Pediatric Annex for a Hospital Emergency Operations Plan

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

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Introduction

Purpose:

In a large-scale emergency, children are one of the most vulnerable populations. Their unique vulnerabilities make it vital that their special needs are addressed in every stage: prevention, preparedness, response, and recovery. Healthcare institutions have a responsibility to ensure the highest quality care is provided under standard and emergency and/or surge conditions. This collection of modules emphasizes family-centered care and evidence-based practices within the limits of the emergency response.

The NW Oregon Health Preparedness Organization created this Annex to provide hospital personnel an overview of planning tools and concepts that may assist them in developing emergency plans that include specific content on the care of children. The Annex is not prescriptive; it is assumed that any hospital utilizing it does their due diligence to shape their plan's content in accordance with applicable statutes, certification regulations, and/or accreditation principles.

EOP Annex Goal:

Ensure that a hospital EOP addresses the unique needs of children across an all-hazards planning environment.

Module Content:

This Pediatric Annex includes a series of modules. Each module of the Annex covers a different response operation or planning concept. They articulate an organization's response to pediatric needs within the EOP. Modules 1-4 cover administrative planning considerations. Modules 5-10 are operational plans activated in response to a specific pediatric surge event.

Additionally, this Annex uses infectious disease (slow moving event) and mass trauma (fast moving event) as starting points for planning. Any of these modules can be adapted to other hazards or threats; flexibility is key. The modules rely on defined outcomes, clear definition of roles and responsibilities, and clear communication channels across the response.

General Pediatric Surge Assumptions:

1. Institutions will likely exceed their internal capacities quickly (after hospital-focused surge interventions), and must collaborate with their peer institutions (pediatric specialty care hospitals) to ensure maximum utilization of scarce pediatric resources (i.e. critical care beds).

2. Pediatric specialty care hospitals will be the first tier of medical response to a pediatric surge event (either medical or trauma) in the Portland Metropolitan Area and/or the State of Oregon. Subsequently, these hospitals may also advise and/or support hospitals that do not have pediatric specialties.

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Introduction

PLANNING	**Module 1:** HIPPA and Information Sharing **Module 2:** Staff Education for Pediatric Disaster Care Recommendations **Module 3:** Adapting HICS for Pediatric Response **Module 4:** Children with Functional, Access, or Special Healthcare Needs
OPERATIONS	**Module 5:** Pediatric Disaster Triage **Module 6:** Pediatric Safe Area **Module 7:** Disaster Behavioral Health for Children & Families **Module 8:** Infection Control Practices for Pediatrics **Module 9:** Pediatric Decon For CBRNE **Module 10:** Pediatric Nerve Agent Response (CHEMPACK)

References

Each module contains a list of reference plans and articles used to help shape the module's content. There is also a separate complete list on pages 5-9 of the master tool.

Module Core Segments

Each module in this Annex has consistent subject headings and layout to ease understanding. The content is tailored specifically to the module topic. Not all modules require all core segments.

1. Module Purpose/Background Information

This section describes the purpose and rationale.

2. Definitions

Definitions specific to the module will be included in this section. Specifically, each module will define the term "pediatric" based on the module topic. For example, the definition of "pediatric" will be different for a decontamination module versus a behavioral health module.

3. Planning Guidelines/Assumptions

This section lists planning assumptions or guidelines specific to pediatrics, and specific to the module topic.

4. Facility-Based Operational Details

This section provides details for the response for each module topic. These details can include:

i. Risks and potential patient presentation
ii. Identification of special space needed during the response
iii.Staffing enhancements for pediatric response (including Job Action Sheets)
iv. Pediatric-specific supplies and storage considerations

5. Appendices/References to Other Related Policies & Plans

This section provides a link to other references for the module topic, as well as serving as a place to crosswalk other related emergency plans.

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Reference List

Reference List:

To compile this Annex, previous work across the nation was reviewed and provided content to shape the final product. We include this list of articles, guidances, and best practices to honor their contributions to the body of work on this topic.

Module	References
Introduction	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services & Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Regional Pediatric Disaster Surge Framework. Children's Hospital Central California and California Emergency Managmeent Agency Mutual Aids Region V. December 2012. https://www.calhospitalprepare.org/sites/main/files/file-attachments/12.6.12_final_cv_framework.pdf
Module 1: HIPAA, Informed Consent, & Information Sharing	• Family Reunification During an Emergency Release of Information Policy. Children's Hospital Colorado. December 2013. • Hospital Guidelines for the Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. https://nwhrn.org/wp-content/uploads/2018/08/Hospital-Guidelines-for-Pediatric-Patients-in-a-Disaster.pdf • DHHS/ASPR Website: https://www.hhs.gov/hipaa/for-professionals/faq/1068/is-hipaa-suspended-during-a-national-or-public-health-emergency/index.html • HIPPA and Disasters: What Emergency Professionals Need to Know. 2017. https://files.asprtracie.hhs.gov/documents/aspr-tracie-hipaa-emergency-fact-sheet.pdf • DHHS BULLETIN: HIPAA Privacy in Emergency Situations. 2014. https://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/understanding/special/emergency/hipaa-privacy-emergency-situations.pdf • University of Michigan, Patient Privacy and HIPAA. https://www.uofmhealth.org/News/patient+privacy+hipaa • Legal Considerations during pediatric emergency mass critical care events. Courtney, Brooke, et. al. Pediatric Critical Care Medicine 2011, Vol. 12. No.6 (Suppl).

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Module	References
Module 2: Staff Education for Pediatric Disaster Care Recommendations	• Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide. • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html. • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf
Module 3: Adapting HICS for Pediatric Response	• Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide. • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Hospital Guidelines for Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. http://www.nwhrn.org/all-documents/hospital-guidelines-for-managing-pediatric-patients-in-a-disaster/ • FEMA's Emergency Management Institute https://training.fema.gov/is/crslist.aspx?all=true • The Center for HICS Education and Training http://hicscenter.org/SitePages/HomeNew.aspx

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Module	References
Module 4: Children with Access, Functional, and Special Healthcare Needs	• Resource Guide for Access and Functional Needs of Children and Youth in Disaster Planning. Oklahoma State Department of Health. 2014. https://www.ok.gov/health2/documents/Children%20Resource%20Guide%20Final%20with%20logo%202014%20gfl.pdf • Children with Special Health Care Needs and Preparedness: Experiences from Seasonal Influenza and the 2009 H1N1 Influenza Epidemic. Peacock, et al. 2012. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4617621/ • At Risk Individuals. http://www.phe.gov/Preparedness/planning/abc/Pages/atrisk.aspx • EMSC Pediatric Disaster Preparedness Guidelines: Hospitals. California Emergency Medical Services Authority. 2010. https://www.calhospitalprepare.org/post/pediatric-disaster-preparedness-guidelines-hospitals • Emergency Information Form for Children With Special Health Care Needs. ACEP and AAP. https://www.acep.org/Clinical---Practice-Management/Emergency-Information-Form-for-Children-With-Special-Health-Care-Needs/#sm.0001vsw2a91cd6eqirr8bj2rpak31.
Module 5: Pediatric Disaster Triage	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide
Module 6: Pediatric Safe Area	• Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html. • Hospital Guidelines for Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. https://nwhrn.org/wp-content/uploads/2017/08/King-Co-Pediatric-Toolkit-2010.pdf

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Module	References
Module 7: Disaster Behavioral Health for Children and Families	• Regional Pediatric Disaster Surge Framework. Children's Hospital Central California and California Emergency Management Agency Mutual Aid Region V. December 2012. http://www.calhospitalprepare.org/post/central-valley-regional-pediatric-disaster-surge-framework. • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf
Module 8: Infection Control Practices for Pediatrics	• Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • The Association for Professionals in Infection Control and Epidemiology (APIC) Text: Chapter 119 Emergency Management http://text.apic.org/toc/community-based-infection-prevention-practices/emergency-management • 2007 Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf • CDC Website Respiratory Hygiene/Cough Ettiquite in Healthcare Settings. https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm

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Reference List

Module	References
Module 9: Pediatric Decontamination	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html • Pediatric Disaster Preparedness Guidelines. Illinois Emergency Medical Services for Children. August 2005. https://ssom.luc.edu/media/stritchschoolofmedicine/emergencymedicine/emsforchildren/documents/disasterpreparedness/otherresources/planningandcareguidelines/Pediatric%20Disaster%20Preparedness%20Guidelines.pdf • Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide
Module 10: Pediatric Nerve Agent Response (CHEMPACK)	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Healthcare Preparedness for Children in Disasters: A Report of the NACCD Healthcare Preparedness Working Group. National Advisory Committee on Children and Disasters. November 13, 2015. https://www.phe.gov/Preparedness/legal/boards/naccd/Documents/healthcare-prep-wg-20151311.pdf • CDC's CHEMPACK Program—The Stockpile that may protect you from a chemical attack. Centers for Disease Control and Prevention. 2017. https://blogs.cdc.gov/publichealthmatters/2015/02/cdcs-chempack-program-the-stockpile-that-may-protect-you-from-a-chemical-attack/ • Chemical Hazards Emergency Medical Management. US Department of Health and Human Services. 2017. https://chemm.nlm.nih.gov/chempack.htm#overview

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Module 1:
HIPPA, Informed Consent, & Information Sharing

NW Oregon Health Preparedness Organization

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Module 1: HIPAA, Informed Consent, and Information Sharing

Module Purpose

To outline legal considerations for information sharing regarding pediatric care within the confines of a disaster.

Background: Emergencies can strike with little or no warning and may present potential threats to patients' right under HIPAA and the Privacy Rule. Well-intentioned as it may be, sharing or viewing of a patient's status or condition by those who are not directly involved in patient care or otherwise authorized violates these rights and jeopardizes the hospital.

Hospitals can be rapidly inundated with pediatric patients, worried family and friends looking for loved ones, and the media requesting patient information. Knowing what information can be released in an emergency, to whom, and under what circumstances is critical to understand and incorporate into the Emergency Operation Plan (EOP).

The hospital will assign a spokesperson when the EOP and/or this Annex are activated to coordinate and approve sharing approved patient information.

Definitions

1. Disaster: an occurrence that has resulted in property damage, deaths, and/or injuries to a community (FEMA definition).

2. Pediatric: HIPPA guidelines refer to minor children (under 18); State healthcare regulations vary depending on care/service provided.

3. Informed Consent: a process of communication between a patient and physician that results in the patient's authorization or agreement to undergo a specific medical intervention.

4. Life or Limb Exception: a concept in emergency medicine related to informed consent procedures allowing medical staff to intervene in a situation where the patient is incompetent due to medical reasons, or if the patient is a child not accompanied by a parent or guardian to give specific consent. The necessary situation required is if inaction due to a lack of consent would result in loss of life or loss of a limb.

Planning Guidelines/Assumptions

I. HIPAA Guidelines

The procedures below are authorized and approved by Legal Counsel and/or the Privacy Officer of the hospital. Non-compliance with these procedures is subject to significant civil and criminal penalties at the individual and organizational level.

A. Providers and staff can share patient information as necessary to provide treatment as outlined in policies.
B. Providers and staff can share patient information as necessary to support family notification as outlined in policy.
C. Providers and staff can share patient information if the patient is in imminent danger as outlined in policies.
D. Providers and staff can share patient information if the patient is in the facility directory as outlined in policies.

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Module 1: HIPAA, Informed Consent, and Information Sharing

Planning Guidelines/Assumptions (cont.)

II. Sharing Information when a Federal Disaster Declaration is Active

The U.S. Department of Health and Human Services (DHHS) has commented that the HIPAA Privacy Rule is not suspended during a disaster or public health emergency. However, the Secretary of Health and Human Services (HHS) may issue a waiver following a disaster. In such a case, no sanctions or penalties will be assessed against a hospital for specified violations of HIPAA.

A. If the President of the United States declares an emergency or disaster ***and*** the Secretary of HHS declares a public health emergency, the Secretary of HHS may waive sanctions and penalties against a covered hospital that does not comply with certain provisions of the HIPAA Privacy Rule:

i. Requirements to obtain a patient's agreement to speak with family members or friends involved in the patient's care (45 CFR 164.510(b)).

ii. Requirement to honor a request to opt out of the facility directory (45 CFR 164.510(a)).

iii. Requirement to distribute a notice of privacy practices (45 CFR 164.520).

iv. The patient's right to request privacy restrictions (45 CFR 164.522(a)).

v. The patient's right to request confidential communications (45 CFR 164.522(b)).

B. If only the Secretary of HHS issues such a waiver, it only applies:

i. In the emergency area and for the emergency period identified in the public health emergency declaration.

ii. To patients within the hospital if the EOP has been activated. Staff only access or share the minimally necessary patient information.

iii. For up to 72 hours from the time the EOP is activated.

C. When the declaration terminates, the hospital must comply with all the requirements of the Privacy Rule for any patient still under its care (even if 72 hours have not passed).

D. Regardless of the activation of an emergency waiver, the HIPAA Privacy Rule permits disclosures for treatment purposes and certain disclosures to disaster relief organizations.

E. HIPAA guidelines are to preserve current state laws regarding minors. Generally, minor children (under the age of 18) may have information released with the consent of a parent or legal guardian, in accordance with the institution's guidelines.

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Module 1: HIPAA, Informed Consent, and Information Sharing

Planning Guidelines/Assumptions (cont.)

III. Informed Consent for Minors Guidelines

The process to ensure healthcare access, confidentiality, and privacy can be complex when it pertains to minors, and even moreso in crisis and disaster scenarios. No one single rule can be applied to all situations.

A. Minor Rights: Access and Consent to Health Care; a Resource for Providers, Parents, and Educators. This resource is intended to provide basic information about minors' ability to consent to healthcare services, and how healthcare information is treated in Oregon. It is not intended to be a legal document or a substitute for legal advice or direction on specific clients or healthcare provider questions. This guide is included as Appendix A to this module.

B. The American Academy of Pediatrics issued a policy statement that in disasters, healthcare workers may be able to treat minors without securing proper consent where "the minor's life or health would be jeopardized by delay." When it is not possible to secure timely informed consent for treating the minor, Healthcare Workers must provide stabilizing treatment and act in the patient's best interest until consent is properly secured. This policy statement is included as Appendix B to this module.

IV. Information Sharing at the Switchboard

Institutions need protocols regarding information sharing for patients admitted to the facility. In times of disaster this may change, depending on the strategies for information management. The Public Information Officer (PIO) can collaborate with the Privacy Officer to discuss how information about patient admissions and status will be shared in a crisis or disaster situation. The hospital switchboard operator is key to implementing policies on controlling information sharing. The presence of a Presidential Disaster Declaration will change the environment for what information can be disclosed and to whom.

It is recommended that a central patient information center not run by the hospital be established to appropriately redirect persons seeking individuals, if these individuals are not admitted to the facility they are calling. To expedite community-wide information gathering, the hospital can decide not to provide information to public callers, and route all calls and public information requests to a central collection point. Appendix C to this module provides an example tool for switchboard staff to manage incident information.

NOTE: The Institution's AOC can decide not to release information if it is in the patient's best interest

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Module 1: HIPAA, Informed Consent, and Information Sharing

Facility-Based Operational Details

I. Create and Maintain staffing enhancements for surge response staffing (including Job Action Sheets)

A. Maintain call down lists with staff distance from hospital.
B. Cross Train volunteers and other staff on disaster information management protocols.
C. Understand community strategy for reunification and patient tracking.

II. Identify overflow space identified for additional phone operators

A. Develop a plan to convert space for additional phone lines and operators to manage call surge in the immediate time after an incident.

III. Create and Maintain PIO and Privacy Officer Job Action Sheets for Emergency Operations Center

A. Ensure Job Action Sheets describe the collaborative relationship between the two roles, and to develop strategies for managing information shared with the public, callers, and media.

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 1: HIPAA and Information Sharing	• Family Reunification During an Emergency Release of Information Policy. Children's Hospital Colorado. December 2013. • Hospital Guidelines for Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. http://www.nwhrn.org/all-documents/hospital-guidelines-for-managing-pediatric-patients-in-a-disaster/. • ASPR TRACIE https://www.hhs.gov/hipaa/for-professionals/faq/1068/is-hipaa-suspended-during-a-national-or-public-health-emergency/index.html. • Is the HIPAA Privacy Rule Suspended During a National or Public Health Emergency? https://www.hhs.gov/hipaa/for-professionals/faq/1068/is-hipaa-suspended-during-a-national-or-public-health-emergency/index.html. • HIPAA and Disasters: What Emergency Professionals Need to Know? https://asprtracie.s3.amazonaws.com/documents/aspr-tracie-hipaa-emergency-fact-sheet.pdf • BULLETIN: HIPAA Privacy in Emergency Situations https://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/understanding/special/emergency/hipaa-privacy-emergency-situations.pdf _emergency_situations

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Module 1: HIPPA, Informed Consent, and Information Sharing

Appendices/References to Other Related Policies & Plans (cont.)

Module 1: HIPAA and Information Sharing	• University of Michigan, Patient Privacy and HIPAA http://www.uofmhealth.org/news/patient%20privacy%20hipaa • *Legal Considerations during pediatric emergency mass critical care events.* Courtney, Brooke, et. al. Pediatric Critical Care Medicine 2011, Vol 12. No. 6 (Suppl). • The Network for Public Health Law: *Unaccompanies Children in Emergency Situations.* https://www.networkforphl.org/resources_collection/2015/06/10/644/unaccompanied_children_in

II. Review appendices and determine agency policies based on them

A. Oregon's *Minor Rights: Access and Consent to Health Care* Guidance
B. American Academy of Pediatrics minor consent guidance paper
C. Example operations tool for switchboard operations in a crisis and disaster setting

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Modules	Content
Policies	**Content**
Plans	**Content**

Module 1:
Appendix A

Minor Rights: Access and Consent to Health Care

A resource for providers, parents and educators

Not a legal document.

This resource is intended to provide basic information about minors' ability to consent to health care services, as well as how health care information is treated in Oregon. It is not intended to be a legal document or a substitute for legal advice or direction on specific client or health care provider questions related to the topics covered in this publication. Adults will want to be aware of minors' consent rights in order to support good communication with the youth in their lives. The information in this guide summarizes and references, to the best of our understanding, federal laws and Oregon state laws (e.g., Oregon Revised Statutes or ORS), and not those of other states. The document also does not attempt to address other physician "best practices," recommended standards of care or institutional policies related to client decision-making. To find the most current versions of these laws, refer to the links provided throughout the publication.

Oregon Health Authority
PUBLIC HEALTH DIVISION
Adolescent Health Program

The dilemma

The process to ensure health care access, confidentiality and privacy can be quite complex when it pertains to minors. Every day, health care providers are attempting to figure out: (1) which services a minor can obtain without parental consent; (2) when a parent can access a minor's health information; and (3) when minor consent must be obtained before the provider can share the minor's health information. State statutes, federal laws and regulations provide a complicated patchwork of requirements that often do not fit neatly together and may be challenging to interpret and implement.

Unfortunately, no single rule can be applied to all situations. However, a good place to start is with a resource like this that compiles all the requirements. Great care has been taken to present accurate information that is as clear as possible with citations to the entire text of the law or regulation. We encourage anyone wrestling with these issues to use this document as a starting place while establishing a process that will encourage minors to seek care while maximizing their confidentiality and privacy.

Who is considered a minor and why does this matter?

Under Oregon law, anyone under the age of 18 is considered a minor (ORS 419B.550 [definition of minor] and ORS 109.510 [age of majority]). However, if a minor has been formally emancipated by the courts, some laws pertaining to minors are waived (ORS 419B.552 [emancipation of a minor]). See ORS 419B.550 through 419B.558 for further details.

In general, a minor's age determines whether he or she is able to access health care services independently or if parental or guardian consent is required. Additionally, some services that a minor can access independently can be kept confidential, while others cannot. This can be helpful information in order to plan the most appropriate health services for children and youth.

Minor

Any person under the age of 18.

Understanding consent

What is consent?

Consent is an acknowledgement (usually in writing) of any or all of the following:

- The patient understands the treatment he/she will receive.
- The patient authorizes the treatment.
- The patient understands how private information will be shared.

All consent should be **informed consent** (ORS 677.097). Informed consent for health services should be verbal or in writing and includes: a description of the treatment the patient will receive, a description of alternative treatments and a description of any risks involved with the treatment.

Below are some examples of when **written consent** is needed:

- If someone outside of your health care system requests your health records; or
- If you want someone else to have access to your health information.

Minors **may** be able to request certain levels of confidentiality or consent to various health care matters depending on their age. Health care professionals may be able, or even required, to disclose certain health information about minor patients (such as reportable diseases or suspected abuse or neglect).

Common health services and consent

Although many adults help minor children make health care decisions, there can be times when a minor child does not need or want this involvement. Below is a brief (not exhaustive) list of common services and their consenting requirements in Oregon.

Medical and dental services (ORS 109.640)

Minors who are 15 years or older are able to consent to medical and dental services without parental consent. This includes hospital care, as well as medical, dental, optometric and surgical diagnostic care. This would include services such as:

- Treatment for illnesses or injuries (colds, sprained ankle);
- Sports or camp physicals;
- Dental visits (check-ups, cleanings, fillings);
- X-ray services;
- Emergency room visits;
- Vision care (except for first time contact lens visit); and
- Immunizations.

Mental health and chemical dependency (ORS 109.675)

A minor who is 14 years or older may access outpatient mental health, drug or alcohol treatment (excluding methadone) without parental consent. These services may include:

- Seeking help from a psychiatrist or psychologist;
- Seeking mental health therapy from a doctor or social worker; and
- Seeking help for drug or alcohol use.

Providers are **expected to involve parents** by the end of the minor's mental health, drug or alcohol treatment unless:

- The parent refuses involvement;
- Clear clinical indications to the contrary exist and are documented in the treatment record;
- There is identified sexual abuse; or
- The minor has been emancipated and/or separated from the parent for at least 90 days.

For mental health and chemical dependency services, the provider may disclose health information to a minor's parent or guardian per ORS 109.680 if:

- It is clinically appropriate and in the minor's best interests;
- The minor must be admitted to a detoxification program; or
- The minor is at risk of committing suicide and requires hospital admission.

Mental health and chemical dependency

- Although minors age 14 and older can access outpatient mental health and chemical dependency services independently, parents are expected to be involved in their treatment at some point.
- Involvement does not mean that adults always have access to a minor's mental health or chemical dependency records.
- Federal regulation 42 CFR 2.14 states that if a minor is able to self-consent for drug or alcohol treatment, the minor's treatment records cannot be disclosed without the minor's written consent (including to the parent or guardian).

Common health services and consent, cont.

Family planning/sexual and reproductive health (ORS 109.610, ORS 109.640)

Minors of any age are allowed to access birth control-related information and services as well as testing and treatment for sexually transmitted infections (STIs) including HIV, without parental consent.

What about consent to sex?

Oregon law does not give individuals the ability to consent to sex until the age of 18; however, there are a few important points to consider. Sexual activity is a normal part of development, and according to the 2009 Oregon Healthy Teens Survey[1] of 11th grade students:

- Forty-eight percent have had sexual intercourse.
- Of those, 58 percent reported using a condom.

Ensuring that young adults have proper resources and information on sexual activity is important for them to make healthy choices.

Confidentiality of minor health care services

Oregon law does not give minors a "right" to **confidentiality** or parents a "right" to **disclosure**. However, federal law may offer additional protections in some circumstances. When a minor self-consents for health care services, providers are encouraged to use their best clinical judgment in deciding whether to share information with the parent or guardian (ORS 109.650).*‡ However, most people, minors included, expect some level of confidentiality when receiving health care services.

Providers and adolescent patients should discuss usual confidentiality practices, as well the types of information that providers are required to report. This will have an impact on a minor's willingness to seek health care services they may have otherwise avoided. Rules that providers or facilities may have about minor confidentiality and disclosure are not intended to prohibit or discourage minors from accessing needed health care services, but to encourage proper support in the decision-making process.

Oregon law does protect providers from civil liability when a diagnosis or treatment is provided to an authorized minor without the consent of the parent or legal guardian of the minor. (ORS 109.685).

* For minors who self-consent for drug or alcohol treatment services in certain settings, providers are not permitted to disclose the minor's treatment records to the parent/guardian without written consent by the minor per federal regulation 42 CFR 2.14(b).

‡ All clinics and/or providers who participate in Title X grant programs **must** follow federal regulations regarding confidentiality per 42 CFR 59.11.

Sharing, protecting and accessing health information

Health records include personal health and other identifying information. There are laws in place that help make sure these records are kept as private as possible and are only shared with those who have been authorized to receive this information. Below is a quick overview of different forms of protection related to health records and other private information.

Confidentiality

Confidentiality is an agreement between the patient and provider to ensure personal information is only shared with those whom the patient agrees to share information with. For the most part, providers are not allowed to share private health information with anyone, unless a signed a release of information is on file stating otherwise. There are also national laws, such as HIPAA and FERPA, that help to protect patient confidentiality. However, there are a few exceptions when health information can or must be shared, called mandatory reporting (see page 4 for more information).

Sharing, protecting and accessing health information, cont.

Mandatory reporting

There may be times when a minor's health information must be reported to other entities. Some health information must be shared with local health authorities, including cases of certain infections and communicable diseases (such as tuberculosis, West Nile virus or HIV/AIDS). This information is gathered in order to monitor disease patterns with the goal of preventing further infections or outbreaks. To find out more about Oregon physician reportable diseases and conditions, visit http://public.health.oregon.gov/diseasesconditions/communicabledisease/reportingcommunicabledisease/pages/index.aspx.

Other times, appropriate authorities must be notified if there are health or safety concerns regarding a minor child or vulnerable adult, even if the minor provided this information in confidence (such as abuse, neglect, or imminent harm to the minor or another person). Certain health and social service professionals in the community are legally required to report these types of health and safety concerns.

Mandatory reporters include (ORS 419B.005*):

- Doctors & Nurses
- Social workers
- Teachers
- Day care providers
- Police officers
- Other state employees
- Mental health counselors (in certain circumstances)
- University and community college employees
- Coaches & youth group leaders.

Mandatory reporting circumstances

There are times when confidential information must be reported:

- Reportable infectious and communicable diseases;
- Suspicion of abuse or neglect of a vulnerable individual;
- Entering a drug or alcohol detoxification program; and
- Individual is a health or safety risk to themselves or others.

Additionally, if a person is under the age of 18, there are circumstances when providers are allowed to share the minor's health information with a parent or guardian (ORS 109.680). See the mental health and chemical dependency section on page 2 for details.

* Refer to ORS 419B.005 for a full, detailed list of positions that are defined mandatory reporters and those that are excluded.

National privacy laws: HIPAA and FERPA

What is HIPAA?

HIPAA stands for the Health Insurance Portability and Accountability Act. This law created national standards to protect a patient's identifiable information in health records. HIPAA also allows a patient greater access to his or her own records. HIPAA governs privacy policies in health care settings, hospitals and other free-standing clinics, including Oregon's certified school-based health centers.

What is FERPA?

FERPA stands for the Federal Education Rights and Privacy Act. This federal law is similar to HIPAA, but it applies to the school setting and defines access to and protects the educational record of a student, including a school health record maintained by a school nurse. Under FERPA, the educational record can be requested by parents and some school officials. However, records maintained at Oregon's certified school-based health centers are governed by HIPAA, not FERPA.

Both of these privacy laws are meant to protect confidential information of individuals in different settings where private information is used. It is important to know what information is considered "protected" under both HIPAA and FERPA when providing and accessing health information (see page 5 for links to more information).

Additional resources

General resources

Center for Adolescent Health and The Law - *www.cahl.org*

Confidentiality and Teens - *www.aafp.org/online/en/home/policy/policies/a/adol2.html*

Family Educational Rights and Privacy Act - *www.ed.gov/policy/gen/guid/fpco/ferpa/index.html*

Federal regulations on confidentiality of minor drug and alcohol treatment records (42 CFR 2.14) - *edocket.access.gpo.gov/cfr_2002/octqtr/42cfr2.14.htm*

Health Insurance Portability and Accountability Act - *http://www.hhs.gov/ocr/privacy/hipaa/understanding/*

Minors rights to consent by state - *www.guttmacher.org/statecenter/spibs/spib_MACS.pdf*

Oregon Adolescent Health Progam - *www.healthoregon.org/ah*

Oregon Revised Statutes (ORS) - *www.oregonlaws.org* and *www.leg.state.or.us/ors*

Resources for teens and parents

Adolescent health resources and links - *www.plannedparenthood.org/ppsworegon/resources-cool-links-29023.htm*

Guide to confidential services and information for teens - *www.cahl.org/PDFs/AGuideforTeensBrochure.pdf*

Planned Parenthood - *www.plannedparenthood.org*

Sexual health resources for teens written by teens - *www.sexetc.org*

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1 Oregon Healthy Teens Survey. 2009. Data available at *www.dhs.state.or.us/dhs/ph/chs/youthsurvey/ohtdata.shtml.*

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American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

FROM THE AMERICAN ACADEMY OF PEDIATRICS

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

Policy Statement—Consent for Emergency Medical Services for Children and Adolescents

COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE AND COMMITTEE ON BIOETHICS

KEY WORDS
informed consent, Emergency Medical Treatment and Active Labor Act, confidentiality, mature minor, emancipated minor, emergency medical condition

ABBREVIATIONS
ED—emergency department
AAP—American Academy of Pediatrics
EMS—emergency medical services
MSE—medical screening examination
EMC—emergency medical condition
IRB—institutional review board

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abstract

FREE

Parental consent generally is required for the medical evaluation and treatment of minor children. However, children and adolescents might require evaluation of and treatment for emergency medical conditions in situations in which a parent or legal guardian is not available to provide consent or conditions under which an adolescent patient might possess the legal authority to provide consent. In general, a medical screening examination and any medical care necessary and likely to prevent imminent and significant harm to the pediatric patient with an emergency medical condition should not be withheld or delayed because of problems obtaining consent. The purpose of this policy statement is to provide guidance in those situations in which parental consent is not readily available, in which parental consent is not necessary, or in which parental refusal of consent places a child at risk of significant harm. *Pediatrics* 2011;128:427–433

INTRODUCTION

Minors (persons under the age of legal consent as defined by state law) often require care in the prehospital environment and present to emergency departments (EDs) with medical concerns. Parental consent generally is required for the medical evaluation and treatment of minor children. In most cases, children will present to the ED with a parent or legally authorized decision-maker who can provide informed consent for evaluation and treatment. However, a number of well-recognized exceptions to this "general rule" have been outlined in common and statutory law to allow for the treatment of minors without parental consent in situations that frequently occur in EDs.[1–14] The purpose of this document is to provide guidance for those situations in which parental consent is not readily available, in which parental consent is not necessary, or in which parental refusal of consent places a child at risk of harm.

The American Academy of Pediatrics (AAP) supports the principle that all pediatric patients who present to any emergency medical services (EMS) provider or ED for evaluation and treatment should receive an initial evaluation or medical screening examination (MSE) regardless of ability to pay or presence of a legally authorized decision-maker who can provide consent. The AAP has written 2 previous versions of this document. The original document, "Consent for Medical Services for Children and Adolescents," was published in 1993 and subsequently revised in 2003.[15] The recommendations made in the 2003 revision remain important and pertinent to current practice. In addition to reaffirming the 2003 recommendations, this policy statement attempts

to explore additional situations in which obtaining consent presents special challenges.

EVALUATION AND TREATMENT OF THE UNACCOMPANIED MINOR

If a parent or legal guardian is present or available, the health care professional treating the child should make every reasonable effort to obtain and document informed consent. Children occasionally present to the ED unaccompanied by a parent or legal guardian. In some cases (discussed later in this statement), adolescents may have the legal authority to consent for treatment without a parent present. In most situations, however, the child or adolescent will either not have the authority to consent or will be unable to do so. Common and statutory law generally has supported the health care professional in evaluating these children and providing emergently needed care while attempts are made to locate a parent or legally authorized decision-maker. In addition, current federal law under the Emergency Medical Treatment and Active Labor Act (EMTALA) mandates an MSE for every patient seeking treatment in an ED of any hospital that participates in programs that receive federal funding, regardless of consent or reimbursement issues.[16–19] The purpose of the MSE is to determine if an emergency medical condition (EMC) exists, including life- or limb-threatening conditions, severe pain, or conditions with the potential for serious impairment or dysfunction if left untreated. The MSE might require the use of extensive ED resources, including laboratory testing, radiographic imaging, and subspecialty consultation, as needed for diagnosis. Although the ED should attempt to contact the unaccompanied patient's parent or legal guardian to seek consent for evaluation and treatment, the performance of the MSE and the stabilization of the patient with an identified EMC must not be delayed. If an EMC is not identified, EMTALA regulations no longer apply, and the physician or health care professional generally should seek proper consent before further (nonemergent) care is provided. In cases of suspected abuse or neglect, child protective services or local law enforcement officers may have the authority to consent for evaluation and treatment, although the extent of this authority might differ from one jurisdiction to the next.

In situations in which a minor has a condition that represents a threat to life or health and a parent or legally authorized decision-maker is not readily available to provide consent, health care professionals may provide necessary medical treatment or transport the child for more definitive evaluation and stabilizing treatment. The ethical basis for this approach is based in the professional's duty to seek the best interest of the child. The legal basis for taking action in an emergency when consent is not available is known as the "emergency exception rule."

The emergency exception rule is also known as the doctrine of "implied consent." This emergency exception rule is based on the assumption that reasonable persons would consent to emergency care if able to do so and that if the legal guardian knew the severity of the emergency, he or she would consent to medical treatment for the child. Under the emergency exception rule, a medical professional may presume consent and proceed with appropriate treatment and transport if the following 4 conditions are met:

1. The child is suffering from an emergent condition that places his or her life or health in danger.
2. The child's legal guardian is unavailable or unable to provide consent for treatment or transport.
3. Treatment or transport cannot be safely delayed until consent can be obtained.
4. The professional administers only treatment for emergent conditions that pose an immediate threat to the child.

Any time a minor is treated without consent, the burden of proof falls on the professional who is evaluating, treating, or transporting the child to justify and document that the emergency actions were necessary to prevent imminent and significant harm to the child. In addition to actions necessary to save a person's life and prevent permanent disability or harm, the treatment of fractures, infections, pain, and other conditions may broadly be considered as emergent conditions that require treatment. As a general rule, health care professionals should always do what they believe to be in the best interest of the minor. The emergency exception exists to protect the health care professional from liability with the assumption that if the parents were present, they would consent to treatment.[20] The professional must clearly document in the child's record the nature of the medical emergency and the reason the minor required immediate treatment and/or transport and the efforts made to obtain consent from the patient's legal guardian, if unavailable.[15]

EMANCIPATION AND THE MATURE MINOR DOCTRINE

There are 3 situations in which a minor, rather than his or her parents, has the legal authority to make decisions regarding his or her health care: emancipation; the mature minor exception; and exceptions based on specific medical conditions. In fact, every state has enacted minor consent statutes that address some or all of these exceptions to the "general rule."[21,22]

In general, an emancipated minor can function as an adult, independent from

his or her parents, with regard to consent for medical evaluation and treatment.[23] Children who are legally emancipated may give consent for medical treatment and transport. They may also refuse medical care and/or transport. Although emancipated minor laws vary from state to state, most states recognize minors to be emancipated if they are married, economically self-supporting and not living at home, or on active-duty status in the military. In some states, a minor who is a parent or who is pregnant might also be considered emancipated. Other states might require a court to declare the emancipation of a minor.

Most states also recognize a mature minor exception, in which a minor, usually 14 years old or older, displays sufficient maturity and intelligence to understand and appreciate the benefits, risks, and alternatives of the proposed treatment and to make a voluntary and reasonable choice on the basis of that information. States vary in terms of whether a physician can make this determination or whether a judicial determination is required.[23]

Finally, most states allow a minor to consent to evaluation and treatment of specific medical conditions without the consent of a parent, generally including mental health services, treatment for drug and alcohol addiction, pregnancy-related care, contraceptive services, and testing for and treatment of sexually transmitted diseases. The specific nature of these exceptions and the age at which they apply vary from state to state. Because state laws vary, it is important to be familiar with the specifics of emancipated and mature minor laws in the state in which care is being provided.

If none of the 3 scenarios described previously (emancipation, mature minor, or condition-specific exceptions) are applicable, then the minor has no legal authority to either provide consent or refuse medical care. Regardless of whether a child has the legal authority to provide or withhold consent, it is always prudent to attempt to get the child's agreement or assent to treatment and transport. This approach respects the personal dignity and self-determination of the child/patient and minimizes confrontation. A willingness to provide the child with some control and some choice might allow for a compromise that allows transport personnel to achieve a safe transfer. Using force or restraint to evaluate, treat, or transport a child should be reserved only for those situations in which all efforts to negotiate respectfully with the child have failed and the child is at risk of serious harm if he or she is not restrained. In these unusual circumstances, appropriate measures should be taken to ensure the safety of the patient.

CONSENT FOR NONURGENT PEDIATRIC CARE OF CHILDREN ACCOMPANIED BY SOMEONE WHO IS NOT AUTHORIZED TO PROVIDE LEGAL CONSENT

Health care professionals should refrain from providing nonurgent testing and treatment to children who present to medical facilities unaccompanied by a custodial parent or legal guardian. An MSE should be performed to ensure that the child does not have a condition that requires emergent attention, and any treatment necessary to prevent immediate and serious harm to the child should be provided while an attempt is made to obtain consent from a legally authorized decision-maker. The AAP clinical report "Consent for Nonurgent Pediatric Care"[24] describes the issue of "consent by proxy" and provides practical steps that will help to balance a patient's ready access to medical care, family integrity, and the health care professional's need to limit his or her exposure to liability. Unless a minor's right to consent has been legally established, health care professionals should attempt to notify parents or legal guardians of their intentions to test and/or treat the minor and consider delaying all nonurgent diagnostic and treatment decisions until the parent or legal guardian can be reached for informed permission or consent.[24]

REFUSALS OF CONSENT FOR EMERGENT EVALUATION AND TREATMENT

A particularly challenging situation occurs when the health care professional is faced with a legal guardian who refuses to give permission for treatment of a child in situations in which such treatment is considered essential to the child's well-being. Competent adult patients have the right to refuse evaluation and treatment, even for EMCs, unless they are determined to lack decision-making capacity. Under US law, minors are generally considered incompetent to provide legally binding consent regarding their health care; parents or legal guardians are empowered to make those decisions on their behalf, and those decisions are considered legally binding. Except for the exceptions cited previously, parental permission is required before the evaluation and treatment of a child. Parental authority is not absolute, however, and when a parental decision places a child at significant risk or serious harm compared with an alternative decision, the state may intervene to require intervention over the objections of the legal decision-maker.

As long as a child's legal guardian possesses medical decision-making capacity, he or she has the right to refuse medical care for the child. However, the guardian is required to act in the best interest of the child. When a legal guardian refuses to consent to medical care or transport that is necessary

and likely to prevent death, disability, or serious harm to the child, law enforcement officers may intervene under local and state child abuse and neglect laws. It is always preferable to negotiate with the legal decision-maker and attempt to achieve an agreeable plan for safely managing the child's medical condition.

When faced with a guardian who refuses to allow the provision of necessary medical care or transport of a child when it is necessary to save a child's life or prevent serious harm, it might be necessary to notify the police and enlist their assistance in placing the child in temporary protective custody. In a life-threatening emergency, it might be necessary to involve hospital security so that emergent evaluation and treatment can begin while child protective services and the police are notified. Likewise, when a legal guardian appears to be intoxicated or otherwise impaired, involvement of law enforcement officers might be necessary to place a minor in temporary protective custody. Once the professional has received authorization to treat from a state child protective agency or police, the emergency medical professional does not have the right to treat a minor for medical conditions that are not serious or life-threatening. Under these circumstances, a medical professional should provide medical treatment without consent only when the child has a medical condition that poses a risk of death or serious harm, when immediate treatment is necessary to prevent that harm, and when only those treatments necessary to prevent the harm are provided.[25]

INFORMED CONSENT AND THE LANGUAGE BARRIER

If a language barrier exists, informed consent for medical treatment should, when clinical circumstances permit, be obtained through a trained medical interpreter. Using an interpreter not only increases the likelihood of truly informed consent but also enhances the possibility of optimal medical treatment by allowing the professional to obtain accurate information about a child's underlying medical conditions, allergies, current medications, or other relevant and important information. Such interpretation may be performed in person, via videoconferencing, or by telephone, but a certified medical interpreter should be used. Using a family member as interpreter should be avoided unless absolutely necessary, and the medical professional should be aware that translation might not be accurate when a trained interpreter is not used.

CONSENT AND CONFIDENTIALITY

State statutes that allow the consent of a minor do not all guarantee an adolescent protection from parental disclosure. However, some states explicitly require either confidentiality or parental notification. Other states require the health care professional to at least make a good-faith effort to involve the family of the minor in his or her treatment. The only federal law that requires confidentiality for minors is the Family Planning Act.[26] It is crucial that every health care professional be knowledgeable of his or her respective state and all federal laws relating to confidentiality and minors.[27]

The issue of adolescent confidentiality was addressed in the recently published AAP technical report "Patient- and Family-Centered Care and the Role of the Emergency Physician Providing Care to a Child in the Emergency Department."[28] This report suggested that ED health care professionals be familiar with the limitations to and obligations for providing care to the unaccompanied older pediatric patient seeking care without the knowledge of his or her family[15,24,29] and make those limits and obligations clear to the patient. For example, both the patient and the health care provider should identify a secure and confidential means of receiving follow-up information regarding pending laboratory results, return visits, and billing notification. In particular, confidentiality can only be reliably realized when attached to financial accountability. The child must be willing and able to pay the bill for the ED visit or risk a breach of confidentiality as a result of billing notification. Some professional organizations have formalized their opinions on the issue of confidentiality. The American Medical Association recommends a conservative approach to confidentiality and encourages parental involvement whenever possible.[30] The Society for Adolescent Medicine believes that health care professionals have an obligation to protect patient confidentiality when appropriate.[31]

As discussed previously, the lack of legal clarity provides health care professionals with some discretionary control over whether to provide testing and treatment to a minor without parental notification. That responsibility should not be taken lightly, and consideration for issues such as family dynamics (eg, will the child be punished if the parents are consulted?), developmental maturity (eg, is the child a runaway risk?), and the actual scope of testing and treatment must be taken into consideration before excluding or including parents in the discussion. In addition, health care professionals should be honest and consistent with their patients and families. A clinician should never promise a patient confidentiality if he or she might not be able to honor that promise.

PREHOSPITAL CONSENT

EMS providers and EMS medical directors caring for minors might find it difficult or impossible to make real-time

contact with parents or legal guardians of patients, despite the increased availability of communication tools in the prehospital environment (eg, cell phones). Although most EMS systems promote a good-faith effort on the part of the prehospital provider to make contact with the parents and legal guardians of minors, many systems do not have formal policies addressing the lack of informed minor or parental consent. If at all possible, an assessment should be performed to determine if there is a medical emergency, and medical consultation should be sought if the emergency medical technicians are unclear about whether a threat to life or limb exists. If parents are present or accessible and refuse care for their injured or ill child, they must be informed of the risk of not transporting a sick or injured pediatric patient, which might include death or permanent disability. Regardless of religious beliefs or parental desires, every attempt should be made to treat and/or transport a child with a life-threatening emergency or if providers suspect child abuse. EMS providers should involve medical control early in these situations and use law enforcement resources as necessary to ensure that the patient receives the necessary emergency stabilization and transport.

CONSENT DURING A DISASTER

Health care professionals evaluating and treating a minor during a disaster should always attempt to obtain consent from the parents or legally authorized decision-maker. The mere existence of a disaster event does not automatically authorize emergency medical professionals to evaluate and treat minors without parental consent unless the minor's life or health would be jeopardized by delay.[32] However, in an overwhelming disaster scenario, time pressures on medical providers, a chaotic environment, interruption of normal communication methods, the inability to identify patients, and multiple casualties might make it impossible to seek timely informed consent for the evaluation and treatment of minors. In such a situation, medical professionals should act in the best interest of the patient and provide stabilizing care until consent can be obtained.

CONSENT FOR RESEARCH IN THE EMERGENCY SETTING

For research protocols that enroll ED patients, informed consent will require a process separate from that of informed consent for evaluation and treatment. Whether to enroll a child in a research project can never be decided solely by a health care professional but must occur in accord with the requirements of an institutional review board (IRB). The IRB will determine the requirements for informed consent, including the content of the informed consent, who can obtain consent, and whether consent requires the agreement of 1 or both parents.

In some cases, research in the emergency environment is designed to investigate emergency procedures that offer the prospect of direct benefit to potential participants, and in these situations, enrollment must take place immediately, and parents might not yet be available to provide permission.[33] Such special situations are governed by special rules. Under these circumstances, the research can proceed without permission of the parents only under restricted guidelines outlined by federal regulation. These guidelines require that the subject be facing a life-threatening or permanently disabling situation for which the only known therapy is investigational, unproven, or unsatisfactory; that the child is incapable or unable to provide valid consent, and the parents cannot be reached for permission before the time the investigational treatment must be started; and that there is no accepted therapy that is clearly superior to the experimental therapy. In addition, the research protocol must have received IRB approval that the experimental treatment has a realistic probability of benefit that equals or exceeds that of standard care, that the risks of the experimental therapy are reasonable in comparison to the patient's condition and standard therapy, that there is minimal added risk from participation in the research protocol, that there is no possibility of getting prospective consent from those who are likely to need the experimental therapy, that participants and/or parents will be provided with all pertinent information regarding the study as soon as possible, and that alteration or waiver of consent will not adversely affect the rights and welfare of the subjects. Once the legal decision-maker has been informed of the research, he or she might choose to discontinue participation at any time after being fully informed of the consequences of doing so. Finally, federal regulations require that input from community representatives be sought regarding the protocol before IRB approval to gain a form of "community consent" to proceed with the research and that public disclosure of the research and its risks and benefits be made to the community from which potential participants will be enrolled before initiation of the research. Public disclosure of study results is also required by law in this situation.

CONCLUSIONS

A health care professional's decision to treat combined with parental consent and patient assent (when appropriate) is the preferred scenario encountered by the pediatrician working in the emergency medical environment. When any one of those factors is absent or unclear, the health care pro-

vider must be (1) knowledgeable of state and federal laws related to a minor's right (or lack thereof) to consent for testing and treatment and (2) prepared to confront the ethical challenges surrounding those same issues.

RECOMMENDATIONS

1. An MSE and any medical care necessary and likely to prevent imminent and significant harm to the pediatric patient with an EMC should never be withheld or delayed because of problems with obtaining consent.
2. The physician or health care professional should document in the patient's medical record all informed-consent discussions, including the identity of the person providing consent (if the patient) or permission for treatment (if a parent or another adult with legal decision-making authority) and the efforts made to obtain consent from the patient's legal guardian, if unavailable.
3. The physician or health care professional should be familiar with Emergency Medical Treatment and Active Labor Act federal regulations, state laws concerning consent for the treatment of minors, and state laws enumerating the conditions under which minors can provide consent for their own care.
4. Unless a minor is allowed to consent under the law, health care professionals should consider delaying all nonurgent diagnostic and treatment decisions until the parent or legal guardian can be reached for informed permission or consent.
5. The physician or health care professional should seek patient assent for medical testing and treatment from the pediatric patient as appropriate for the patient's age, stage of development, and level of understanding.
6. If a language barrier exists, informed consent for medical treatment from health care professionals should be obtained through a trained medical interpreter.
7. Every EMS agency and ED should develop written policies and guidelines that conform to federal and state laws regarding consent for the treatment of minors, including specific guidelines on financial billing, parental notification, and patient confidentiality for the unaccompanied minor.
8. For research protocols, the decision to enroll a child in a research project must occur in accord with the requirements of an IRB.

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Type of Incident and Sample Switchboard Answering Protocols	Public, Media, or Other Military Personnel		Immediate Family, Guardian, or Military Commanders		Emergency Partners	
	Privacy Patient No Consent	**Patient with Consent/ No Restrictions**	**Privacy Patient No Consent**	**Patient With Consent/ No Restrictions**	**Police/Fire/EMS**	**2-1-1/Other Hospitals**
Crisis Situation (Routine Admission) In the Directory "The person that you are looking for **is** listed in the [Institution's] Directory. See guidelines. Not in the directory "I'm sorry; the person that you are looking for **is not** listed in the [Institution's] Directory." Please call XXX as they are coordinating the location of patients from the incident."	In a crisis situation, patients may automatically be reclassified as a Privacy Patient. *(See [Institution's] VIP Policy)* No information will be released but people will be directed to XXX, if activated, otherwise the AOC determines what information to release.	People directed to 2-1-1, if activated, otherwise patient information is asked for by name or AOC decides to release it. Limited to the consent or normal directory releases. May not exceed: - Patient's name, - General location within the hospital, - General condition ("good, fair, serious, critical, deceased"), - Religious affiliation (clergy only) - Physical description if no other information available.	No information will be released unless hospital determines in its professional judgment that it is in the best interests of the patient or the patient is in imminent danger. *If privacy status applied by a third-party independent of the family, information can be shared for reunification.	Information released is limited to consent or normal directory release: - Patient's name, - General location within the hospital, - General condition - Religious affiliation Unless hospital determines in its professional judgment that it is in the best interests of the patient or the patient is in imminent danger.	Information released is limited to: - Patient's name, - General location within the hospital, - General condition - Age, Sex - Physical description if no other information is available.	Information released is limited to: - Patient's Name - Name of Hospital - General Condition - Physical description if no other information is available.
Federal Disaster Declaration (HIPAA Sanctions Waived) Family "The person that you are looking for **is** listed in the CHCO Directory." See guidelines. General/Media "I'm sorry, please call 2-1-1 as they are coordinating the location of patients from the incident."	In a crisis situation, patients may automatically be reclassified as a Privacy Patient. *(See VIP Policy)* No information will be released but people will be directed to 2-1-1 unless AOC determines otherwise.	People directed to 2-1-1 or AOC decides to release it. Limited to consent or normal directory releases. May not exceed: - Patient's name, - General location within the hospital, - General condition - Religious affiliation (clergy only) - Physical description if no other information available.	Privacy status may be waived in these situations. Check with AOC. Information released is always limited to: - Patient's name, - General location within the hospital, - General condition, - Physical description if no other information Unless hospital determines in its professional judgment that it is in the best interests of the patient or the patient is in imminent danger.		Information released is limited to: - Patient's name, - General location within the hospital, - Age, Sex - General condition - Physical description if no other information is available.	Information released is limited to: - Patient's Name - Name of Hospital - General Condition? - Physical description if no other information is available.

NOTE: The [Institution's] AOC can decide not to release information if it is in the patient's best interest

Pediatric Annex for a Hospital Emergency Operations Plan

Module 2: Staff Education for Pediatric Disaster Care Recommendations

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Module Purpose

To provide resources focused on topics to prepare staff for their roles within the Hospital Incident Command System (HICS) and other roles that may be required in a pediatric surge event.

Background: Providing staff continuing education outside of required licensing and certification requirements is vital to an effective emergency response organization. The module lists suggestions for disaster education and outlines a training and education strategy for the institution.

Definitions

1. Disaster: an occurrence that has resulted in property damage, deaths, and/or injuries to a community (FEMA definition).

2. Pediatric: Various life stage cohorts (Newborns, Infants, Children, and Adolescents); in trauma centers, defined as a person under 15.

Planning Guidelines/Assumptions

In emergencies, staff may need to assume roles outside of their normal role or work with materials and equipment that is different than their normal work. The institution can prepare staff and clinical workers by ensuring they have the proper education and training to fill disaster based roles. Formal classes (online and inperson) are encouraged as supplemental education or for the development of staff that may participate in a pediatric mass casualty incident or a medical response impacting children (i.e. pandemic).

Hospital Emergency Managers and Administrators will develop strategies to maximize the use of space, staff, and supplies to care for the most people possible as safely as possible. To support the identified strategies, nurse/physician/other clinical continuing education and training offices are engaged to support all staff across the hospital/health system enterprise. Additionally, a review of existing training policies/requirements, labor agreements, and other personnel manangement documents with an eye toward the impact on disasters will provide context and flexibility when it is needed most.

Facility-Based Operational Details

I. Develop required/recommended list of disaster care trainings for employees.

II. Provide opportunities for licensed administrative staff to re-engage in patient care skills.

III. Understand which disaster roles do not require a license, but support patient surge or create capacity for licensed staff to work at the top of their licenses in patient care settings.

IV. Develop a strategy and supportive policies describing how to manage and train staff on new or different clinical equipment quickly due to disaster needs.

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 2: Staff Education for Pediatric Disaster Care Recommendations	• Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide. • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html. • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf

II. Review Appendix A's List and determine staff roles that can benefit from the learning opportunities listed.

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing.

Module	Content
Policies	**Content**
Plans	**Content**

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendix A: Recommended Courses

A. American College of Surgeons / National Disaster Life Support Foundation

i. Core Disaster Life Support (CDLS)

The Core Disaster Life Support® (CDLS) course is a 3.5 hour competency-based, awareness-level course that introduces clinical and public health concepts and principles for the management of disasters and public health emergencies. The course incorporates the "all-hazards" approach to personal, institutional, and community disaster management through the use of two unique mnemonics; the PRE-DISASTER Paradigm™ (which applies to event mitigation and preparedness) and the DISASTER Paradigm™ (which applies to event recognition, response, and recovery).

http://www.ndlsf.org/index.php/courses/cdls

Suggested Attendees:
Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:

- *Emergency Department*
- *Pediatric Inpatient*
- *PICU/NICU*
- *Pediatric Surgery*

ii. Basic Disaster Life Support (BDLS)

The Basic Disaster Life Support™ (BDLS®) course is a 7.5 hour competency-based, awareness-level course that introduces concepts and principles to prepare health professionals for the management of injuries and illnesses caused by disasters and public health emergencies. The course builds upon, applies, and reinforces information presented in the Core Disaster Life Support® (CDLS®) course. This includes application of core principles and concepts in emergency management and public health as introduced in the CDLS course through the PRE-DISASTER Paradigm™ and DISASTER Paradigm™.

http://www.ndlsf.org/index.php/courses/bdls

Suggested Attendees:
Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:

- *Emergency Department*
- *Pediatric Inpatient*
- *PICU/NICU*
- *Pediatric Surgery*

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Reccomendations

Appendix A: Recommended Courses (cont.)

iii. Advanced Disaster Life Support (ADLS)

The Advanced Disaster Life Support™ (ADLS®) course is an intense 15-hour course that allows participants to demonstrate competencies in mass casualty management. Core education elements include the ADLS manual and five interactive lectures (Disasters and Public Health Emergencies; Triage in Disasters and Public Health Emergencies; Health System Surge Capacity for Disasters and Public Health Emergencies; Community Health Emergency Operations and Response; and Legal and Ethical Issues in Disasters).

https://www.ndlsf.org/index.php/courses/adls

Suggested Attendees:
Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:
- *Emergency Department*
- *Pediatric Inpatient*
- *PICU/NICU*
- *Pediatric Surgery*

B. American College of Surgeons Disaster Management and Emergency Preparedness (DMEP) Course

The Disaster Management and Emergency Preparedness (DMEP) course teaches planning methods, preparedness, and medical management of trauma patients in mass casualty disaster situations. Through lecture and interactive scenarios, healthcare providers learn incident command terminology, principals of disaster triage, injury patterns, and availability of assets for support during the one-day program.

https://www.facs.org/quality-programs/trauma/education/dmep

Suggested Attendees:
Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:
- *Emergency Department*

Staff that have a role in Hospital Incident Command System

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendix A: Recommended Courses (cont.)

C. Emergency Medical Services for Children (EMSC) Pediatric Disaster Triage: Doing the Most Good for the Most Patients in the Least Time

This disaster triage course teachers how to recognize a disaster, the rationale for pediatric disaster triage, and common triage strategies applicable to disaster response. Application of the information through the use of several case studies and embedded quizzes will illustrate concepts discussed in the training.

https://emscimprovement.center/resources/cme-training/pediatric-disaster-triage-doing-the-most-good-for-the-most-patients-in-the-least-time/

Suggested Attendees:
Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in
Emergency Department
Pediatric Surgery

D. FEMA Center for Domestic Preparedness

i. Emergency Medical Operations for CBRNE Incidents (EMO PER_267)

The Emergency Medical Operations for CBRNE Incidents is a four-day course that prepares responders to effectively respond to a chemical, biological, radiological, nuclear, or explosive (CBRNE) or mass casualty incident. The four-day EMO course provides classroom lectures, extensive hands-on training, and culminates with a hands-on practical exercise that allows responders to implement the emergency-response knowledge and skills learned during the course.

https://cdp.dhs.gov/find-training/healthcare/course/PER-267

Suggested Attendees:
Members of the Decontamination Team

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendix A: Reccomended Courses (cont.)

ii. Healthcare Leadership for Mass Casualty Incidents (HCL MGT-901)

Healthcare Leadership for Mass Casualty Incidents is a four-day course that addresses disaster preparedness at the facility and system level. Healthcare leaders must be prepared for any incident that results in multiple casualties, whether it is the result of a natural disaster; an accidental or intentional release of a chemical, biological, radiological, nuclear, or explosives (CBRNE) hazard; or a disease outbreak that results in an epidemic or pandemic. This course focuses on preparing healthcare leaders to make critical decisions in all-hazards disaster emergency preparedness activities. Responders learn essential disaster-planning response and recovery functions through lectures/discussions that are then applied in a tabletop exercise and a two-day functional exercise.

https://cdp.dhs.gov/find-training/healthcare/course/MGT-901

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

iii. Hospital Emergency Response Training for Mass Causalty Incidents (HERT PER-902)

The Hospital Emergency Response Training for Mass Casualty Incidents (HERT) course addresses healthcare response at the operations level for the facility and its personnel. This three-day course prepares healthcare responders to utilize the Hospital Incident Command System to integrate into the community emergency response network, while operating an Emergency Treatment Area as hospital first responders during a mass casualty incident involving patient contamination. The healthcare responders will determine and use appropriate personal protective equipment and conduct triage followed by decontamination of ambulatory and non-ambulatory patients as members of a Hospital Emergency Response Team.

https://cdp.dhs.gov/find-training/healthcare/course/PER-902

Suggested Attendees:

Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:

Emergency Department

Members of the Decon Team

Appendix A: Recommended Courses (cont.)

iv. Incident Command: Capabilities, Planning, and Response Action for All Hazards (IC MGT-360)

Incident Command: Capabilities, Planning, and Response Actions for All Hazards (IC) is a three-day course that provides management-level responders working in supervisory positions with knowledge of how decisions made by responders from various disciplines can impact the handling of a chemical, biological, radiological, nuclear, or explosive (CBRNE) incident. The importance of planning and training for a CBRNE incident response is stressed to participants, thus the course incorporates preparedness planning considerations and incident management concepts to train participants to serve as members of an incident management team. Participants are immersed in a curriculum that will promote development of their abilities to evaluate the threat, identify and prioritize probable targets, measure required capabilities, and discuss the Incident Response Plan (IRP) and Incident Action Plan (IAP) processes. The course culminates with a real-time, scenario-driven tabletop exercise that requires participants to apply concepts learned during the course to plan for and manage emergency response resources.

https://cdp.dhs.gov/find-training/healthcare/course/MGT-360

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

There are more courses listed at:
https://cdp.dhs.gov/find-training/healthcare

E. FEMA Emergency Management Institute Independent Study Courses

i. IS 100.HCb Introduction to the Incident Command System for Healthcare/ Hospitals

ICS 100.HC, Introduction to the Incident Command System for Healthcare/Hospitals, introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of ICS. It also explains the relationship between ICS and the National Incident Management System (NIMS).

https://training.fema.gov/is/courseoverview.aspx?code=IS-100.HCb

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendix A: Recommended Courses (cont.)

ii. IS 200.HCa Applying ICS to Healthcare Organizations

IS-200.HCa is designed to provide training on the Incident Command System (ICS) to healthcare professionals whose primary responsibility is emergency management, including middle management, within a hospital or healthcare system. Such professionals may include physicians, department managers, unit leaders, charge nurses, and hospital administrators that would have a leadership role during an incident.

https://training.fema.gov/is/courseoverview.aspx?code=IS-200.HCa

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

iii. IS-700.a National Incident Management System (NIMS): An Introduction

This course introduces and overviews the National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents.

https://training.fema.gov/is/courseoverview.aspx?code=IS-700.a

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

More courses are available at https://training.fema.gov/is/crslist.aspx?all=true

F. National Center for Disaster Medicine and Public Health Reuniting Children in Disasters

The National Center for Disaster Medicine and Public Health produced this pediatric online lesson on responding to an unaccompanied child in a disaster. During this lesson, learners absorb core material and apply their knowledge in three case studies.

https://ncdmph.usuhs.edu/KnowledgeLearning/2012-Learning1.htm

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

Appendix A: Recommended Courses (cont.)

G. Texas A&M Engineering Extension Services (TEEX) Pediatric Disaster Response and Emergency Preparedness (MGT 439)

This course prepares students to effectively, appropriately, and safely plan for and respond to a disaster incident involving children, addressing the specific needs of pediatric patients in the event of a community-based incident. Pediatric specific planning considerations include mass sheltering, pediatric triage, reunification planning and pediatric decontamination considerations.

https://ncdmph.usuhs.edu/KnowledgeLearning/2012-Learning1.htm

Suggested Attendees:

Staff that have a role in Hospital Incident Command System

H. Yale New Haven Health Small Victims, Big Challenges: Pediatric Triage, Treatment and Recovery for Emergencies (EM 250)

This course introduces clinicians to the needs of the pediatric population during a disaster and the widely used JumpSTART Triage System for pediatric victims. It also covers clinical manifestations and treatment for child victims of natural and human-caused disasters. Decontamination strategies are also covered.

http://ynhhs.emergencyeducation.org/

Suggested Attendees:

Physicians, Nurse Practitioners, Physician Assistants, & Registered Nurses in:

Emergency Department

Staff that have a role in Hospital Incident Command System

Pediatric Annex for a Hospital EOP

Module 2: Staff Education for Pediatric Disaster Care Recommendations

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Note: To fill a role within the Hospital Command Center, completion of standard HICS training courses is recommended.

A. All staff that may fill a role in the HICS (Command Staff, Section Chief, Unit Leader, Supervisor or Branch Director position):

i. IS.100.HCB: Introduction to ICS for Hospitals/Healthcare.
https://training.fema.gov/is/courseoverview.aspx?code=IS-100.HCb

B. All staff that will fill a Command or General Staff position should complete:

i. IS-200.HCa: Applying ICS to Healthcare Organizations
https://training.fema.gov/is/courseoverview.aspx?code=IS-200.HCa

ii. IS-700.a: NIMS: An Introduction
https://training.fema.gov/is/courseoverview.aspx?code=IS-700.a

Pediatric Annex for a Hospital Emergency Operations Plan

Module 3: Adapting HICS for Pediatric Response

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Module Purpose

Ensure that pediatric expertise, resources, and guidance are integrated into the institution's use of the Hospital Incident Command System, as needed by emergency incidents.

Background: A centralized incident command system (ICS) is essential to managing emergency efforts and minimizing chaos during emergency response. Pediatric-specific job roles are proposed in this unit to enhance the use of the Hospital Incident Command System (HICS), ensuring that pediatric care needs, concerns, and resources are considered in conjunction with their adult counterparts.

Definitions

1. Disaster: an occurrence that has resulted in property damage, deaths, and/or injuries to a community (FEMA definition).

2. Pediatric: Various life stage cohorts (Newborns, Infants, Children, and Adolescents); in trauma centers, defined as a person under 15.

3. Hospital Incident Command System (HICS): a methodology for organizing hospital operations during a disaster or emergency event that improves emergency management planning, response, and recovery capabilites for planned and unplanned events.

4. Hospital Command Center (HCC): a centralized location in an institution where members of the HICS team gather to coordinate the response.

5. National Incident Management System (NIMS): a comprehensive, national approach to incident management that is applicable at all jurisdictional levels and across disciplines. It is the "glue" that holds response together and allows organizations to collaborate and support with common language and roles when in response. HICS is part of the NIMS system.

Planning Guidelines/Assumptions

Hospitals and Health Systems use HICS as an incident management system to assist in planning, response, and recovery capabilities. Activation of the Hospital Command Center (HCC) and assigning staff to fill positions within are likely decisions made by Emergency Managers and Executive Leadership based on good information sources from within and from outside the organization. Consider developing a policy stating that your hospital will employ a standard HICS structure to manage any emergency response as part of your Emergency Operations Plan.

The roles within HICS include Command Staff (Incident Commander, Public Information Officers, Safety Officer) and General Staff to support Operations, Logistics, Planning, and Finance/ Administration (See Figure 1).

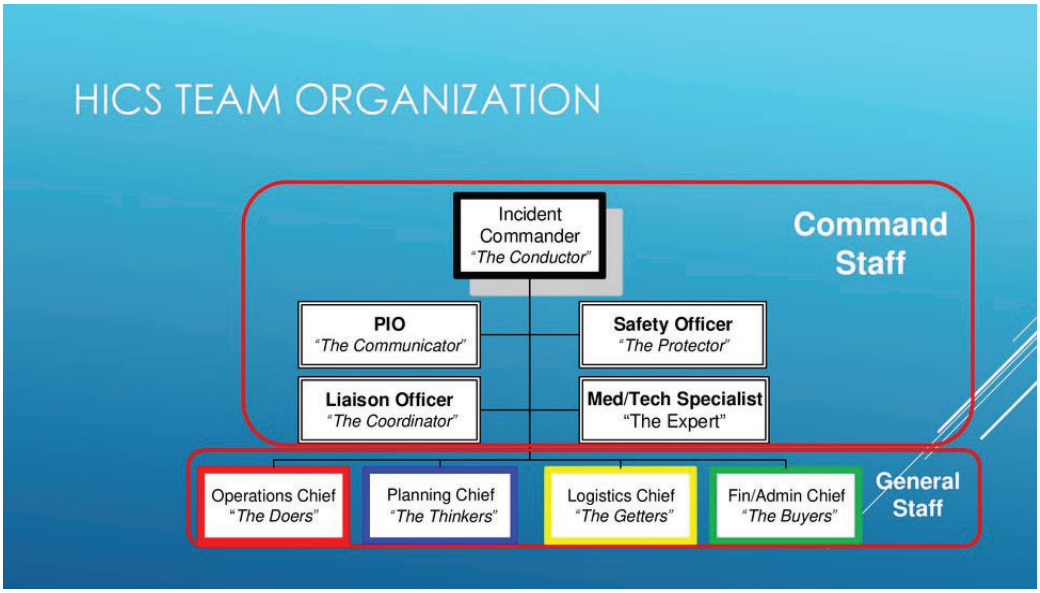
It is important that all job action sheets for HICS roles include a pediatric considerations/action/task section to support pediatric integration across the incident response. These roles in HICS work to collect patient information, and track patients, victims, and fatalities. They are also used to account for personnel time, utilization of resources, track communications, and operational activities.

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Planning Guidelines/Assumptions (cont.)

Figure 1: Example HICS structure



Pediatric-intensive incidents/events can manifest in a no-notice situation, such as a mass casualty/trauma response. Conversely, a pediatric-heavy infectious disease event (i.e. pandemic impacting predominately children) will likely grow over time and come in waves. Any pediatric surge event will warrant the activation of the HCC to manage the existing space, staffing, and supplies owned by the institution; and to partner with other healthcare entities to find regional or state solutions to a crisis.

Facility-Based Operational Details

I. Incorporate HICS use policy in EOP

II. Incorporate Pediatric-specific positions and Job Action Sheets in your HCC/ HICS documentation (See Appendix A)

a. Pediatric Medical/Technical Specialist(MTS) is a subject matter expert that advises the Incident Commander on issues related to specialty care emergency response.

b. Pediatric Services Unit Leader (Operations Branch) serves as the conduit from the pediatric care units and support services to the HICS team. This position ensures that all pediatric treatment and holding areas are properly set up, staffed and equipped during an emergency.

c. Pediatric Logistics Unit Leader (Logistics Branch) serves to ensure that pediatric supplies and material needs are addressed by the HICS structure.

d. Ensure pediatric considerations are included in all Command and General Staff Job Action Sheets

III. Determine when to activate these positions if the event is a mixture of adult and pediatric patients

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 3: Adapting HICS for Pediatric Response	• Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide. • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Hospital Guidelines for Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. http://www.nwhrn.org/all-documents/hospital-guidelines-for-managing-pediatric-patients-in-a-disaster/ • FEMA's Emergency Management Institute https://training.fema.gov/is/crslist.aspx?all=true • The Center for HICS Education and Training http://hicscenter.org/SitePages/HomeNew.aspx

II. Review Appendix A for Pediatric Focused Job Action Sheets

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Appendix A: Job Action Sheets

The purpose of the three Job Action Sheets in this Appendix are to ensure that pediatric specialists and considerations are part of the Hospital Incident Command System (HICS). Like any response, HICS activation is scalable and flexible – these recommended positions can be activated and staffed as dictated by the event. The details can be customized to ensure they fit within the HICS structure.

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

PEDIATRIC/NEONATAL/OBSTETRIC MEDICAL/TECHNICAL SPECIALIST

Mission: Advise the Incident Commander and other members of the HICS team on issues related to pediatric/neonatal/obstetric emergency response. Provide a high-level, expert opinion on the clinical treatment of pediatric/neonatal/obstetric patients within the response.

Suggested for: Pediatric/Neonatal/Obstetric Physician leader (specialty can be determined by the event and the expected types of patients) – Pediatrician, Intensivist, Surgeon

Reports to: Incident Commander as part of the Command Staff

Immediate (Operational Period 0-2 Hours)	Time	Initials
Receive appointment and briefing from the Incident Commander.		
Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.		
Notify your usual supervisor of your HICS assignment.		
Document all key activities, actions and decisions in an Operational Log (HICS Form 214) on a continual basis.		
Meet with the Command staff, Operations and Logistics Section Chiefs and the Medical Care Branch Director to plan for and project pediatric/neonatal/obstetric patient care needs.		
Communicate with the Operations Section Chief to obtain: • Type and location of incident • Number and condition of expected neonatal patients • Estimated arrival time to facility • Unusual or hazardous environmental exposure		
Provide pediatric/neonatal/obstetric care guidance to Operations Section Chief and other members of the HICS team.		
Work with the Liaison Officer to provide transport needs, surge availability, and current unit status based on incident scenario.		
Ensure pediatric/neonatal/obstetric patient identification and tracking practices are followed.		
Communicate and coordinate with Logistics Section Chief and/or Pediatric Logistics Unit Leader to determine pediatric/neonatal/obstetric: • Medical care equipment and supply needs • Medications with pediatric/neonatal dosing • Transportation availability and needs (utilize specialized transport teams)		
Communicate with Planning Section Chief to determine pediatric: • Bed availability (utilize patient acuity) • Ventilators (neonatal specific) • Trained medical staff (MD, RN, PA, NP, etc.) • Additional short and long range neonatal response needs)		
Ensure that appropriate pediatric/neonatal/obstetric standards of care are being followed in all clinical areas.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Intermediate (Operational Period 2-12 hrs)	Time	Initial
Collaborate with the PIO to develop media and public information messages specific to pediatric/neonatal/obstetric care recommendations and treatment.		
Participate in briefings and meetings and contribute to the Incident Action Plan, as requested.		
Document all communications (internal and external) on an Incident Message Form (HICS Form 213). Provide a copy of the Incident Message Form to the Documentation Unit.		
Continue to communicate and coordinate the availability of pediatric/neonatal/ obstetric equipment and supplies with Logistics Section Chief.		
Continue to monitor pediatric/neonatal/obstetric care activities to ensure needs are being met.		
Meet regularly with the Operations Section Chief and Medical Care Branch Director for updates on the situation regarding hospital operations and pediatric/neonatal/ obstetric needs.		

Extended (Operational Period beyond 12 hrs)	Time	Initial
Ensure the provision of mental health resources for staff, and appropriate event education for children and families.		
Continue to ensure pediatric/neonatal/obstetric related response issues are identified and effectively managed.		
Continue to meet regularly with the Operations Section Chief or Incident Commander, as appropriate, for situation status updates and to communicate pediatric issues.		
Ensure your physical readiness through proper nutrition, water intake, rest and stress management techniques.		
Observe all staff and volunteers for signs of stress and inappropriate behavior. Report concerns to the Mental Health Unit Leader. Provide for staff rest periods and relief.		
Upon shift change, brief your replacement on the status of all ongoing operations, issues and other relevant incident information.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Demobilization/System Recovery	Time	Initial
Ensure return/retrieval of equipment and supplies and return all assigned incident command equipment.		
Upon deactivation of your position, ensure all documentation and Operational Logs (HICS Form 214) are submitted to the Operations Section Chief or Incident Commander, as appropriate.		
Upon deactivation of your position, brief Incident Commander, as appropriate, on current problems, outstanding issues and follow-up requirements.		
Submit comments to the Incident Commander, as appropriate, for discussion and possible inclusion in the after-action report. Topics include: review of pertinent position descriptions and operational checklists; recommendations for procedure changes; section accomplishments and issues.		
Participate in stress management and after-action debriefings. Participate in other briefings and meetings as required.		

Documents/Tools	**Recieved? Yes/No**
Incident Action Plan	
HICS Form 207 - Incident Management Team Chart	
HICS Form 213 - Incident Message Form	
HICS Form 214 - Operational Log	
Hospital Emergency Operations Plan	
Hospital Organization Chart	
Hospital Telephone Directory	

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Pediatric Services Unit Leader

Mission: To ensure that the pediatric treatment and holding areaas are properly assigned, equipped, and staffed during an emergency.

Suggested for: Pediatric Nursing Leader

Reports to: Operations Section Chief

Date: _____ Start Time: _____ End Time: _____

Telephone: _____ Other Contact Info: _____ Radio Title: _____

Initials: _____ Signature: _____

Immediate (Operational Period 0-2 Hours)	Time	Initials
Receive appointment and briefing from the Operations Section Chief.		
Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.		
Notify your usual supervisor of your HICS assignment.		
Document all key activities, actions and decisions in an Operational Log (HICS Form 214) on a continual basis.		
Gather information from the Operations Section or Treatment Area Supervisor about: • The expected number of injured pediatric patients and conditions • If decontamination is needed • Expected time of patient arrival • Current number of pediatric patients in the ED		
Determine the number of available pediatric cribs/beds and report to Operations Chief.		
Identify on-site pediatric staffing and report to Operations Chief. Assist with query for more pediatric staff as needed.		
Assist with activation of pediatric decontamination as needed.		
Ensure setup and activation of Pediatric Surge Spaces as required by the event • Clear area and designate each specific area per surge plan • Ensure clinical and support personnel are assigned to each area • Ensure delivery of medical and non-medical pediatric equipment (with Pediatric Logistics Unit Leader) • Ensure setup of pediatric equipment by qualified staff		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Immediate (Operational Period 0-2 Hours)	Time	Initials
Activate pediatric triage and ensure pediatric patients are assigned to a treatment area.		
Communicate with the Treatment Area Supervisors as needed to maintain situational awareness.		
Activate Pediatric Safe Area as needed. Work with Pediatric Safe Area Coordinator to set up the area.		
Participate in Operations Section briefings and meetings as requested.		
Document all communications (internal and external) on an Incident Message Form (HICS Form 213). Provide a copy of the Incident Message Form to the Documentation Unit.		
Continue to communicate and coordinate the status of pediatric treatment areas with Operations Section Chief.		
Coordinate with Logistics and Medical Care Branch to expand/create pediatric service areas.		
Assess on-going staffing needs based on patient status and numbers: • Pediatric healthcare personnel • Non-pediatric ancillary and support personnel • Pediatric Safe Area Coordinator		
Assess additional medical and non-medical equipment and supply needs. • Communicate with Pediatric Logistics Unit Leader for requests • Ensure delivery of needed supplies to pediatric designated areas		
Obtain status of pediatric casualties (discharges, admissions, transfers, and Pediatric Safe Area) and report to Operations Chief.		
Hold information sessions with PIO as needed.		
Collect all Pediatric Safe Area forms.		
Report any unidentified children or unaccompanied minors to Operations Chief.		
Meet regularly with the Operations Section Chief and Medical Care Branch Director for updates on the situation regarding hospital operations and pediatric needs.		

Extended (Operational Period beyond 12 hrs)	Date	Initials
Continue to ensure pediatric related response issues are identified and effectively managed.		
Continue to meet regularly with the Operations Section Chief and/or Medical Branch Director for situation status updates and to communicate critical pediatric care issues.		
Ensure your physical readiness through proper nutrition, water intake, rest and stress management techniques.		
Upon shift change, brief your replacement on the status of all ongoing operations, issues and other relevant incident information.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Demobilization/System Recovery	Date	Initials
Ensure return/retrieval of equipment and supplies and return all assigned incident command equipment.		
Upon deactivation of your position, ensure all documentation and Operational Logs (HICS Form 214) are submitted to the Operations Section Chief or Incident Commander, as appropriate.		
Upon deactivation of your position, brief Operations Section Chief on current problems, outstanding issues and follow-up requirements.		
Submit comments to the Incident Commander, as appropriate, for discussion and possible inclusion in the after-action report. Topics include: review of pertinent position descriptions and operational checklists; recommendations for procedure changes; section accomplishments and issues.		
Participate in stress management and after-action debriefings. Participate in other briefings and meetings as required.		

Documents/Tools	Recieved? Yes/No
Incident Action Plan	
HICS Form 207 - Incident Management Team Chart	
HICS Form 213 - Incident Message Form	
HICS Form 214 - Operational Log	
Hospital Emergency Operations Plan	
Hospital Organization Chart	
Hospital Telephone Directory	
Pediatric Surge Space Plans and Staffing Plans	

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Pediatric Logistics Unit Leader

Mission: To ensure that pediatric needs are addressed by procurement, transportation, materials management, and nutritional supply during an emergency.

Suggested for: Materials Management, Biomed, or Nursing Leader

Reports to: Logistics Section Chief

Date: _____ Start Time: _____ End Time: _____

Telephone: _____ Other Contact Info: _____ Radio Title: _____

Initials: _____ Signature: _____

Immediate (Operational Period 0-2 Hours)	Time	Initials
Receive appointment and briefing from the Logistics Section Chief.		
Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.		
Notify your usual supervisor of your HICS assignment.		
Document all key activities, actions and decisions in an Operational Log (HICS Form 214) on a continual basis.		
Gather information from the Operations Section (Medical Care Branch Director or Pediatric Patient Services Unit Leader) about the number of injured pediatric patients and their conditions.		
Understand the timeline for supply needs and what is currently available.		
Work with Procurement Unit Leader to identify vendors for pediatric supplies (hospital vendors and community resources).		
Work with Transportation Unit Leader to count stretchers, carts, cribs, and wheelchairs for pediatric transport. Ensure all equipment can be modified for all sizes of pediatric patients and that equipment is safe for use. Ensure all trans-porters are aware of pediatric safety concerns and to not leave pediatric patients unattended.		
Work with Materials Management to collect and coordinate essential pediatric medical equipment and supplies.		
Work with Pediatric Services Unit Leader/Medical Branch Director to assist with setup and activation of pediatric surge areas needed for the response.		
Work with Pediatric Safe Area Coordinator to assist with preparation of the Pediatric Safe Area.		
Work with Food Services to estimate the need for pediatric meals for the next 48 hours. Estimate the need for pediatric food and snacks for the Pediatric Safe Area.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Intermediate (Operational Period 2-12 hrs)	Time	Initial
Participate in Logistics Section briefings and meetings as requested.		
Document all communications (internal and external) on an Incident Message Form (HICS Form 213). Provide a copy of the Incident Message Form to the Documentation Unit.		
Continue to communicate and coordinate with Logistics Section Chief on the availability of pediatric equipment and supplies.		
Coordinate with Logistics and Medical Care Branch to expand/create pediatric service areas.		
Continue to monitor pediatric care activities to ensure supplies and equipment needs are being met.		
Meet regularly with the Logistics Section Chief and Medical Care Branch Director for updates on the situation regarding hospital operations and pediatric needs.		

Extended (Operational Period beyond 12 hrs)	Date	Initials
Continue to ensure pediatric related supply and equipment issues are identified and effectively managed.		
Continue to meet regularly with the Logistics Section Chief and/or Medical Branch Director for situation status updates and to communicate critical pediatric care issues.		
Ensure your physical readiness through proper nutrition, water intake, rest and stress management techniques.		
Upon shift change, brief your replacement on the status of all ongoing operations, issues and other relevant incident information.		

Demobilization/System Recovery	Date	Initials
Ensure return/retrieval of equipment and supplies and return all assigned incident command equipment.		
Upon deactivation of your position, ensure all documentation and Operational Logs (HICS Form 214) are submitted to the Operations Section Chief or Incident Commander, as appropriate.		
Upon deactivation of your position, brief Logistics Section Chief on current problems, outstanding issues and follow-up requirements.		
Submit comments to the Logistics Section Chief for discussion and possible inclusion in the after-action report. Topics include: review of pertinent position descriptions and operational checklists; recommendations for procedure changes; section accomplishments and issues.		
Participate in stress management and after-action debriefings. Participate in other briefings and meetings as required.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Documents/Tools	Recieved? Yes/No
Incident Action Plan	
HICS Form 207 - Incident Management Team Chart	
HICS Form 213 - Incident Message Form	
HICS Form 214 - Operational Log	
Hospital Emergency Operations Plan	
Hospital Organization Chart	
Hospital Telephone Directory	
Radio/Satellite Phone	
Vendor Contact List	
Inventory and Cache Supply Lists	

Pediatric Annex for a Hospital Emergency Operations Plan

Module 4: Children with Functional, Access, and Special Healthcare Needs

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Module Purpose

Describe the operational planning considerations for children in a hospital who may need additional supportive services in an emergency response situation based on their functional, access, or special healthcare needs.

Background: Children (<18 years of age) make up about 25% of the population in the United States and, therefore, represent a large demographic population who require planning for different medical needs during emergencies that are different than the needs of adult populations. Within the pediatric population:

1. Approximately 14% have special healthcare needs (and often more than one condition).
2. One in six children has a developmental disability.
3. Nearly 20% of children discharged from hospitals have some level of technology that must be maintained at home.

Children with chronic physical, developmental, behavioral, or emotional conditions utilize care more frequently than their age or developmental peers. Conditions may include those with physical problems, those who are immunosuppressed because of an underlying malignancy, diabetes mellitus, or end-stage renal disease on hemodialysis. Other pediatric special needs populations include children with intellectual and developmental disabilities.

Some children have multiple healthcare considerations and they rely on multiple medications, medical technology devices, and/or complex management plans. Children with functional and access needs are at increased risk of acute deterioration, medical errors, and suboptimal outcomes that are often exacerbated by a disaster event. Some examples of these children are:

- children with cerebral palsy who may be wheelchair-bound
- children with indwelling tracheostomy tubes and enteral feeding tubes
- ventilator-dependent children
- those with autism, learning disabilities, cognitive disabilities, and limitations in vision or hearing.

Definitions

1. Access-based needs: All people must have access to certain resources, such as social services, accommodations, information, transportation, medications to maintain health, etc.

2. Children and Youth with Special Healthcare Needs (CYSHCN) are those children who have, or are at risk for, chronic physical, developmental, behavioral, or emotional conditions who require health and related services of a type or amount beyond that required by children and youth generally.

3. Function-based needs: Function-based needs refer to restrictions or limitations an individual may have that require assistance before, during, and/or after a disaster or public health emergency.

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Planning Guidelines/Assumptions

A child's developmental level, underlying medical condition(s), and mobility status may affect his or her need for support and the effectiveness of medical countermeasures such as vaccines or other medications (e.g., antimicrobials). These patients may need additional supports in order to recieve decontamination or evacuation.

Facility-Specific Operational Details

I. Implement the Emergency Information Form in the admitting/reception process.

The Emergency Information Form (EIF), as developed by the American College of Emergency Physicians and the American Academy of Pediatrics (Appendix A), is an important document that assures prompt and appropriate care for Children with Special Health Care Needs (CSHCN) who present to emergency departments or healthcare professionals with an acute illness or injury.

Physicians, parents, EMS professionals, and nurses will be able to use the EIF as a tool to transfer critical information and ensure that a child's complicated medical history is concisely summarized and available when it is needed most - when the child presents with an acute health problem at a time when neither parent nor pediatrician is immediately available. Additionally, this form can be used as part of a "bedside go-kit" with patient care needs to support patient evacuation and transfer to another healthcare partners.

II. Determine how your organization will adapt its Standard Operating Procedures, including your Emergency Operations Plan (plus Annexes for response actions and stratagies) to meet the needs of all three types of needs listed here (functional, access, and medical).

To facilitate this review, use the evaluation grid in Appendix B for each operational module in the Annex.

Develop a plan to keep families together during emergency response. Family members are the best caregivers because they understand the patient's needs best.

III. Understand how your language services provider will operate in a disaster response to support translation/interpretation/TTY/video.

Review service contracts for language regarding rapid services and how they will be compensated.

Review labor contracts to determine how staff language skills can be compensated for and used outside of their routine job duties.

Identify staff that are able to support alternate communication strategies in a disaster.

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 4: Children with Access, Functional, and Special Healthcare Needs	• Resource Guide for Access and Functional Needs of Children and Youth in Disaster Planning. Oklahoma State Department of Health. 2014. https://www.ok.gov/health2/documents/Children%20Resource%20Guide%20Final%20with%20logo%202014%20gfl.pdf • Children with Special Health Care Needs and Preparedness: Experiences from Seasonal Influenza and the 2009 H1N1 Influenza Epidemic. Peacock, et al. 2012. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4617621/ • At Risk Individuals. http://www.phe.gov/Preparedness/planning/abc/Pages/atrisk.aspx • EMSC Pediatric Disaster Preparedness Guidelines: Hospitals. California Emergency Medical Services Authority. 2010. https://www.calhospitalprepare.org/post/pediatric-disaster-preparedness-guidelines-hospitals • Emergency Information Form for Children With Special Health Care Needs. ACEP and AAP. https://www.acep.org/Clinical---Practice-Management/Emergency-Information-Form-for-Children-With-Special-Health-Care-Needs/#sm.0001vsw2a91cd6eqirr8bj2rpak31. • Preparing for Disasters for People with Disabilities and other Special Needs https://www.fema.gov/media-library-data/20130726-1445-20490-6732/fema_476.pdf • Disaster Preparedness Checklist for Children with Special Nutrition Needs http://depts.washington.edu/cshcnnut/download/resources/disasterchecklist.pdf

II. Review Appendices

A. AAP's Policy Statement on Emergency Information Forms (EIF) and Emergency Preparedness for Children With Special Health Care Needs (includes Form).

B. Module planning evaluation grid for Functional, Access, and Special Needs for the operational modules in this EOP Annex.

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Appendices/References to Other Annex Modules, Policies & Plans (cont.)

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Appendix A FROM THE AMERICAN ACADEMY OF PEDIATRICS

Policy Statement—Emergency Information Forms and Emergency Preparedness for Children With Special Health Care Needs

AMERICAN ACADEMY OF PEDIATRICS
COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE AND
COUNCIL ON CLINICAL INFORMATION TECHNOLOGY
AMERICAN COLLEGE OF EMERGENCY PHYSICIANS
PEDIATRIC EMERGENCY MEDICINE COMMITTEE

KEY WORDS

EIF, emergency information form, children with special health care needs, EMS, emergency medical services, disaster preparedness, emergency preparedness, quality improvement

ABBREVIATIONS

EMS—emergency medical services
HIPAA—Health Information Portability and Accountability Act
EIF—emergency information form
AAP—American Academy of Pediatrics
ACEP—American College of Emergency Physicians
EHR—electronic health record
VAC—volts of alternating current

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All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

abstract

Children with chronic medical conditions rely on complex management plans for problems that cause them to be at increased risk for suboptimal outcomes in emergency situations. The emergency information form (EIF) is a medical summary that describes medical condition(s), medications, and special health care needs to inform health care providers of a child's special health conditions and needs so that optimal emergency medical care can be provided. This statement describes updates to EIFs, including computerization of the EIF, expanding the potential benefits of the EIF, quality-improvement programs using the EIF, the EIF as a central repository, and facilitating emergency preparedness in disaster management and drills by using the EIF. *Pediatrics* 2010;125:829–837

INTRODUCTION

Children with chronic medical conditions, including children with special health care needs, rely on multiple medications, medical technologic devices, and complex management plans, which can cause them to be at increased risk of acute deterioration, medical errors, and suboptimal outcomes. Their conditions make them particularly vulnerable and prone to complications; therefore, they frequently rely on emergency care in the ongoing management of their special medical conditions. A detailed understanding of an individual's special health care needs is required to provide optimal emergency care.[1–9]

When children with special health care needs access emergency medical services (EMS) or seek emergency care in a busy emergency or urgent care facility (or in the midst of a disaster), it is difficult for EMS personnel and/or the attending physician to review lengthy medical records (if they are available at all) and coordinate care with multiple specialty care providers.[9] A summary describing their medical condition(s), medications, and special health care needs is necessary to reduce delays in diagnosis and treatment and facilitate greater efficiency in the provision of emergency care to children with special health needs.

The transfer of traditional health-record information is slow and becoming more difficult for the following reasons:

1. Because of greater documentation requirements, health records are more comprehensive, which makes it more difficult to find important items related to the patient's condition.

2. Delays are often caused by information-transfer consent requirements and misunderstandings surrounding the regulations of the Health Information Portability and Accountability Act (HIPAA).
3. Minimum necessary standards for release of information under HIPAA can interfere with gathering a complete set of pertinent information.
4. In a disaster scenario, the transfer of health records can be problematic because of an inability to access them, or paper records may be destroyed in the disaster.

The emergency information form (EIF) was proposed as a means to provide rapid access to a health summary for children with special health care needs in a 1999 joint policy statement (reaffirmed in 2002) by the American Academy of Pediatrics (AAP) and the American College of Emergency Physicians (ACEP).[9] The EIF is a type of personal health record that was introduced as a concise, single-sheet summary designed to provide the essential information needed initially to treat a patient with special health care needs.

Experience since publication of the 1999 statement has identified the following:

- The EIF has been underused, because many health care providers and families of children with special health care needs are unaware of the EIF. Many providers consider EIF completion to be time-consuming and do not recognize the need for the EIF.
- The paper-based EIF is helpful but suboptimal for incorporation into electronic health records (EHRs) and for central repository access.[10]
- Maintaining and/or updating EIFs can be difficult and time-consuming.
- Vaccine schedules and requirements change frequently, so the immunization table on the EIF needs to be able to accommodate these changes.
- Disaster-management plans must include medical care for children with special health care needs. If a disaster compromises the availability of health records, an EIF would be beneficial in providing useful information such as medication doses.[11,12]

ADVANCING THE EIF TO A COMPUTER APPLICATION

- The computerized EIF can be easily updated with new information (eg, newly identified allergies, change in severity, addition of new problems, change in advance directives, change in specialists and their contact information) and provides an automated date stamp as to when it was most recently updated.
- The computerized EIF can be modified to accommodate system changes, such as legal requirements, immunization tables, and consents.
- A paper form physically limits the amount of information provided on the form and is not sufficiently adaptable for patients with a large set of problems. A computerized EIF can expand and adapt to the needs of the patient.
- The use of a computer-based EIF permits a central repository through which the EIF can be accessed remotely via the Internet rapidly. A capability to access a number of EIFs can also be built into such a system to facilitate a coordinated disaster response for children with special health care needs.
- Computerization of EIFs facilitates quality-improvement measures targeted at children with special health care needs and the use of the EIF.
- Computerization of EIFs facilitates the deployment of EIFs as a database that can be integrated into the EHR and can potentially be shared and networked between compatible hospitals and systems.
- A computerized EIF can accept templates or cut-and-paste management routines (clinical pathways) that are frequently recommended, such as the standard initial management of a child with tetralogy of Fallot.
- It should be noted that a computerized EIF might not be retrievable in the event of a power failure or damage to communication infrastructure (includes the Internet). An inkjet-printed paper document will smear. A water-resistant paper document or a "thumb drive" or compact disc containing the file in a plastic bag (together with insurance papers and other key documents) is more likely to be usable under certain disaster conditions.

EXPANDING THE POTENTIAL BENEFIT OF THE EIF

- The process of initiating an EIF by the medical home and the patient's specialists should include a review of likely emergencies and recommended therapies in the event of an acute exacerbation of the child's chronic condition(s). This review enables subspecialists to recognize the difficulties faced by nonspecialists encountering their patients for the first time and facilitates the codification of initial management measures to improve communication with other care providers involved in the patient's care. Examples of this include which laboratory tests should be ordered for a patient with an inborn error of metabolism, what type of intravenous fluid should be started, and whether the patient should be fed or kept off oral intake (NPO).
- Because EIF use is not yet routine, quality-improvement programs should target EIF initiation and

maintenance, and this should be added to the growing list of quality indicators for a primary care medical home that manages children with special health care needs.[9]

- The process of initiating an EIF affords the primary care physician and appropriate specialists an opportunity to further explore and discuss the difficult issues surrounding end-of-life care options for children and the inclusion of advance directives. Updating the EIF permits recurring opportunities to confirm or update these advance directives. Many states have an official form that permits out-of-hospital providers to honor advance directives that must be completed, and in these instances, this form could be electronically attached to the EIF, or the EIF could list the physical or online location of the completed official form.
- The process of initiating and maintaining an EIF should include an action plan for a disaster and a method to monitor disaster preparedness as part of a quality-improvement program.

QUALITY-IMPROVEMENT PROGRAMS USING THE EIF

- "EIF maintenance" includes the initial EIF as well as updating it when appropriate and confirming its validity during each health care visit. Each review or modification of the EIF should be dated.
- The percentage of children with special health care needs with an EIF in a practice can be audited by dividing the number of EIFs in the practice that are known to exist by all children with special health care needs in the medical home primary care practice (EIF-eligible patients). A central repository of computerized EIFs would facilitate the identification of all the EIFs in the practice. Improvements in this percentage demonstrate quality improvement.
- EIF maintenance can be monitored by the mean number of days since the last EIF update or confirmation for all the EIFs in the practice. Reducing this mean value demonstrates quality improvement, because more-current EIFs are more accurate.
- The EIF can be used to track the participation level and frequency of disaster drills. Whether this is an actual drill done at home or a discussion or mental review of what to do in the event of a specific type of disaster can be documented in the EIF. Because electrical power failure is such a common event, the EIF should document that an action plan for this has been reviewed with the family and whether an actual trial or drill has been done at home. The percentages of EIFs with a documented electrical power failure action plan review and/or an actual home drill can be used as a quality parameter. Increasing percentages demonstrate quality improvement. As this number approaches 100%, further quality improvement can be documented by monitoring the mean number of days since the last electrical power failure action plan review and/or actual home drill. Reducing this mean value demonstrates quality improvement, because recent review and practice of a disaster action plan should improve the likelihood of success.

EIF CENTRAL REPOSITORY

A central repository would provide access by primary care providers, patients, parents, pharmacies, other specialists, and emergency care practitioners.

Although central EIF-repository maintenance and access is highly desirable, implementation faces significant challenges. Measures that promote immediate access and revision/update inherently conflict with measures that preserve confidentiality of protected patient information.

Routine access can be secured by user authentication via the standard method (log in plus password). Known authorized users have access to the EIFs of patients with whom they are known to be linked but not to those of other patients, which permits the expected users of the EIF to have easy access to confirm, update, and revise the EIF at each routine visit.

Emergency access to the EIF is a more difficult issue. The Midwest Emergency Medical Services for Children Information System (www.memscis.org) is an EIF central repository program in Minnesota that uses a "break-the-glass" entry for emergency access to EIF information.[10] This terminology clearly distinguishes routine EIF-maintenance activities from emergency information access. Emergency access via the "glass breaker" is obtained by entering the requestor's identifying information. No system with broad access can totally guarantee patient confidentiality.

The Internet is far-reaching and is the obvious means to achieve broad access via a centralized server or a linked set of servers. Sophisticated traces can identify unauthorized access sources; however, tracing access from public terminals, unauthorized use of an open terminal, freestanding Internet stations, unsecured wireless networks, and foreign-country access is substantially more difficult or impossible.

Although high security is desired to protect patient information when developing new information systems, it should be noted that standard paper-record systems in use have relatively low security/protection measures. Parents and patients should be made

aware of the inherent compromises in patient confidentiality that must be made to facilitate emergency access. Although perfect confidentiality is often expected or desired, it is unrealistic, especially when compared with the current security status of all health records (paper and electronic).

The Midwest Emergency Medical Services for Children Information System has demonstrated feasibility on a smaller scale, and its experience suggests the need for the advocacy of local physician champions and referral center entities for enrollment success to be achieved.[10]

THE ROLE OF THE EIF IN PREPARING FOR A DISASTER[11,12]

- The EIF permits many different health care providers, regardless of background, to provide initial care to children with special health care needs.
- The EIF should include a plan in the event of a disaster, the most common of which is the loss of electrical power. Lack of access to medications, water, food, shelter, and transportation should also be considered. At a minimum, medical home practitioners should consider the planned response for likely emergencies and disasters.
- For technology-dependent children, the loss of electrical power (a common occurrence even in the absence of natural disasters) is a significant disaster event. A simple temporizing measure is that all critical life-support devices should include an internal battery back-up, a power-failure alarm, and a secondary means of back-up power (see Technical Appendix 1). A hospital's back-up generator electricity is a fairly reliable source of electricity, and transport to the hospital to use it can be considered, but it should not be relied on entirely, because back-up generators are not always reliable, there might be significant traffic getting to the hospital, and there might be overcrowding at the hospital because of other patients doing the same thing. Identifying alternate sites of back-up power should be part of a disaster plan. Hospitals should anticipate their role as a source of electrical power during a prolonged power failure and should plan back-up generator capacity to meet the needs of the hospital plus the needs of technology-dependent patients who are likely to use the hospital's electrical power.
- The EIF should include a prompt to enter the date of the most recent disaster drill for the most common type of disaster that is anticipated, such as the loss of electrical power.
- The different types, severity, and duration of disasters make it practically impossible to develop a single action plan to specifically and comprehensively manage all disasters. Some geographic regions are more prone to specific types of disasters, and some patients are particularly more vulnerable to specific types of disasters. Determining the most likely disaster (after electrical power failure) is geographic and patient specific.
- Extreme disasters are uncommon, yet survivability during an extreme disaster depends on being prepared in knowing what to do and having the necessary equipment and resources to survive. Extreme and less common disasters are more difficult to drill and are more realistically reviewed with mental exercises that verbally simulate what might happen and what the response would be.
- Because disasters are usually uncommon and difficult to predict, it might be more useful to prepare for generic categories of shortages rather than for a specific type of disaster. For example, several different types of disasters will result in the nonavailability of an important resource that is normally available, such as food, water, shelter, clothing, medication, electrical power, transportation, and medical services. However, mass trauma, bioagent, chemical, or radiation exposure disasters represent challenges that are not necessarily related to resource shortages.

RECOMMENDATIONS

1. Medical home primary care physicians (ideally together with motivated families) are the most qualified persons to globally coordinate completion of the EIF for children with special health care needs[4,8] by obtaining specific recommendations from the pertinent specialists (eg, what type of intravenous fluid to use for a patient with a metabolic condition or what antidysrhythmia measures should be tried first in a patient with recurrent dysrhythmias). Specialty care physicians will need to assist and provide specialty recommendations to ensure that their patients are properly managed.
2. Completion of the EIF should be the responsibility of the medical home primary care physician and specialty care providers for every child with special health care needs. Medical home primary care physicians should be strongly encouraged to include an EIF as part of the patient's health care maintenance and medical home. For the onset of new conditions for which the tertiary pediatric center has initial access to the patient, an EIF should be initiated during hospitalization (eg, a preterm infant is born, hospitalization

maintenance, and this should be added to the growing list of quality indicators for a primary care medical home that manages children with special health care needs.[9]

- The process of initiating an EIF affords the primary care physician and appropriate specialists an opportunity to further explore and discuss the difficult issues surrounding end-of-life care options for children and the inclusion of advance directives. Updating the EIF permits recurring opportunities to confirm or update these advance directives. Many states have an official form that permits out-of-hospital providers to honor advance directives that must be completed, and in these instances, this form could be electronically attached to the EIF, or the EIF could list the physical or online location of the completed official form.
- The process of initiating and maintaining an EIF should include an action plan for a disaster and a method to monitor disaster preparedness as part of a quality-improvement program.

QUALITY-IMPROVEMENT PROGRAMS USING THE EIF

- "EIF maintenance" includes the initial EIF as well as updating it when appropriate and confirming its validity during each health care visit. Each review or modification of the EIF should be dated.
- The percentage of children with special health care needs with an EIF in a practice can be audited by dividing the number of EIFs in the practice that are known to exist by all children with special health care needs in the medical home primary care practice (EIF-eligible patients). A central repository of computerized EIFs would facilitate the identification of all the EIFs in the practice. Improvements in this percentage demonstrate quality improvement.
- EIF maintenance can be monitored by the mean number of days since the last EIF update or confirmation for all the EIFs in the practice. Reducing this mean value demonstrates quality improvement, because more-current EIFs are more accurate.
- The EIF can be used to track the participation level and frequency of disaster drills. Whether this is an actual drill done at home or a discussion or mental review of what to do in the event of a specific type of disaster can be documented in the EIF. Because electrical power failure is such a common event, the EIF should document that an action plan for this has been reviewed with the family and whether an actual trial or drill has been done at home. The percentages of EIFs with a documented electrical power failure action plan review and/or an actual home drill can be used as a quality parameter. Increasing percentages demonstrate quality improvement. As this number approaches 100%, further quality improvement can be documented by monitoring the mean number of days since the last electrical power failure action plan review and/or actual home drill. Reducing this mean value demonstrates quality improvement, because recent review and practice of a disaster action plan should improve the likelihood of success.

EIF CENTRAL REPOSITORY

A central repository would provide access by primary care providers, patients, parents, pharmacies, other specialists, and emergency care practitioners.

Although central EIF-repository maintenance and access is highly desirable, implementation faces significant challenges. Measures that promote immediate access and revision/update inherently conflict with measures that preserve confidentiality of protected patient information.

Routine access can be secured by user authentication via the standard method (log in plus password). Known authorized users have access to the EIFs of patients with whom they are known to be linked but not to those of other patients, which permits the expected users of the EIF to have easy access to confirm, update, and revise the EIF at each routine visit.

Emergency access to the EIF is a more difficult issue. The Midwest Emergency Medical Services for Children Information System (www.memscis.org) is an EIF central repository program in Minnesota that uses a "break-the-glass" entry for emergency access to EIF information.[10] This terminology clearly distinguishes routine EIF-maintenance activities from emergency information access. Emergency access via the "glass breaker" is obtained by entering the requestor's identifying information. No system with broad access can totally guarantee patient confidentiality.

The Internet is far-reaching and is the obvious means to achieve broad access via a centralized server or a linked set of servers. Sophisticated traces can identify unauthorized access sources; however, tracing access from public terminals, unauthorized use of an open terminal, freestanding Internet stations, unsecured wireless networks, and foreign-country access is substantially more difficult or impossible.

Although high security is desired to protect patient information when developing new information systems, it should be noted that standard paper-record systems in use have relatively low security/protection measures. Parents and patients should be made

aware of the inherent compromises in patient confidentiality that must be made to facilitate emergency access. Although perfect confidentiality is often expected or desired, it is unrealistic, especially when compared with the current security status of all health records (paper and electronic).

The Midwest Emergency Medical Services for Children Information System has demonstrated feasibility on a smaller scale, and its experience suggests the need for the advocacy of local physician champions and referral center entities for enrollment success to be achieved.[10]

THE ROLE OF THE EIF IN PREPARING FOR A DISASTER[11,12]

- The EIF permits many different health care providers, regardless of background, to provide initial care to children with special health care needs.
- The EIF should include a plan in the event of a disaster, the most common of which is the loss of electrical power. Lack of access to medications, water, food, shelter, and transportation should also be considered. At a minimum, medical home practitioners should consider the planned response for likely emergencies and disasters.
- For technology-dependent children, the loss of electrical power (a common occurrence even in the absence of natural disasters) is a significant disaster event. A simple temporizing measure is that all critical life-support devices should include an internal battery back-up, a power-failure alarm, and a secondary means of back-up power (see Technical Appendix 1). A hospital's back-up generator electricity is a fairly reliable source of electricity, and transport to the hospital to use it can be considered, but it should not be relied on entirely, because back-up generators are not always reliable, there might be significant traffic getting to the hospital, and there might be overcrowding at the hospital because of other patients doing the same thing. Identifying alternate sites of back-up power should be part of a disaster plan. Hospitals should anticipate their role as a source of electrical power during a prolonged power failure and should plan back-up generator capacity to meet the needs of the hospital plus the needs of technology-dependent patients who are likely to use the hospital's electrical power.
- The EIF should include a prompt to enter the date of the most recent disaster drill for the most common type of disaster that is anticipated, such as the loss of electrical power.
- The different types, severity, and duration of disasters make it practically impossible to develop a single action plan to specifically and comprehensively manage all disasters. Some geographic regions are more prone to specific types of disasters, and some patients are particularly more vulnerable to specific types of disasters. Determining the most likely disaster (after electrical power failure) is geographic and patient specific.
- Extreme disasters are uncommon, yet survivability during an extreme disaster depends on being prepared in knowing what to do and having the necessary equipment and resources to survive. Extreme and less common disasters are more difficult to drill and are more realistically reviewed with mental exercises that verbally simulate what might happen and what the response would be.
- Because disasters are usually uncommon and difficult to predict, it might be more useful to prepare for generic categories of shortages rather than for a specific type of disaster. For example, several different types of disasters will result in the nonavailability of an important resource that is normally available, such as food, water, shelter, clothing, medication, electrical power, transportation, and medical services. However, mass trauma, bioagent, chemical, or radiation exposure disasters represent challenges that are not necessarily related to resource shortages.

RECOMMENDATIONS

1. Medical home primary care physicians (ideally together with motivated families) are the most qualified persons to globally coordinate completion of the EIF for children with special health care needs[4,8] by obtaining specific recommendations from the pertinent specialists (eg, what type of intravenous fluid to use for a patient with a metabolic condition or what antidysrhythmia measures should be tried first in a patient with recurrent dysrhythmias). Specialty care physicians will need to assist and provide specialty recommendations to ensure that their patients are properly managed.
2. Completion of the EIF should be the responsibility of the medical home primary care physician and specialty care providers for every child with special health care needs. Medical home primary care physicians should be strongly encouraged to include an EIF as part of the patient's health care maintenance and medical home. For the onset of new conditions for which the tertiary pediatric center has initial access to the patient, an EIF should be initiated during hospitalization (eg, a preterm infant is born, hospitalization

for newly diagnosed diabetes mellitus, hospitalization for a traumatic brain injury sustained in an automobile collision).

3. Ideally, EIFs should be reviewed periodically by local emergency care providers to confirm that the recommendations are clear and that the necessary specialized equipment, medications, and services are available at the emergency care center.
4. EIF maintenance should be a routine part of the ongoing care of children with special health care needs and should be performed every 6 months (and at each health encounter as needed) to confirm the validity of the EIF and/or update specific changes in the patient's clinical status on the EIF.
5. End-of-life planning and advance-directive updates and confirmations should be included in the EIF-maintenance process when appropriate. The EIF affords medical home primary care physicians with an opportunity to discuss this most difficult but necessary topic as part of the patient's ongoing care. This can also serve as a reminder for the medical home primary care physician to discuss with the family the need for any forms required by out-of-hospital providers to honor advance directives.
6. A central standardized electronic repository of EIFs needs to be established and maintained to facilitate updates to and retrieval of EIFs. The repository should be set up by a national medical lead agency, such as the AAP and/or the ACEP, a private national health care organization, and/or an agency of the federal government.
7. An electronic EIF that is compliant with existing American Society for Testing and Materials Continuity of Care Record (ASTM CCR) and Health Level 7 Continuity of Care Document (HL 7 CCD) standards and with HIPAA requirements should be endorsed by the AAP and ACEP as a first step toward a national repository of EIFs. When possible, the EIF data elements should use standardized nomenclature such as the Systematized Nomenclature of Medicine (SNOMED). In addition, the EIF should be accessible via the Internet. EIF standardization will facilitate EHR development and help to ensure that the content of the EIF is accessible in a variety of clinical settings.
8. A central repository does not guarantee availability of the information. A water-resistant paper document or a thumb drive or compact disc that contains the file, kept in a plastic bag (together with insurance papers and other key documents), is more likely to be usable under certain disaster conditions.
9. Quality-improvement parameters of EIF use and maintenance should be added to the growing list of quality indicators for a primary care medical home.
10. Disaster planning should be included as part of the EIF-maintenance process. Medical home primary care providers must consider and anticipate the most likely emergencies and other potentially serious disasters and review the planned response with patients and caregivers. At a minimum, medical home practitioners should consider the planned response for likely emergencies and disasters.
11. Although it might be an expectation that the computerized EIF should be included in this policy statement, the specifications of creating a computerized entity with all the functionality described is a difficult task given the evolution of computer systems, EHRs, access methods, confidentiality/security requirements, and the experience of pilot projects that are currently determining the best way to achieve this. The actual computerized EIF and a reasonable implementation plan should be developed into a technical report to follow. Although other computerized EIF entities have been proposed, it would be premature for the AAP to endorse any of these at this time. A sample computerized EIF is provided for reference (see Appendix 2). The paper EIF version (www.aap.org/advocacy/eif.doc) contained in the original policy statement (www.pediatrics.org/cgi/content/full/104/4/e53) can still be manually modified to achieve part of the functionality described above until a computerized EIF standard can be developed and recommended.
12. Fair reimbursement for these services is necessary. Initiating, completing, and maintaining an EIF and other quality-improvement activities associated with the EIF add value but are time-consuming activities that optimize care coordination for children with special health care needs. Optimal care coordination is worthy of and, indeed, contingent on fair reimbursement for these services by medical home primary care and specialty care providers. *Current Procedural Terminology* (CPT) codes for telephone calls, prolonged service, team conferences, and care-plan oversight and management already exist and can be used to bill for these services. Reimbursement for these services should be a standard part of all health benefit packages.

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TECHNICAL APPENDIX 1: ELECTRIC POWER ALTERNATIVES

A simple and economical recommendation for powering life-support devices in the event of an electrical power failure is for all technology-dependent patients to have an available 12-V inverter, which is an inexpensive device that plugs into a car's cigarette lighter to deliver 110 to 120 volts of alternating-current (VAC) power. By plugging into a 12-V inverter, the patient's life-support device can be further sustained by using the automobile's battery, which can provide power on its own for a moderate period (depending on the power requirements of the life-support device) and indefinitely as long the automobile's engine is running (until the car runs out of gas). There are different power capacities of 12-V inverters (measured in watts) that must exceed the sum total of the power requirements of the life-support devices required by the patient. For example, if the patient's ventilator is rated at 110 to 120 VAC, 100 W, and the patient's oxygen concentrator is rated at 110 to 120 VAC, 150 W, then the 12-V inverters must be able to match this power capacity. This can be accomplished by having two 12-V inverters (one rated at >100 W and the other rated at >150 W) or a single 12-V inverter rated at more than 250 W. Using two 12-V inverters requires that 2 cigarette-lighter sockets be available. Using a single 12-V inverter requires that this inverter have two 120-VAC outlet sockets on the inverter to accommodate both devices.

The power ratings of the 12-V inverters are limited by the electrical current capacity of the automobile's wiring and fuses. Typically, most cigarette lighters are on 20-ampere (A) (sometimes 10-A) fused lines, which means that if the 12-V inverter draws more than 20 A of current, the fuse will blow (break) and no power will be available until the fuse is replaced. Replacing the fuse with a 30-A fuse (ie, one that is rated higher than what is in the car) is dangerous, because the higher current will exceed the electrical-current capacity of the wiring and could cause a fire. Power in watts is calculated by multiplying voltage and current (amperes). Thus, the 20-A circuit fuse limits the maximum wattage to 240 W (12 V × 20 A). Having 2 cigarette-lighter sockets in the same car does not increase this maximum, because it is likely that both cigarette lighter outlets are on the same circuit. If the sum exceeds 20 A or 240 W, the 20-A fuse will still blow.

The watt rating (power rating) of the life-support device should be stamped on the device itself. If it is not, then the current rating (in amperes or milliamperes) should be stamped. If the device plugs into a standard household outlet, it will be rated at 120 VAC. If the device is rated at 1.5 A, then the power rating will be 180 W (120 V × 1.5 A). The power rating (in watts) of the 12-V inverter must exceed the power rating of the life-support device. These calculations are all theoretical and must be tested in a drill to determine if everything will actually work. During the drill, it should be confirmed that the life-support device is in fact running off of the 12-V inverter and not the device's internal battery. Depleting the internal battery will test the 12-V inverter's ability to charge the battery as well, but a back-up power option must be available in case this does not work. Note that it will take more power and current to run the life-support device and charge the battery at the same time, so the drill should test the 12-V inverter under these more stressful conditions. Some devices have uneven power requirements such that periodic surges of power are required. For example, a feeding pump might have a low power consumption while pumping formula, but its power consumption will increase if pumping in something more viscous, such as formula with cereal. Power surges must also be within the range of power that the inverter can deliver.

There are high-wattage (eg, 500, 1000, and 2000 W) 12-V inverters, but they cannot be plugged into an automobile cigarette lighter. They can run off of an automobile battery directly with high-capacity cables. This requires more technical expertise and is more risky, because there is the possibility of a battery short circuit, which could melt wires, damage the life-support device, or cause a fire. If the life-support device requires such high power, it would be useful to get some technical advice on how to do this. The process is similar to "jumping" a dead car battery with jumper cables. A high-wattage life-support device will deplete the automobile's battery rapidly, so the car's engine should be running to prevent the battery from dying. The process of starting the car (ie, turning the key) will place a large stress on the car's battery briefly, which could cause a brief decrease in power to the life-support device if it is running on the car's battery when the car is started.

Portable generators can also be used to provide electrical power. These generators require gasoline and

motor oil to run. Small generators are rated at approximately 500 W, with larger generators capable of 5000 W and higher. Generators are fairly reliable, but they are often kept in storage and difficult to access when they are suddenly needed. Also, storage does not necessarily guarantee that the generator will work when it is needed. It should be noted that gasoline cannot be stored. Its composition changes with time, and old gasoline will likely damage the generator (similar to putting gum in it) regardless of whether the gasoline is stored in the generator's tank or in a gasoline-storage container. Because gasoline cannot be easily stored, it is often siphoned from automobile gas tanks. This can be hazardous to the siphoner's lungs if done incorrectly. Most generators require special motor oil, so several liters of the correct oil need to be available when the generator is run. All of these factors require that periodic drills be done to be certain that the generator will run when it is needed. Follow the generator's maintenance instructions during periods of nonuse to reduce the likelihood of generator failure when it is truly needed.

The generator or automobile engine must be run in a well-ventilated location to avoid carbon monoxide accumulation. When traveling outside of the United States, it should be noted that different countries use different voltage, current, and outlet-socket configurations.

Sophisticated generators that burn propane, natural gas, liquid petroleum gas, diesel fuel, or fuel oil or use fuel cells are much more expensive and beyond the scope of this report.

Disclaimer: The information contained in Technical Appendix 1 does not represent the opinion, recommendation, or policy of the AAP and is provided for information and consideration only. The AAP recommends that families contact the manufacturer(s) of electrical equipment used in the care of children with special health care needs in developing a plan of action in the event of electrical power failure.

APPENDIX 2: SAMPLE COMPUTERIZED EIF

Disclaimer: The information contained in Appendix 2 does not represent the opinion, recommendation, or policy of the AAP and is provided for information and consideration only as an example of a computerized EIF. It is not intended to serve as a standard of medical care.

Emergency Information Form For Children With Special Health Care Needs

	Today's date	Who is completing this form? You must confirm consent to use this form:	
	Your name	Is this a new form or just an update? ○ Update ◉ New	
	CONSENT REQUIRED →	I (above named person) confirm that parent/guardian consents to the use of this form	☐ Consent

Patient ID

Patient's name		Address	
Birthdate		Nickname	
Primary language		Parent/guardian	
Contact phones		Emergency contacts	

Facilities & Providers

Care Provider	Provider's Name	Specialties	All contact phone numbres (E-mail optional)	Fax
Primary Care				
Specialist-1				
Specialist-2				
Specialist-3				
Specialist-4				
Specialist-5				
Others				

Primary Pharmacy (branch, phone, other)	
Anticipated primary emergency department (name, phone, other)	
Anticipated tertiary care center (name, phone, other)	

Clinical Baseline

Diagnoses/problem list (list all) starting with most important	
Baseline physical findings	
Baseline vital signs	
Baseline neurologic status	
Immunologic competency status	
Synopsis of clinical status	
Medications (doses, purpose)	
Antibiotic prophylaxis (drug, dose, indication)	
Significant baseline lab/imaging/diagnostic studies	
Prostheses, appliances, advanced technology devices, life support	
Allergies: Medications, foods, substances to be avoided and why	
Advanced directives (include date of last review)	
Procedures to be avoided and why	

ED Management

Describe common presenting problems/findings		Suggested studies	Treatment recommendations
Problem-1			
Problem-2			
Problem-3			
Problem-4			
Problem-5			
Problems-other			

Comments on child, family, or other specific medical issues	

Immunizations

DPT dates		Varicella status	
Dtap dates		Hep B dates	
OPV or IPV dates		Hep A dates	
MMR dates		Meningococcal	specify which one if possible
HiB dates		TB status	
Pneumococcal-7		HP virus	
Other		Other	

Disaster Planning & Drills

Check or enter at least two of the most likely disasters that could affect this patient:

☐ Power failure	☐ Fire, forest fire
☐ Hurricane	☐ Infrastructure (roads, communication) damage
☐ Tornado	☐ Shelter structure damage
☐ Earthquake	☐ Food and water supply compromise
☐ Flood	☐ Medication, supplies, equipment compromise
☐ Tsunami	☐ Nuclear radiation accident (fallout, meltdown, contamination, detonation, etc.)
☐ Blizzard	☐ Explosion, blast, Other (e.g., terrorism, biological accident, chemical accident, other weat
☐ Avalanche	☐ Other (e.g., terrorism, biological epidemic/accident, chemical accident, other weather event)
☐ Land/Mud slide	
Other (describe)	Other (describe)

Disaster drills reviewed or practiced with patient. Documentation of completed drills and planned dates for future drills.

Date	Disaster type	Example drills:	Describe type of drill
		verbal review	
		paper review	
		table top model	
		computer simulation	
		hand on practice	
		equipment review	
		in home review	
		alternate electrical power	
		electric generator use	

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Appendix B: Access, Functional, and Special Needs Evaluation Grid for Operational Modules

Module Title	Access Needs	Functional Needs	Special Healthcare Needs
Pediatric Safe Area			
Disaster Behavioral Health for Children & Families			
Infection Control Practices for Pediatrics			
Pediatric Decontamination for CBRNE			
Pediatric Nerve Agent Response (CHEMPACK)			

Pediatric Annex for a Hospital EOP

Module 4: Children with Functional, Access, & Special Healthcare Needs

Appendix B: Access, Functional, and Special Needs Evaluation Grid for Operational Modules (cont.)

Module Title	Access Needs	Functional Needs	Special Healthcare Needs
Other Responses			
Other Responses:			
Other Responses:			

Pediatric Annex for a Hospital Emergency Operations Plan

Module 5: Pediatric Disaster Triage

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 5: Pediatric Disaster Triage

Module Purpose

A mass casualty incident (MCI) is characterized by a fast paced imbalance between patient care needs and hospital resources; rather than a pre-determined number of patients arriving from the same event. When the hospital's MCI plan is activated, disaster triage actions are the first step in patient care. Disaster triage is a cornerstone of fair and successful medical management in an MCI. Disaster triage requires a paradigm shift away from the daily routine and towards prioritizing treatment and transportation assets. Thus, the hospital is working for the greatest amount of good for the greatest number of patients.

Definitions

1. Routine Triage: Process of determining the priority of patients' treatments based on their severity. Typically, Emergency Departments use the Emergency Severity Index to guide their operations.

2. Disaster Triage: Sorting and allocation of treatment to patients/victims according to a system of priorities designed to maximize the number of survivors.
    - Field Triage
        Done at the scene of a MCI by Emergency Medical Services to determine transport priorities. For pediatrics, they will employ the JumpSTART algorithm.
    - Primary Triage
        Done immediately upon arrival to the hospital at Emergency Department. Utilizes the pediatric JumpSTART algorithm and establishes if the field triage determination is still accurate or needs to be updated.
    - Secondary Triage
        Clincal assessment to prioritize the patient's care needs, place orders, and render initial care. May be influenced by which resources are unavailable to provide the care needed due to disaster conditions.
    - Tertiary Triage
        Assesses patients who have received initial care and are pending a decision to admit, discharge, transfer, or to remove life-sustaining efforts. Will likely be influenced by hospital surge census levels, scare resource rationing, rapid discharge criteria, and/or altered standards of care.

3. Reverse Triage: Rapidly creating inpatient surge capacity by identifying hospitalized patients who do not require major medical assistance for at least 96 hours, and who only have a small risk of serious complications resulting from early discharge.

Planning Guidelines/Assumptions

The objective of a hospital's pediatric triage plan is to optimize the number of pediatric victims triaged in an MCI to improve resource allocation, and reduce emotional burden on triage personnel.

An important skill in disaster triage is the ability to distinguish those requiring immediate lifesaving care, from those who can receive delayed care, and making these decisions based on survivability. The use of disaster triage involves a change of thinking from every day care.

Pediatric Annex for a Hospital EOP

Module 5: Pediatric Disaster Triage

Planning Guidelines/Assumptions (cont.)

In a disaster/MCI hospital will attempt to:

1. Identify victims with the best chance of survival for immediate intervention. Focus will be on the care for those with serious and critical injuries, but who are salvageable.
2. Identify victims by sorting those who are lightly injured and those who are so severely injured that they will not survive.
3. Provide high intensity or critical care to the sickest victims, while balancing the greatest good for the greatest number.
4. Provide immediate treatment to only those victims for whom procedures or interventions may make a difference in survival.
5. Implement altered standards of care based on resource availability.

As of yet, there is no one standard approach to triage that is accepted nationally. The type of triage used depends on local, regional, or state protocols/guidance. All agencies use a standard, validated triage system. This can cause inconsistency or a lack of interoperability between jurisdictions.

This module outlines triage procedures that begin at the doors of a hospital's Emergency Department.

Facility-Specific Operational Details

I. Determine triage system methodologies for each stage of disaster response.

a. Adopt policies outlining which triage system/method will be utilized in the hospital.
b. Enhance plans to describe how, with regional partners, triage system(s) and subsequent decisions will be coordinated and standardized to support equity in large scale, multi-hospital disasters (e.g. Pandemic Influenza).

II. Develop physical plans for the layout of pediatric MCI triage at the Emergency Department's door.

a. Determine what special pediatric assessment space is needed if patients are both adult and children.
b. Determine how to keep families together during the triage process.
c. Determine how triage set-up may differ across all hazards:
   - Mass traumas (including burns)
   - Infectious disease incidents
   - Post-decontamination

III. Identify staffing enhancements required to support a pediatric MCI.

a. Identify surge staffing needed to support both a pediatric-only, and a pediatric/adult MCI.
b. Review and update Job Action Sheets for Mass Casualty Incidents for pediatric needs.

Pediatric Annex for a Hospital EOP

Module 5: Pediatric Disaster Triage

Facility-Specific Operational Details (cont.)

IV. Determine pediatric-specific supply needs for MCI triage.

a. Determine if pediatric patients will use same triage tags/ribbon colors from field.
b. Determine a color code system to show if the patient has a parent/guardian present or is an unaccompanied minor.

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 5: Pediatric Disaster Triage	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide • Emergency Severity Index (ESI): A Triage Tool for Emergency Departments; Chapter 6: Use of the ESI for Pediatric Triage https://www.ahrq.gov/professionals/systems/hospital/esi/esi6.html • Multnomah County EMS Patient Treatment Protocols: Mass Casualty Incident (Operations, 50.100) https://multco.us/file/10518/download • Multnomah County EMS Treatment Protocols (search pediatrics in each section) https://multco.us/health/providers/emts-paramedics • Reverse triage can boost patient capacity at children's hospitals, study finds. Brian Zimmerman. 2017. https://www.beckershospitalreview.com/patient-flow/reverse-triage-can-boost-patient-capacity-at-children-s-hospitals-study-finds.html • Immediate Bed Availability (IBA). https://www.phe.gov/coi/pages/iba.aspx • Pediatric Disposition Classification (Reverse Triage) System to Create Surge Capacity. Kelen, et al. 2015. https://www.ncbi.nlm.nih.gov/pubmed/25816253 • Patient Surge in Disasters: A Hospital Toolkit for Expanding Resources in Emergencies. NYC Department of Health and Mental Hygiene. 2012. https://www1.nyc.gov/site/doh/providers/emergency-prep/hospitals.page. • Preplanning Disaster Triage for Pediatric Hospitals – TRAIN Toolkit. Lucile Packard Children's Hospital. 2012. http://www.acphd.org/media/270195/hospital%20disaster%20triage%20pediatric%20planning%20train%20toolkit%20x.pdf

Pediatric Annex for a Hospital EOP

Module 5: Pediatric Disaster Triage

Appendices/References to Other Annex Modules, Policies & Plans (cont.)

II. Review Appendix

A. *The JumpSTART Tool for Pediatric Triage*, A Paper: American College of Emergency Physicians. Volume 11, Issue 2, April 2002.

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

American College of Emergency Physicians®
ADVANCING EMERGENCY CARE

The JumpSTART© Tool For Pediatric MCI Triage

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Medical Director FL-5 DMAT
Vol. 11, Issue 2, April 2002

Disasters large and small frequently include pediatric victims. When faced with multiple victims or mass casualties, emergency medical services (EMS) and even emergency department personnel must be prepared to triage victims of all ages in order to assure that limited resources are allocated in the most efficient and effective manner. Primary triage, usually performed at the incident site, is a very rapid objective sorting of victims into priority categories based on physiologic threats. Each individual is triaged without regard to the status of other victims. Secondary triage is a more subjective phase that includes consideration of the detailed patient assessment, mechanism of injury and overall numbers and acuity of other victims.

The most commonly used objective primary mass casualty incident (MCI) triage system in the United States is START (Simple Triage And Rapid Treatment), developed by the Newport Fire and Marine Department and Hoag Hospital in Newport Beach, California. START has also been adopted for use by agencies outside the United States. The START system triages victims into four categories: red is critical, yellow is delayed, green is ambulatory and black is dead or expected to die. The assessment is based on a sequential analysis of the ability to ambulate, presence/absence of respirations, respiratory rate, capillary refill and ability to obey simple commands. All patients who can walk are advised to clear the scene and walk to a designated area for secondary triage. All are initially triaged in the green category, so designated by a triage tag or a green ribbon tied around a wrist. Apneic patients are triaged in the black category if they do not start to breath after upper airway positioning. These patients undergo no assessment for sustained circulation. An apneic patient who starts to breathe after upper airway positioning is triaged into the red category. Other red category indices are: a respiratory rate > 30/min, capillary refill > 2 seconds and the inability to obey simple commands. A nonambulatory patient with a respiratory rate of = 30, a cap refill of = 2 seconds and the ability to obey commands is triaged into the yellow (delayed) category. In essence, this means they can't walk but have adequate respirations and circulation and a neurological status that allows the patient to protect his/her own airway.

The developers of START determined they would recommend use of their system for patients who weigh 100 pounds or more. They state they never intended it for use with pediatric victims. When the EMS agencies in the Miami-Dade metropolitan area decided to use START as a unified MCI triage system, I recognized it had several pitfalls that might result in both under- and over-triage of children and so developed JumpSTART as a parallel algorithm for pediatric victims. JumpSTART may be best used in conjunction with START but can also act as a stand-alone pediatric system. JumpSTART not only sets objective criteria based on a range of pediatric "normals" but also helps to assure that children will be triaged more by the head and less by the heart. Providers of all levels readily admit their tendencies to "go the extra mile" for children. Many providers have told me they would simply "make all the kids reds," thereby potentially consuming resources that might be more effectively assigned and potentially exposing children to unnecessary painful and traumatizing interventions. In addition, providers have admitted their hesitance to leave a child for dead under almost any circumstances. An objective system takes the personal responsibility for making that decision away from the triage officers, thereby easing some of the guilt and preventing resource consumption in fruitless resuscitation efforts. I recommend that the transition from JumpSTART to START be somewhere in the teenage years. Ages and weights may not be easy for triage officers to judge. Triage "adult sized" teens with START and smaller teens with JumpSTART.

The JumpSTART algorithm (see Figure) parallels the START algorithm. The triage officer first instructs all who can walk to move to a designated area for secondary triage. Some children may be developmentally unable to walk (due to age or disability) or carried by their ambulatory guardians. These children should be triaged as soon as possible at the green rendezvous point using the JumpSTART algorithm. At that time, children meeting red criteria should be transported to the on-scene treatment area. Children who meet yellow criteria should be assessed briefly for obvious or suspected external or internal injuries. Those with such injuries are classified as yellow (and moved

to the treatment area) and those without may be classified as green.

Triage continues with the officer moving to the closest victim. As with START, he/she looks for spontaneous respirations. If present, the respiratory rate is assessed. If the child is apneic, the officer positions the upper airway. If no breathing ensues, JumpSTART deviates from the START algorithm to include a pulse check. Cardiopulmonary arrest in children most often stems from primary respiratory failure. Children may have a "window of salvage ability" in which the patient is apneic but circulation is still present because the heart muscle has not yet failed due to anoxia. In JumpSTART, the apneic patient without a peripheral pulse is tagged in the black category. Those with a peripheral pulse are given the "jumpstart" of five mouth-to-barrier ventilations. This is a lower airway-opening maneuver similar to the jaw-thrust or head-tilt, chin lift used to open the upper airway. Those who remain apneic after the ventilatory trial are tagged black. Those who start to breathe are tagged red and the triage officer *moves on to the next patient*. They must not stay to continue to treat the child or they are defeating the purpose of the triage officer.

For those patients with initial spontaneous respirations, the algorithm continues in parallel with START. Note the respiratory rate parameters (15-45/min) incorporate not only the normally higher rates of children but also reflect the significance of slow rates. The combined respiratory rate parameters for both systems can be remembered as increments of fifteen (15-30-45). Palpation of peripheral pulses takes the place of capillary refill, which is very dependent on environmental temperature and the rescuer's ability to see the refill. For the neurological assessment, the widely recognized AVPU (Alert, Verbal, Pain, Unresponsive) assessment replaces ability to obey commands, which may be dependent on both the child's developmental and emotional status. Patients with response levels from alert to appropriate response to pain (localization of painful stimulus and localized reaction) are deemed capable of protecting their own airways and are tagged yellow. Those with inappropriate (generalized) response to pain, posturing or no response are tagged red.

The JumpSTART algorithm satisfies a number of needs. It provides a physiology-based, age-appropriate primary triage tool for children. Any tool that enhances any component of triage enhances the entire triage process and appropriate resource allocation for all victims in the MCI. JumpSTART also addresses the emotional issues common to EMS providers with regard to children. Its objectivity helps to exclude emotions from the triage process and helps to shield the provider from the emotional consequences of such an extremely stressful mission. The system matches START's goal of triaging each victim within a 30 second time frame and requires only one addition to the triage officer's equipment, in the form of a barrier device for ventilation. JumpSTART closely parallels the most widely recognized adult triage system, minimizing problems in initial training and skills retention. JumpSTART was developed for use in the field but can also be used by emergency department personnel for primary triage of self-referred victims in mass casualty incidents.

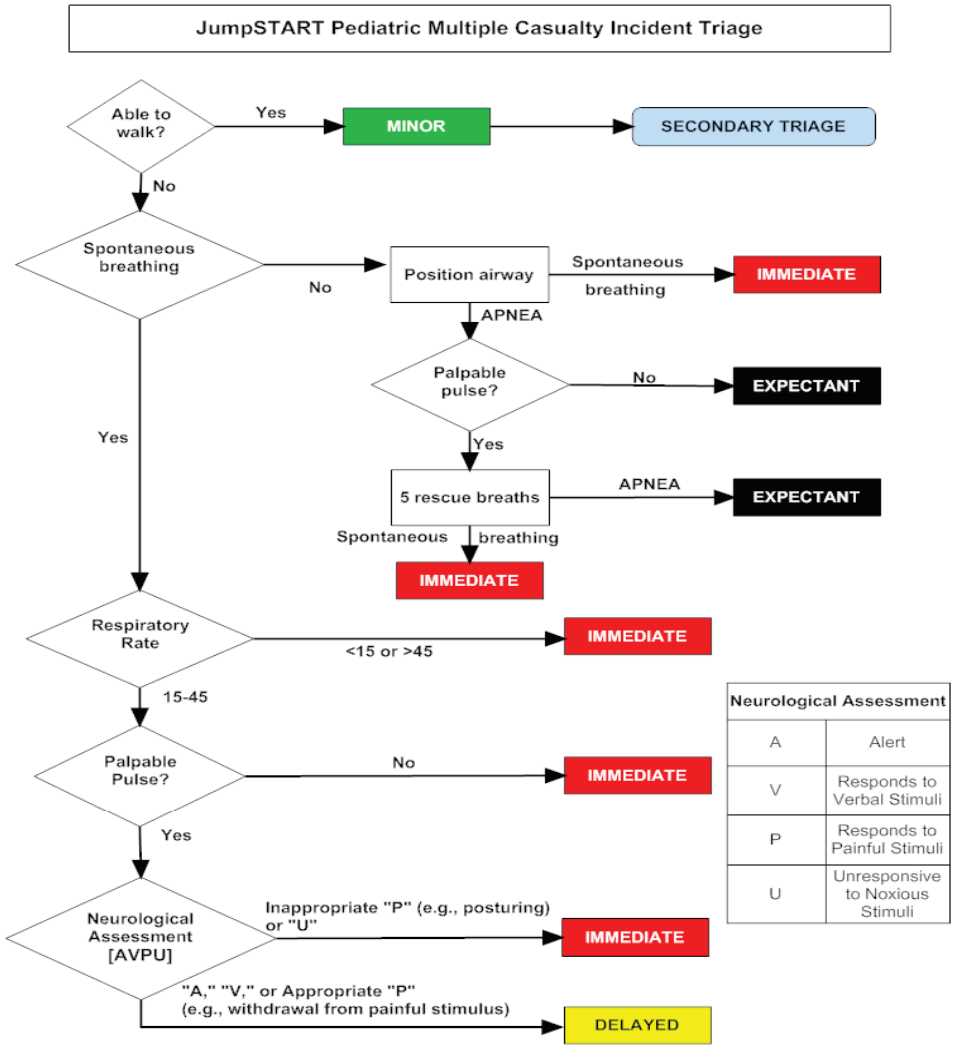
JumpSTART has been well received nationally, thanks in large part to support from federal and state emergency medical services for children (EMSC) programs. It is currently being taught in at least nine states and is mandated in three states. Israel will be considering adding JumpSTART to its national protocols. JumpSTART has been included in several course curricula, including the Pediatric Disaster Life Support course and the core curriculum for the National Disaster Medical System. JumpSTART will very likely be added to the curriculum of the CDC-sponsored First Responder training program for underdeveloped EMS systems internationally. A training video is available through the EMSC National Resource Center (www.ems-c.org). I would be pleased to provide further information, including PowerPoint presentations, to anyone interested. Please call me at (305) 261-5835.

Bibliography

Get Smart: JumpSTART! Mike Smith, MICP; *Emergency Medical Services*, 2001 May; 30(5): 46-50.

A two-hour intervention using START improves Prehospital triage of mass casualty incidents, *Prehospital Emergency Care*, 2001 Apr-Jun; 5(2): 197-9.

Disaster triage: START, then SAVE – a new method of dynamic triage for victims of a catastrophic earthquake, Benson M, Koenig KL, Schultz CH; i,1996 Apr-Jun; 11(2), 117-24.



Use JumpSTART if the Patient appears to be a child.

Use an adult system, such as START, if the patient appears to be a young adult.

Triage Categories

EXPECTANT Black Triage Tag Color

- Victim unlikely to survive given severity of injuries, level of available care, or both
- Palliative care and pain relief should be provided

DELAYED Yellow Triage Tag Color

- Victim's transport can be delayed
- Includes serious and potentially life-threatening injuries, but status not expected to deteriorate significantly over several hours

IMMEDIATE Red Triage Tag Color

- Victim can be helped by immediate intervention and transport
- Requires medical attention within minutes for survival (up to 60)
- Includes compromises to patient's Airway, Breathing, Circulation

MINOR Green Triage Tag Color

- Victim with relatively minor injuries
- Status unlikely to deteriorate over days
- May be able to assist in own care: "Walking Wounded"

Adopted from http://www.jumpstarttriage.com/

Pediatric Annex for a Hospital Emergency Operations Plan

Module 6: Pediatric Safe Area

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area (PSA)

Module Purpose

During a pediatric surge event a hospital may serve as a safe haven, and may need to host displaced and unaccompanied children. The hospital provides a safe space appropriate for children that are awaiting reunification with parents, guardians or caregivers. The safety and security needs of these children during a response is of paramount concern. Additonally, hospital staff may need child-care support in order to report to work for disaster response. The PSA can be stood up to support both sets of childcare needs.

Definitions

1. Pediatric Safe Area: A secure area of the hospital that serves as a holding area for uninjured, displaced, or released children awaiting adult caregivers/guardians/parents.

2. Children: Any dependent under the age of 18. Children with disabilities above 18 may also be covered in this definition.

3. Pediatric Population: Birth to 16 years, including age groups of neonates, infants, children, and adolescents.

4. Separated Child: A separated child is a child who is separated from both parents or from his/her previous legal or customary primary caregiver, but not necessarily from other relatives. These may, therefore, include children accompanied by other adult family members.

5. Unaccompanied Child: A child who has been separated from both parents and other relatives and is not being cared for by an adult who, by law or custom, is responsible for doing so.

6. Orphans: Children deprived of both parents by death.

7. Missing children: Children who have become separated from their families and cannot be located.

8. Parent: The birth parent or adoptive parent of a minor.

9. Legal Guardian: An adult with a legal right to physical custody of a minor bestowed by a court order or state law.

10. Family Member: A person related to another by blood, adoption, or marriage.

Planning Guidelines/Assumptions

There are four populations of children during a disaster to address in your PSA planning:

1. The injured pediatric who is a hospital patient as a result of the disaster. This child could become separated from the responsible adult during treatment.
2. The uninjured pediatric who is not a hospital patient but who is accompanying an adult person who is a patient.
3. The unaccompanied child who is not injured that has been brought to the hospital.
4. The children of staff that require care while their parent is at work.

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area (PSA)

Planning Guidelines/Assumptions (cont.)

A goal of disaster care is to treat families together whenever possible. However, if caregivers and children become separated or are triaged to different levels of care, the hospital will secure the safety of these unaccompanied children until government officials or extended family can take temporary custody.

Facility-Based Operational Details

I. Identify potential PSA spaces on the hospital campus.

a. Using the PSA checklist, assess potential operations spaces and determine preferred and back-up areas for the PSA.
b. Ensure identified spaces are not prioritized for patient care in a surge response.

II. Develop and Adopt a Standard Operating Procedure for the PSA

a. Develop processes and procedures for PSA Operations.
b. Develop supply lists and determine when to order supplies for the PSA.
c. Develop a staffing plan based on Job Action Sheets duties and required pre-screening for workers.

III. Coordinate PSA planning with the appropriate child welfare organization for your jurisdiction.

a. Ensure the hospital has a clear understanding of the PSA's scope for caring for unaccompanied minors, rules for child care facility operations, and emergency licensing processes.
b. Determine how the PSA may or may not augument routine child care service that is co-located at the hospital.

IV. Coordinate PSA planning with law enforcement for unaccompanied minors and reunification efforts.

a. Ensure the hospital has a clear understanding of how their PSA supports a larger community reunification process.
b. Determine at what point an unaccompanied minor should be transferred from the hospital's custody to the State's, in partnership with law enforcement/child welfare.

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area (PSA)

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 6: Pediatric Safe Area	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Dept. of Health and Human Services & Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Pediatric Disaster Preparedness Guidelines. Illinois EMS-C. August 2005. https://emscimprovement.center/resources/toolboxes/pediatric-disaster-preparedness-toolbox/ • Regional Pediatric Disaster Surge Framework. Children's Hospital Central California and California Emergency Management Agency Mutual Aid Region V. December 2012. http://www.calhospitalprepare.org/post/central-valley-regional-pediatric-disaster-surge-framework • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2019. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html. • Hospital Guidelines for Management of Pediatric Patients in Disasters. King County Healthcare Coalition Pediatric Surge Task Force. 2010. https://nwhrn.org/wp-content/uploads/2017/08/King-Co-Pediatric-Toolkit-2010.pdf

II. Review Appendices

A. Pediatric Safe Area Checklist
B. Pediatric Safe Area Example SOP
C. Pediatric Safe Area Job Action Sheets
D. Pediatric Safe Area Child Identification Form
E. Pediatric Safe Area Registration Log

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area (PSA)

Appendices/References to Other Annex Modules, Policies & Plans

III. Develop a list fo related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix A: Pediatric Safe Area Checklist

Space Name:_____

Assessment Date: _____

Assessment Item	Yes	No	Notes
Can you contain children in this area? (consider stairwells, elevators, doors)			
Will children need to be escorted away from the PSA to access bathrooms?			
Can you create separate areas for various age groups?			
Do the windows open? Are the windows locked? Do you have window guards?			
Are outlets covered?			
Can strangulation hazards be removed easily? (cords, wires, tubing, curtain/ blinds, drawstrings)			
Are poisonous materials secured? (cleaning supplies, chemicals)			
Are your medication carts and supply carts locked?			
Are there any fans or heaters in use? Are they safe?			
Do you have onsite or nearby daycare? Can they assist?			

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix A: Pediatric Safe Area Checklist (page 2)

Space Name:_____

Assessment Date: _____

Planning Considerations	Yes	No	Notes
Has a security plan been written and approved for the area?			
Has a child identification process been written and approved for the area?			
Is there a PSA evacuation plan?			
Is there a plan for assessing mental health needs of these children?			
PSA Staffing Plan developed and approved?			
PSA Registration Process for all who enter written and approved?			
Have you conducted drills for the PSA with relevant departments?			
Supplies	**Yes**	**No**	**Notes**
Do you have various size diapers available?			
Do you have age appropriate activities and related supplies in place to distract children?			
Cribs, cots, or beds available for children needing to sleep?			
PSA policies/protocol for minor illness in children in place? (tylenol dosing, administering routine meds, etc.)			
Meal Plan been written and approved for the PSA (meals and snacks for all ages)?			

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix B: Pediatric Safe Area Example SOP

To support the security efforts around pediatrics, [Institution] will activated a Pediatric Safe Area (PSA) to cohort all unaccompanied pediatric visitors or unaccompanied released pediatric patients in one central and safe location. The PSA can be activated at any time to hold uninjured, unaccompanied, or discharged children who are awaiting arrival of adult caregivers. The PSA can also be used to care for the children of [Institution's] staff. A Pediatric Safe Area Checklist has been provided in Appendix A to assist in the establishment of such areas.

1. PSA Activation Process

Based on the nature of the event, the [Institution] Hospital Command Center (HCC) will activate the PSA as needed. The PSA will be located in the Operations Section.

2. Identification Process for Unaccompanied Children

The rapid identification of unaccompanied children within [Institution] is imperative to reduce the potential for maltreatment, neglect, exploitation, and emotional injury. During a pediatric surge event, [Institution] will identify children at all points of entry that may need to be placed in the PSA to wait for a parent or adult caregiver.

A. Survey all children at [Institution] not accompanied by an adult.

i. These children have a high probability of being listed as missing by family members. Note: the names of these children are provided to the HCC for a referral to law enforcement.

B. Place a colored band on the child.

i. If the child has a supervising adult, a [color] band on the child will correspond with the responsible adult. This process includes the children of staff. The information on the [color] band will include name of pediatric patient/visitor and DOB, name of adult and DOB, admission date, and date of visit of pediatric visitor.

ii. If the child does not have a supervising adult, the child will receive a [color] band and be taken to the PSA. The information on the band will include name of child (if known), DOB, and date.

C. Bring identified child to PSA.

i. Once the child is identified, a [Institution] staff member will bring them to the PSA. Each child will be registered on the PSA Registration Form with as much information as possible. If no information is available, indicate this on the form.

D. Child Pick up Procedures.

i. Adults coming to claim a child they believe is in the care of the hospital must be interviewed in a separate area away from the pediatric safe area. Reunification is managed by Law Enforcement with support from the hospital.

ii. If a child is not reunited with a parent or guardian and has been in the care of the facility for 24 hours, contact a Child Welfare Hotline [XXX-XXX-XXXX] to develop a plan for the child's safety and legal custody.

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix B: Pediatric Safe Area Example SOP

E. Visitation of unaccompanied minors.

i. For unaccompanied minors and missing children, there are NO visitors allowed in the PSA.

3. Children of Staff Members in the PSA

[Institution] recognizes that in order to support a surge response, staff may need to report to work with their children. This service is not "child care" in the traditional sense but a "pop-up" resource that is an emergency function. It should not be relied on for long-term needs, but can support staff reporting to work during a crisis, especially outside of their normal working hours.

A. Parent brings child (under 13) to Pediatric Safe Area.

i. Parent fills out registration form and provides contact information while on duty in the facility.

ii. Both parent and child are banded with color band. Put the child's first name, DOB, and parent name and contact info on both bands.

iii. Parents are allowed to come visit or check in on their child via the PSA phone line provided at registration.

iv. Parents should provide any supplies needed to care for special diet or hygiene needs of their child; especially diapers, formula, and food.

B. Parent checks out child.

i. Parent and child are checked for matching information on the bands.

ii. Parent signs out child on PSA log.

4. Staff Access to the PSA

Only [Institution] staff with active identification badges are able to access the PSA. Consider restricting access further to staff who have completed a background check.

5. Staffing the PSA

[Institution] will assign appropriate staff to assist with the PSA.

A. The Pediatric Safe Area (PSA) Coordinator will assume the responsibility of setting up and supervising the PSA, and will be the primary conduit for HCC information. The PSA Coordinator can be a non-medical staff member such as a social worker, a child life specialist, or a qualified volunteer.

B. Other staff may be needed in the PSA, depending. on the number of children present (which will fluctuate over time). Based on the Oregon Licensing Standards for Day Care Centers, general staffing guidelines for the PSA are as follows:

Age Range	Staff Ratios
Infants (newborn to 2 years)	1 staff to 4 infants
Toddlers (2 years to 3 years)	1 staff to 4 toddlers
Preschool (3 years to 6 years)	1 staff to 10 children
School age (6+ years)	1 staff to 15 children

Appendix B: Pediatric Safe Area Example SOP

PSA staff do not have to be clinical. Look to Social Work, Child Life specialists, and [Institution] volunteers with pediatric experience for additional staffing.

C. Additional Staffing Considerations

i. Clinical Staff: although children in the PSA will have been assessed and/or treated for any injuries, it is highly reccomended that a clinical staff person with pediatric expertise be part of the PSA.

ii. Behavioral Health: children in the PSA may begin to show fear or signs of mental health issues as a result of being involved in a disaster and separated from family. It is important to have a pediatric behavioral health specialist as a part of the PSA.

iii. Security: Security staff may be needed in the PSA to enforce the security procedures. Children will not be able to leave without an escort, and the PSA will not allow visitors per policy.

6. Pediatric Safe Space Supply Considerations

When the PSA is activated, specific supplies will be needed. [Institution] will ensure these supplies are available upon activation:

A. Basic supplies and equipment necessary for children (first aid kit, diapers, cots/beds/cribs)
B. PSA Staff Sign-in sheet
C. PSA Child Registry Log and identification (polaroid camera or other method of identification)
D. Games, toys, and other activities for children
E. Snacks/meals and drinks appropriate for children of all ages

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix C: Pediatric Safe Area Job Action Sheet

Pediatric Safe Area (PSA) Coordinator

Mission: Ensure that the Pediatric Safe Area is properly staffed and stocked for implementation during an emergency, and ensure the safety of children in the PSA until an approriate disposition can be made.

Suggested for: Pediatric Social Worker, Pediatric Nurse, Child Life Coordinator

Reports to: Pediatric Service Leaders in the Operations Section

Date: _____ Start Time: _____ End Time: _____

Telephone: _____ Other Contact Info: _____ Radio Title: _____

Initials: _____ Signature: _____

Immediate (Operational Period 0-2 Hours)	Time	Initials
Receive appointment and briefing from the Operations Section Chief.		
Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.		
Notify your usual supervisor of your HICS assignment.		
Document all key activities, actions and decisions in an Operational Log (HICS Form 214) on a continual basis.		
Determine if the pre-designated area for the PSA is available. If not, take measures to make the area available as soon as possible.		
Gather information about how many pediatrics may present to the PSA.		
Gather staffing for the PSA (including security).		
Establish communications from the PSA to the HCC.		
Establish PSA registration process with the PSA Registration Form.		
Request supplies and equipment for the PSA.		
Use the PSA checklist to ensure the PSA is ready to recieve children. Address any deficiencies immediately.		

Pediatric Annex for a Hospital EOP

Module 3: Adapting HICS for Pediatric Response

Immediate (Operational Period 2-12 Hours)	Time	Initials
Participate in Operations Section briefings and meetings as requested.		
Document all communications (internal and external) on an Incident Message Form (HICS Form 213). Provide a copy of the Incident Message Form to the Documentation Unit in the HCC.		
Determine the needs for continued staffing of the PSA.		
Maintain registry of children in the PSA as they arrive and/or are released to the appropriate adult. Share this information with the Pediatric Services Unit Leader.		
Estimate the amount of time expected for PSA operations.		
Determine if there are any medical or non-medical needs specific to the PSA.		
Prepare an informational briefing for PSA staff.		
Prepare to make sleeping arrangements as needed.		
Report any needs to the Pediatric Services Unit Leader.		
Ensure the PSA is adequately equipped to perform its mission.		
Report status frequently to the Pediatric Services Unit Leader.		

Extended (Operational Period beyond 12 Hours)	Date	Initials
Participate in Operations Section Briefings and meetings as requested.		
Ensure your physical readiness through proper nutrition, water intake, rest, and stess management techniques.		
Ensure PSA staff have adequate breaks and nutrition during their work periods.		
Coordinate with Behavioral Health staff to ensure PSA has enough support and resources.		
Document all action and decisions on the HICS 214 form. Submit to the Pediatric Services Unit Leader.		
Upon shift change, brief your replacement on the status of all ongoing operations, issues and other relevant incident information.		

Demobilization/System Recovery	Date	Initials
Ensure return/retrieval of equipment and supplies and return all assigned incident command equipment.		
Upon deactivation of your position, ensure all documentation and Operational Logs (HICS Form 214) are submitted to the Operations Section Chief or Incident Commander, as appropriate.		
Upon deactivation of your position, brief Operations Section Chief on current problems, outstanding issues and follow-up requirements.		
Submit comments to the Incident Commander, as appropriate, for discussion and possible inclusion in the after-action report. Topics include: review of pertinent position descriptions and operational checklists; recommendations for procedure changes; section accomplishments and issues.		
Participate in stress management and after-action debriefings. Participate in other briefings and meetings as required.		

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Documents/Tools	Recieved? Yes/No
Incident Action Plan	
HICS Form 207 - Incident Management Team Chart	
HICS Form 213 - Incident Message Form	
HICS Form 214 - Operational Log	
Hospital Emergency Operations Plan	
Hospital Organization Chart	
Hospital Telephone Directory	
Pediatric Safe Area Plan	

Pediatric Annex for a Hospital EOP

Module 6: Pediatric Safe Area

Appendix D: Pediatric Safe Area Example Child Identification Form

This tool can be used to identify all children (unaccompanied and staff children) within the hospital's PSA. Send completed forms to the Hospital Command Center.

Name: _____ Hospital # _____

Age: _____Month/Years DOB: _____

Sex: MALE FEMALE

1. Is the child currently accompanied by a supervising adult? CIRCLE YES NO

   If yes, list the name of the supervising adult? _____ Age: _____

2. Is this person a parent? YES NO

3. Is this person a grandparent? YES NO

4. Is this person the usual guardian? YES NO

5. Was the child living with this person prior to the event? YES NO

6. Does the supervising adult have any proof of legal guardianship or relationship to the child? If yes, please attach a copy. YES NO

7. If the adult(s) is not a parent or guardian, what is the relationship to the child?
   _____

8. Was the child treated for an illness or injury? YES NO
   If yes, explain: _____

9. Was the child admitted to the hospital? YES NO
   If yes, give room number and location_____

   If no, give the child's current location (lobby, Pediatric Safe Area, etc.)
   _____

10. Does this child have a history of medical problems? YES NO
    If yes, explain: _____
    _____

11. Does this child or family member have special needs? YES NO
    If yes, explain: _____
    _____

Appendix E: Pediatric Safe Area Example Registry Log

#	Name of Child	Age	Type	Arrival Date/ Time	Discharge Date /Time	Responsible Adult Name	Responsible Adult Signature	Contact Phone Number
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

Type: (P) = Patient, (V) = Visitor, (DC) = Discharged, (S) = Staff Child, (UM) = Unaccompanied Minor
Disposition: (A) = Admit to Hospital, (DP) = Discharged to Parent, (DR) = Discharged to Relative, (CSW) = Child Welfare Services
Responsible Adult: Adult responsible for the child at time of discharge.

[Institution] will use this form to monitor the arrival and departure of children from the Pediatric Safe Area. A copy of this form will be sent the HCC on a regular basis.

Pediatric Annex for a Hospital Emergency Operations Plan

Module 7: Disaster Behavioral Health (DBH) for Children & Families

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 7: DBH for Children & Families

Module Purpose

To describe Disaster Behavioral Health (DBH) resources available internally and externally to support patients, families, and hospital staff during and after a surge event.

Definitions

1. Pediatric: Children under the age of 18. Adolescents 14 and older can consent for mental health services without parental consent.

2. Traumatic Stress : A common term for reactive anxiety and depression that can occur in a manner similar to post-traumatic stress disorder, but lacking the same intensity.

3. Disaster Behavioral Health Triage: A tool to support a disaster behavioral response that quickly identifies individuals with mental health emergencies, and those at risk for more chronic disorders and impairment in mass casualty events. PsyStart is a tool commonly used to accomplish this work.

4. Vicarious Trauma: Work-related trauma exposures that can occur in the process of caring for others who are victims of violence (emotional, physical, etc.)

5. Trauma Informed Care: An organizational structure and treatment framework that involves understanding, recognizing, and responding to the effects of all types of trauma. It also emphasizes physical, psychological, and emotional safety for both consumers and providers, and helps survivors rebuild a sense of control and empowerment.

6. Mental Health First Aid: A national movement to help identify, understand and respond to signs of mental illnesses and substance use disorders in a community. In a disaster, this approach can identify individuals who have mentally decompensated or relapsed in substance use to cope with the stress and trauma of a disaster.

7. Psychological First Aid: An approach to helping people affected by an emergency, disaster or traumatic event. It includes basic principles of support to promote natural recovery.

8. Family-Centered Care: An approach to the planning, delivery, and evaluation of healthcare that is grounded in mutually beneficial partnerships among patients, families, and healthcare professionals.

Pediatric Annex for a Hospital EOP

Module 7: DBH for Children & Families

Planning Guidelines/Assumptions

Children respond to trauma and disasters differently than adults. There will be a large range of responses based on the child's age, developmental and cognitive abilities, socio-cultural background, and personality. Some may have overt reactions in the acute phase, while others may not manifest symptoms for many weeks or months. It is helpful to know age-specific reactions, however, and to know what interventions may be beneficial.

A hospital's behavioral health and/or child life staff will use specific screening tools to identify children suffering from psycological and emotional issues, and to provide or refer them and their families to appropriate interventions, stabilization, and treatment. It is recommended that hospitals identify a pediatric disaster champion to oversee the development of a disaster behavioral health program across all emergency response operations in the hospital.

Hospitals will be balancing the need to provide care for patients, with managing the impact of staff burnout and trauma (primary and vicarious). To best serve staff, Occupational Health offices, in partnership wtih a community health provider, can develop a plan to provide Critical Incident Stress Management debriefings on a routine schedule to support responder mental health. Planning for a trauma informed care environment is not something done "Just-in-Time" in a disaster, but done with planning and forethought. Thus, trauma informed care is not part of this module.

Minors consenting for services is dictated by the disaster impacts, age of the patient, and whether or not they are unaccompanied in the facility. Review Module 1 to learn more about Oregon's rules on informed consent for mental health services. In a disaster, keeping the focus on screening and Psychological First Aid skills will likely be within the scope of practice. If the patient indicates suicidal or self-harm ideation, the "life or limb loss" concept of implied consent may exist. Consult your legal counsel and privacy officers for specific guidance.

This module focuses on the impact of disasters on children and families, not on managing continuity of care for mental health patients served by the institution prior to the incident. Hospitals are encouraged to collaborate with their healthcare coalition partners to develop rapid discharge, transfer, or community based intensive treatment options to lessen the impact of inpatient psychiatric bed use in a medical disaster.

Facility-Based Operational Details

I. Identify a DBH pediatric disaster champion in your hospital.

II. Determine how to integrate disaster behavioral health operations into mass casualty response operations.

III. Develop DBH training to support primary response to pediatric needs as well as training for surge/longer-term staffing, allowing trained Mental Health Professionals to work at the top of their license.

Pediatric Annex for a Hospital EOP

Module 7: DBH for Children & Families

IV. Develop partnerships with Medical Reserve Corps and mental health training programs to augment hospital mental health staff in support of a response.

V. Determine a continuity of care strategy for psychiatric inpatients and those in outpatient services in order to utilize staff for DBH operations.

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references listed below.

Module 7: DBH for Children & Families	• Regional Pediatric Disaster Surge Framework. Children's Hospital Central California and California Emergency Management Agency Mutual Aid Region V. December 2012. http://www.calhospitalprepare.org/post/central-valley-regional-pediatric-disaster-surge-framework. • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2013. http://www.health.state.mn.us/oep/healthcare/surge/pedsprimer.docx. • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html. • Disaster Mental Health: A Critical Response; A Training Curriculum for Mental Health and Spiritual Care Professionals in Healthcare Settings. University of Rochester Medical Center. https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/flrtc/preparedness-response-tools/documents/H_DMH_Part_Manual.pdf • National Children's Disaster Mental Health Concept of Operations (2011). Terrorism and Disaster Center at the Univeristy of Oklahoma Health Sciences Center. https://www.oumedicine.com/docs/ad-psychiatry-workfiles/conops_final_120511.pdf • American Counseling Association: Trauma and Disaster Mental Health. https://www.counseling.org/knowledge-center/mental-health-resources/trauma-disaster

Pediatric Annex for a Hospital EOP

Module 7: DBH for Children & Families

II. Review Appendices Provided

A: Disaster and Truama Responses of Children
B: The PsySTART Rapid Mental Health Triage System
C: Article - Disaster Management: Mental Health Perspective

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Appendix A

Fact Sheet #3

10/11

AMERICAN COUNSELING ASSOCIATION

Disaster and Trauma Responses of Children

Children exposed to disasters and/or trauma might response in various emotional and psychological ways. Displacement from the child's home, community/neighborhood and even worse delayed reunification with parents can add to the child's stress. During this time parents and other supporting adults are very important as they are most familiar with the child and can respond to the child's reaction(s). For pre-adolescents and adolescents, peer support and peer engagement also becomes an important support system.

Children: 1 to 6 years of age

- Startle response to sudden and loud noises
- Stomach aches, headaches, etc.
- Freezing-sudden immobility of the body
- Heightened arousal
- Cognitive confusion
- Bed wetting, loss of age appropriate verbal skills and motor function, and/or other regressive symptoms
- Sleep problems
- Anxiety
- Fear
- Lack of usual responses
- Clinging to caregiver/separation fear
- Crying
- Repeated play of the disaster/trauma event

Children: 7 to 11 years of age

- Behaving like a younger child
- Anger and aggression
- Worrying about safety
- Sleep problems
- Loss of interest of usual activities
- Stomach aches, headaches, etc.
- Clinging to caregiver/separation fear
- Concentration problems
- School performance and attendance problems (this is a temporary situation)
- General worries
- Anxiety
- Closely observing parent(s) anxiety
- Fear
- Preoccupation with safety and danger

Pre-Adolescents/Adolescents: 12 to 18 years of age

- Increased withdrawal
- Self distractive behavior, such as sexual risk taking, substance abuse, reckless risk taking, etc.
- Becoming more accident prone
- Shortened sense of the future and changes in plans for the future(e.g., not going to college)
- Concentration problems
- School performance and attendance problems (this is a temporary situation)
- General worries
- Anxiety
- Suicide/Suicide packs
- Sleep problems

Pre-Adolescents/Adolescents: 12 to 18 years (cont.)

- Life-threatening re-enactment of the trauma/disaster
- Action oriented/wanting revenge
- Depression
- Changes in relationship patterns
- Rebellious behavior at home
- Self focused behavior (e.g., inability to think about others)
- Over- or under-eating (weight gain or weight loss)

Children and adolescents might have anxiety and fear that:

- Another disaster will happen
- Someone will die
- They will be separated from the rest of their family
- They will be left behind all alone

Parents can help their children and adolescents by:

- Talking about the disaster and the damage a disaster might create
- Deciding which number to call and a place to meet in case of a disaster
- Putting supplies together for an emergency preparedness kit
- Safeguarding personal possessions and storing them where they are protected in case of a disaster

Things that adults can do for children and adolescents following a disaster:

- Create an environment that is safe Provide reassurance
- Be understanding of the child/adolescent's need to mourn his/her own loss
- Provide age appropriate information about the disaster/trauma event calmly and factually
- Limit TV time, where the disaster/trauma event is reported on
- Create routines (for work, play meals, and rest). If possible maintain the same pre-disaster/trauma routines
- Involve children/adolescents by giving them chores to make them feel that they are helping to restore their family and community
- Spend extra time with children at bed time
- Do not punish the child for regressive behavior (know that this is only temporary)
- Praise and recognize responsible and age appropriate behavior
- Work with the school, since short term memory might be impacted which makes test taking challenging
- Remember that a decrease in grades/school performance is only temporary
- Consult with a school counselor or counselor should you be worried about behavior (especially risky behavior in adolescents)
- Do not ignore threats of harm to self or others, seek professional help
- Provide opportunities to talk about the disaster/trauma event, but do not pressure the child/adolescent
- Encourage your children and adolescents to help develop a family disaster plan

On-Line resources:

American Counseling Association: http://www.counseling.org

Disaster Help for Parents and Children: http://www.childadvocate.net/disaster.htm

Appendix B: Newsletter Article on PsyStart from American College of Emergency Physicians

(https://www.acep.org/how-we-serve/sections/disaster-medicine/news/june-2017/the-psystart-rapid-mental-health-triage-system/#sm.00004pmrxilaeqk11p2292g45qtmf)

The PsySTART Rapid Mental Health Triage System
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In the aftermath of disasters, terrorism, and other acute traumatic events there is a continuum of risk and resilience at the individual and population level. Depending on a complex dynamic of incident-specific, individual, family, and community factors, there are several different potential pathways individuals can take. Among the most common is the so-called "resilience pathway" which involves the initial development of one or more post-traumatic stress symptoms. While these symptoms may partly resemble the clinical diagnosis of Post-traumatic stress disorder (PTSD), they are transitory, sub-syndromal, and resolve without any mental health intervention.

The other most common outcome involves so-called "chronic dysfunction," which is the development of one or more comorbid clinical conditions that are associated with functional impairment, and which require evidence-based interventions such as Prolonged Exposure Cognitive Behavioral Therapy (CBT) in the case of adults, and Trauma Focused CBT for children, to resolve. The best available epidemiological evidence (Galea et al, 2005, 2008) suggests that somewhere between 50-90% of individuals have transitory distress while 30-40% of those directly impacted develop a new clinical disorder that they did not possess pre-event. PTSD is the most common, however it is frequently comorbid with depression, anxiety, or substance abuse disorders. There is also emerging evidence that if individuals at high risk are identified early, within the first weeks after single incident trauma, and provided acute, highly truncated variants of these evidence-based interventions, subsequent development of clinical disorders may be reduced.

New therapeutic approaches are therefore focused on reducing the population level impact of disasters and traumatic events by rapidly identifying the high-risk subset of adults and children and providing them targeted, acute evidence-based interventions. Adults and children who experience traumatic injury and present to the Emergency Department (ED) or trauma center, either in the context of disaster, terrorism, or unintentional injury, are a known high-risk group, and represent an important sub-population requiring targeted risk identification and linkage to effective mental health interventions.

Traditional approaches have used symptom-based screeners to identify those with disorders. However, in the immediate aftermath of traumatic events with patients presenting to the ED or other disaster medical settings, including up to 30 to 45 days post-event, symptom-based screeners are problematic because they both fail to differentiate those with transitory distress trajectories (resilience pathway) from those with disorder trajectories, and because administration of symptom-based screening tools are impractical for ED use.

The PsySTART rapid mental health triage system was developed to address these limitations. As opposed to symptom-based PTSD screening tools, PsySTART is an evidence-based rapid mental health triage system that can be completed by non-mental health workers and responders. Instead of subjective symptoms, it relies on evidence-based, multi-variate, objective risk factors such as "being trapped, deaths of family members, displacement from home, and exposure to mutilated bodies (Theinkrua et al 2006). Once familiar, practitioners can apply PsySTART in a matter of seconds.

PsySTART is currently used in hospitals and clinics, Emergency Medical Services (EMS) pre-hospital systems, schools, and mental health response teams in Los Angeles County, Seattle and King County, the States of Tennessee and Minnesota, Lake County California, District of Columbia, and the North Central Texas Trauma Regional Advisory Council. It is a component in a new Federal Emergency Management Agency (FEMA) Pediatric Disaster Training Course and was part of the U.S. Department of Health and Human Services (HHS) field responses in the Sandy Hook, Boston Marathon, and Roseburg, Oregon terrorism and active shooter incidents.

Using a novel information technology platform, PsySTART scores are collated into a database system that provides:

- Real-time situational awareness of a tiered system of mental health risk using a rapid triage tool completed in a few seconds by non mental health workers
- Geo-coded information that is end user scalable at the individual site level (e.g. hospital, shelter, clinic, mobile team), as well as county, region, or statewide, depending on informational requirements
- Real-time "decision support" at the individual/clinical and population level
    - Data-driven surveillance leveraging real-time PsySTART evidence-based metrics informs situational awareness for creation of incident action plans, gap analysis, mutual aid requests, Federal Stafford Act assistance, and victims of crime funding requests
    - Metrics include, e.g. numbers at risk, sources of risk, locations, and also include separate information for children
- Guidance in allocation of scarce mental health resources to those at greatest risk by an ethical, evidence-based risk protocol, conforming to "crisis standards of care"
    - Includes "floating triage algorithm" which matches risk to actual available resources, allowing available resources to reach those most at risk in real time
    - Novel Hospital Incident Command System (HICS) compliant job action sheets to guide response in the hospital or clinic

- Common operating picture of population level risks specific to public health emergencies (e.g. Ebola virus disease)
    - Risks for isolated patients, quarantined (including family members, co-workers etc.), "worried well" (including neighbors, co-workers, other family members, healthcare workers), and those experiencing loss of loved ones
    - PsySTART is the first known metric to identify "worried well" trends, which can then inform targeted risk communication or other crisis management strategies specific to the healthcare setting and population (e.g. in Ebola virus healthcare workers)

- Decision support tool for mental health workers who follow up on those at higher risk
    - "Solution focused crisis intervention" using the triage information to guide practical crisis intervention and assign individuals based on need (for example those experiencing loss of loved one could be matched with chaplaincy support or trained grief counselors)

- Stepped "continuum of care" approach to provide those at risk with early intervention to facilitate resilience

PsySTART dissemination efforts around the United States have resulted in various "disaster systems of care" (Schreiber, 2005) with pre-hospital emergency responses, emergency departments, schools, casualty collection points, and shelters serving as common population level locations to approach risk identification. This information can be shared across local disasters systems of care to inform recovery strategies and population level risk with trending by age groups and geocoded locations. Dynamic time trends for specific PsySTART risk markers can be observed. PsySTART has been used as part of comprehensive community health disaster epidemiology by the CDC in the American Samoa catastrophic earthquake and Tsunami (King et al, 2012) and in the California Napa Valley Earthquake (CDC, 2014). In the first 3 weeks after the hurricane Superstorm Sandy, the American Red Cross captured some 20,000 PsySTART triage encounters in New York state shelters (Schreiber,et al, 2012). PsySTART has also been used to estimate mental health consequences of catastrophic disasters including earthquakes in California and the New Madrid Seismic Zone (USGS, 2008).

Currently, our research is focused on pediatric trauma patients. Approximately 20% of pediatric patients develop PTSD within the first year after a traumatic injury (Mehta S., Ameratunga SN., 2012). Our efforts are aimed at refining the PsySTART prediction model with risk factor weighting and improved efficiency of risk identification in the context of life-saving trauma care. For example, a quality improvement effort at CHOC Children's Hospital of Orange County has incorporated PsySTART into its electronic medical record for completion on every pediatric trauma activation. High- risk patients are then routed for secondary clinical assessment by the mental health team, thus leveraging the early opportunity to reduce or prevent psychological consequences. Once refined and validated, PsySTART could be incorporated into trauma assessments at EDs nationwide, potentially leading to early identification of patients at high risk for mental health disorders, and the opportunity for early therapeutic intervention.

Appendix C

Indian Journal of Psychological Medicine
Official publication of the South zone branch of the Indian psychiatric society
Home
Current issue
Instructions
Submit article

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Disaster Management: Mental Health Perspective

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Abstract

Disaster mental health is based on the principles of 'preventive medicine' This principle has necessitated a paradigm shift from relief centered post-disaster management to a holistic, multi-dimensional integrated community approach of health promotion, disaster prevention, preparedness and mitigation. This has ignited the paradigm shift from curative to preventive aspects of disaster management. This can be understood on the basis of six 'R's such as Readiness (Preparedness), Response (Immediate action), Relief (Sustained rescue work), Rehabilitation (Long term remedial measures using community resources), Recovery (Returning to normalcy) and Resilience (Fostering). Prevalence of mental health problems in disaster affected population is found to be higher by two to three times than that of the general population. Along with the diagnosable mental disorders, affected community also harbours large number of sub-syndromal symptoms. Majority of the acute phase reactions and disorders are self-limiting, whereas long-term phase disorders require assistance from mental health professionals. Role of psychotropic medication is very limited in preventing mental health morbidity. The role of cognitive behaviour therapy (CBT) in mitigating the mental health morbidity appears to be promising. Role of Psychological First Aid (PFA) and debriefing is not well-established. Disaster management is a continuous and integrated cyclical process of planning, organising, coordinating and implementing measures to prevent and to manage disaster effectively. Thus, now it is time to integrate public health principles into disaster mental health.

Keywords: *Disasters*, *mental disorders*, *disaster psychiatry*, *disaster mental health*, *psychiatry*, *post-traumatic stress disorder*, *survivors*

INTRODUCTION

In the contemporary world, disasters are inevitable truth of our life, preventable but completely unavoidable and they are part of our living in this complex globalised, industrialized and civilized world. Disasters are as old as mankind. Disaster is a very a broad term, which implies a diverse set of circumstances from an act of terrorism (manmade disaster) to natural calamities like earth quake.

Developing countries are at high-risk for disaster proneness and also they have to face challenges like poverty, meager resources, illiteracy, poor infrastructure, corruption, lack of trained manpower and poor knowledge of disaster mental health.[1] Disasters are known to have substantial effect on both physical and mental health of the affected population.[2] The burning issue is, what constitutes a disaster? Can a railway accident be a disaster? Terrorist attack? Religious Riots? War? Rapid spread of Ebola virus? Difficulty to define a disaster has been further accentuated by the inconsistent use of terminologies such as calamity, catastrophe, crisis, emergency, misfortune, tragedy, trauma and stress. Defining 'Disaster' is inevitable because it poses a real challenge to any country to know what to include and what not, for planning, policy making, legislation and for research purpose. Disasters cannot be avoided completely but we need to learn how to prepare, respond, recover, rehabilitate and re-integrate. There is a need to understand the effects of disaster on health so that precautionary measures can be adopted to mitigate the suffering. Hence, this article attempts to define, classify and discuss the management of disasters from mental health perspective.

METHODOLOGY OF THE REVIEW

The authors conducted an electronic search of articles published in 'Pubmed' from 1978 to March 2013. The term 'disaster planning' was introduced in pubmed MeSH vocabulary as early as 1978. The MeSH term such as 'disaster planning' [Mesh] were combined with various terms using Boolean operator (AND). A PUBMED search for all published studies involving disaster mental health/disaster psychiatry was performed till 2013. To answer the objectives of the review following MeSH terms (keywords) were employed: 'disasters' 'mental health' 'mental disorders' 'psychiatry' 'post-traumatic stress disorder' 'psychological techniques' 'psychotherapy' and 'drug therapy'. Boolean operator (AND) was also employed in combination of the above key words. In addition, the reference sections of major articles, and reviews were also screened. We employed the usual hierarchy of evidence to write the review. Systematic reviews and meta- analyses of randomised controlled studies (RCT) were considered the best evidence base followed by RCTs, open-label studies, case series and case reports. In addition, we also considered clinical, consensus and disaster guidelines in writing this educational review.

WHAT IS DISASTER?

The root of the word *disaster* ("bad star" in Greek) comes from an astrological idea that when the stars are in a bad position a bad event will happen.[3] Disasters can be simply defined as violent encounters with nature, technology or humankind.[4] In 1978, Lazarus & Cohen defined it as a specific cataclysmic event, that is, a stressor depicted by immense power, large scope, suddenness, and placing excessive demands on individual coping.[5] Similarly, in 1992 the World Health Organisation's (WHO) defined disaster as 'a severe disruption, ecological and psychosocial, which greatly exceeds the coping capacity of the affected community'.[6]

In 1995, Federal Emergency Management Agency of US have defined 'disaster' as, 'Any natural catastrophe, regardless of cause, any fire, flood, or explosion that causes damage of sufficient severity and magnitude to warrant assistance supplementing State, local, and disaster relief organization efforts to alleviate damage, loss, hardship, or suffering'.[7]

The Disaster Management Act 2005 of India[8], disaster is defined as a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or be accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

From above various definitions it is clear that there is no one single acceptable definition of disaster. However, there are some common characteristics across all definitions. They are:

a. Sudden onset,

b. Unpredictability,

c. Uncontrollability,

d. Huge magnitude of destruction,

e. Human loss and suffering and

f. Greatly exceed the coping capacity of the affected community.

HOW CAN WE CLASSIFY DISASTERS?

Disaster can be classified as natural and manmade ones.[9] Natural disasters are usually considered as 'Acts of God' to punish human beings for their past deeds and are frequently referred to as *'Karma'*. This attribution has positive consequences in terms of coping and negative consequences by way of hindering planning and preparedness.[9] In terms of evoking mental health morbidity, natural disasters are mild in nature, human errors and technological accidents are moderate in nature and willful acts like terrorism are most severe in nature.[10] Furthermore, in rare instances these survivors may become perpetrators of the disaster to avenge their sufferings. This is well-known in war and terrorist attack.[11]

WHAT IS THE PRINCIPLE OF DISASTER MENTAL HEALTH?

Disaster mental health services are based on the principles of 'preventive medicine'.[12] This principle of 'prevention' has necessitated a paradigm shift from relief centered post-disaster management to a holistic, multi-dimensional integrated community approach.[13] This has ignited the paradigm shift from curative to preventive aspects of disaster management. This can be understood on the basis of six 'R's such as Readiness (Preparedness), Response (Immediate action), Relief (Sustained rescue work), Rehabilitation (Long term remedial measures using community resources), Recovery (Returning to normalcy) and Resilience (Fostering).[14,15]

WHAT ARE THE DIFFERENT PHASES OF DISASTER MENTAL HEALTH?

Community's and individual's reactions to the disaster usually follow a predictable phase as shown in Figure 1. They are heroic phase, honeymoon phase, disillusionment phase and restoration phase.[1] Immediately after the disaster, survivors in the community usually show altruistic behaviour in the form of rescuing, sheltering, feeding, and supporting the fellow human beings. Hence this phase is called as heroic phase. This phase usually lasts from a day to weeks depending upon the severity, duration of exposure and availability of the relief sources from various agencies. Once the relief agencies step in, survivors are relocated to safer places like relief camps. Media attention, free medical aid, free food and shelter, VIP visits to the camp, administrations' sympathy, compensation package, rehabilitation promises provides immense sense of relief and faith in survivors that their community will be restored in no time and their loss will be accounted through monetary benefits. Hence this phase is called honeymoon phase, which usually lasts for 2-4 weeks.

At the end of 2-4 weeks, relief materials and resources start weaning. VIPs and politicians visit stops. Media coverage reduces. Administration, relief agencies and NGO's involvement start fading. This brings the survivors to the ruthless world of post disaster life. The reality of complex process of rebuilding and rehabilitating appears a distant dream because of administration hurdles, bureaucratic red tapism, discrimination, injustice and corruption. This harsh reality of the disillusionment phase provides a fertile soil for breeding mental morbidity which lasts for 3-36 months before the community restores to harmony. The role of mental health workers is immense during this phase.

WHAT ARE THE NORMAL HUMAN RESPONSES TO A DISASTER?

Grief is the response to any loss. Grief reactions are normal responses to abnormal situations. Its intensity is directly proportional to the severity, duration and intensity of exposure to the disaster. Grief process occurs through various stages[16] and are often experienced in waves or cycles or episodes with periods of intense and painful emotions. Usually normal grief follows the above phases with a possibility of some variation and resolves over a period of few months. Remember, survivours are normal people in abnormal situations. This issue needs to be kept in mind. The validation of their emotions needs to be done during the therapy to address the issue of:

a. Survivor's guilt,

b. Fear of losing control on overwhelming emotions,

c. Becoming mentally ill,

d. Substance use,

e. Death wishes and suicidal ideas. By validation of emotions a sense of justification is provided to the overwhelming emotions.

WHAT ARE THE ABNORMAL HUMAN RESPONSES TO A DISASTER?

A recent study reported that the existence of complicated grief in more than two-thirds of the survivors of the earthquake.[17] Abnormal grief reactions can be grossly classified into delayed, absent, oscillating and exploding grief responses.[18] Abnormal or complicated because they interfere in the process of healing and also interfere in the biological, social and occupational functioning.[19] Resolution of abnormal grief reaction can be facilitated in these groups by fostering the cultural-religious rituals of grieving. Hence, the mental health professional needs to liaison with the disaster relief administration, educate them regarding proper closure of the missing people and to facilitate the mass grieving through cultural-religious death rituals of grieving. Many of the survivors may require trauma/grief-focused interventions, within a comprehensive disaster recovery programme.[20]

WHAT IS THE PREVALENCE OF MENTAL HEALTH MORBIDITY IN DISASTER AFFECTED POPULATION?

Prevalence of mental morbidity in disaster affected population varies from 8.6 to 57.3 percent.[21] This magnitude of variation can be attributed to methodology of the study, defining a ‘case’, sampling procedure, timing of the study, recall bias, systematic under-reporting, cross-cultural differences and type and severity of the disaster.[22]

Mental health disorders noted during disasters can be classified into acute phase (1-3 months) and long-term phase (>3 months). Majority of the acute phase reactions and disorders are self-limiting, whereas long-term phase disorders require assistance from mental health professionals. Along with the diagnosable mental disorders, affected community also harbors large number of sub-syndromal symptoms population. Majority of them report of medically unexplained somatic symptoms, and unusual symptom clusters are classically seen.[23] Mental health professionals should be aware of this phenomenon and restrain themselves from labeling this population with mental disorder and treating them aggressively with medications.[12] Overall, prevalence rates of mental morbidity can be approximately estimated to be two to three times higher than that in the general population.

WHAT ARE THE COMMON MENTAL DISORDERS SEEN IN THE DISASTER AFFECTED POPULATION?

Common disorders are: Adjustment disorders, depression, post traumatic stress disorder (PTSD), anxiety disorders, non-specific somatic symptoms and substance abuse.[7,9,24,25,26,27] Researchers have assigned that the PTSD as the signature diagnosis among post disaster mental morbidity.[9] Prevalence of PTSD reported in literature varies from 4-60%.[7]

Mood disorders[28,29], PTSD[29] and substances use disorders[30,31,32] are diagnosed frequently along with other psychiatric disorders. Depression is a well-known co-morbidity and can pose a challenge to any treating team.[33,34,35] Mental health morbidity continues to be prevalent even after 3-5 years in the disaster affected community.[26] Most commonly noted mental health problems during the initial phase among the Asian tsunami survivours were as follows in Table 1.[1,12,36]

WHO ARE AT RISK OF DEVELOPING MENTAL HEALTH MORBIDITY?

Earlier studies predicted the following high risk variables: Severity of the disaster, threat to life, loss of life, loss of family members and duration of exposure.[27] Recent additions are: Female gender, children, elderly, physically disabled, single, ethnic minority, displaced population, poverty, substance use like smoking, loss of economic livelihood, poor social support and family support.[9,12,27,37,38,39,40]

Most children and young people are resilient, but also very vulnerable to the psychosocial effects of disasters.[40,41] People with pre-existing mental disorders are well known to relapse during disasters.[39,42] Similarly, people with poor coping capacity, substance use and chronic general medical conditions are also at the high risk.[9,43] Hence, general physician practicing in the area of disaster zone should be aware of high prevalence of mental health disorders in chronic medically-ill patients.[44] Similarly, disaster rescue workers are at high risk of developing psychiatric morbidity.[45]

WHAT IS THE ROLE OF MENTAL HEALTH PROFESSIONALS IN DISASTER SITUATION?

Many mental health professionals have poor understanding of their role in a disaster response team. They are neither part of a pre-existing or post- disaster response team. They have to play a multi-dimensional role from educating, training, negotiating, administrative, fund raising, collaborative, skill transferring, treating, advocating and rehabilitating. Please see the Table 2.

In addressing the spectrum of problems during post-disaster, mental health clinics in relief camps are useful in identifying and treating moderate-to-severe cases only. Hence, the role of specialist as a clinician is very minimal. However, specialist has very important role in training local resources in simple community-based interventions. These include art therapy; informal education; group discussions; drama; structuring of daily activities; engaging in activities such as yoga, meditation, prayers, relaxation, sports, and games; spiritual activities; providing factual information; educating parents and teachers.[36,46] They were intended to provide important components of psychosocial rehabilitation such as normalizing, stabilizing, socializing, defusing of emotions and feelings, and restoration of a sense of identification with others and of safety and security.[13] These will not only help in the recovery of milder and sub-syndromal symptoms, but also in the prevention of adverse mental health consequences. Such interventions, when feasible, should begin as early as possible, targeting all high-risk populations in the affected area; however to encourage participation and avoid stigmatisation, the ‘mental health/psychiatric’ label needs to be avoided.[1]

Specialised care is required only in a small group of population. Majority of the care occurs informally outside the medical settings by community level workers. Training these community level workers is highly essential ingredient of the disaster management. There is a need to de-medicalise the survivor's disaster response and also to de-professionalise the service delivery and focus on capacity building of the

local community. By de-medicalising and de-professionalizing, gives us an opportunity to train the survivours, lay-public, local administration, community leaders, NGO's, faith healers, religious leaders, community level workers and significant others in providing care to the survivors during disaster.

Another important role is providing care to the disaster relief workers. Disaster relief workers encounter considerable stress while providing services to people affected by a disaster and they are exposed to the same risk factors that affect clients, hence disaster workers are at risk for compassion fatigue, burnout and vicarious traumatisation.[47] In simple words it is the 'emotional cost on the relief workers by caring the disaster victims'. Vicarious trauma can also impact the relief worker's personal life, as well as the relief operation. It is essential to monitor the disaster relief workers mental and physical health status during disaster pre-deployment (assessment of personality and training), deployment (hand holding) and post-deployment phase (to build resilience).

Majority of the disasters require temporary external aids. These should be culturally appropriate and targeted towards empowering the affected community to enhance their camaraderie and competence to cope with future disasters.[12] Disaster management needs to follow the *principle of democracy*. That is 'of the people, by the people and for the people' for disaster assistance to be acceptable, accessible, adaptable and adoptable for long-term community participation and empowerment.[14] Similarly The Sphere Project advocates humanitarian charter and identifies minimum standards for disaster assistance to promote accountability and share standards of good practice.[48]

Recent, Uttarakhand Disaster relief work team in 2013 from National Institute of Mental Health Neuro sciences, Bangalore reported that the mental health infrastructure and manpower is abysmally inadequate, none of the district in the Uttarakhand had District Mental Health Programme and Substance use was highly prevalent in the community and at the same time it is to be noted that there are no treatment for de-addiction or de-addiction rehabilitation centre was available across the entire state of Uttarakhand. Hence, the disaster relief team submitted a report to the Government of India to implement the National Mental Health Programme to increase the mental health infrastructure at least in the four major disaster affected districts in Uttarakhand.[49] Thus, mental health professional plays crucial role in various forms from providing care, training, advocacy, rehabilitation to hand holding of the other disaster relief workers.

WHAT IS THE EFFICACY OF THE PSYCHOLOGICAL INTERVENTIONS?

Psychological First Aid

Survivors may exhibit a range of physical, emotional, and cognitive symptoms. This heightened emotional state is similar to classical fight/flight/freeze reaction of stress. Affected person may not be in a position to think and act rationally during disaster. Similar to medical first aid, psychological first aid techniques can be performed by minimally trained nonprofessionals within the affected community.[50] Disaster relief workers need to be trained in assessing the high-risk survivors. The assessment need to be initiated by the relief worker for assessment of:

a. Dangers to self and others

b. Disoriented to time/place/person

c. Death of family member/s in disaster

d. Direct threat to life because of disaster

e. Disaster related significant physical injury to self or family members

f. Delayed relief/evacuation

g. Missing family member/s and

h. Past history of mental illness and substance use.

After the brief assessment appropriate steps needs to be taken by providing psychological first aid[51] as shown in Table 3.

More recently, there has been a revived interest in 'psychological first aid' (PFA). It was initially described by Raphael (1986) for use in the civilian domain.[52] The main goal of this is to relieve immediate distress and to prevent or minimize the development of pathological sequelae.[53] The concept of psychological first aid for individuals exposed to highly traumatic events has been used in the field of crisis management and disaster mental health for many years.[54] The psychological first aid was developed to reflect current best practices in disaster mental health based on research, expert consensus, and practical experience. However, there are no systematic studies to answer the efficacy and usefulness of the PFA.

Debriefing

It is defined as group discussions that occur within 48-72 h after an event and are often referred to as 'psychological de-briefings'.[55] In general, these sessions encourage participants to describe and share both factual and emotional aspects of their disaster experience.[43] Principle behind this debriefing is that immediate processing gives an individual the ability to cognitively restructure the perceived disaster event so that it is remembered in a less traumatic way.[7,55] There are various modified forms of debriefing such as Critical Incident Stress Debriefing (CISD)[56] and Critical Incident Stress Management (CISM).[57] Debriefing is successfully used and implemented in military combat settings and in relief workers.[58,59] However, effectiveness of debriefing in survivors is controversial. While some studies do suggest, it may actually produce harm.[60,61,62,63,64] However, debriefing occurring outside the therapeutic setting is unaccounted till date. Many of the survivors and relief workers like to talk about the disaster responses to family members, spouse, friends, colleagues and significant others.[65] Effect of such debriefing is not been explored in a systematic way.

Cognitive Behavioral Intervention (CBT)

CBT have been found to be effective in reducing subsequent psychopathology after the exposure to disaster.[66,67] There are randomised controlled studies to support the findings that early intervention CBT group had less of PTSD when compared a control group.[68,69,70,71,72] Although these studies report of positive results but there are no long-term follow-up studies. Recent review by Robert and his colleagues[73] reported that trauma-focused CBT within 3 months of a traumatic event appears to be effective CBT appears to be promising in mitigating the suffering of disaster. However, in a developing country like India, where the availability of the trained manpower is meager, use of computerised version of CBT requires to be explored.[74]

Other interventions

Recently there has been re-emergence of interventions such as Eye Movement Desensitization and Reprocessing (EMDR)[75,76,77] and trauma counseling[78] in management of disaster. However, the effectiveness of these procedures requires to be established. In a recent Cochrane review by Bisson and Andrew 2007, reported that there was evidence individual CBT, EMDR, stress management and group TFCBT are effective in the treatment of PTSD.[75]

Community-Based Interventions

Non-specific community based interventions plays major role in fostering the healing process. These intervention include, structuring of daily activities; avoiding displacement; fostering the family, cultural and religious rituals; group discussions; validation of the emotions of the survivor's experience and also survivor's guilt; providing factual information; educating parents and teachers; engaging the children in

various informal education methods with innovative ideas like drawing, sketching, singing, miming and so forth by using available community resources; engaging the adult survivours in camp activities like cooking, cleaning and assisting in relief work; to start schools in the disaster affected area at the earliest so that normalisation and structuring of the daily activities occurs in children[36]; at least to initiate informal education; teaching simple sleep hygiene techniques; educating survivours about harmful effect of substance use; community-based-group interventions can be planned like art therapy (painting/drawing), group discussions, dramas, storytelling, structuring their day, engaging in activities, prayers, yoga, relaxation, and sports/games; stress management of the relief worker is essential; engaging the willing survivors in spiritual activities and involving the survivors in re-building their community is essential. [12,36] These non-specific interventions not only help the high-risk population but also the affected disaster general population.

WHAT IS THE ROLE OF PSYCHOTROPIC MEDICATIONS IN DISASTER MANAGEMENT?

Generally use of psychotropic medications is discouraged in disaster management because of the popular notions like a) disaster reactions are generally normal people in abnormal situations and b) majority of the symptoms are self limiting. Prophylactic uses of psychotropic medications in survivors are discouraged. There are no well controlled studies to say that prophylactic use of medicine decreases psychiatric morbidity. Various medications have been tried such as Propranolol[79,80], Clonidine[81], Guanfacine[82], Prazosin[83], Amitriptyline[84], Imipramine[85] and Risperidone.[86] Use of benzodiazepines such as Clonazepam[87] and Temazepam[88] for longer duration have been considered to be greater risk factors for developing PTSD. None of the medication has been found to be effective in preventing psychiatric morbidity in well-controlled studies. Majority of the studies were open label trial, small sample size and from different population such as combat veterans, accidents victims and burns victims. Extrapolation of data from these studies cannot be used as justification to use in a disaster settings. However, use of prophylactic psychotropic medications may be justified in pre-existing mental illness to avoid relapse, in acute substance withdrawal to avoid complications, suicidal attempt and severe depression. Considering the paucity of evidence it is difficult to recommend prophylactic psychotropic medication in the disaster setting.

WHAT RESILIENCE FACTORS NOTED IN MITIGATING THE SUFFERING?

Resilience means the speed with which homeostasis is achieved after displacement.[89] This concept of resilience has been applied to describe the adaptive capacities of individuals or community in response to adversity like disaster. Majority of the research on disaster is on psychopathology rather than on resilience factors which protect the people in developing mental health morbidity.[90] There are no systematic studies, however preliminary research have yielded following resilience factors; a cohesive community, community resources, minimal displacement, good social support and network, preserved family system and support, altruistic behavior of the community leaders, minimal materialistic needs, religious faith and spirituality have been associated with the good outcome and community resilience. This was noted in the native population of the Andaman and Nicobar Islands of India[12] and in survivors of Thailand. Contemporary civilised world requires much learning from the native's of Andaman and Nicobar islands. The resilience factors need to be identified and studied systematically in a well controlled disaster population.

CONCLUSIONS

Disasters are inevitable truth of life. Planning and preparedness is highly essential to meet challenges. Disaster management is a continuous and integrated cyclical process of planning, organizing, coordinating and implementing measures to prevent and to manage disaster effectively. Thinking from ‘when’ the disaster strikes to ‘if’ the disaster strikes has necessitated a paradigm shift from relief centered post-

disaster management to a holistic, integrated and preventive approach based upon principles of disaster prevention, preparedness and mitigation. It revolves in responding to the emotional and psychosocial needs of people affected by disaster. Community-based group interventions should begin as early as possible, targeting all high-risk populations in the affected area; however to encourage participation and avoid stigmatisation, the 'mental health/psychiatric' label needs to be avoided with disaster mental health programmes. Approach towards management should be conservative in medication and avant-garde in psychosocial approach. There is a need to de-medicalise the survivor's disaster response and also to de-professionalise the service delivery through local community level workers. Rehabilitation efforts planned should be culturally appropriate and targeted towards empowering the affected community to enhance their camaraderie and competence to cope with future disasters. Involving the local affected community not only helps in capacity building but also in community participation.

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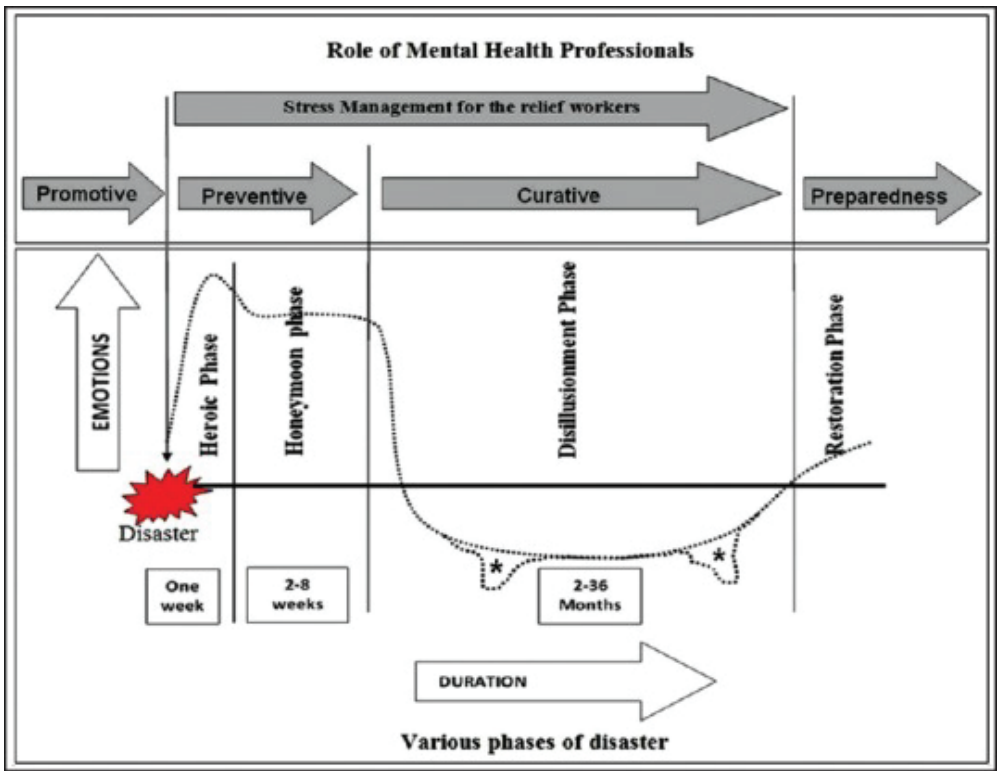
Figures and Tables

Figure 1



Depicts the various phases of disaster and role of mental health professionals. Immediately after the disaster, heroic phase sets in this is followed by honeymoon phase. Disillusionment phase is the longest and prevalence of mental health morbidity is high during this period. * = Anniversary reactions

Sources: Modified from Young *et al*., 1998[7] and published in International Review of Psychiatry, Math *et al*., 2006[15] and further modified in Math *et al*., 2013[15]

Table 1

Mental health morbidity in disaster affected population (Sources: Math *et al*. 2006, Math *et al*. 2008a, Math *et al*. 2008b)[1,12,36]

Common mental health problems among adults were
Relapse of any pre-existing psychiatric disorders
Adjustment disorders/Abnormal grief
Anxiety disorders like panic disorders, phobic disorders NOS, Non specific anxiety symptoms and startle response
Acute stress reactions
Insomnia
Depression/death wishes/suicidal ideas or attempts
Substance abuse & dependence (Monetary relief given is spent on substance abuse)
Post traumatic stress disorders
Non-specific somatic symptoms such as dizziness, head ache, body ache, recollection of the disaster events through images & thoughts, night mares, night terrors and so forth
Dissociative symptoms
Somatoform disorders
Common mental health problems among children were
Non-specific symptoms such as dizziness, vertigo, startle response, sleep wake cycle disturbances, clinging behavior, excessive crying, withdrawal, fear, anger, irritability, numbing of affect, food refusal and decreased appetite and regressive behavior.
School refusal, school dropout and academic decline
Anxiety disorders like panic disorders, phobic disorders NOS, Non specific anxiety symptoms and so-forth
ODD symptoms
Conduct symptoms – like truancy, stealing, lying and so forth
Post traumatic stress disorders
Depression
Somatoform disorders

Table 2

Role of mental health professionals in disaster (Source: Math *et al*. 2011[14])

I. During pre-disaster period (preparedness)
Public Education Activities – Life skills education, educating about the disaster mental health
Disaster Response Network – to develop collaboration with various existing agencies like governmental agencies, NGO's and community health workers
Disaster response training of trainers in –
disaster mental health
first aid training (both medical and psychological)
counseling skills
stress management
identifying common mental disorders and referral
life skills training
Psycho education regarding mental health in trauma/disaster for the general population
Community level support and community resilience training
Strengthening Information, Education and Communication (IEC) activities
II. Immediately after the disaster (heroic and honeymoon phases)
Being part of the multi-disciplinary relief team
Rapid assessment (mental health surveillance)
magnitude of the psychological impact
available mental health resources in the affected community
needs assessments
social, cultural and religious perspective of the community
Providing health care
medical and psychological first aid
the pre-existing mentally ill patients
substance intoxication and withdrawal in survivors
crisis intervention
establishing the referral system
Providing targeted disaster mental health interventions to the needy
Disaster psychiatry outreach teams to provide care
Promoting of resilience and coping
Dealing with the victims and volunteers stress (stress management)
Fostering the mass grieving / mourning
Collaborating with administrative and funding agencies
Mental health education – do's and do not's
Educating the administrative personnel, local leaders and public
Utilizing mass media to reach the survivors
Initiating collaboration with the local agencies for capacity building and outside agencies for support
Planning research
III. During disillusionment phase
Providing care for the mental ill patients
Attending to the referrals
Continuing and expanding the capacity building activities
Training of resourceful community members like private physicians/doctors, primary health care staff, paramedical staffs, school teachers, anganwadi workers, alternative complementary medicine personnel's, religious leaders, spiritual leaders and faith healers
Community outreach camps
Hand holding of the community health workers
Assessment of the interventions and feedback mechanism

Open in a separate window

Table 3

The principal components of psychological first aid (Source for this table is modified and adapted from World Health Organization 201151)

Getting in touch with survivors: to respond and to initiate contacts in a nonintrusive, compassionate, and maintain a calm presence with helpful manner.
Protection from further threat and distress: Providing accurate information about the disaster, about the current disaster response and available services. Protecting survivors from unnecessary exposure to additional traumatic events and trauma reminders.
Immediate physical care: Addressing physical health needs (medical first aid), injuries, access to medicine and referral to triage.
Helping to locate family members: To address issues like helping to locate family members, protection and safety concerns of loved ones.
Sharing the experience (but not forced): In simple words "telling one's story" in detail
Normalization or Validation of the emotions: To allow people to ventilate and process their thoughts, emotions, and experiences while providing them with appropriate validation or normalization of their reactions. At times brief handling of 'survivors syndrome'
Facilitating a sense of being in control: To provide psychoeducation to survivors about stress reactions and coping to reduce distress. Information on adaptive and maladaptive coping is provided, along with very brief relaxation techniques that can be used in acute post disaster settings.
Linking survivors with sources of support and resources: This includes using appropriate referral procedures. Linking with available resources and promoting continuity of services. Providing practical assistance in vulnerable individuals like children, females and elders. Information about social support and how they can seek or give support.
Identifying those who need further help and referral: Monitoring high-risk individuals like substance/drug users, pre-existing mental illness, prolonged or intense exposure to trauma, death of loved ones and survivors guilt for future interventions

Pediatric Annex for a Hospital Emergency Operations Plan

Module 8: Infection Control Practices for Pediatrics

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Module Purpose

To provide basic infection prevention, control measures, and concepts related to pediatrics during a large-scale communicable disease incident.

Definitions

1. Airborne transmission: occurs when the organism enters the body when tiny droplet nuclei are coughed or sneezed into the environment and are inhaled into the lungs.

2. Communicable Disease Event: an infectious disease incident that is severe, moves quickly from person-to-person, to which there is little or no immunity and for which countermeasures may be non-existent or not widely or immediately available. Agents that could cause a communicable disease emergency may occur naturally or may be deliberately induced. Such agents are characterized by: person-to-person transmission, high attack rates, high morbidity, and high mortality.

3. Contact transmission: occurs when the organism enters the body through the mucosa of the mouth, eyes, or nose either directly (skin-to-skin contact with an infectious individual or with infectious secretions) or indirectly when a contaminated intermediate object (unwashed hands or equipment) transfers organisms to mucosal surfaces and is absorbed.

4. Droplet transmission: occurs when the organism is sneezed or coughed into the environment within large, wet, respiratory droplets; organisms land on the mucosal surfaces of the nose, mouth or eyes, are absorbed and enter the body.

5. Standard Precautions: the basis for infection prevention in all healthcare settings.
   - A. Must be used whether or not other "transmission-based" precautions are in place.
   - B. Are based on the principle that any moist body substance (blood, secretions, excretions, non-intact skin) may contain infectious organisms regardless of the patient's diagnosis or assumed state of health.
   - C. Must be used in healthcare settings whenever contact with moist body substances is anticipated.

6. Transmission-based precautions: supplement to standard precautions in treating patients with documented, or suspected to be infected with, highly transmissible pathogens. Apply both Standard Precautions and Transmission-based Precautions when managing adults and children who are ill with a communicable disease.

Planning Guidelines/Assumptions

In an emergency caused by communicable disease, the management of children and their caregivers at [Institution] may be complicated by variables such as exposure and infectious status. [Institution] will need to:

1. Prevent exposure to and contamination of staff, patients, and families.
2. Manage contact tracing and notification of possible and confirmed exposures of staff, patients, and families.
3. Separate, isolate, and care for persons who are ill and/or possibly infectious.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Planning Guidelines/Assumptions (cont.)

Even though the characteristics of the next epidemic or pandemic cannot be predicted, effective creation and implementation of a facility-wide Emergency Infectious Disease Plan is essential. Assembling a multidisciplinary emergency management team, careful surveillance, rapid institution of infection prevention measures, disaster simulations and continued analysis of past events will help [Institution] be prepared for the next communicable disease outbreak.

In the incident of a large-scale communicable disease outbreak:

1. Children and caregivers will arrive at hospitals in large numbers .
2. Some will be symptomatic (cases) and some will have no symptoms but will have been exposed to their symptomatic charges or caregivers (contacts).
3. Cases and contacts will be separated because:
    - A. Ill caregivers accompanying asymptomatic children will require admission.
    - B. Asymptomatic caregivers may need to accompany an ill child into the clinical setting, leaving other children who are in their care in hospital custody.
    - C. Emergency conditions will delay the arrival of parents or alternate caregivers.
    - D. Hospitals will be required to provide temporary shelter for exposed or asymptomatic child contacts to cases.
    - E. Hospital staffing will be reduced following the emergency, which will require parent/caregiver assistance on the clinical pediatric units.

The hospital's Emergency Infectious Disease Plan accounts for pediatric-specific issues to include:

1. Clear expectations of parents for compliance with Personal Protective Equipment (PPE) restrictions when their children are hospitalized and considered highly contagious.
2. Issues with children being able to comply with PPE use.
3. Infection control issues in play areas.
4. Visiting restrictions and sibling visiting restrictions during infectious disease outbreaks.
5. PPE supplies for children (simple masks, hand hygiene, etc.).
6. Cohorting plans for pediatric surge during an epidemic.
7. Preparation in the pharmacy to address medication issues that may arise during an infectious disease such as the availability or compounding of palatable liquid forms of certain medications and adequate stocks of anti-viral medications and antibiotics.
8. Plans for contingency staffing if pediatric staff are disproportionately absent due to infection or ill family members.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Planning Guidelines/Assumptions (cont.)

The hospital's Emergency Infectious Disease Plan accounts for clinical considerations for pediatric patients:

1. Infection control measures for exposed/symptomatic children:
    - A. HICPAC isolation guidelines applied appropriate to the nature of the illness/ exposure.
    - B. Cohort as necessary, same exposure/same symptoms (see above)
    - C. It is not practical to place masks on infants or young children to contain respiratory droplets/droplet nuclei. Substitute hand hygiene/face washing/nose wiping.
    - D. It is not practical to place infants or young children in portable isolation units alone to contain respiratory droplets/droplet nuclei.
    - E. Young children and infants are not to be left alone. Adult caregivers of children placed in isolation precautions need to be instructed on appropriate infection control measures such as doffing and donning of gowns, gloves, and masks, hand hygiene, and cough etiquette.
    - F. Ensure that adult caregivers are following appropriate infection control measures.

2. Infection Control Measures for Exposed/Asymptomatic Children:
    - A. Promptly evaluate and separate as soon as possible from symptomatic children and symptomatic adults.
    - B. Children exposed to a comparable situation may be cohorted.
    - C. Daycare approaches apply (see above).
    - D. Hand hygiene is paramount.
    - E. Educate emergency caregivers about sanitary considerations.

Facility Based Operational Details

Once the hospital is alerted to or recognizes the potential for severe communicable disease conditions, institute exposure prevention measures at or before the point of entry to the facility. Rapid identification of symptomatic individuals will permit actions to protect the facility, its patients, visitors and the physical environment from exposure and contamination.

1. Obtain case definition from the local health authority in order to instruct screening, triage, and reception staff in procedures related to:
    - A. Symptom recognition, mode of transmission, and specific infection and exposure prevention measures.
    - B. In the absence of confirmatory diagnostic information, make decisions according to symptoms and epidemiology, as advised by the local health authority and/or hospital's infectious disease department.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Facility Based Operational Details (cont.)

2. Patient Identification
    - A. Screen persons to identify symptomatic individuals at or before the point of entry to implement exposure prevention measures.
    - B. Conduct contact identification procedures among persons accompanying an ill child or adult to the facility. As requested by the local health authority, obtain identification and locate information for contacts.
    - C. Symptomatic adults and symptomatic children who are old enough (generally three years of age and older) need to wear a surgical mask to prevent the release of organisms into the environment.
        - i. Consider cohorting non-compliant patients together.

3. Education and Instruction to Visitors and Patients
    - A. Instruct patients and/or caregivers about respiratory etiquette, hand hygiene, and other relevant infection and exposure prevention measures; observe and supervise them to ensure compliance.
    - B. Ensure that respiratory etiquette signs are prominently placed in the entry and waiting areas.
    - C. Provide adequate supplies of tissues and provide an easy and sanitary way of disposing of used tissues.
    - D. If the child is too young for a mask, instruct and supervise parents/caregivers in Standard Precautions and emphasize importance of respiratory etiquette and hand hygiene.
    - E. Instruct, observe, and supervise to ensure that appropriate infection and exposure control measures are being followed by contacts, cases, personnel and adult caregivers providing care to ill children.
    - F. Ensure scrupulous and frequent hand washing with soap and water. Be sure to:
        - i. Provide instructions about hand hygiene.
        - ii. Ensure that caregivers wash the hands of young children before and after meals, after toileting, and frequently in between.
        - iii. Supervise children who can wash their own hands—encourage them to wash their hands for at least 15 seconds (the duration of the Happy Birthday song).
        - iv. Consider that anxious children may regress to earlier behaviors; provide comfort and non-judgmental assistance with toileting and hygiene.
        - v. Ensure that caregivers wash their hands before feeding children (and prior to preparing formula) and after diapering, toileting, cleaning, or any contact with moist body substances or with items soiled with moist body substances even if gloves are used.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Facility Based Operational Details (cont.)

4. Cohorts
   - A. Separate persons with similar symptoms from persons who are asymptomatic. The exception may be asymptomatic adult caregivers who may need to remain with ill children to provide care and comfort. These adults will require instruction and supervision.
   - B. Consult with the local health authority or with the hospital's infectious disease department for specific recommendations about cohorting pediatric contacts and cases.
   - C. Cohorting of Children in a Hospital Setting:
     - i. Ideally cohort according to age group to accommodate sanitary needs of infants and young children (diapering, toileting, hand hygiene, feeding, cleaning).
     - ii. Traumatized children may regress under duress and may require additional help with sanitary hygiene needs.
     - iii. Support infection control by aiming for recommended age appropriate staff-to-child ratios
       - a. Smaller group size is associated with a lower risk of infection in child care settings.

Patient Age	Maximum Child: Staff Ratio	Maximum Group Size
≤ 12 months	3:1	6
13-35 months	4:1	8
3 year olds	7:1	14
4 year olds	8:1	16
5 year olds	8:1	16
6 to 8 year olds	10:1	20
9 to 12 year olds	12:1	24

(Source: CFOC Standards Database, Item: 1.1.1.2)

- D. Ensure that cohort spaces used are child-safe and that facilities and supplies are adequate to permit sanitary toileting, hand hygiene, diaper changes, disposal of soiled diapers and other items, and frequent cleaning and disinfection.
- E. Screen children and accompanying adults for symptoms at the point of entry into the cohort area. Redirect symptomatic individuals.
- F. Monitor cohorted children, adult caregivers and hospital personnel for symptom onset at intervals, and using methods advised by the local health authority or by the hospital infectious disease department and document the results.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Facility Based Operational Details (cont.)

5. Identification
    - A. Ensure that all children have been issued hospital identification bands that include parent/caregiver information and contact status.
    - B. Create a log or tracking mechanism that lists all persons, including personnel that enter the cohort setting and include the following information (Appendix A):
        - i. Date
        - ii. Name and brief identifying information (child, caregiver, staff)
        - iii. Time in/time out
        - iv. Information about any subsequent exposure within cohort including date, time, duration of exposure
        - v. Name of symptomatic individual
    - C. Establish a basic medical record for each cohorted individual that includes:
        - i. Assigned record number
        - ii. Identifying and locating information
        - iii.Responsible adult(s) name and details
        - iv. Initial exposure information (date of exposure, name of person to whom exposed)
        - v. Symptom onset and monitoring information
        - vi. Subsequent exposure information

6. Environmental Measures for Pediatric Units:
    - A. Establish hand hygiene procedures and ensure adequate supplies of soap, sinks, paper and paper towels. Ensure cleaning/disinfecting materials are stored in a child-safe manner.
    - B. For infants/young children:
        - i. Establish diapering protocols if not already in place (may adapt adult diapering protocols).
        - ii. Ensure adequate clean linens, disposable diapers, baby wipes and changes of clothing.
    - C. For young children:
        - i. Toys that are easy to clean (hard plastic). Appropriately clean all reusable equipment or toys following the hospital's infection control procedures.
        - ii. Assign individual sleeping mats, pillows and linen (if used).
    - D. Waste and soiled linen collection units should be child-safe, adequate in number, and constructed to permit hands-free use.
    - E. Have cleaning and disinfection procedures and schedules in place for toilets, bathrooms, changing stations, sleeping mats, toys, etc. Note any restrictions on disinfectants.
    - F. Use an EPA-registered disinfectant that has microbicidal properties effective against organisms most likely to be present in the environment (consult with local health authority or hospital's infectious disease department), or use a chlorine bleach solution (1/4 cup of bleach per gallon of cool water prepared within 24-hours).
    - G. All sanitizers, disinfectants and other potentially toxic materials must be kept out of the reach of children.

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references listed below

Module 8: Infection Control Practices for Pediatrics	• Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2013. http://www.health.state.mn.us/oep/healthcare/surge/pedsprimer.docx • Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • The Association for Professionals in Infection Control and Epidemiology (APIC) Text: Chapter 119 Emergency Management http://text.apic.org/toc/community-based-infection-prevention-practices/emergency-management • 2007 Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agends in Healthcare Settings. https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf • CDC Website Respiratory Hygiene/Cough Ettiquite in Healthcare Settings. https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm

II. Review Appendices Provided

A: Cohort Tracking Log

Pediatric Annex for a Hospital EOP

Module 8: Infection Control Practices for Pediatrics

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Appendix A: Cohort Tracking Log

#	Name	Age	Type	Arrival Date/ Time	Discharge Date / Time	Responsible Adult Name	Name of Symptomatic Person who Exposed Pt
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Type: A - Child exposed
B- Caregiver
C- Staff

[Institution] will use this form to monitor the arrival and departure of person(s) from the the exposed cohort area.

Pediatric Annex for a Hospital Emergency Operations Plan

Module 9: Pediatric Decontamination

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 9: Pediatric Decontamination

Module Purpose

To facilitate timely decontamination of children presenting to a hospital after an event resulting in a need for decontamination. Children require special considerations that may not be addressed in the hospital's Decontamination Plan.

Definitions

1. Contamination: When a radioisotope, chemical, or biologic agent is released into the environment and then ingested, inhaled, or deposited on the body surface. Patients contaminated with radioisotopes on or in the body are radioactive.

2. Decontamination: The process of cleansing an object or substance to remove contaminants such as mico-organisms or hazardous materials, including chemicals, radioactive substances, and infectious diseases.

3. Exposure: When all or part of the body absorbs (either by injestion, inhalation, or dermally) a hazardous substance from an external source.

Planning Guidelines/Assumptions

A hospital's decontamination plan includes the unique needs of infants and children that present for treatment. These unique needs and considerations include:

1. Attempting to keep families together, especially under conditions that involve large numbers of patients in a chaotic situation. However, medical issues will take priority and may result in the separation of families.
2. Planning for older children who may resist or be difficult to handle due to fear, peer pressure, and modesty issues (even in front of their parents or caregivers).
3. Assisting parents or caregivers with decontaminating themselves and their children at the same time.
4. Incorporating high-volume, low-pressure water delivery systems (e.g., handheld hose sprayers) that are "child-friendly" into the hospital decontamination showers.
5. Understanding that the risk of hypothermia increases proportionally in smaller, younger children when the water temperature in the decontamination shower is below 98°F.
6. Paying attention to airway management; a priority in decontamination showers.
7. Supplying the decontamination area with re-dress kits and gowns in appropriate sizes, and baby shampoo to avoid eye irritation.

Understand that the smaller the child, the bigger the problem regarding any of the above considerations (hypothermia, airway management, the ability to effectively decontaminate the child) and the separation of families.

Pediatric Annex for a Hospital EOP

Module 9: Pediatric Decontamination

Facility-Based Operational Details

A hospital Pediatric Decontamination Plan is based on three categories of children.

1. Infants and Toddlers (typically younger than 2 years of age)

Infants and toddlers are the most challenging group to decontaminate, as special considerations are of the utmost importance for this age. Follow the guidelines below during treatment to ensure children are properly and thoroughly decontaminated.

A. Make every attempt to keep families together unless critical medical issues take priority.
B. Parents or caregivers should avoid carrying the child because of the possibility of injury from a fall or from dropping a slippery and squirming child. Use a plastic laundry basket to carry the child safely and decontaminate the child.
C. Hot zone personnel or the child's caregiver need to place non-ambulatory children on a stretcher or in a basket, undress the child, (using trauma shears if necessary), and escort them through the decontamination shower.
D. Give special attention to the child's airway while in the shower.
E. Once through the shower, the child's caregiver or post decontamination ("cold zone") personnel dry off the child.
F. Prevent or treat hypothermia by providing additional towels, gowns, or warming blankets as necessary.
G. Immediately be give each child a unique identification number on a wrist band, and triage to an appropriate area for medical evaluation or to the Pediatric Safe Area.

2. Preschool Children (typically older than 2 but up to 6-8 years of age)

Children ages two to eight years are able to walk and speak, yet (with considerable variations in physical characteristics), are clearly children. [Institution] will follow the guidelines below to ensure children are properly and thoroughly decontaminated.

A. Make every attempt to keep families together unless critical medical issues take priority.
B. Use a plastic laundry basket or tub to carry children safely and during decontamination to avoid injury from a fall or from dropping a slippery and squirming child.
C. Assist ambulatory children in undressing with help from either the child's caregiver or "hot zone" personnel.
D. Either the child's caregiver or decontamination personnel need to place non-ambulatory children on a stretcher on in a basket, undress them (using trauma shears if necessary), and escort the child through the decontamination shower .
E. Give special attention to the child's airway while in the shower.
F. Once through the shower, the child's caregiver or post decontamination ("cold zone") personnel dry off the child. If the child is able, he or she can dry and dress in a hospital gown.
G. Prevent or treat hypothermia by providing additional towels, gowns, or warming blankets as necessary.

Pediatric Annex for a Hospital EOP

Module 9: Pediatric Decontamination

Facility-Based Operational Details (cont.)

2. Preschool Children (typically older than 2 but up to 6-8 years of age)

H.Immediately provide a unique identification number on a wrist band, then triage to an appropriate area for medical evaluation or to the Pediatric Safe Area.

3. School-Aged Children (typically 8-18 years of age)

At the age of 8 years and upward, the airway anatomy of school-age children approximates that of an adult. Although it is tempting to regard this age group as "small adults," there are special needs unique to this age group.

A. Make every attempt to keep families together unless critical medical issues take priority.
B. Ambulatory children disrobe when instructed to do so by their parent, care giver, or "hot zone" personnel.
C. Each child can walk through the decontamination shower, preferably in succession with their parent or caregiver, and essentially decontaminate him/herself.
D. Either the child's caregiver or decontaminiation personnel will place non-ambulatory children on a stretcher, undress them (using trauma shears if necessary), and escort the child through the decontamination shower.
E. Once through the shower, each child is given a towel to dry and sheets and a hospital gown.
F. Immediately give a unique identification number on a wrist band,then triage to an appropriate area for medical evaluation or to the Pediatric Safe Area.

Clinical Considerations for Pediatric Chemical Exposures and Decontamination

1. A chemical agent is a substance which could kill, seriously injure, or incapacitate humans through its toxicological effects. Chemical agents have been used in warfare and in acts of terrorism.

Clues signaling a chemical or (biological) attack:

A. An unusual increase in the number of patients seeking care for potential chemical release-related illness.
B. Unexplained deaths among young or healthy persons.
C. Emission of unexplained odors by patients.
D. Clusters of illness in persons who have common characteristics, such as drinking water from the same source.
E. Rapid onset of symptoms after an exposure to a potentially contaminated medium (e.g. paresthesias and vomiting within minutes of eating a meal).
F. Unexplained death of plants, fish, or animals (domestic or wild).

Clinical Considerations for Pediatric Chemical Exposures and Decontamination (cont.)

G. A toxic syndrome -or toxidrome- is a constellation of toxic effects compromising a set of clinical symptoms for a group of toxic chemicals. Toxicdrome recognition is important because it provides a tool for the rapid detection of the suspected cause and can focus on the differential diagnosis to the consideration of only a few chemicals with similar toxic effects.

During the early phases of a toxic chemical incident, identifying toxidromes that are present can be a useful decision-making tool and determined with only a few observations, such as:

- Vital signs
- Mental status
- Pupil size
- Mucous membrane irritation
- Lung exam for wheezes or rales
- Examining skin for burns, moisture, and color

If suspecting toxidrome, activate chemical decontamination plan to:

A. Prevent further injury to the patients
B. Protect hospital staff
C. Protect the hospital environment

Clinical Considerations for Pediatric Radiation Exposures and Decontamination

A. **How to diagnose contaminated patients:**

i. External Contamination: scan with appropriate radiation survey meter.
ii. Internal Contamination: Swab each nostril separately to help estimate the level of internal (lung) contamination. Collect ≥ 70 mL spot urine sample for isotope measurement.
iii. Consider total body radiation survey with hospital nuclear medicine equipment.
iv. Proper collection and disposal of wastes (feces, urine, wound secretion and dressings) from internally contaminated patients avoids further contamination of healthcare workers.

B. How to diagnose exposed patients / Acute Radiation Syndrome (ARS)

ARS may result if the dose from the whole or partial body exposure is high enough. Estimate whole body dose and clinical severity by using:

i. Time to onset of vomiting. If vomiting <1hr, 100% mortality.
ii. Lymphocyte depletion kinetics. The faster the decline, the higher the degree of irradiation dose).
iii. Physical exam. Look for ARS findings as suggested below:

Pediatric Annex for a Hospital EOP

Module 9: Pediatric Decontamination

Clinical Considerations for Pediatric Radiation Exposures and Decontamination (cont.)

iv. Clinical signs and symptoms associated with ARS and its subsyndromes. As described above, physical exam focuses on four systems: cutaneous, neurovascular, gastrointestinal and hematopoietic complications.

B. Initial Decontamination

Patients with external or internal contamination continue to receive additional ionizing radiation until they are decontaminated. As these patients are moved within the healthcare system they may contaminate healthcare workers and facilities.

i. Patients should be decontaminated prior to their entrance.

ii. Water used in decontamination should not be disposed in the municipal sewer system; store it separately.

iii. Patients who present with trauma or burn plus irradiation are at increased risk of mortality. Treat severely injured individuals first.

iv. Traumatic and other life-threatening injuries take precedence over radiation survey and treatment. Do a primary survey first and stabilize the patient, then proceed with irradiation management.

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 9: Pediatric Decontamination For CBRNE Response	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Minnesota Pediatric Surge Primer and Template Plan. Minnesota Department of Health. 2013. https://www.health.state.mn.us/communities/ep/surge/pediatric/primer.pdf • Hospital Guidelines for Pediatrics in Disasters: Pediatric Disaster Toolkit. New York City Department of Health and Hygiene. 2006. https://www.omh.ny.gov/omhweb/disaster_resources/pandemic_influenza/hospitals/bhpp_focus_ped_toolkit.html • Pediatric Disaster Preparedness Guidelines. Illinois Emergency Medical Services for Children. August 2005. https://ssom.luc.edu/media/stritchschoolofmedicine/emergencymedicine/emsforchildren/documents/disasterpreparedness/otherresources/planningandcareguidelines/Pediatric%20Disaster%20Preparedness%20Guidelines.pdf • Pediatric/Neonatal Disaster Reference Guide. Loma Linda University Children's Hospital. https://www.calhospitalprepare.org/post/pediatricneonatal-disaster-planning-reference-guide

Pediatric Annex for a Hospital EOP

Module 9: Pediatric Decontamination

II. Review Appendices

A. Clinical Considerations for Pediatric Radiation Exposures and Decontamination
B. Article: “Principles of Pediatric Decontamination”

III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Clinical Considerations of Pediatric Radiation Exposures

Radiation hazard can be due to either external irradiation or contamination.

Contamination:

Contamination results when a radioisotope (as gas, liquid, or solid) is released into the environment and then ingested, inhaled, or deposited on the body surface. Contaminated patient has radioisotopes on or in the body and are **radioactive**.

How to diagnose

- **External contamination**
  Scan with appropriate **radiation survey meter**
- **Internal contamination**
  Swab each nostril separately to help estimate level of internal (lung) contamination collect ≥70 mL spot urine sample for isotope measurement
  Instructions for sample collection, labeling, packaging and shipping (HHS/CDC)
- **Consider total body radiation survey with modified hospital nuclear medicine equipment**
- Proper collection and disposal of wastes (feces urine, wound secretion) from internally contaminated patients avoids further contamination of health care workers.

Exposure:

Radiation exposure occurs when all or part of the body absorbs **penetrating** ionizing radiation from an external radiation source, as shown in the illustration above.

- Exposure from an external source stops when a person leaves the area of the source, the source is shielded completely, or the process causing exposure ceases.

Irradiated patients have no radioisotopes on or in the body and are **not radioactive.**

Radiation exposure also occurs after internal contamination, i.e., when a radionuclide is ingested, inhaled or absorbed into the blood stream.

- This kind of exposure stops only if the radionuclide is totally eliminated from the body, with or without treatment.

An individual exposed only to an **external source** of radiation, as shown above, is **NOT radioactive or contaminated** and may be approached without risk, just like after a chest x-ray or CT scan.

Radiation from external exposure alone is either absorbed without the body becoming radioactive, or it can pass through the body completely.

Therefore, if a person is scanned with a **radiation survey monitor** after external exposure alone, the device will not register radiation above the background level.

Acute Radiation Syndrome (ARS) may result if the dose from whole or partial body exposure is high enough.

How to diagnose ARS

Estimate whole body dose and clinical severity by using:

- **Time to onset of vomiting** (If Vomiting <1hr, 100% mortality)
- **Lymphocyte depletion kinetics** (The faster the decline, the higher the degree of irradiation dose)
- **Physical exam** look for ARS
- **Clinical signs and symptoms associated with ARS and its subsyndromes** As described above, physical exam should focus on particularly four systems; cutaneous, neurovascular, gastrointestinal and hematopoietic complications.

Physical findings suggestive of ARS

Vital signs	Skin	Nervous system	Gastrointestinal tract	Hematologic
• Fever • Hypotension • Tachycardia • Tachypnea	• Erythema • Edema • Blistering* • Desquamation*	• Impaired level of consciousness • Ataxia • Papilledema • Motor/sensory deficits • Presence/absence of reflexes	• Abdominal tenderness • GI bleeding	• Bruising* • Ecchymoses* • Petechiae of skin/ mucous membranes*

Initial decontamination:

Patients with external or internal contamination continue to receive additional ionizing radiation until they are decontaminated. As these patients are moved within the healthcare system they may contaminate healthcare workers and facilities.

- Patients should be decontaminated prior to their entrance into a healthcare facility
- Healthcare workers, responder should wear protected gear
- Water used in decontamination should not be disposed in the municipal sewer system, but stored separately
- Patient who presents with trauma or burn plus irradiation are increased risk of mortality. Severely injured individuals should be treated first.
- Traumatic and other life-threatening injuries take precedence over radiation survey and treatment. **We must do a primary survey first and stabilize the patient then proceed with irradiation management.**
- **Follow the algorithm below provided by US Department of Health and Human Services**

Abstract:
Although the principles of pediatric decontamination are similar as those for adults, the actual practice is much more challenging. The unique needs and vulnerabilities of children will require health care personnel to be sensitive to developmental stages of the victims and physiological hazards during decontamination. Unless medically indicated, families should undergo decontamination together. This article provides an overview of the need for decontamination and the process of decontamination for hospitals. Practical guidance on decontamination methods for children of different ages is presented. Recommendations for training and communication during decontamination are also reviewed.

Principles of Pediatric Decontamination

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Since the 9-11 attack, there has been increased attention on disaster preparedness. First responders and first providers are now being trained to respond to disaster scenarios; however, there is little to no standardization in this training.[1] Although there has been much effort to consider children's needs during decontamination, best practices for pediatric decontamination have not been established. Even though children comprise 22% of the US population, there are few published reports detailing the appropriate medical needs, care, and decontamination of a child, of which none are based on scientifically rigorous studies.[2-4]

NEED FOR DECONTAMINATION

Chemical

The need for decontamination from chemical incidents or chemical terrorism has been well documented.[5] Decontamination is an essential early step in the mitigation of victim exposure to chemical and certain forms of radiological exposure. Proper training in decontamination will decrease the risk of secondary contamination to medical personnel, transport vehicles, and hospitals, in addition to improving the outcome of exposed victims.[6] If appropriate plans are not in place, the ability of the medical care system to remain effective during these events can be compromised when personnel, ambulances, and hospital emergency departments become contaminated. Although large-scale industrial incidents such as the methyl isocyanate toxicity[7] in Bhopal India in 1982 are rare, smaller scale incidents are common. Large-scale terrorist attacks have also occurred such as the Tokyo subway Sarin gas attack in 1995[8] and a nicotine-containing insecticide that was placed in ground beef in Grand

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Rapids, Mich, in 2002. The latter affected more than 40 children, making this the largest chemical terrorism attack on children in the United States[9]. Children are a vulnerable population for a future attack because they regularly congregate together in schools and camps. Most of these locations have little to no security and are categorized by emergency planners as soft targets.[10] In addition, in the event of a mass casualty incident, children will be more vulnerable to psychosocial sequelae.

Radiological

Although decontamination is not useful for radioactive fallout from a nuclear bomb, decontamination will be necessary after exposure from a dirty bomb and the resultant spread of dust and other solid debris. Disrobing the patient will remove most of the dust, and thorough showering with water should remove all of the contamination. If the patient has a life-threatening injury, some authors believe that decontamination should be done after the patient has been stabilized;[11] however, this approach puts the trauma team at risk for radiation exposure. Depending on the radioactive substance, the time, and distance from the radioactive source, this exposure can be significant.[12] Currently, most institutions, to ensure the safety of hospital personnel and the hospital structure itself, recommend that all patients undergo decontamination before entering the facility regardless of the delay in definitive treatment. The only exception is if a specific and well-drilled strategy for victims of a dirty bomb exposure has been implemented before the incident.

Biological

In contrast to the previous sections, the role for decontamination from biological agents is minimal. This is due to the incubation period of many of the potential pathogens. Most patients will not present to a health care facility until days after the attack making decontamination unnecessary.[13] A possible exception might be acute aerosolized anthrax exposure in which the patient will be contaminated with spores.

PROCESS OF DECONTAMINATION

Decontamination is the removal or reduction of harmful substances from the victim's body. The goal of decontamination is to ensure that the toxic substance, whether chemical, biological, or radiological, is no longer in direct contact with the patient. This prevents further absorption by the patient and will decrease the possibility of transfer of the toxin to health care workers.[14] The military model of 3 zones—hot, warm, and cold—is now used throughout the country by local emergency medical services and HAZMAT (hazardous materials) teams.[15] The hot zone is where the incident occurred and therefore poses the greatest risk for coming into contact with dangerous toxins solid, liquid, or gaseous. Rescuers entering the hot zone typically need the highest level of personal protective equipment (PPE) available—level A. Level A protection includes a chemical-resistant splash proof suit combined with a self-contained oxygen supply. Level A apparatus will protect the rescuer against all solids, liquids, vapors, aerosols, and gases. A list of all levels of PPE is shown in Table 1.

There is little dexterity for rescuers wearing these suits. In the United States, only the most basic lifesaving treatments such as airway opening, hemorrhage control, and antidote therapy (eg, Mark 1 kits) may be performed in a hot zone.[14] Many disaster response systems will not provide even this level of care until the victim has been removed from the hot zone and decontaminated. Other countries, such as Israel, regularly practice and perform more extensive rescue tasks in full PPE.[16]

The only prehospital multicasualty triage system that incorporates the unique differences of children is the JumpSTART algorithm.[17,18] JumpSTART's objectives are 3-fold: to optimize the triage of injured children in a multicasualty setting, to improve resource allocation for all victims, and to decrease the emotional burden of triage personnel. Neither JumpSTART nor any other mass casualty incident triage system has been clinically or scientifically validated; however, this is the system in use in most areas of the country today. The JumpSTART algorithm is shown in Figure 1.

In theory, all patients should be decontaminated on scene; however, it is well described in the literature that many victims will bypass decontamination at the scene and self-present to hospitals.[19] Therefore, each hospital must have their own system for decontamination of potential victims.

In planning for such an event, it is generally assumed that the hospital will not be the site of the initial incident. Although victims may present to the hospital within minutes of the incident occurrence, they will have traveled some distance from the primary site. Whatever exposure the patient received, the hospital health care worker in theory should receive far less.[20] The hospital “hot zone” is in reality a “warm zone” with a lower risk of secondary contamination than that of the site of the primary incident. Thus, recommendations for PPE for

TABLE 1. Levels of PPE.

Level	Description	Types of Materials Protection Against	Advantages	Disadvantages	Possible Scenarios
	Fully encapsulated suit with self-contained breathing apparatus	Gases, vapors, aerosols, liquids, solids	Highest level of protection for inhaled and contact toxins	High-training requirements, expensive, physical demands, poor mobility, limited air supply	Prehospital hot zone that has toxic gas or vapor, oxygen poor environment
	Encapsulated suit with seams sealed, self-contained breathing apparatus outside suit or supplied air respirator	Vapors, aerosols, liquids, solids	High level of protection, supplied air improves mobility, fit testing needed	High-training requirements, expensive, physical demands, dependence on air line or limited air supply	Prehospital warm zone that has toxic solids and liquids and may have toxic gases
	Chemical-resistant splash suit with PAPR	Vapors, aerosols, liquids, solids	High level of protection, improved mobility, decreased expense and training requirements lower physical demands, no fit testing needed	Not adequate for high concentrations of toxic gases or high levels of splash	Hospital hot zone where toxins are liquid, solid, or low concentrations of vapors
	Normal work clothes, gowns, gloves, eye/face shields	Minimal for solids	Full mobility, full operational time , low physical stress, low training level and expense	Little to no protection against chemical or other toxins	Hospital cold zone after patient fully decontaminated

Pictures from www.wnysmart.org.

hospital-based decontamination are less restrictive—level C.[21] Level C includes a chemically resistant suit, boots, and gloves as well as a powered air-purifying respirator (PAPR). The PAPR is battery powered and contains 3 double-layer filters—one high efficiency particulate air (HEPA) and one chemical. Because there is no oxygen tank, the PAPR weighs much less than a level A breathing apparatus.

Patients will be decontaminated to lessen the severity of their symptoms. By the JumpSTART triage system, red victims should be decontaminated first, followed by yellow victims and, lastly, green victims. Black-tagged patients should not be decontaminated until all survivors have been treated. Families should not be separated unless there is a medical necessity. Keeping a parent or regular caregiver with children during an mass casualty incident will help to reduce the psychological stress for children and will also decrease the resources the hospital would otherwise have to deploy for decontamination and postdecontamination care. Simply having the patient undress will remove up to 85% of the contaminants.[5] Children will be hesitant to disrobe in the presence of strangers. Even with a parent, the process of disrobing a frightened, unwilling child may take longer than expected, particularly toddlers.[22] Using a hospital worker of the same sex as the child during the undressing process may make the child more comfortable and decrease the time the task takes to accomplish.[23] The clothes and any valuables (wallets, cell phones, iPods, and jewelry) should be placed in labeled bags, so they can be returned to the patients if the contamination is unfounded or the agent is not dangerous.

Once the patients have disrobed, they should immediately enter a decontamination shower. Water is the decontamination solution of choice due to its ease of availability. Some exceptions are contamination with sodium, potassium, cesium, lithium, and certain concentrated acids;[14] however, it is rare that the agent is identified before decontamination will

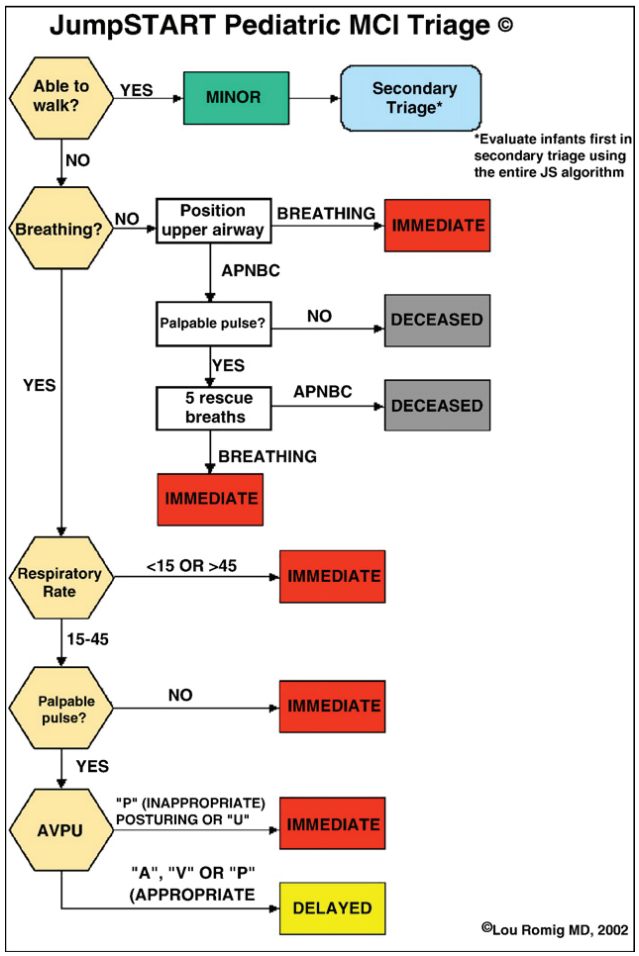

FIGURE 1. JumpSTART prehospital pediatric mass casualty triage algorithm.[39]

take place. Alkali soap has been suggested to improve removal of some toxins from the skin; however, its efficacy has not been proven.[15] A potential advantage of using soap is that the suds will remind the patient to rinse all areas of their body and hair. A disadvantage of soap is that it can get in the patient's eyes or cause mild skin reactions. There is no clear consensus on whether soap and water are superior to water alone. Dilute bleach has also been suggested to aid in the removal of certain skin contaminants; however, bleach cannot be used near the eyes or on mucous membranes; it may irritate the skin and be systemically absorbed if the skin barrier is compromised significantly.[24]

The recommendation for the duration of showering was set by Occupational Safety and Health Administration in 2004.[25] They suggest a 5- to 6-minute shower; however, this recommendation was based on opinion of experts and not on actual data. A retrospective, hospital-based decontamination protocol demonstrated that a 3-minute shower was adequate for external decontamination.[26] Symptomatic patients should have a longer shower than asymptomatic patients do because they may have been exposed to a higher dose of the toxin. Ideally, water temperature should be 98°F.[22] Although colder temperatures may cause peripheral vasoconstriction, thereby decreasing absorption of toxins, it may also induce hypothermia in pediatric patients.[27] The risk of hypothermia is exacerbated in children due to their increased surface area to body mass ratio. Another variable is water pressure. The water pressure in most showers is sufficient to clean the skin without being painful. Very high-volume showers should have adjustable flow handheld sprayers to decrease the water pressure to no more than 60 psi (413 kPa) so as not to injure children.[5] Young children, infants, or any child that cannot protect their own airway will need to be hand sprayed or have their airway closely monitored and protected.

Some hospital centers may have different options on shower devices. The decision to "set up the tent" or just use hoses with hand sprayers or preexisting regular shower rooms will be determined by the overall patient volume. Including extra time to disrobe, one should plan on a minimum of 10 minutes per child. This estimate includes the 5 minutes spent in the decontamination shower. Ideally, wait time should be no more than 1 hour to minimize ongoing exposure and confusion in the crowd. If the ambient temperature is warm and there are privacy ponchos available, children may disrobe in advance of entering the shower to increase throughput time.

Children who need to undergo decontamination should be categorized into nonambulatory or ambulatory groups. Nonambulatory children of any age will be disrobed by "hot zone" staff, placed on a stretcher, and escorted through the shower or hand sprayed. Hospital personnel should ensure the child's airway remains patent during decontamination because the child will be unable to protect his or her own airway. This is a particular concern for immobilized children in a cervical collar.

The ambulatory children should be further broken down by age groups: 8-18, 2-8, and 0-2 years.[22] The 8- to 18-year age group should be able to self-disrobe and function independently through the shower. They should also be grouped by sex for modesty issues. The 2- to 8-year olds will likely need assistance in disrobing (this should be done by caregivers if at all possible) and will need supervision from hot zone workers to thoroughly decontaminate themselves. This age group will often need extra time to disrobe and be coaxed into the shower. Children younger than 2 years should be disrobed

by a caregiver or, if none present, by hot zone hospital personnel. They should then be placed on a stretcher or a container with apertures to allow fluid drainage. This prevents the potential risk of dropping them during the process. It also allows caregivers to adequately decontaminate themselves without holding the child. A hot zone worker should accompany this age group through the shower to ensure that the infants' airway remains secure and that they are completely washed. Developmentally delayed children are another subgroup that will require extra time to disrobe and may be fearful of the decontamination process. If a caregiver is present and able, they should assist the child through the entire process of decontamination. If no caregiver is present and there are multiple developmentally delayed victims, additional staff will be needed in the hot zone to assist these children. An algorithm for decontamination of pediatric patients is shown in Figure 2.

For small-scale disasters, everyone should be able to be decontaminated without a considerable wait. It is likely that the hot zone team will not need relief before they complete their task for small scale

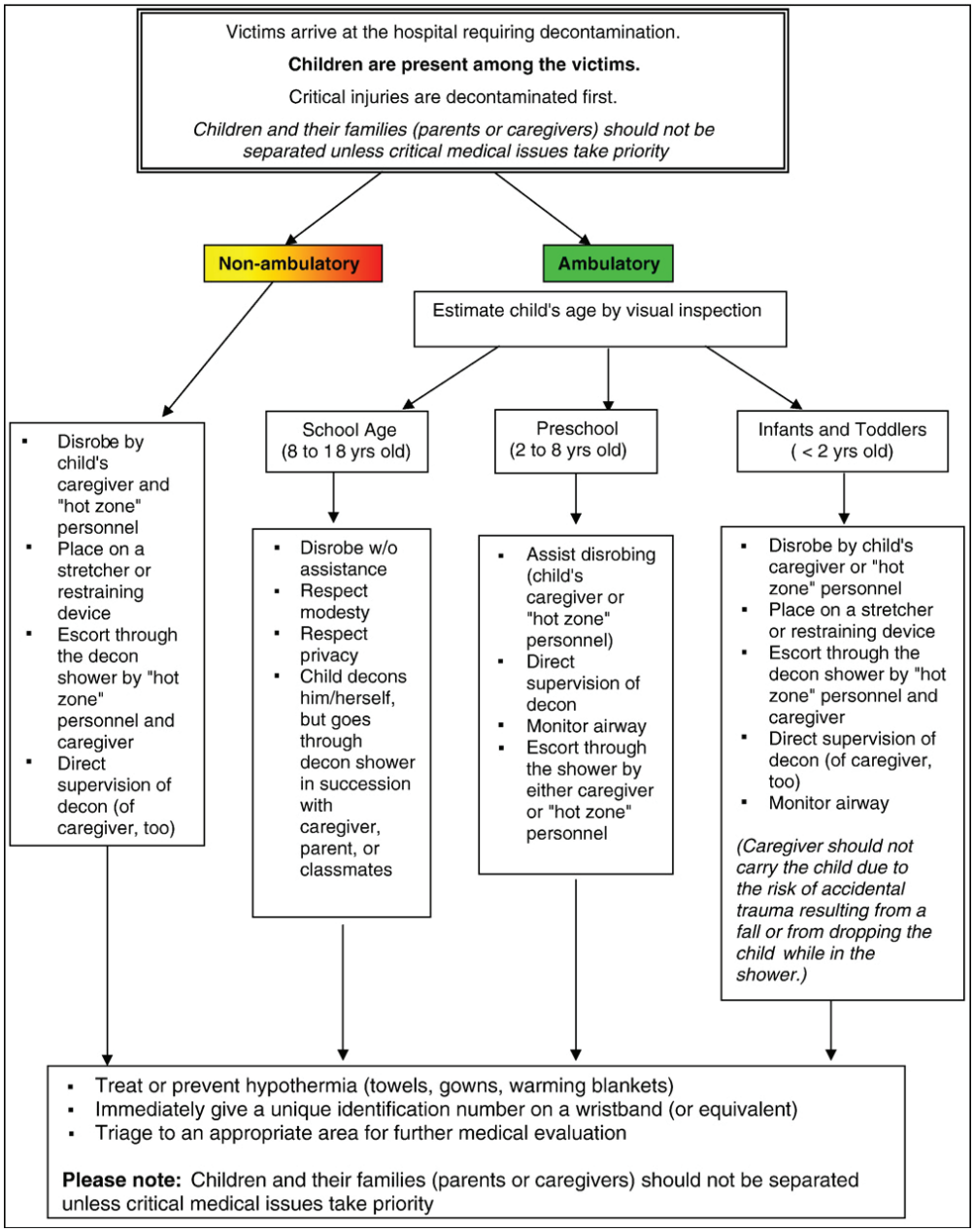

FIGURE 2. Algorithm for decontamination of pediatric patients.

events. For larger scale disasters, issues of crowd control and waiting time until decontamination become important concerns. At the recommended duration of 5 minutes per patient, that translates to 12 patients per hour for each shower head available.

For a disaster involving several hundred victims, this process may take hours to complete. Children may become impatient and disrupt the process. Also, rescuer fatigue and heat exhaustion will become evident necessitating switches in hot zone hospital personnel.[25] Personnel relief recommendations vary between 30 minutes to 2 hours depending on ambient temperature, physical fitness of rescuer, and the amount of exertion required. Because most contamination will be on clothing, if there will be a prolonged wait for the decontamination, children should be given a privacy poncho in the hot zone and encouraged to disrobe ahead of time, weather factors permitting. This will minimize the child's risk while they wait and speed overall throughput through the showers.

Decontamination of children who are equipment dependent, such as ventilators, pose an additional problem because these devices are not designed for excessive contact with water. If the patient is asymptomatic, there is little likelihood that the ventilator is significantly contaminated. It should be visually inspected for solid or liquid foreign bodies. A Geiger counter can be used to assess for radioactivity. If no visible contamination is found, it is safe to use. This may be helpful if there is a shortage of ventilators during a crisis. If there is doubt about the device, it is best to leave it in the hot zone and use a hospital ventilator. If the patient is symptomatic, the device should be assumed to be contaminated and remain in the hot zone. Other devices such as hearing aides or insulin pumps should follow a similar strategy. Eye glasses may be washed in the shower with the patient. Most prosthetic limbs are able to get wet and thus can be removed, thoroughly decontaminated along with the patient, and returned in the cold zone.

The physical layout of the hospital decontamination area should be optimized to maximize the overall speed of patient decontamination while taking into account a number of considerations:

- There should be a separate entrance and exit, so "hot" patients do not recontaminate patients who have already gone through the shower.
- The shower should be as close as possible to the resuscitation area of the hospital (the patients will be unclothed and wet making hypothermia a concern in cold weather environments).
- Male and female patients should be grouped separately through the shower to afford modesty and minimize embarrassment with the exception of keeping a caregiver with a child.
- Antechamber rooms where the patient can undress with some privacy prior to showering and be covered with a sheet, blanket, or towel upon exiting the shower, are useful but not mandatory.

For best results, hospitals should try to follow the above guidelines as closely as possible, understanding that most decontamination areas are retrofitted to an existing hospital footprint.

Once victims are decontaminated by hospital hot zone personnel, they must be retriaged in the hospital because their condition may have changed. This triage must be quick and accurate. There is a tendency to overtriage children, which can potentially misallocate already strained hospital resources.[28] Hospitals can either use the 3-tiered jumpstart algorithm or a 2-tiered system.[29] The 2-tiered system incorporates 2 forms of triage: a rapid visual assessment to quickly identify the sickest patients, followed by a more detailed triage assessment.[30] These detailed assessments will include a more involved physical examination and pertinent history taking. There will always be changes in triage status of patients because of triage error (mostly overtriage but some undertriage) and progression of disease state. Awareness of changes is vital to utilization of emergency department resources.[30]

Challenges and Recommendations

During mass casualty scenarios, it is optimal that at least 1 member of the hot zone team have pediatric clinical experience. A physician or nurse capable of recognizing respiratory distress, shock, or an evolving toxicological syndrome in a child is best.[21] The rest of the decontamination personnel can be nonclinical hospital staff who have received the necessary training. Unless the event is a large, ongoing disaster, the use of trained volunteers will be impractical because patients will start arriving before volunteers can be called.

Hot zone workers should be replaced frequently because working in a PPE suit is tiring and exposes the individual to heat exhaustion, particularly in warm climates. Recommendations vary depending on the exertion level, ambient temperature, and physical fitness of the hot zone worker. Most recommendations for hospital hot zone workers wearing level C protection are between 20 to 60 minutes.[21] A designated person in the cold zone

triage area should be monitoring the amount of time each worker has spent in a decontamination suit, switching personnel as needed.

Planning for large-scale disasters is challenging and generally impractical. It would have been difficult to drill to evacuate the entire city of New Orleans before Hurricane Katrina. There are guidelines for smaller scale disasters. The Joint Commission has set emergency preparedness standards for hospitals throughout the United States, including the expectation that they hold disaster drills for the benefit of the community.[31] Hospitals must test their emergency management plans at least twice per year including 1 drill per year.[32] Despite this mandate, there is no set curriculum that hospitals use to train for disasters and no mandate by Joint Commission to conduct and include a pediatric mass casualty drill. Different training formats include disaster drills, tabletop sessions, technology-based sessions, skills sessions, and classroom lectures. A meta-analysis by Hsu et al[33] in 2004 evaluated different training methods. Hsu et al were able to demonstrate that drills were useful for finding flaws in hospital disaster plans. These areas included incident command, communications, triage, patient flow, materials/resources, and hospital security. There were insufficient data to make valid recommendations on other training methods. In a later study, Hsu et al[34] created a list of 7 core competencies for disaster training derived from an expert panel. The core competencies are as follows:

1. Recognize a potential critical event and implement initial action.
2. Apply the principles of critical event management.
3. Demonstrate critical event safety principles.
4. Understand the institutional emergency operations plan.
5. Demonstrate critical event communications.
6. Understand the incident command system and your role in it.
7. Demonstrate the knowledge and skills needed to fulfill your role during a critical event.

Despite having identified these core competencies, a meta-analysis by Williams et al[35] found that there is insufficient evidence to determine effective training interventions for hospital-based health care providers.

Some hospitals have used multimodality course training. Participants in these courses had increased knowledge on a posttest compared with a pretest; however, there are no data on knowledge retention or if this translates into improved performance during an actual disaster.[36] A smaller study on training for pediatric disaster victims used lectures and table top exercises[37] These investigators demonstrated increased retention of knowledge during a 6-month period.[37] In view of the previous discussion, all emergency department personnel (physicians, nurses, ancillary workers) should receive training in decontamination. The training should be both knowledge based (reasons for decontamination) and practice based (how to prepare for the hot zone). A minimum of 2 hours of training time is needed to assess risks and become familiar with the equipment. This training should be repeated every 6 months. There is often little to no warning before disaster events, so "just in time" training is impractical in this setting and may endanger the health care provider because they will be entering a potentially dangerous area (hot zone) with little training and no practice.

Communication during a disaster is vital to assure optimal outcomes. Although there are data on the effectiveness of telephone chains to alert physicians about a disaster,[38] there are few published data on communication strategies for pediatric decontamination. For provider-to-provider communication from hot zone to cold zone, there are 2 possible modalities. The first is by radio signal. There are many different models and manufacturers for these devises. The most efficient, but perhaps the most expensive, is a voice-activated throat microphone with an earpiece receiver. This has the least likelihood of becoming displaced while wearing a PAPR hood. The next best setup is a microphone connected to an earpiece that is worn under the PAPR. The microphone is activated by a large button that is worn on the chest under the splash suit. The relative disadvantages with this device type are that users will need to use their hands to talk and the headset can get displaced under the PAPR. This type of setup can be secured to the rescuer's head with an additional strap to decrease the chance of displacement. The second modality of communication is through the use of simple hand signals. For example, a palm held up vertically would mean stop. The advantage of this technique is that there is no dependence on technology that can potentially malfunction. The disadvantage is that it requires the use of one or both hands, thereby limiting communication to simple commands.

Patient communication with a rescuer wearing a PAPR is quite difficult. Powered air-purifying respirators–deaden sound, making all communication challenging. This is further exacerbated by the

noisy, chaotic environment. In addition, children will not always get to see the rescuer's face, which may increase their anxiety. A bullhorn may be used to amplify one's voice over a wider area. Whenever possible, the rescuer should kneel down to the patient's eye level to maximize a verbal exchange.

A summary of key points is as follows:

- The smaller the child, the bigger the problem. Many children will be fearful of a shower and resist disrobing. Extra personnel and time will be needed to effectively manage a large group of children.
- Separation of families should be avoided, but medical issues take priority (eg, red parent and green child).
- Do not assume that parents or caregivers can decontaminate both themselves and their children at the same time. They will need assistance by hot zone personnel.
- It is recommended to have both male and female hot zone personnel to assist older children who may have modesty issues.
- Airway management through the shower is a priority. To help prevent asphyxia or drowning, handheld hose sprayers (large volume, low pressure) should be incorporated into hospital decontamination showers. These child-friendly devices may also decrease young children's fear of the process.
- Children are especially prone to hypothermia. Ensure that the shower temperature is at least 98°F. Once they are through the decontamination shower, they must be immediately covered with sheets, blankets, or a Mylar wrap and brought into the hospital.
- As soon as the patients exit the decontamination shower, a band with a unique hospital identification number must be placed on the patients to facilitate tracking during their hospital stay.
- As patients are medically cleared, they must be kept in a child-friendly environment (pediatric safe area) that is supervised by staff knowledgeable about pediatric issues such as social workers or child life specialists. Reunion of unaccompanied children with family members should occur here. Strict documentation is required to ensure that pediatric victims are released to the appropriate legal caregiver. Depending on the scale of the disaster, this process may take hours or days.
- After the event, pediatric victims will need to be evaluated for long-term psychological issues such as posttraumatic stress disorder. At the time of discharge, a list (with telephone numbers) of practitioners or hospital clinics should be given to each family because psychological trauma may not manifest itself immediately but may become a significant issue for the patient and family in the future.

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Pediatric Annex for a Hospital Emergency Operations Plan

Module 10: Pediatric Nerve Agent Response (CHEMPACK)

NW Oregon Health Preparedness Organization

Pediatric Annex for a Hospital EOP

Module 10: Pediatric Nerve Agent Response

Module Purpose

To provide hospitals with supplementary information specific to pediatrics to the existing CHEMPACK program, administered by the Oregon Health Authority.

Definitions

1. CHEMPACK: a series of deployable containers of nerve agent and organophosphate antidotes that work on a variety of nerve agents and organophosphates that can be used even if the actual agent is unknown.

2. CHEMPACK EMS Containers: containers designed to be used by first responders in the field. Comprised of mostly autoinjectors (85%), with approximately a 454 casualty capacity.

3. CHEMPACK Hospital Containers: containers designed to be used in a clinical environment. 85% of each containers' are multi-dose vials. Approximately 1,000 casualties can be treated with each hospital container.

4. Medical countermeasures (MCMs): FDA-regulated products (biologics, drugs, devices) that may be used in the event of a potential public health emergency stemming from a terrorist attack with a biological, chemical, or radiological/nuclear material, a naturally occurring emerging disease, or a natural disaster. MCMs can be used to diagnose, prevent, protect from, or treat conditions associated with chemical, biological, radiological, or nuclear (CBRN) threats, or emerging infectious diseases.

5. Nerve Agent: a toxic, usually odorless organophosphate (such as sarin, tabun, or VX) that disrupts the transmission of nerve impulses, and may cause breathing difficulties, coughing, vomiting, muscle weakness or paralysis, convulsions, coma, and death. Nerve agents can be used as a chemical weapon in gaseous or liquid form.

6. Strategic National Stockpile (SNS): a CDC asset and the nation's largest supply of potentially life-saving pharmaceuticals and medical supplies for use in a public health emergency severe enough to exhaust local supplies. The SNS ensures that medicine and supplies get to those who need them most during an emergency.

Planning Guidelines/Assumptions

A nerve agent exposure presents an additional set of problems and concerns for a hospital's pediatric population. Hospitals are familiar with almost all treatment protocols in a disaster, except for nerve agent exposure. Low familiarity with nerve agents comes from lack of experience dealing with accidental exposures to high doses of pesticides. Hospitals strive to be proficient in these scenarios and be prepared for containment, decontamination, and treatment of pediatrics patients exposed to nerve agents that may arrive at at their door.

For more information on CHEMPACK: https://blogs.cdc.gov/publichealthmatters/2015/02/cdcs-chempack-program-the-stockpile-that-may-protect-you-from-a-chemical-attack/

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Module 10: Pediatric Nerve Agent Response

Planning Guidelines/Assumptions (cont.)

More than 90 percent of the United States population is within one hour of a CHEMPACK location. CHEMPACKs are containers of nerve agent antidotes placed in secure locations at local levels around the country. These caches allow for rapid response to a chemical incident where nerve agent or organophosphate (common in agricultural insecticides) exposure has occurred. There are 17 CHEMPACK sites across the Oregon (See Appendix A for map). Within Region 1, there are five locations:

Location	Address	CHEMPACK Type(s)
Adventist Medical Center	10123 Market Street Portland, OR 97214	1 Hospital Pack 1 EMS Pack
Multnomah County EMS/AMR	1 SE 2nd Avenue Portland, OR 97214	1 EMS Pack
OHSU - Logistics	3990 SW Macadam Portland, OR 97239	1 Hospital Pack
OHSU - Hospital	3181 SW Sam Jackson Portland, OR 97239	1 Hospital Pack
Providence St. Vincent Hospital	9205 SW Barnes Portland, OR 97225	2 Hospital Packs

The Oregon Health Authority is responsible for the CHEMPACK program in Oregon. Institutions housing CHEMPACK(s) are required to have a plan in place for activating their cache. Hospitals without a cache on site can develop a plan to request CHEMPACK assets. Contact the Oregon Health Authority's Health Security, Preparedness, and Response program to learn more about the program (https://www.oregon.gov/oha/PH/PREPAREDNESS/PARTNERS/Pages/medicalcountermeasures.aspx).

The CHEMPACK formulary consists of three types of drugs: one that treats excess secretions caused by nerve agents (e.g. excess saliva, tears, urine, vomiting, and diarrhea); a second one that treats symptoms such as high blood pressure, rapid heart rate, weakness, muscle tremors and paralysis; and a third that treats and can prevent seizures.

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Module 10: Pediatric Nerve Agent Response

Facility-Based Operational Details

When a suspected nerve agent or organophosphate exposure may require CHEMPACK deployment and the CHEMPACK is deployed, the hospital will be ready to receive and dispense the materials included. Refer to your hospital's activation protocol and incorporate pediatric dosing information from the Appendices into your treatment guidelines for nerve agent exposure.

Planning Assumption: Most patients will be given initial countermeasures in the field by EMS. Hospitals are more likely to be providing additional doses to treat patients once they are on site.

Appendices/References to Other Annex Modules, Policies & Plans

I. Review references provided

Module 10: Pediatric Nerve Agent Response (CHEMPACK)	• Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services and Michigan Bureau of EMS, Trauma, and Preparedness. https://www.michigan.gov/documents/mdch/Planning_for_Children_in_Disasters_15_495237_7.pdf • Healthcare Preparedness for Children in Disasters: A Report of the NACCD Healthcare Preparedness Working Group. National Advisory Committee on Children and Disasters. November 13, 2015. https://www.phe.gov/Preparedness/legal/boards/naccd/Documents/healthcare-prep-wg-20151311.pdf • CDC's CHEMPACK Program—The Stockpile that may protect you from a chemical attack. Centers for Disease Control and Prevention. 2017. https://blogs.cdc.gov/publichealthmatters/2015/02/cdcs-chempack-program-the-stockpile-that-may-protect-you-from-a-chemical-attack/

II. Review Appendices

A. CHEMPACK Locations in Oregon Map
B. Pediatric Nerve Agent Diagnosis Protocol Example (Loma Linda)

Pediatric Annex for a Hospital EOP

Module 10: Pediatric Nerve Agent Response

Appendices/References to Other Annex Modules, Policies & Plans

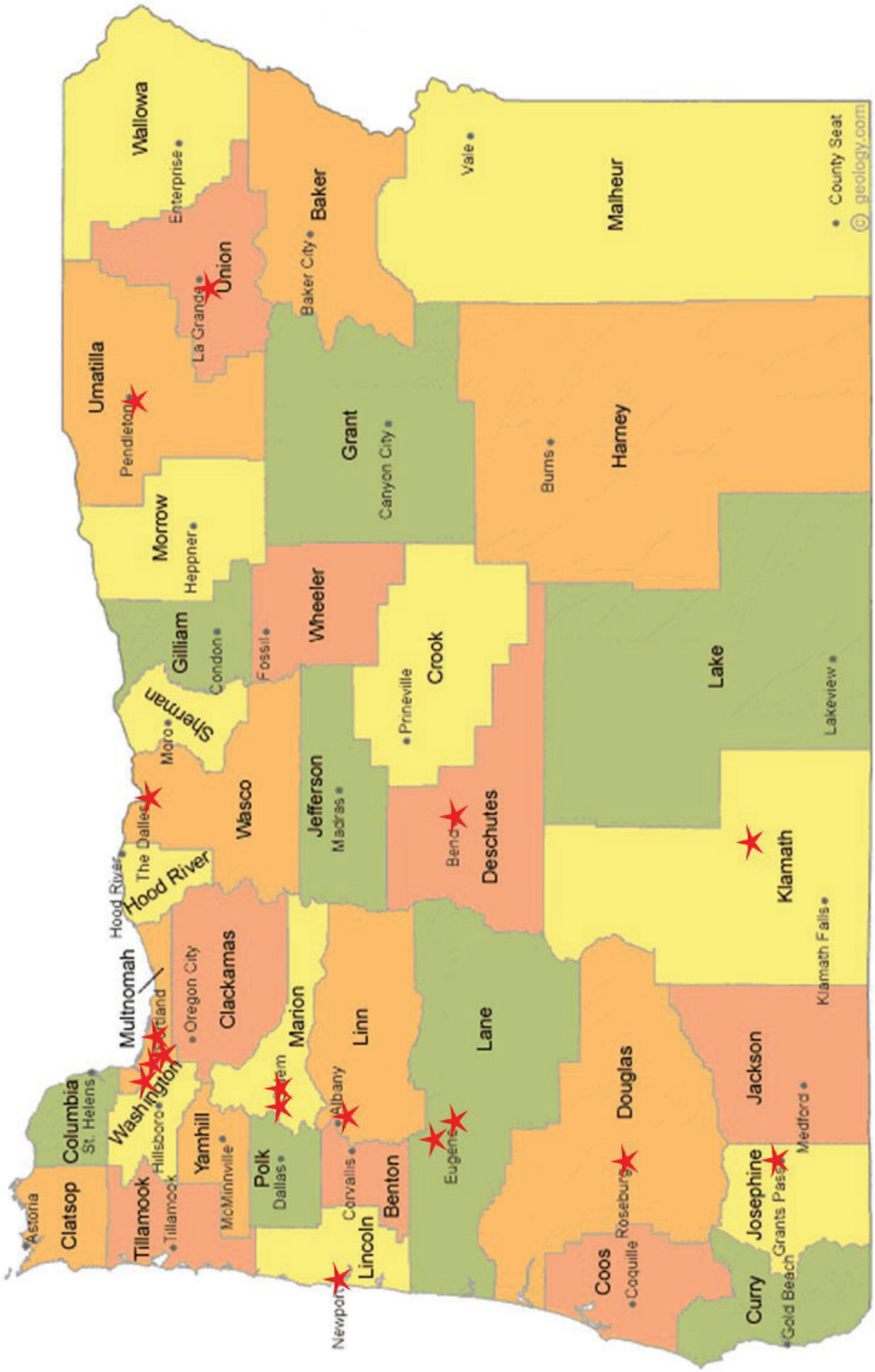
III. Develop a list of related policies/plans to this Annex to assist in cross-referencing

Module	Content
Policies	**Content**
Plans	**Content**

Pediatric Annex for a Hospital EOP

Module 10: Pediatric Nerve Agent Response

Appendix A: CHEMPACK Locations in Oregon



Pediatric Annex for a Hospital EOP

Module 10: Pediatric Nerve Agent Response

Appendix B: Nerve Agent Diagnosis & Treatment Protocol (Loma Linda)

Clinical Considerations

Nerve Agent Protocol

1. **Severe respiratory distress?**
   YES:
   - Intubate and ventilate
   - ATROPINE
     Adults: 6 mg IM or IV
     Inf/ped: 0.05 mg/kg IV
   - 2-PAM C1
     Adults: 600-1000 mg IM or slow IV
     Inf/ped: 15 mg/kg slow IV
2. **Major secondary symptoms?**
   NO: Go to 6.

   YES:
   - ATROPINE
     Adults: 4 mg IM or IV
     Inf/ped: 0.02 - 0.05 mg/kg IV
   - 2-PAM C1
     Adults: 600-1000 mg IM or slow IV
     Inf/ped: 15 mg/kg
   - OPEN IV LINE
3. **Repeat atropine as needed until secretions decrease and breathing easier**

   Adults: 2 mg IV or IM
   Inf/ped: 0.02 - 0.05 mg/kg IV
4. **Repeat 2-PAM C1 as needed**
   Adults: 1.0 gm IV over 20-30 min
   Repeat q lh x 3 prn
   Inf/ped: 15 mg/kg slow IV
5. **Convulsions?**
   NO: Go to 6.
   YES: DIAZEPAM 10 mg slow IV
   Inf/ped: 0.2 mg/kg IV
6. **Reevaluate q 3-5 min.**
   IF SIGNS WORSEN, repeat from 3.

Note: Warn the hospital pharmacy that unusual amounts of atropine and 2-PAM may be needed

References:

Centers for Disease Control. (2010). Chemical weapons elimination. Retrieved from: http://www.cdc.gov/nceh/demil/articles/initialtreat.htm

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PICU Chemical Exposures courtesy of Dr. Kozue Shimabukuro, Loma Linda University Children's Hospital (2013).

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