COORDINATING PEDIATRIC MEDICAL CARE ACROSS A COMMUNITY DURING AN INFLUENZA PANDEMIC

Clinician Outreach and Communication Activity (COCA)

Conference Call September 22, 2010



Objectives

At the conclusion of this hour, each participant should be able to:

- Discuss how primary care and multispecialty clinic can work collaboratively to manage pediatric emergencies during a wide spread H1N1 pandemic
- Describe steps which may be taken to promote infection control in an outpatient setting
- Identify elements that should be included in a healthcare facility's emergency plans to address a surge in pediatric patients

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TODAY'S PRESENTERS

Sherline Lee, MPH (Moderator)

Epidemiologist Division Of Healthcare Quality Promotion Centers for Disease Control and Prevention

Sarita Chung, MD

Assistant Professor of Pediatrics Children's Hospital Boston

Molly Dunn, RN

Site Coordinator Pediatrics, Allergy, and Genetics CentraCare Clinic Women and Children

Tom Schrup, MD

Associate Medical Director CentraCare Clinic

Mike Anderson, MD

Vice President and Associate Chief Medical Officer University Hospitals of Cleveland and Associate Professor of Pediatric Critical Care Case Western Reserve University, School of Medicine

Pediatric Healthcare Response to Pandemic H1N1 Influenza

Sherline Lee, MPH
Division Of Healthcare Quality
Promotion (DHQP)



The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention/the Agency for Toxic Substances and Disease Registry



Resources and Tools

- Planning Guide for Vaccinating Pediatric Patients Against 2009 H1N1 Influenza in Primary Healthcare Settings
- Health Care Providers and Facilities Decision
 Tree for 2009 H1N1 Vaccination
- Pandemic Influenza Pediatric Office Plan Template
- Coordinating Pediatric Medical Care During an Influenza Pandemic: Hospital Workbook





Agenda

- Disaster Preparedness Initiatives
- Pediatric office response to 2009 H1N1
- Pediatric Surge and Hospital Readiness





American Academy of Pediatrics Disaster Preparedness Initiatives

Sarita Chung, MD, FAAP
Disaster Preparedness Advisory Council



Division of Emergency Medicine Children's Hospital Boston Assistant Professor of Pediatrics Harvard Medical School



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- Nothing to disclose.
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Children, Pediatricians, and Disasters







Disaster Preparedness Advisory Council

(Initiated July 2007)

Council: Primary Care, Mental Health, Infectious Disease, Emergency Medicine

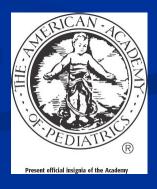
Liaisons: DHS, CDC, FDA, NICHD, HHS ASPR Network:

50 pediatric disaster experts 600 members interested in disaster medicine



DPAC Activities/Accomplishments

- AAP Strategic Plan
- National Commission of Children and Disasters
- Advocacy and Policy Initiatives
- Appointments/Representation at Meetings
- Comments on Federal Proposals including the National Response Framework, National Recovery Framework
- Educational Presentations
- Pediatric Countermeasures Agenda
- Practice-based Resources
- Publications
- Testimony



AAP Activities: H1N1



- Quickly recognized as a pediatric pandemic
- Worked closely with CDC
 - To examine evidence and recommend to change guidelines
 - Identify children at high risk for severe illness
 - Influenza treatment algorithm for children
 - Practice guidelines for primary care offices and hospitals



American Academy of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN'

2009-2010 Influenza Season Triage Algorithm for Children (18 years) With Influenza-Like Illness

This algorithm was developed for use only by physicians and those under their direct supervision, not for use by general public, to help in discussions and providing advice to parents or other caregivers of all children regarding seeking medical care for an influence-like illness. The algorithm can be used regardless of whether or not the child has been vaccinated for influence. Caregivers of children who may have potentially life threatening signs and symptoms, such as unresponsiveness, or respiratory dutress and/or cyanusic plate-colored skin), should be instructed to that 911.

If child < 2 years old are all of the following present? Fever or feels feverath (if no thermometer available)* Although some children with influenza may not 2. Irritability or cough or voratting/unable to lose fluids down exhibit the usual influenza symptoms including fever, this child's symptoms suggest that influence. If child ≥ 2 years old are all of the following present? is less likely. They do not meet criteria for this algorithm. The child should be assessed for 1. Fever or feverishmess* 2. Cough or sore throat alternative diagnoses. "If antipyretics are taken this may inhibit a patient's ability to mount a fever. If antipyretics have been taken, the patient can be reassessed 4 to 6 hours after acetaminophen or 6 to 8 hours after shuprofen. Recommend immediate medical evaluation for child, preferably with child's medical home/ Is the child younger than 12 weeks old? primary care provider, or refer for emergency medical cure or 911 if any signs or symptoms of life threatening illness. Are $\underline{\mathbf{a}}\underline{\mathbf{m}}\underline{\mathbf{v}}$ of the following signs or symptoms present? Age 12 weeks to <5 years: · Fast breathing or difficulty breathing or retractions present Dehydration (no urine output in 8 hours, decreased tears or no tears when child is crying, or not drinking enough fluids) Severe or persistent vorsiting/unable to keep fluids down. Lethargy (axcessive sleepiness, significant decrease in activity level, and/or diminished mental status) Irränbility (cranky, restless, does not want to be held or wants to be held all the time) Recommend immediate medical evaluation for Flu-like symptoms improved but then returned or worsened within one to a few days. child, preferably with child's medical home/ Pain in chest or abdomen (for children who can reliably report) primary care provider Age 5 years · Fast breathing or difficulty breathing D'aziness or lightheadedness Severe or persistent voratting/unable to keep fluids down. Flu-like symptoms improved but then returned or worsened within one to a few days. Pain in the chest or abdomen This child falls into a group that may be at elevated risk for complications from influence. Recommend that they be evaluated for possible Is the child at least 12 weeks old but less than 2 years old? treatment. Recommend that the child's caregiver contact the child's medical home/primary care provider that day. Does the ill child have <u>new</u> of the following conditions? Neurological disorders such as: · Eptlepay Cerebral palay, especially when accompanied by neurodevelopmental disabilities (e.g., moderate to profound intellectual disability [mental retardation] or developmental dalay) Brain or spinal cord injuries. Neuronsuscular disorders (e.g., muscular dystrophy), especially when associated with impairment in respiratory functioning. Chronic respiratory diseases such as: This child falls into a group that may be at elevated risk for complications from influence. Conditions associated with impaired pulmonary function and/or difficulty handling secretions Recommend that they be evaluated for possible treatment. Recommend that the child's caregiver Technology dependent children (e.g., those requiring coygen, trachsostomy, or a ventilator) contact the child's medical home/primary care Moderate to profound intellectual duability (mental retardation) or developmental delay, especially when associated with specific provider that day. conditions (see #1, #2 above) Deficiencies in immune function or conditions that require medications or treatments (e.g., certain cancer treatments, HIV infection) that result in significant immune deficiencies Cardiovascular disease including congenital heart disease



Disaster Preparedness for Pediatric Practices: An Online Tool

Disasters are unpredictable and can cause loss of life, destruction of property, and disruption of business operations. Pediatricians face special concerns including the inadequacy of disaster planning in addressing the needs of children (especially those with special needs), and the ongoing need to develop or improve their pediatric offices and personal disaster plans. A working plan can help practices reduce risks, maintain practice operations, and ensure a medical home for children in their care.

Develop your Disaster Plan Now

Instructions

Create a disaster preparedness plan for your medical home practice by answering questions in this interactive tool.

Choose a topic below:

- · Practice Information
- Review Key Resources
- · Plan for Continuing Operations
- · Review Insurance Coverage
- · Store Essential Supplies and Minimize Risk to Equipment
- Protect Patient Records and Office Files
- Handle Vaccine Issues
- Attend to Facility Issues
- Consider How to Handle Infection Control
- Prepare Office Staff/Employees
- Develop Service and/or Evacuation Plans
- · Prepare an Office "Emergency Go Kit"
- · Prepare a Plan for Communicating with Clients
- · Develop a Preparedness Plan for Your Home and Family

Key Resources:

A Disaster Preparedness Plan for Pediatricians an article by Scott Needle, MD, FAAP that includes guidance and background information to help staff prepare the office in advance of a disaster.

The Role of Pediatric Health
Care Providers an article by
Daniel Fagbuyi, MD, FAAP and
Jeffrey Upperman, MD, FAAP
that offers steps pediatricians
can take to promote pediatric
emergency preparedness in the
community (exiting site).

Supplemental Resources:

- · AAP Children and Disasters Web Site
- AAP Health Topics Page on Disasters
- Continuity of Operations Plan
- Emergency Information Forms and Emergency Preparedness for Children With Special Health Care Needs
- Insurance Coverage for Vaccine Loss
- Pandemic Influenza Plan: Template for

Available at http://practice.aap.org/disasterpreptool.aspx

Home | Parenting Corner | Health Topics | Bookstore & Publications | Professional Education & Resources | Advocacy | Members | About

Children & Disasters



Disaster preparedness to meet children's needs



Featured Topics: Community Preparedness

- AAP Information on the Oil Spill Affecting the Gulf Coast
- Disaster Preparedness for Pediatric Practices: Online Tool
- Financial Crisis: Talking to Kids About the Economy
- Hurricanes and Tropical Storms
- National Preparedness Month September 2010

What's New

Policy Statement Emergency Preparedness for Children With Special Needs

Preparedness Checklist Hospital Emergency Depts Hospitals can ensure day-to-day emergency preparedness and promote disaster readiness for children by taking steps to have the appropriate resources (eg, equipment, medications,

Key Resources

Active Disasters Page

Guidelines: Care of Children in the Emergency Department

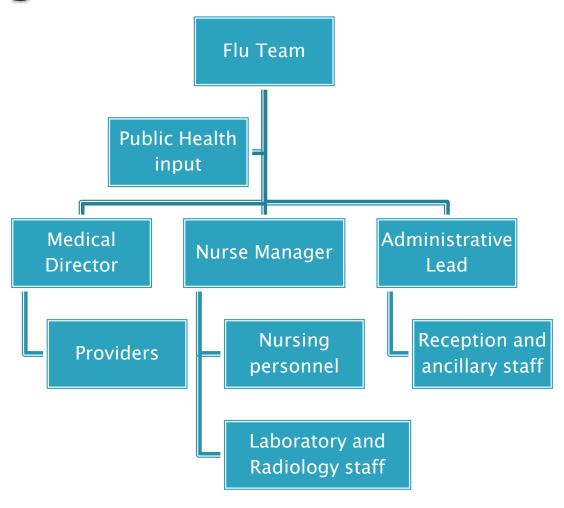
Helping Children Cope

http://www.aap.org/disasters/index.cfm

Pediatric response to H1N1 2009

CentraCare Health System

Ambulatory pediatric decision making structure



Flu Team Responsibilities

- Leadership
 - Decision making authority
 - Leading by example on the front lines
- Communication
 - Internal
 - Providers, nursing, other staff
 - External
 - Patients, public health contacts
- Development of policies and procedures
 - Segregation of patients
 - Staffing, exclusion from work

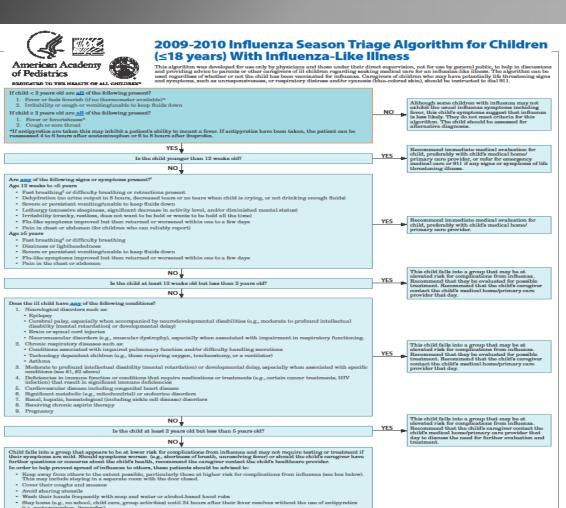
Communication

- Occurred through multiple modes:
 - Staff and patients
 - Website updates
 - Telephone messaging
 - Mass media
 - Staff alone
 - Email
 - Presentations/Q&A sessions
 - Daily briefings prior to work

Triage: Case Definitions

- Confirmed case: a person with an acute febrile illness with laboratory confirmation with one of the following tests:
 - RT-PCR
 - Viral culture
- Probable case: A person with an ILI(fever with cough or sore throat) who is positive for influenza A, negative for H1/H3 by PCR
- Suspect case (per MDH): a person with an ILI
- ▶ ILI: temp>100 plus cough or sore throat

Triage



(i.e., acotaminopnen, inuprosen)

More information available at: http://www.cdc.gov/h1n1flu/guidance_homecare.htm

In addition, remember that vaccination for seasonal influenza and pandemic (H1N1) influenza is recommended for all children 6 months through 18 years old and household contacts and out of home caregivers of children less than 6 months old.

For all patients triaged using this algorithm the following should also be assessed:

Does patient live with a person at higher risk for complications of influenza including someone who is: Age <2 or age 65 or older, or

- Prognant

Or someone with any of the following comorbid conditions:

From the control of the motive of the control of th

· Child (≤18) on chronic aspirin therapy

In addition, vaccination for seasonal influenza and pandemic (H1N1) influenza should be recommended for all children 6 months through 18 years old and household contacts and out of home caregivers of children less than 6 months old.

These symptoms are purposely broad to minimize the possibility of misclassifying people who truly have severe symptoms. The person attempting to triage the patient should take into account the severity and duration of the symptoms when deciding whether or not patients should be advised to seek evaluation immediately

Suggested respiratory rates indicative of "fast breathing" included in Box 1 in Appendix

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Appendix

The higher risk contacts of these patients should be advised to contact their medical home/primary care provider that day for advice on steps they might need to take to prevent infection.

Box 1: Definition of "Fast Breathing" Respiratory rate Birth up to 3months > 60/min 3 months up to 1 year > 50/min 1 to < 3 years > 40/min 3 to < 6 years > 35/min 6 to <12 years > 30/min 12 to 18 years > 20/min

Triage Challenges

- Broad case definition
- Worried well
- Frequency of risk factors in the population, specifically asthma
- Lack of accurate rapid test
- ▶ Intermediate risk 2-5 age group

Staff Education

- Mandatory staff education sessions
 - Same educators for all sites
 - Same message (Clinic, Hosp, Region and State)
 - Jeopardy Power Point
 - Q & A Session
 - Correct usage of PPE (donning and doffing)
 - Daily Updates
 - See page # 7 (Pediatric Office Pandemic Plan template)

Patient Education

- Hand Washing (Signage in multiple languages)
- Proper use of wearing a mask
- Cover your cough
- See page # 10 (Pediatric Office Pandemic Plan template)

Infection Control Procedures/Patient flow

- Developed a Hot Zone
- Segregation of patients
 - Check in –Reception/Triage
 - Designated waiting areas ill/well
 - Patient masked and roomed immediately
 - Exam rooms-designated as Hot Zone rooms
 - Designated hallways
 - Equipment Hot Zone only
 - Signage-(very important)
 - See pages 11-14 (Pediatric Office Pandemic Plan template)

Hot Zone Signage





For patient and staff protection,





You may see staff wearing protective equipment.

(gowns, gloves, masks, goggles)







Please no paper charts/forms in this room!

MASKED PATIENTS



MASKS AND GARBAGE



ONLY!

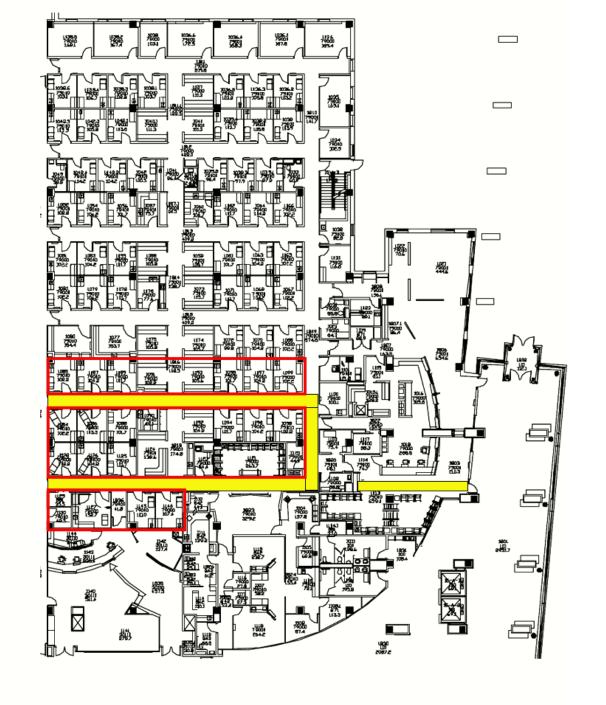
Isolation Patients











Wins and losses

Well

- Advance preparation really paid off, especially in the early days
- Control and consistency of messaging bred confidence in staff and patients
- Patient segregation/routing
- Not so well
 - Triage difficulties
 - Physician buy in/adherence to public health guidance





Pediatric Surge and Hospital Readiness

Michael R Anderson MD FAAP

Associate Professor of Pediatric Critical Care, Rainbow Babies & Children's

Vice Chair, National Commission on Children and Disasters
Washington DC

Vice President and Associate Chief Medical Officer, University Hospitals,
Cleveland OH

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Disclaimers

Financial: None

 Professional: NDMS Part Time Federal Employee

Off Label Use: None



Pediatric Surge

- 1. Issues Surrounding "Day to Day" Readiness
- 2. Elements of Preparation and Response to Pediatric Mass Events
- 3. Potential Solutions
- 4. CDC Guidance
- 5. Q and A

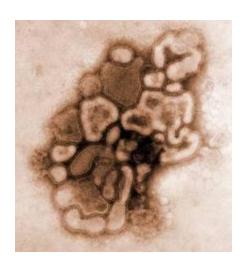




Pandemic and Surge











But are we ready for the disaster of ONE?







Take Home Point One:

 Day to day readiness for pediatric emergencies will help prepare for BIG events

- Training
- Equipment
- Transfer Protocols
- Transport
- Drills
- Regionalization



Take Home Point 2: Children are NOT Small Adults...

 Larger head for BSA Head Injuries Higher Center of Gravity Falls Large Area for **Evaporative Losses** Temp Control Veins!!! Access Nightmares Weight: Largest Change in over shortest time period Larger Room for Errors



Pediatric Differences

- Vitals differ w age
 - Cheat Sheet
 - Practice/Experience

Different Response to stress

Different Diseases

Triage Tools





Pediatric Physiology-Disasters

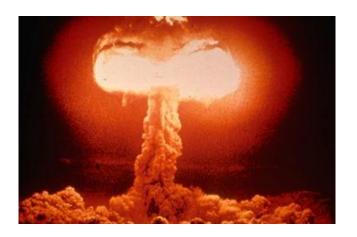
- Thin skin
- Greater surface area
- Closer to ground
- Faster Respiratory Rate
- Unable to escape
- Found in large groups





Pediatric Physiology-WMD

- Infectious Diarrhea
 - Greater risk of dehydration
- Smallpox
 - Greater risk of vaccine complications
- Blister agents
 - Greater risk of skin loss
- Nerve agents
 - Seizures, pulmonary edema
- Radiation
 - Greater penetration









Pediatric Equipment



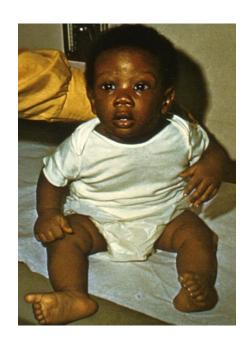






Pediatric Equipment: IV Access





How fast can these guys get an IV started in this 1 year old?



Continuum of Care













Take Home 3: We are NOT as prepared for day to day readiness as we should be.....









So, How's The Foundation of Our Nation's Emergency Care System?

- Existing public safety systems (EMS, fire, etc) are over-taxed by day-to-day demands
- EMS and trauma systems are woefully under-funded
- Hospital-based ED's are dangerously overcrowded
- Pediatric capabilities of our emergency and disaster care systems is uncertain



Pediatric Emergency Experience Gap

- Children account for 5 to 10% of all EMS patients
 - Limited training in pediatric care
 - Limited experience for EMT's and paramedics with sick kids
- Children make 25-30 million ED visits per year
 - Nearly 90% of children are cared for in general hospital ED's
 - Many ED's care for few children
 50% of ED's see < 10 per day
 - Limited experience with sick kids for RNs and MDs in most US ED's

Gausche-Hill M, et al. Pediatrics 2007; 120:1229.



Pediatric Readiness: "Growing Pains"

- Although children make up at least 1/4 of all ED visits nationwide
 - Most general EDs and EMS agencies do not require specialized pediatric training for their clinical staff
 - Only 6% of all EDs have the full scope of pediatric equipment, medications, supplies
 - Paucity of research on best practices, clinical outcomes,
 & patient safety in pediatric emergency care

"If there is one word to describe the current state of pediatric emergency care in 2006, it is <u>UNEVEN</u>"
--- IOM Panel, 2006

Take Home 4: Surge!!















Resources:

- http://www.bt.cdc.gov/healthcare/pediatric.asp
- COORDINATING PEDIATRIC MEDICAL CARE DURING AN INFLUENZA PANDEMIC
- PANDEMIC INFLUENZA PEDIATRIC OFFICE PLAN TEMPLATE (287 KB/32 PAGES) (WORD VERSION)
- OFFICE PREPAREDNESS FOR PEDIATRIC EMERGENCIES: PROVIDER MANUAL
- A DISASTER PREPAREDNESS PLAN FOR PEDIATRICIANS
- RESOURCE DIRECTORY TO ASSIST PEDIATRICIANS TO PREPARE

 THEMSELVES, THEIR HOSPITALS/OFFICES AND THEIR PATIENTS AND

 THEIR FAMILY



Important Elements of Surge Planning.....

Children's Hospitals:

- Area 1 Pediatric Medical Liaisons Between Children's Hospitals and General Hospitals
- Area 2 Internal Surge Capacity Assessment
- Area 3 Pandemic influenza alternate staffing model
- Area 4 Coordination with the Community Pandemic Influenza Response
- Area 5 Patient- and Family-Centered Care During a Pandemic Influenza Surge
- Area 6 Pandemic Influenza Pediatric Triage



Important Elements of Surge Planning.....

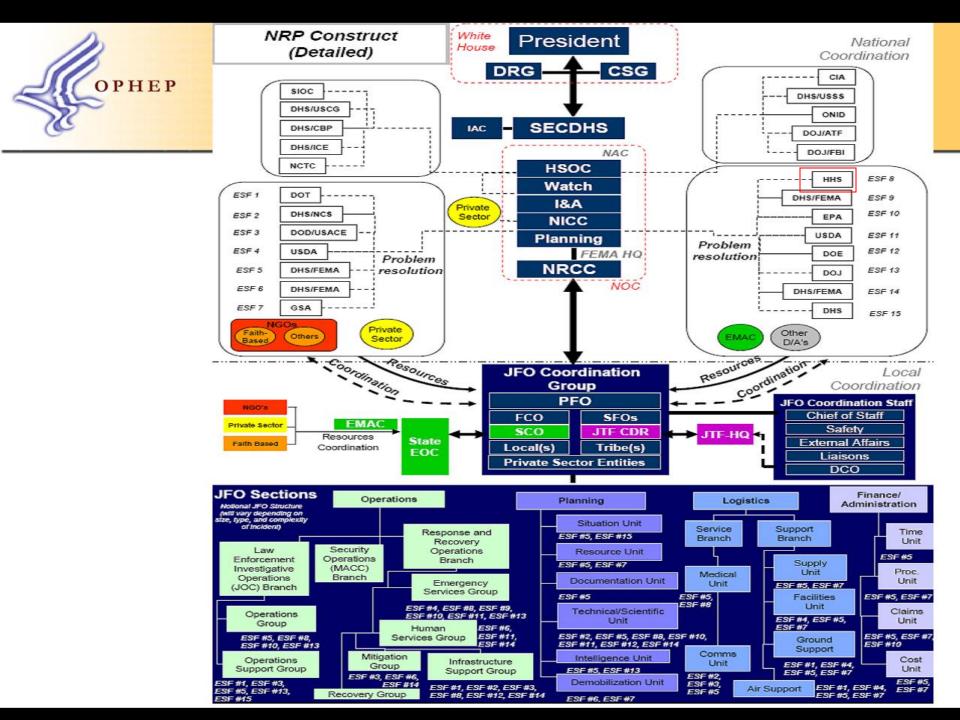
- Local Hospitals and Emergency Departments:
- Area 1 Pediatric Medical Liaisons and Other Key Contacts
- Area 2 Internal Pediatric Care Capabilities Assessment
- Area 3 Coordination with the Community Pandemic Influenza Response
- Area 4 Patient- and Family-Centered Care During a Pandemic Influenza Surge
- Area 5 Pandemic Influenza Pediatric Triage



Important Elements of Surge Planning.....

- Local and Regional Planners:
- Area 1 Include pediatric experts in planning
- Area 2: Don't simply lump children w special needs issues
- Area 3: Reach out to peds facilities and children's hospitals





Conclusions

Children:

- 22% of the population
- Unique physiology
- Under-represented in disaster planning
- Urgent need for local/regional/national planning
- Good disaster response begins with good day to day response
- Kids issues need a VOICE





Thank You For Your Commitment to our Nation's Children!





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Those who participate in the COCA Conference Calls and who wish to receive CE credit/contact hours and will complete the online evaluation by Oct 29 2010 will use the course code EC1648. Those who wish to receive CE credits/contact hours and will complete the online evaluation between Oct 30, 2010 and Oct 29, 2011 will use course code WD1648. CE certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Thank you for joining! Please email us questions at coca@cdc.gov

