Ethical Decision-Making in Disaster Triage
Good L
Reviewed by Andrea Oswald

PURPOSE: To explore the application of virtue-based ethics on triage decision making during disaster.

METHODS: This is a review and discussion of the five primary ethical principles linked to disaster decision making, combined with a literature review on general nursing decision making.

SUMMARY: The five primary ethical principles: (1) fidelity; (2) veracity; (3) autonomy; (4) justice; and (5) beneficence that have directed healthcare decisions in Western medicine for many years were identified as ethical principles that impact triage decision making. The meaning of these principles in the daily care of patients and the moral consideration while applying these principles in a disaster situation were discussed. To complete the discussion, a brief overview of additional ethical principles identified by Larkin and Arnold as “Seven Cardinal Virtues in Times of Terror” also were outlined. Due to the lack of research on decision-making skills in disaster triage, the literature was reviewed on general nursing decision making. The authors identified nursing experience as key component to develop competency and critical thinking in routine work and disaster triage. Finally, the importance of including ethical principles in disaster preparedness training, guidelines, and post-disaster debriefing were emphasized.

COMMENT: This article examines the application of the five ethical principles impacting daily care and disaster triage, and emphasizes the moral dilemma that the triage nurse or physician faces during a disaster. However, the discussion of the link between the five ethical principles and the “Seven Cardinal Virtues in Times of Terror” identified by Larkin and Arnold is not particularly clear. The brevity of the overview does not help the reader make the connections between the five ethical principles and the seven virtues. One other problem is that the author primarily focuses on disasters caused by human-made hazards, when in fact, disasters caused by natural hazards may be encountered more commonly. In fact, the author states that there is less panic, fear, and uncertainty during a natural disaster than during an intentional disaster (e.g., terrorist attack), which affects triage decisions. This statement may apply for some situations, but not for all. One of the most significant points made by the author is that those responsible for triage decisions must be experienced health professionals with expert decision-making skills, and who understand the how to apply ethical principles.

Enhancing Public Health Preparedness for a Terrorist Attack Involving Cyanide
Eckstein M
Reviewed by Fionnuala McConnell

PURPOSE: The potential of a chemical terrorist attack using cyanide is thought to be higher than one using other chemicals. This article identifies potential sources of cyanide and reviews the symptoms, physiologic effects, and treatments of cyanide poisoning among an affected population.

METHODS: This is non-research-based, review article aimed at the public health sector and focused on preparedness for a cyanide terrorist attack.

SUMMARY: Cyanide has the potential to be utilized during a chemical terrorist attack because it is easily accessible and relatively simple to use. The effects of cyanide are immediate, and can incapacitate large numbers of individuals. Because of its ready availability, ease of use, and wide-spread injurious effects, cyanide is highly destructive and poses a significant threat to the public. The symptoms of cyanide poisoning are very specific and occur almost immediately following exposure. The symptoms include: dizziness, nausea, vomiting, eye irritation, seizures, coma, as well as respiratory and cardiac arrest. Cyanide can be released into the environment in several forms, including in liquid form which can be added to the water system, in salt form added to food and pharmaceuticals, as a gas, or in fire and smoke (the most common form of exposure). Unlike other biological or chemical agents used by terrorists, treatments for cyanide poisoning are readily available. Prompt treatment involves removing the victims from the cyanide source, resuscitation, supportive medication administration,
administration of antidotes. Antidotal agents for cyanide poisoning generally are reserved for in-hospital treatment. The Cyanide Antidote Kit used in hospitals across the world includes three main drugs: (1) amyl nitrate; (2) sodium nitrate; and (3) thiosulfate. The potential adverse reactions (methemoglobinemia and hemodynamic instability) associated with these drugs preclude out-of-hospital administration. The use of hydroxocobalamin as an antidote for cyanide poisoning (already available in France and other countries) has been approved recently for use in the United States. Hydroxocobalamin, a vitamin B12 (vitamin B12a) precursor, inactivates cyanide by binding with cyanide to form cyanocobalamin (vitamin B12). The authors emphasize the importance of education regarding cyanide poisoning in order to initiate timely preparedness measures.

**COMMENT:** This article focuses on cyanide attacks and the importance of educating the general public. The author outlines the reasons for using cyanide as an agent of terrorism, its attributes and forms, as well as the symptoms, treatments, and antidotes of cyanide poisoning. It is a specific topic with a broad focus. From the title alone, one would perceive that the author intended to outline various ways to prepare the public for an impending cyanide attack. However, the article focuses primarily on the treatments and antidotes available for such an event and lacks depth regarding education and training. In 2000, the Centers for Disease Control and Prevention with the cooperation of law enforcement and intelligence agencies, published a report outlining five key recommendations for public health preparedness in the event of a chemical attack. Although the author mentioned this report, discussion was brief and generic. The article potentially could be useful in the event of a cyanide chemical attack. However, first responders and public health officials must be educated on the symptoms of cyanide poisoning and the specific treatments. This is the greatest weakness of this article. In this reviewer’s opinion, including strategies to educate the public and those in the public health sector would have improved the article. Nevertheless, the content was interesting, informative and valuable.

**PTSD: Therapeutic Interventions Post-Katrina**

*Rhoads J, Pearman T, Rick S*  

Reviewed by Joan Valas

**PURPOSE:** The purpose of this article is to discuss post-traumatic stress disorder (PTSD) resulting from the deadly storms that hit the Gulf Coast in 2005. Hurricane Katrina hit the Gulf Coast in late August with a force that destroyed billions of dollars of property, displaced millions of residents, and killed >2,000 people. In the aftermath of this storm, many who are struggling to rebuild their lives and property also are left to cope with PTSD.

**METHODS:** A case study approach was used to examine the manifestation, diagnosis, therapeutic interventions, and patient education of PTSD. The article takes the reader through the experience from the perspective of a 46-year-old male paramedic who was a first responder to the hurricane. This patient presented to the mental health clinic with insomnia and described difficulties in his personal relationships. The authors review the description, epidemiology, screening, diagnosis, therapeutic interventions and patient education for PTSD through the narratives from this patient. In addition, the authors briefly describe the diagnosis and the care of children who experience PTSD.

**RESULTS:** The authors identified and discussed risk factors, screening, and diagnosis of PTSD. In addition, they reviewed various psycho-therapeutic interventions and elements that should be included in patient education plan. A thorough description of the illness was presented. The authors also outlined common stress reactions experienced by the individuals affected by Hurricane Katrina. They summarized the effect of the interventions and the outcome of the case. They highlighted the importance of sign and symptom recognition by health professionals, that along with early intervention and treatment, will lead to an improved quality of life for the patient.

**COMMENT:** This article serves as a good overview of the detection, diagnosis, and management of PTSD. A case study approach is an effective method to work through the work-up of this complex disorder resulting from a traumatic event; in this case Hurricane Katrina. The limitation of this article is the rather brief description of childhood PTSD. While it was helpful to discuss it, a full review of the issue certainly warrants full attention in a future publication. Once hurricane recovery or that of other natural disasters is complete, and with homes are rebuilt and businesses re-opened, another type of destruction may appear. Post-traumatic stress disorder is an insidious illness and may go undetected unless healthcare professional are able to recognize the signs and symptoms and able to intervene quickly. Another benefit of tracking mental health disorders such as these is that it explores the longer term and multifaceted effects that disasters can have on society, and can assist in developing better mitigation plans for handling future disasters.

**Survey of Hospital Healthcare Personal Response during a Potential Avian Influenza Pandemic: Will They Come to Work?**

*Irvin CB, Cindrich L, Patterson W, Southhall A*  
*Prehospital Disast Med 2008;23(4):328–333*

Reviewed by Nancy M. Gillium

**PURPOSE:** In May 2006, the US Department of Homeland Security released its National Strategy for Pandemic Influenza Implementation Plan which suggested that up to 40% of healthcare workers may be absent for a period of up to two weeks during the heightened time of a pandemic. The purpose of this study was to determine the number of staff who would or would not report to duty through a voluntary, confidential survey. The authors also sought to establish what incentives or initiatives that would be of the most importance for healthcare workers when making the decision to report for work during a pandemic.
METHODS: A voluntary, confidential survey was completed at a 600-bed, Level-II Trauma Center and teaching institution in the US. During July and August 2006, a convenience sampling technique was used to obtain respondents. One hundred eighty-seven individuals were approached about their willingness to participate in the survey. The survey included demographic information as well as the role of the individual healthcare workers at the hospital. A choice of "yes", "maybe", or "no" was available as a response to the following question: "In the event of an avian influenza pandemic would you report to work as usual?" The respondents answering "maybe" were asked to choose one of four potential reasons for their answer. Next, the respondents were given a scenario where there was 50% mortality with treatment and 10% of the general population was determined to be at risk. Various incentives were offered to encourage the respondents to report to work. They were asked to rate their willingness to come to work for each incentive. In addition, the respondents could write in a particular incentive that would cause them to come to work if it was not already listed.

RESULTS: Surveys were distributed to 187 participants, nine individuals declined to participate, and nine did not return their surveys, leaving a sample of 169 who completed the survey. Overall, 54% of the sample responded "yes" to the question that addressed the understanding of avian influenza threat. For nurses, there was a 22% response rate of "no", indicating they felt that they did not possess a clear understanding of the threat. When asked if they would come to work during an influenza pandemic, 50% answered "yes", 42% "maybe", and 8% would not come to work during an epidemic. Interestingly, when stratified by hospital role, physicians were most likely to report to work (74%) and nurses were most unlikely to come in (15%). When participants were asked if they would report to work as usual, surprisingly, there was no difference between the responses of those who had children (46%) and those who did not (54%). Not all respondents answered all the incentive questions. However, when asked if triple pay would be an incentive to come to work, 52% stated "yes", while only 19% said it would not make a difference. Although this was a small study, the results of this study are consistent with earlier investigations.

COMMENT: Although this study had a small sample consisting of 169 participants, it did add an important yet controversial topic facing healthcare workers today. What is one's duty to provide health care during an influenza pandemic, and who would be the most likely to report for work? A re-emergence of communicable diseases such as the 2003 outbreak of severe acute respiratory syndrome (SARS) in Canada gave, what many believe, was a preview of future epidemics. This study, as with many others, predicts that approximately 40%-60% of healthcare workers would fail to report to work during an influenza pandemic. Healthcare workers will be faced with the dilemma of professional duties versus fear of influenza/infectious transmission to family. As the authors state, education is of paramount importance. This study, like several other similar studies, identifies education as a common denominator. It also emphasizes that the educational need of healthcare workers should be addressed sooner rather than later. Education should start while individuals still are in nursing or medical school. This way, student questions can be addressed, and the barriers facing healthcare workers when making the decision to report for work during a disaster can be examined. Therefore, misconceptions can be corrected and anxiety can be diffused before individuals enter the workforce. Another excellent point brought out by the authors is the importance of the role of the Hospital Administrator, who must provide open and honest communication with staff. The authors emphasize that Hospital Administrators have the obligation to insures that staff members know what the work expectations are during pandemics, as well as how the hospital plans to protect staff members once they report for work. It is essential that healthcare workers know what resources are available to them, including vaccinations and care for dependent family members. It is imperative that Hospital Administrators are knowledgeable about the disease, including modes of transmission and treatment modalities. This article is interesting in that it stressed the importance of adequate planning to enhance staff buy-in so that they are more willing to report for work during an influenza pandemic.

Factors that Influence Medical Reserve Corps Recruitment

Qureshi K, Gershon RM, Conde F
Prehospital Disast Med 2008;23(3):s27–s34.

Reviewed by Lynn Slepski

PURPOSE: To identify what factors influence interest, ability and willingness to join the Medical Reserve Corps (MRC) in Hawaiian healthcare providers.

METHODS: A proportionate, random sample of 11 groups representing Hawaiian healthcare professionals were asked to participate in a survey developed as a result of series of key informant interviews and focus groups. Each respondent was asked to complete a 15-item, self-administered questionnaire asking them to rank and rate a series of questions related to joining and remaining in the MRC program. In addition, they were asked to provide short answers on the perceived benefits and drawbacks of joining a program and their opinions about their professional colleagues joining the MRC.

RESULTS: More than 44% of healthcare professionals completed the survey (n = 468). Less than 10% had prior knowledge of a MRC. While willingness to join was moderate to high, the ability of those surveyed to join an MRC was low to moderate. Allied health professionals, nurses, and females were most likely to join. In contrast, physicians and dentists were least able or willing to join an MRC. Time commitment was the single issue most reported in making the decision to join. The four commonly cited reasons to join an MRC were: (1) personal satisfaction in giving back to the community; (2) the opportunity to obtain additional disaster training; (3) networking; and (4) experience so as to add to a professional resume. Respondents cited lack of available time and time away from family as the primary drawbacks to joining a MRC. Also cited were...
how efficiently the MRC operated and whether continuing education credit was offered. Concern for family member safety, as well as professional liability and completing personal obligations were expressed. Finally, respondents indicated that being recognized for their personal contributions to an organization was important. Despite their personal inability to join, almost 55% thought that their colleagues would join an MRC because it was the right thing to do; that communities needed their help and that their colleagues would enjoy helping others.

**COMMENT:** The mission of the MRC is to assure adequate numbers of competent healthcare professionals are organized and available to respond to local catastrophic health events that require the ability to expand public health and medical services. Despite geographic isolation, few healthcare professionals in Hawaii recognized that a local option, such as an MRC, to assist in surge healthcare existed. Although at the time of response, most of the healthcare professionals surveyed were unable or unwilling to join an MRC themselves, respondents viewed such community service as the right thing to do. The authors suggest several useful recruitment strategies to improved MRC marketing. These include: (1) improving the quality and efficiency of MRC meetings to limit time commitments; (2) providing creative opportunities for training such as via Web-based platforms; and (3) targeting recruitment to retirees who may have fewer time commitments and competing demands. Providing liability insurance, as well as giving priority to family members of MRC volunteers also was mentioned as strategies to make volunteering more compelling. This article provides valuable insight into key factors that influence healthcare professionals to consider joining an MRC, a strategy called for in a variety of US Government plans and policies. This study begins to expand on the limited state of the science regarding emergency preparedness, as well as public health and medical emergency response of one voluntary organization—the MRC. Although limited to Hawaiian healthcare professionals, the findings identified factors that may influence decisions by healthcare professionals to volunteer for an MRC.

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