be considered by cognizant mental health consultants before undertaking any response effort to a disaster in which many perished in circumstances of possible awareness of impending death. The individual human need for connection on the basis of the previous hypotheses can interfere with the ability of those in charge to remain focused on the safe and effective conduct of rescue or recovery operation, as well as place visitors who do not really need to be there in harm’s way.

A very necessary goal was to develop a good working relationship with LCDR Heather Mackinnon, M.D., who was the Canadian Navy’s fleet support medical officer assigned to the operation. She was a flight surgeon and diving medical officer in her own right. She had been a military physician at sea and in foreign countries for many years, and she was highly regarded for

her organizational and consensus-building abilities. We met at the Century House late afternoon my first day there. She was in the chain of command of more senior operational medical officers and ultimately with the Canadian admiral and thus handled many “hot potato” issues, from all over the world, daily. I helped her by doing “reccys,” her term for community and military reconnaissance and information gathering. In other words, I became her direct eyes and ears for the progress of the diving operations on both the U.S. and Canadian diving ships. I also visited, with her introduction, the Canadian Navy command ship HMCS *Preserver* and offered any assistance to the CO.

LCDR Mackinnon invited me to consult with the military social worker at the Halifax military hospital who headed up all Critical Incident Stress Management (CISM) efforts for this operation. CISM is a system of brief, focused mental health interventions initially developed in the United States to provide support for first responders (EMT, fire, police) who can be overwhelmed psychologically or emotionally by small or large disasters with a significant magnitude or spectrum of loss of life (Mitchell and Everly, 1996). This system, now international in use, includes the standard Critical Incident Stress Debriefing (CISD) model and has expanded in application to incidents where there is psychological or physical trauma but no loss of life. It has also been used for survivors of an incident and their families, classmates, and coworkers, as well as for human remains handlers. In this disaster, LCDR Mackinnon was recommending it be made mandatory for all those involved to go through, even if they did not have any psychological symptoms, did not see a need for it, and were functioning well in their eyes and the eyes of superiors.

I took a somewhat different view and expressed my opinion that it should not be made mandatory but be reserved for those persons who requested help or whose bosses were in a position to request such help. Otherwise, I had found that similar to the TWA 800 disaster, camaraderie and mission purpose were very strong group and individual coping skills for any expected situational psychological symptoms. Even when some type of intervention was needed in other disasters, I described how a tailored approach with elements of CISD admixed with group dynamics or follow-up support group venues were highly effective for specific workers or survivors. My opinions were respectfully considered, but, in the end, CISM was used extensively.

LCDR Mackinnon and I agreed we were sailing uncharted waters in this disaster recovery effort. This type of disaster was unique in Canada, where

maritime populations are sadly accustomed to losses of fishermen at sea. Canadians were not used to airplanes “falling out of the sky.” This one, although it did crash at sea off the coast, had circled around settled coastal areas while it was in distress, and many of the local citizens heard it that night. Many smelled the aviation fuel dumped on land before its hoped-for emergency landing at Halifax, and many heard the actual explosion at impact. Local fisherman spontaneously went to sea to investigate and found adult and children remains, personal effects, and wreckage surrounding their boats. Others living along the coast found body parts or personal effects or wreckage washing up on shore, even near homes. For the first time, the Canadian citizens—some in Halifax, but many along the shore—felt vulnerable with the realization of jumbo jets that routinely traced paths over their areas on nightly transatlantic flights from U.S. international airports to Europe. Besides, fishing boat losses claimed adult lives, and except for isolated deaths of children due to trauma or diseases, Canadian citizens were not used to having children die in a large numbers in such a horrific way, all at once, near their shores.

On board the *Grapple*, there were no diving-related injuries or cases of decompression sickness, the divers’ physical output was huge, and morale and camaraderie were outstanding. Many of the junior divers reported that they were better prepared by the staged desensitization for the grisly task ahead of them. They felt supported by the senior and master divers. The scheduled 24-hour off-duty rotations on shore helped immensely, as did phone calls to home. LCDR Davis took time to hold an awards ceremony one afternoon to reinforce crew and diver morale. The senior divers absorbed much of the anxiety and day-to-day worry, but it helped greatly when they vented among themselves or to LT Lindsay or me. There was one case of decompression sickness in a Canadian diver, but his treatment was straightforward and successful.

There were no reports of possible stress disorder symptoms from LT Lindsay or the master diver over the 15 days. Aside from these verbal reports, however, I set up an informal surveillance system at the building where the divers ate and slept off duty. I took the navy cooks assigned there aside on my second day, complimented them about their food after eating a meal with them (they appreciated that from a senior officer!) and talked to them about the stress of being deployed, the uniqueness of this mission, and some of the stresses to be expected on the divers. The cooks knew that the divers were a macho group overall (men and women divers alike here) and that they tended to keep fear and anxiety well compartmentalized and usually well hidden. I told the cooks they could really assist me by being my eyes

and ears, watching for any signs of divers in the chow line or at tables acting out of character, sullen, excessively reactive or withdrawn, or even anxiety stricken, smoking if never before or now in larger amounts. When I told them I would check with them daily, and I met with them and their supervisory chief petty officer (giving the cooks compliments in front of the chief cemented the deal), they were “on board.” They did a good job and eagerly reported what they saw. I also hung out at meal times when possible, but not too much to raise suspicions, and ate with the divers or ship’s crew and engaged in banter, all to take the emotional pulse as a whole. We saw no early indications of stress disorders.

With introductions arranged by my Century House hosts David and Mieke Martin, I was able to meet with hosts of other local inns where senior navy divers spent off hours. I set up an informal surveillance system whereby the hosts could contact my hosts, who would then tell me if there were any indications of problems brewing as discussed by the senior divers.

At LCDR Mackinnon’s request, I visited the billeting and operations sites of the Canadian divers on shore. I also walked along the shoreline accompanying Canadian soldiers on wreckage and remains reconnaissance. I felt a sense of excitement at finding some small pieces of cabin insulation. I also experienced the sinking feeling in my gut and the visceral apprehension when I spotted pieces of colorful fabric and as I approached each one of them, wondered if there would be a head or torso or hand or a foot or a chunk of flesh attached to it. (I remembered quite well in the first *Jaws* movie when the torso of the woman swimmer was confirmed with the emetic accompaniment of the police deputy!) I never did discover remains along the shoreline.

I confronted this issue head on when I first learned about the huge temporary morgue set up at the military air base. Dr. John Butt was thrust into the international spotlight from the first day of the disaster, and it remained along with intense governmental and media pressure for weeks and weeks. He described how families of victims called him at all hours from around the world, wanting to know if a loved one’s remains had been identified, how that person(s) had died, and when the remains could be released for burial. He did not have many answers at all for the first many days, and callers were angry. He described a rapid and intense burnout that required him to step away from the case for small periods of time. He was feeling better when I met with him, but he lectured me on the need for any psychiatrist involved in mass disaster work where there are a lot of remains not to overlook the emotional states of the medical examiners and quietly and collegially take them aside before burnout starts.

Dr. Butt took me back to the actual morgue area. I looked at all of the equipment for remains identification. I picked up and handled clear specimen bags filled with pieces and parts of torsos or extremities or organs or flesh and muscle, tagged but waiting to be identified.

I went into autopsy rooms and stood with forensic pathologists or dentists over torsos, almost all headless and cut up. I looked at family-supplied dental x-rays posted on view boxes beside x-rays of mandible or maxilla fragments, used in hopes of finding a match with the actual specimens on tables in front of us. Finally, I met with the courageous young soldiers who handled and tagged remains and assisted in autopsy rooms. They had volunteered for this job; several of the women and men said they were mothers or fathers and they felt very deeply for mothers and fathers who lost children or adult parents in this disaster. They said it was the least they could do to help the operation, to work in a job that most did not want to do. They coped in many ways—smoke breaks, gallows humor, being able to take breaks when they wanted, being able to call home freely to other parts of Canada, and having a supervisor who in this situation was not as keen on uniform appearance as he was on working as a team.

Not to be forgotten, and no less of a stress, were the personal effects. I handled small sealed clear bags of personal effects in the presence of the RCMP investigator who was assigned on the Canadian ship to husband them until their helicopter transport to the base. With an increasing sadness I sifted through luggage pieces, dolls, clothing items, jewelry, reading glasses, books, papers, pens, cards, business items, diaries, and gifts. Most disturbing to me, as I held one in my hand, were passports. I looked at one of a very attractive, blonde, 30ish-looking woman in apparent business suit, smiling at the camera. I read her name. I was so upset by this, seeing the face and knowing she no longer existed, that smile full of hope and travel. I turned the passport over immediately, noticed that it was a non-U.S. passport, and handed it back to the RCMP man. When I took a photograph of him with the pile of bagged personal effects, for future lecture purposes, I made sure any passports were turned cover side out. He said he coped knowing it was part of his duties, but the sadness etched on his face silently asked me to talk no more about this work.

I drove to Peggy's Cove along scratchy dirt roads alternating with paved narrow roads that wound and catapulted and dove along the variegated coastline of conifers on one side and homes and lobster traps along the other. On this little spit of land I finally found a parking spot, hidden from view behind a gift store with all of the media trucks and RVs and their gardens of antennas and satellite dishes. In a biting cold headwind, blinded by a

dazzling sunshine reflecting as millions of diamond needles from the sparkling blue water, I walked up the road to the light house, sitting precariously on the rocky promontory pounded by large waves. I bought postcards at the cozy post office, read history posters describing the origin of Peggy's Cove, and listened to the veritable polyglot of languages spoken by curious tourists from monster buses and frazzled media technicians decked out in the latest Army–Navy store cold-weather clothing. I scanned the horizon with my binoculars and recognized the *Grapple* and other support vessels six miles away, little antlike silhouettes on the ocean surface. I imagined what it might have been like to be sitting in a small boat out there on the night of September 2, watching this large jet come speeding down from the sky and crash into the surface. I couldn't think about it any more and walked back to the gift shop, bought a stained glass window hanging of a traditional three-masted clipper ship, and talked with the cashier about year-round life in Peggy's Cove.

On an emotional dare to myself, I walked back up to the wall near the base of the lighthouse. Mourners, tourists, and family members had left large beribboned flower bouquets, stuffed animals, photos, poems, cards, signs, and even clothing at this very poignant monument. I read the cards and signs and slowly looked over all the objects. I spent a remaining few minutes reading and rereading a beautiful card with a very personal and lyrical poem written underneath a photo of a couple obviously in love, with heads touching at the temples, smiling, late 50s—looking, enjoying that moment. I took some photos of the cove area, the lighthouse, the horizon, and the monument—from afar. Then I went up and took a close-up photo of the couple and the card and poem. It was the reminder I needed, the photographic linchpin of any disaster psychiatry lecture in the future, on the frailty and preciousness of human life.

Within about a 15-mile radius from Blandford, I went to several small villages and dawdled over lunches in the typical convenience store/post office/diner/bait-and-tackle shop/toy store/supermarket/currency exchange/meeting place, all rolled into one. I usually wore my U.S. Navy khaki uniform, which invited local civilians and military types to approach me and ask me how I happened into their village. I told them I was a doctor on the staff of the U.S. Navy team assisting the Canadian government and military in the Swissair recovery effort. That was an excellent lead for me to ask them about their lives, their views of the crash, and how it affected their village—for instance, human remains washing up, the presence of aviation gas, the fears of local children, and local history.

I perused bookstores and bought books while I talked with the managers. I only volunteered that I was a psychiatrist when someone asked me about my medical specialty. I had already talked with my bed-and-breakfast hosts, LCDR Mackinnon, and some of the mental health staff at the military hospital who lived and practiced part-time in this area. They had warned me that psychiatrists and counselors were looked on with a great deal of skepticism and wariness among the maritime communities culture. Mental illness was not something people talked about; admitting to mental or emotional symptoms was seen as tantamount to being weak-willed, and bearing sadness and despair privately in the context of personal or economic hardship was necessary so that the image and success of the traditional self-sufficient maritime family were maintained at all costs. The frequent response to my revealing that I was a psychiatrist was much nervous laughter with a comment to the effect that I may find a lot of mentally ill people in the area. It seemed to be their way of ending the conversation gracefully.

I visited groups of fishermen and talked with them on their boat runs out to the *Grapple*. Many had taken their boats into fuel slicks and had bumped against remains and personal effects and small debris that night after the crash or during the next couple of days. They didn't like talking about these experiences. What prompted talk was the economic impact of the government closing the rich fishing and lobstering grounds of the crash site while recovery operations went on; the closure extended for miles because of the current's effects on the wreckage field. This was an important time of year, before the winter arrived, for fishing and lobstering. There was talk of financial subsidies and reparations to the fishermen, but many uncertainties swirled around who would pay this money, whether it would be enough, and whether it would come in time. I looked beyond their extremely vocal discussion on this topic and saw underneath psychological hurt and confusion over the enormity of the disaster and the exposure to remains and personal effects. I saw these were fairly well masked to maintain the age-old bravura needed for this way of life. A few said they would consider counseling or even CISD, but they were not enthusiastic about it.

To round out my appraisal of the magnitude of the disaster, I spent a day of appointments at the Halifax military hospital, meeting with other fleet medical officers like LCDR Mackinnon and talking to them about my experiences with many disasters at sea or in hospitals. I also met individually with members of the mental health department, predominantly social workers and psychologists, some retired military. They provided me with their observations of Halifax, the province of Nova Scotia, the military, the civilian sides of disasters, and the coping strengths and weaknesses they have seen

in their civilian practices and military patients. The culture accepts violent deaths of fishermen at sea and loss of their boats from storms or accidents as a necessary risk of growing up and working and providing for a family here. People did not seek mental health care for such losses, and traditionally church and community banded together to help the bereaved. Violence in the form of fights, even alcohol related, was accepted as tradition. While death from an accident at shore was accepted, however, murder in general and violent deaths of children were exceedingly uncommon and thus hard for communities to resolve. Many times the first true appearance of problems from these was noted in comments or questions by schoolchildren to teachers and parents. Mental health care was sought if the counselor or therapist was a local-born person who came back to practice. A mental health care provider not from the local community would not be trusted and would be used only reluctantly. The Swissair crash was completely out of the expected, and already some of the mental health care providers were hearing patients nervously talk about, "What does it mean for this area?" and "Why did it happen here?"

I drove to Halifax on other daylong occasions. Aside from military briefings, I walked the downtown areas to get an urban feel for Nova Scotia nationality and culture and commerce. I went to historical museums. I was introduced to a very gracious and engaging retired couple, Allan and Margaret Green, who welcomed me into their home, gave me tours of Halifax, and invited me to Rosh Hashanah services for the Jewish New Year. Notwithstanding my spiritual needs being taken care of, I was very moved by the services, the congregation, and the formal recognition and prayers for those passengers on Swissair 111 who were identified as Jewish.

Halifax was not without its visible history of maritime disasters and personal losses. One cemetery I visited, a peaceful, grassy, hillside enclave set beside a busy thoroughfare, contained graves of more than 150 *Titanic* dead. I looked out over the harbor where the huge 1917 explosion of a French munitions vessel in Halifax harbor killed more than 2,000 people and destroyed half the city. Many Nova Scotia young men who joined the military as duty never returned from world wars.

As the recovery effort yielded debris to generate hypotheses and remains to identify most of the 229 victims, and with winter weather approaching that would make it absolutely untenable for diving operations, the U.S. Navy effort began to wind down.

I had completed two psychiatric evaluations on request from LCDR Davis and the master diver. One, a fairly experienced diver, had earlier requested permission to stop diving and go home. There was a tremendous

amount of family stress over preparing for a move to another duty station across the country, which would happen soon, and he was having trouble focusing on his work. After I reassured the master diver there was no stress disorder or other cause, he was given permission to leave. The second evaluation was for an older but lower ranking sailor on the ship whose eccentricities and interpersonal friction had so isolated him, he talked of suicidal or homicidal thoughts. I made a diagnosis of likely personality disorder that was a detriment to morale now and likely for continued service. LCDR Davis agreed to send him back to the squadron office in Virginia to be off the ship and for further mental health evaluation. The sailor was in a calmer frame of mind as he flew out the next day.

Right before I left Nova Scotia, I wrote up a two-page reunion-and-homecoming advice memorandum for all the navy members of the mission to read before their return to Norfolk. I described how this particular mission had been a psychological challenge to diver and nondiver alike. I described some of the expected stresses they might feel on returning home to family and friends who had no idea what it had been like up here; I discussed the frustrations of trying to explain what they did as well as needing time to decompress and not talk about the mission. I ended it with a list of helpful and practical daily strategies for reunion.

LT Lindsay and I conceived of a practical way for him and the master diver to keep an informal surveillance system going on return to Virginia, aided by the eyes and ears of the senior divers and the diving medical technicians. They would be on the lookout for symptoms of stress disorders or uncharacteristic individual patterns of poor work performance or attitude, drinking more than before, marital conflict, family violence, and dire financial straits. I would provide any urgent evaluations thought necessary. As it turned out, none were ever needed.

I checked out with my new Canadian friends and associates, getting their promises to send me future newspaper clippings, magazine stories, or books describing the investigation. I also arranged to keep in periodic contact with two therapists for updates on noteworthy community reactions to the disaster and the investigation.

As I prepared to leave, I reflected on my recognition that this operation was the milestone of my military disaster mental health career. It combined so many (cultural, occupational, community, preventive, organizational, individual, emergency, disaster, environmental) psychiatry roles, it required immersion in the lives and work of so many people, and it forced me to confront my own deepest fears of (loss of control over) death and dying in ways I never had foreseen. I had been in a situation in which I was most

effective by remaining on the periphery with preventive plans set in place; had something bad happened, I would be under international scrutiny with the diving operations temporarily in the balance while I acted. As I boarded the airplane, I looked back with a measure of satisfaction that all did go well.

I flew back to Virginia on September 28 on the very same aircraft as my September 12 flight. This one was a smooth flight.

### References

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