

**Introduction to Emergency Preparedness and Response in a Medical Illustration Curriculum: Communicating a Medical Emergency through Visual Imagery**

**Association of Medical Illustrators  
In Conjunction with  
Commission on Accreditation of Allied Health Education Programs  
CAAHEP Emergency Preparedness Project**

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**Overview: Medical illustrators, with their skills as communicators, can play a role in bringing about the best possible outcome of a disaster by (1) participating in Emergency Preparedness efforts and (2) being prepared to communicate medical information under adverse circumstances during an Emergency Response effort.**

Emergency Preparedness is an emerging and rapidly evolving field. Disaster response abruptly came to prominence, in many people's minds, on September 11, 2001. Far from fading away, the concept was accepted so rapidly and extensively that, a few years later, in August of 2005, media coverage of Hurricane Katrina demonstrated that failure to have in place an effective emergency preparation and response plan is a risky position to be in and can invite criticism. With the growing public expectation of a competent response to terrorism, epidemics, and even severe weather-related events, it is reasonable to assume that the topic of Emergency Preparedness will be with us for the foreseeable future.

Disasters, whether natural events or manmade occurrences, have in common the interruption of normal systems of delivery of health care services. Medical illustrators can be valuable members of Preparedness planning committees that help bring about the most effective response possible by the health care system of a city or region affected by a disaster. Participation in Preparedness can take the form of a special project or an ongoing part of a job. In the event of a disaster, medical illustrators can devise methods of rapidly and effectively distributing information.

Being capable of contributing to an Emergency Preparedness and Response team effort may in the future be a valuable addition to the list of services our graduates can offer. Fortunately, many skills that are applicable to Emergency Preparedness are typically used in medical illustration and are currently being taught in our Programs. It is in the interest of our graduates to be able to recognize the relevance of these skills to Preparedness efforts and to be able to cite specific examples of ways in which medical illustrators can contribute to those efforts. (Please see below.)

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) is encouraging all of its accredited programs to ensure that their entry-level professionals will be prepared to understand their roles in Emergency Preparedness and Response. In 2006 CAAHEP was invited to submit a proposal for a grant to design an

Emergency Preparedness curriculum for Allied Health. This was done, and the grant was awarded to CAAHEP by the Health Resources and Services Administration of the U.S. Department of Health and Human Services. (Please see the CAAHEP website for further information <http://caahep.org/epp/> ) As part of this project, CAAHEP asked that all 20 health science occupations with CAAHEP-accredited programs, including the AMI, modify their Standards and Guidelines by adding provisions for teaching Emergency Preparedness to their students. CAAHEP asked that the professions incorporate these modifications at their next scheduled revision, which for the Accreditation Review Committee for the Medical Illustrator (ARC-MI), is 2008. How this will be done will vary greatly by profession. While, in theory, the AMI could have decided that we as a profession have no role in Emergency Preparedness and Response, it was generally agreed that it would be more in keeping with the goal of the CAAHEP Emergency Preparedness Project, and in the interest of our students, to find ways to incorporate Preparedness into our training.

In January, 2007, Kathleen Jung and Carole Christman attended the CAAHEP Annual Leadership Meeting in Orlando, Florida, at which one of the focuses was CAAHEP's Emergency Preparedness Project. Kathleen and Carole later attended a second meeting, the CAAHEP Emergency Preparedness Workshop, in October, 2007, in Chicago, at which additional information was presented demonstrating that EP is being more and more widely incorporated into the mainstream. For example, the Director of the Public Health Readiness Office of the American Medical Association presented information about the AMA Center for Public Health Preparedness and Disaster Response <http://www.ama-assn.org/ama/pub/category/6206.html> and pointed out that the AMA publishes a journal titled Disaster Medicine and Public Health Preparedness <http://www.dmph.org/misc/about.dtl>

At the March, 2008, AMI Council on Education meeting in Chicago, Directors of accredited programs of medical illustration addressed the topic of incorporating Emergency Preparedness into the *Entry-Level Competencies for the Medical Illustrator*, in Section III. C. of the *CAAHEP Standards and Guidelines for an Accredited Educational Program for the Medical Illustrator*. The Program Directors proposed a list of Emergency Preparedness and Response Competencies, modified slightly by the ARC-MI in a subsequent conference call meeting in June, 2008.

**Goal: Graduates must be able to apply their knowledge and skills to emergency situations.** Entry-level competency is evidenced by a graduate's knowledge and ability to:

**Create visual information for the lay public on how to respond to a medical emergency.**

**Create medical visual imagery in a restricted time frame and/or under adverse conditions.**

**Design original medical iconography targeted to a multicultural audience.**

**Prepare medical info-graphics/data visualizations for public signage**

**Identify the contributions that can be made by a medical illustrator to an Emergency Preparedness and Response plan.**

**Ways in which emergency preparedness may be incorporated into the curriculum:**

**Create visual information for the lay public on how to respond to a medical emergency, for example an outbreak of rabies or SARS.**

Discuss ways to create visuals for urgent media release, for example, patient education images explaining safety procedures, contagion pathways, quarantine measures, and sanitation techniques. Discuss how printed materials (photocopies, flyers) of these items could be created quickly.

Teach principals of communication involved in addressing various types of audiences, including public/lay audiences. Recommend that students take into account the degree of literacy of their intended audiences, including their ability to read English or other languages, their ability to do math used in a health care setting, their ease of access, or lack of it, to the health care system, and variations in cultural and ethnic sensitivities.

Teach visual information communication principles. Recommend that students keep in mind the specific agenda of any given communication effort, noting goals and objectives. Students should become skilled in visual storytelling to clarify sequential and procedural information. This includes skills in selecting what information to emphasize, deciding the number and sequence of steps to use, determining how to maintain continuity and consistency with other communication efforts related to a given emergency, and determining the most effective ways to communicate risk.

**Create medical visual imagery in a restricted time frame and/or under adverse conditions**

Discuss with students strategies for obtaining and communicating medical information during a power outage or in the absence of the usual infrastructure, information resources, or equipment, such as computers. Recommend that students systematically back up files. Assign a task with an urgent deadline, such as a “one-hour drawing.” Consider adapting, or re-purposing, a current project for this objective.

**Design original medical iconography targeted to a multicultural audience.**

Take into account the target audience’s ability to recognize medical symbols.

**Prepare medical info-graphics/data visualizations for public signage, for example posters, billboards, or banners.**

Discuss the production of signage, bilingual if needed, to direct patients around the hospital or city. Discuss production of graphics such as maps, evacuation plans, and diagrams for coordinating professional first responders and volunteers during a catastrophic triage. Consider improvised methods of creating signage in the event of a power outage.

**Identify the contributions that can be made by a medical illustrator to an Emergency Preparedness and Response plan.**

**Additional options for incorporating emergency preparedness into the curriculum:**

**Promote awareness of applicability of topics in the curriculum to Preparedness.** Many skills that are already being taught in our curriculum would be

valuable in Emergency Preparedness. Discussion points can be added to critiques to encourage awareness of a project's applicability to Preparedness.

**Teach teamwork strategies and their relevance to both emergency preparation and response efforts.** Discuss interpersonal and communication skills, management of stress, and circumstances under which medical illustrators might be expected to take the lead in communications decisions. Discuss ethical, legal, and privacy (HIPAA) issues.

**Advise students to become aware of their institution's emergency plan in their future places of employment.** Consider using, as an example, the emergency plan, if any, of the School with which the Program is affiliated. Programs could make contact, in advance, with communications personnel at their institutions (Public Relations offices, planning committee on disaster) or local government (public health commissioner, Department of Public Health) to point out what services medical illustrators could provide.

**Advise students to become aware of professional websites that contain Preparedness-related information and that are intended to be readily accessed, such as the American Red Cross and the CAAHEP Emergency Preparation Project websites.** Knowing where to find existing useful information may save time and effort during Emergency preparation or response.

**Consider potential thesis/research topics in specialized area of emergency preparedness.**

**Students may, if they choose, take courses in first aid training on their own.** The American Red Cross <http://www.redcross.org/index.html> offers classes in *CPR/AED-Adult* and *Standard First Aid*, among other topics. Students may choose to volunteer during a crisis, if institutional and/or local regulations permit volunteering by people not routinely involved in patient care. Pre-registration may be required. Incorporating first aid training into our Programs' curricula would be impractical because of time constraints and would be of only temporary benefit, since American Red Cross *Standard First Aid* certification expires in three years, and *CPR/AED-Adult* certification expires in one year.

### **Ways in which emergency preparedness may be addressed at the professional level:**

Although the CAAHEP Emergency Preparedness Project is directed specifically at the student/curriculum level only, the AMI may wish to address Preparedness issues at the professional level, as well. Suggestions from the ARC-MI Committee include the following:

**Schedule speakers at AMI Annual Meetings to address Preparedness.** Invite members or guest speakers who have been involved in Disaster Preparation or Response to present a talk on their experiences.

**Add a section on Emergency Preparedness and Response to the AMI website,** including a section in which members may contribute examples of their own experiences with Preparedness and Response (SARS, etc.).

**Develop an emergency response list of illustrators in various specialties willing to respond in a crisis.**

**Inform members how medical illustrators, as medically oriented people, could play a role as volunteers in a disaster response.** Suggest that members take Red

Cross First Aid classes, be observers at mass casualty exercises, and look into local regulations regarding volunteering during a crisis (please see Section “6” above).

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