

Family Reunification Center: Do you know your involvement?



Chrissy DePaolantonio: Safe Schools Planning Coordinator
Stacey P. Songer, MS: Access and Functional Needs Coordinator

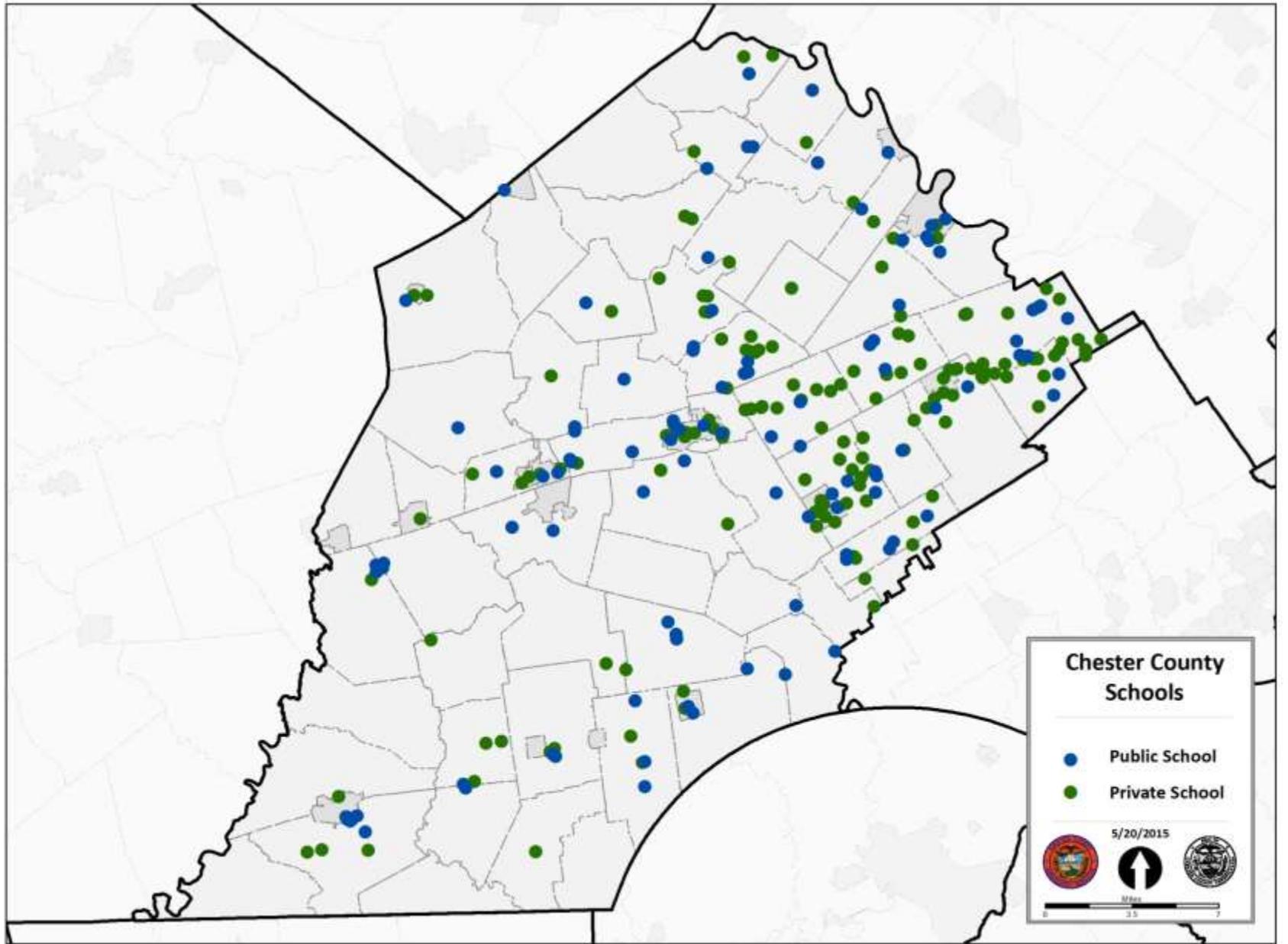
Discussion Overview

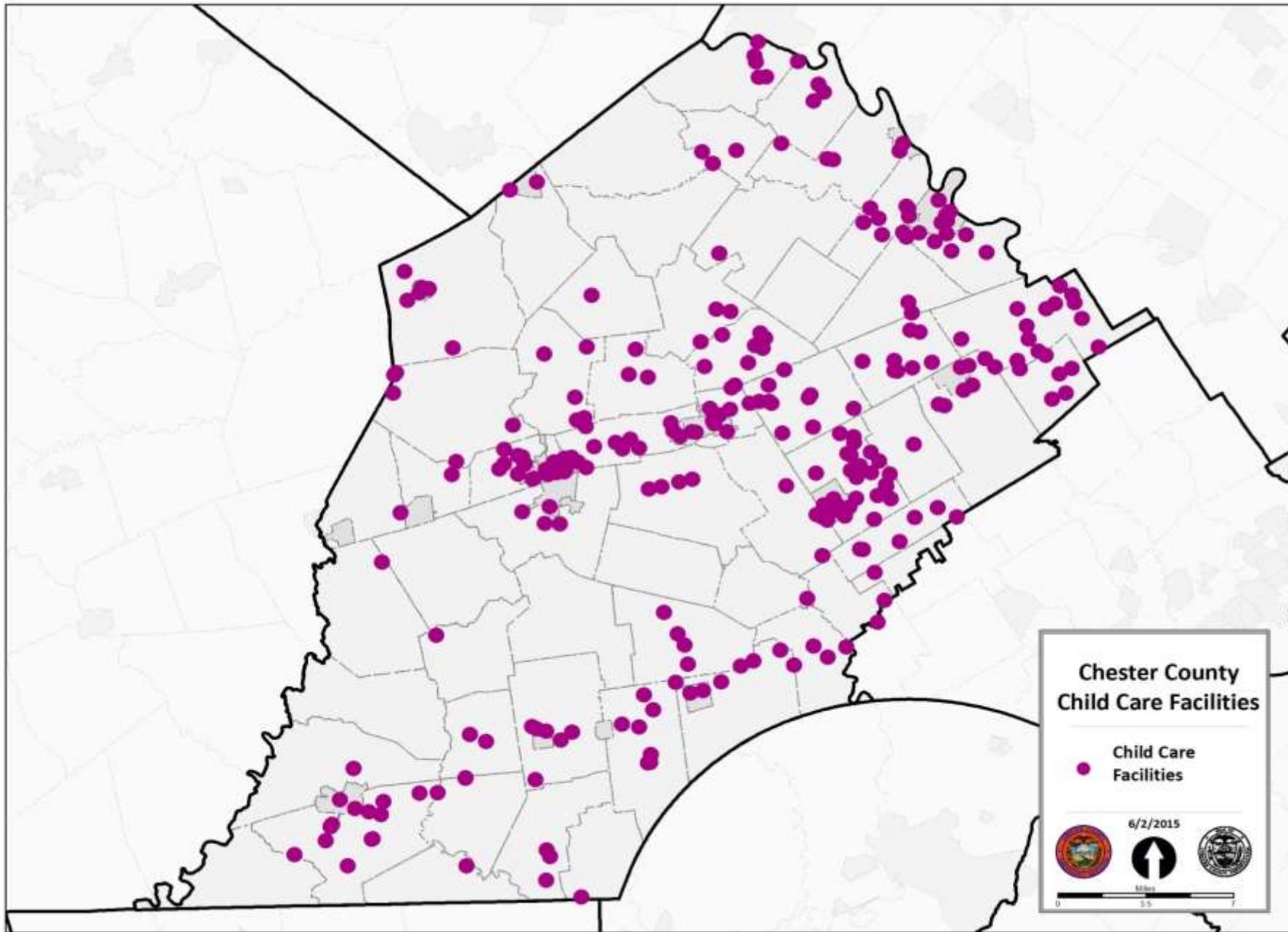
- Chester County, PA Demographics
- Motivation for Family Reunification in Chester County
- Family Reunification Sites
- Family Reunification Process
 - Developing a Deployment Team
 - Identifying Agency's and Resources needed
 - How a Site is activated
- Family Assistance Center
- Testing the Plan and working to improve our results

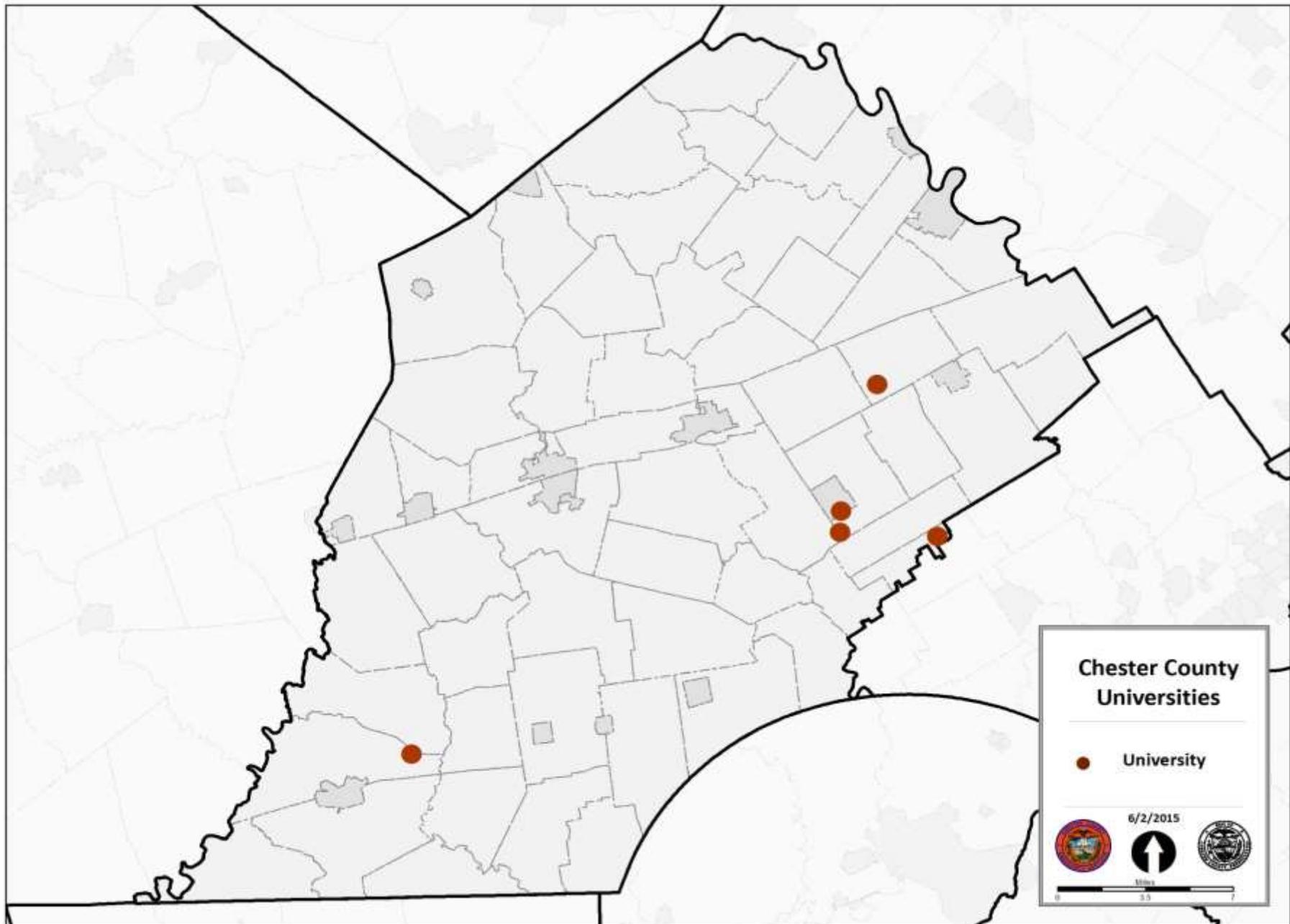
Chester County, PA



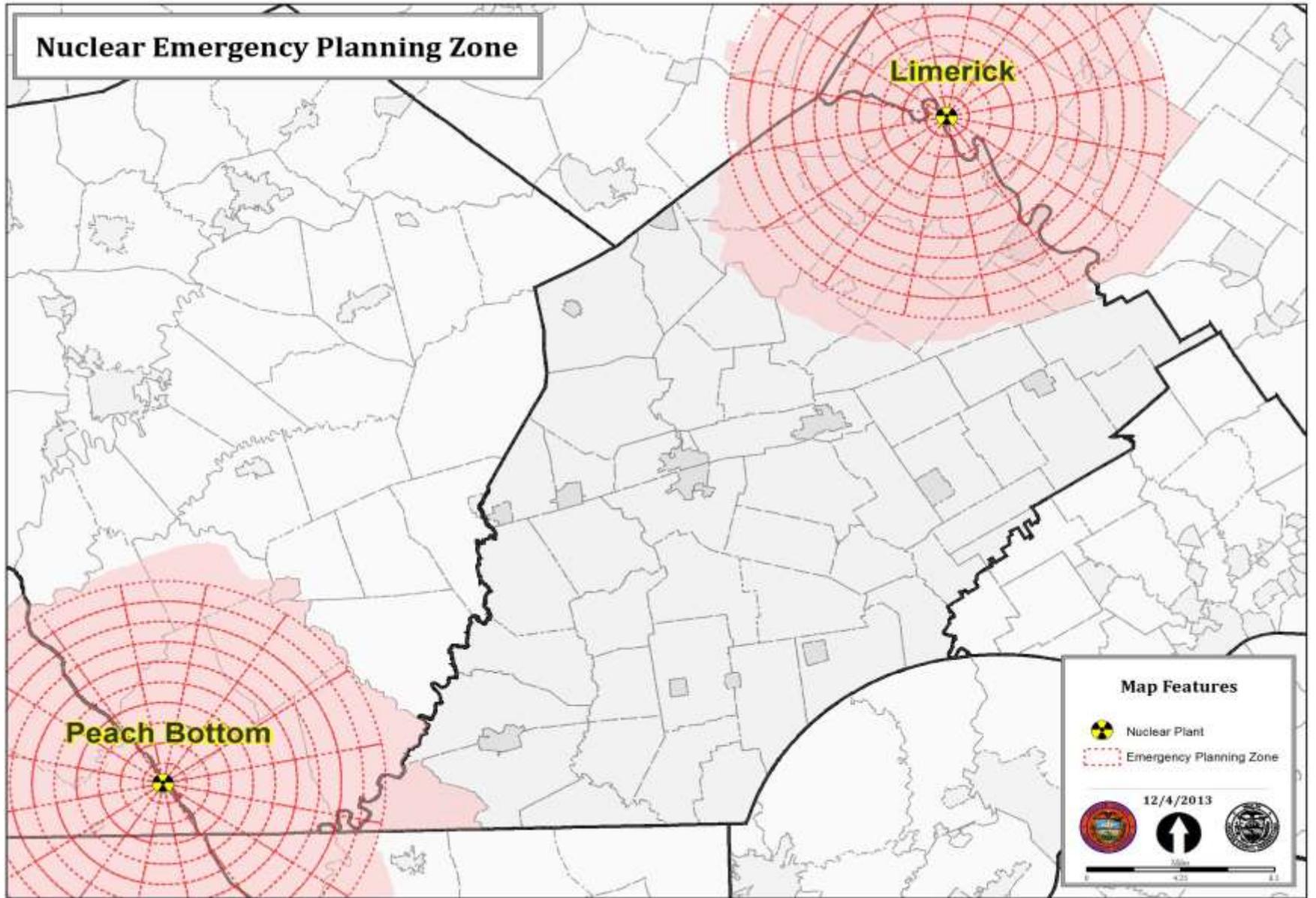
- 762 Square Miles
- 512,784 Residents
- 73 Municipalities
- 57 Fire Companies
- 45 Police Departments
- 32 EMS Agencies







Nuclear Emergency Planning Zone



Limerick

Peach Bottom

Map Features

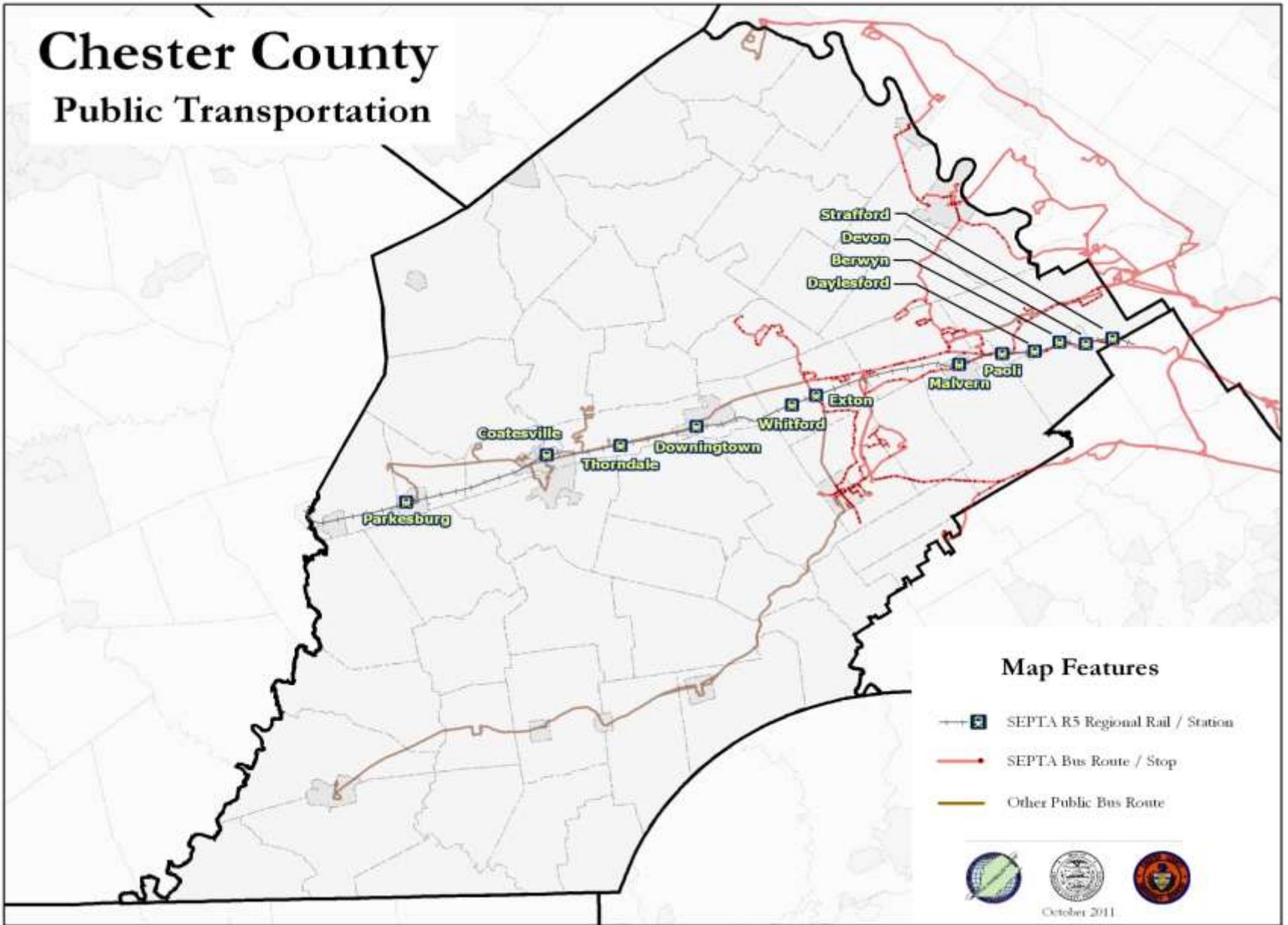
-  Nuclear Plant
-  Emergency Planning Zone

12/4/2013



Chester County

Public Transportation



Motivation

- Columbine High School, 1999
- Nickel Mines, 2006
- Virginia Tech, 2007
- Texas A&M, 2012
- Sandy Hook Elementary School, 2012



Family Reunification

- What is Family Reunification?
 - Process of reuniting families back together after a disaster. (Parent-Child Reunification)
- What is a Family Reunification Site?
 - A pre-identified building (large population, secure building access).
 - A Memorandum of Understanding (MOU) is in place with each site.
- What is the difference between:
 - Family Reunification Center
 - Family Assistance Center



Family Reunification Sites

- Identifying Family Reunification Sites
 - Site lists are not publically available
 - Sites are non-school buildings
- What makes an ideal site?
 - Parking
 - Ingress / Egress
 - Population Capacity
 - Layout of Building
 - Control Internal Access
 - Communication



Establishing a Deployment Team

- Partnered with Chester County Intermediate Unit's Crisis Response Team
- Consists of:
 - Mental health therapists
 - School psychologists
 - Guidance counselors / supervisors
- Team members receive additional training 2-3 times
 - ICS Training
 - Resource Availability
 - Initial Site Set-Up



Reunification Kit

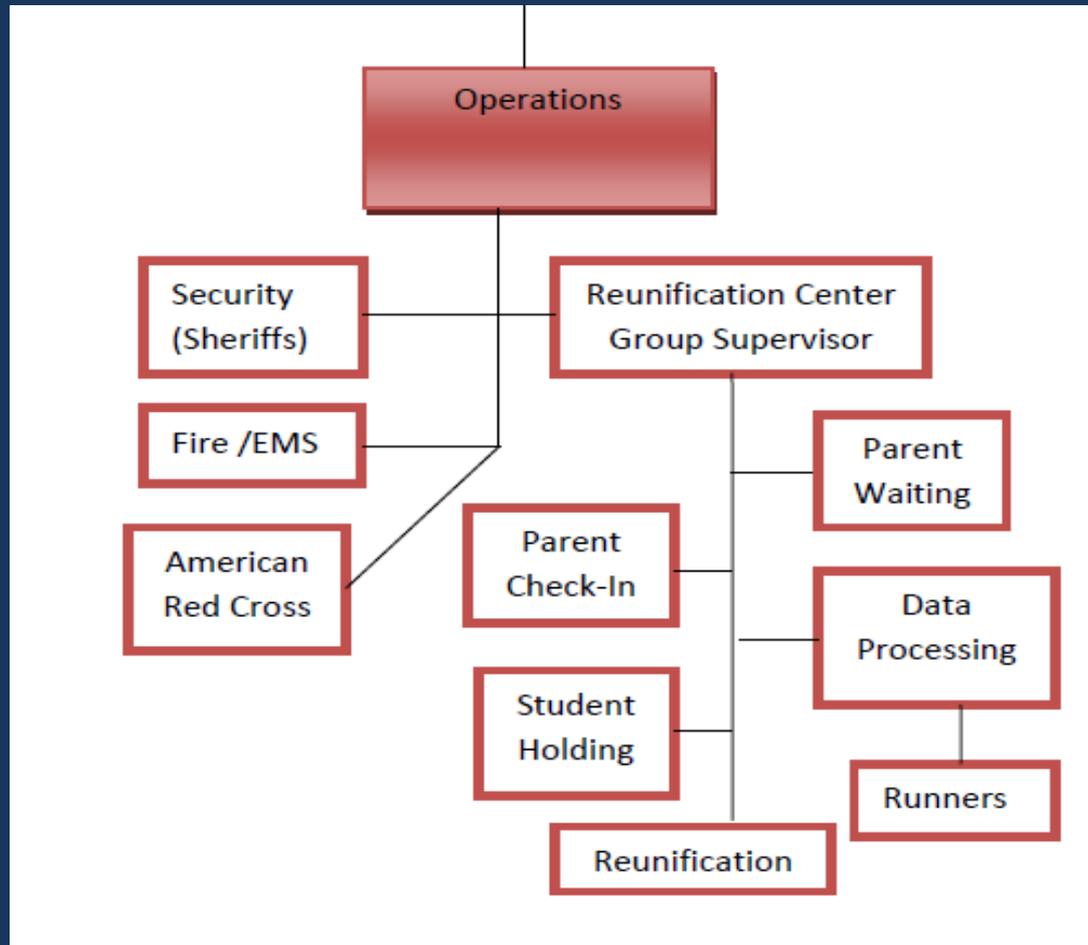
- Readily available at each site:
 - ICS vests
 - Signs to identify areas / critical security points
 - Emergency Release Forms
 - Supplies
 - Red binder with all identifying positions, site maps, and ICS forms



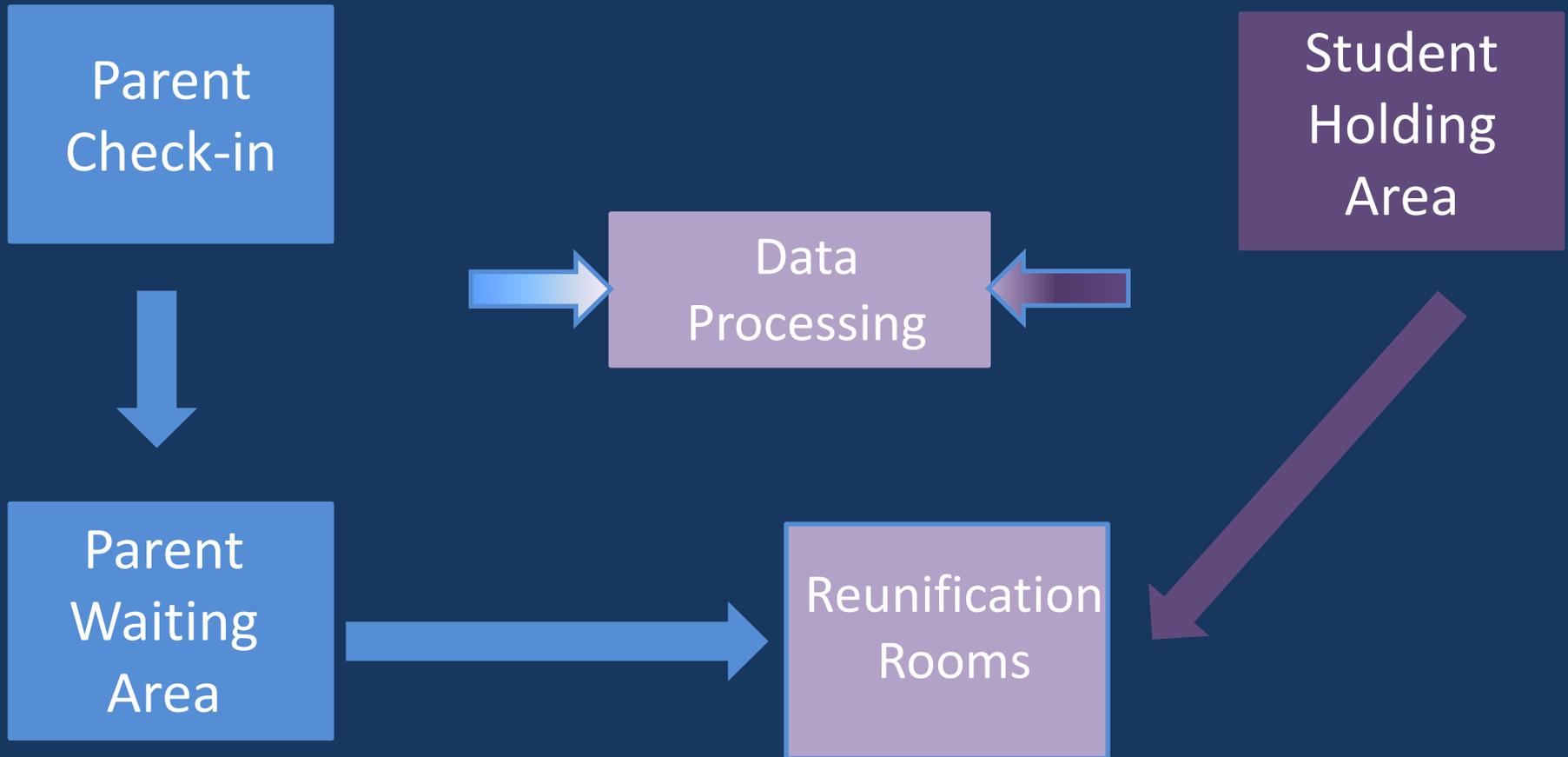
Agency Involvement

- Law Enforcement
 - County Sheriff's Office
 - Detectives
- Local Fire and EMS Agencies
- Volunteer Organizations
 - American Red Cross
 - Medical Reserve Corps (MRC)
 - Disaster Crisis Outreach & Referral Team (DCORT)
 - Citizen Emergency Response Team (CERT)

Operations Branch



Reunification Process



Parent Check-In

- Personnel
- Responsibilities:
 - Parent / guardian fills out Emergency Release Form
 - Staff verifies identification (or no ID)
 - Confirms emergency contact information via roster
 - Instructs parent to Parent Waiting Area



Emergency Release Form

Emergency Release Form

Instructions: Please print clearly. Have photo identification out and ready to show reunification personnel.

Name of Student (PLEASE PRINT): _____

Grade: _____

Person Requesting Student: _____

Relationship to Student: Parent Other

Cell Phone Number (s): _____

I request the student named above be released to my custody.

Signature _____ Date _____

Parent/Guardian Sign Off

Name of Student (PLEASE PRINT): _____

Grade: _____

Your Name: _____ Signature: _____

Emergency Release Form

FOR PARENT CHECK-IN AREA USE ONLY

- Requestor is listed as an emergency contact / authorized adult
- Requestor is not listed as an emergency contact/authorized adult.

Check in: _____

Check out: _____

Action taken for release: _____

ID checked Type: Drivers License Other

Comments: _____

Sent to Reunification Room # _____

Instruction for Parent

Instructions for Parents/Guardians:

- Please remain in the Parent Waiting Area and wait for your name to be called.
 - This may be a timely process since we are working proficiently to organize and account for all students.
- If you are picking up more than 1 child, this may take extra time so we can reunify you as a family.
- A School representative will be providing periodic updates.
- Once your name is called, please follow the assigned staff member to the reunification area.

We thank you for your patience!

Parent Waiting Area

- Personnel
- Responsibilities:
 - Parent / Guardian are to remain in this area until called upon
 - School representative will provide periodic updates (approved from Incident Command)



Student Holding Area

- Personnel
- Responsibilities:
 - All students will be staged in this area with a school representative
 - Once name is called, will be escorted to a reunification room



Data Processing

- Personnel
- Responsibilities:
 - Verifies students are physically in building
 - How to handle missing students
 - Once confirmed via emergency release form and roster of students:
 - 1 runner retrieves parents
 - 1 runner retrieves student
 - Escorted to a reunification room



Reunification Rooms

- Personnel per room
- Responsibilities:
 - Provide support to families
 - Provide information to parents if students experienced a traumatic event

Reunification Activation

- Sites are requested by the school through the 911 center
- Key information to provide to 911:
 - Student / Staff Population
 - Transportation (needed?)
- County Emergency Management would determine the site based on information
 - Initial notification is made to deployment team and Sheriff's Office

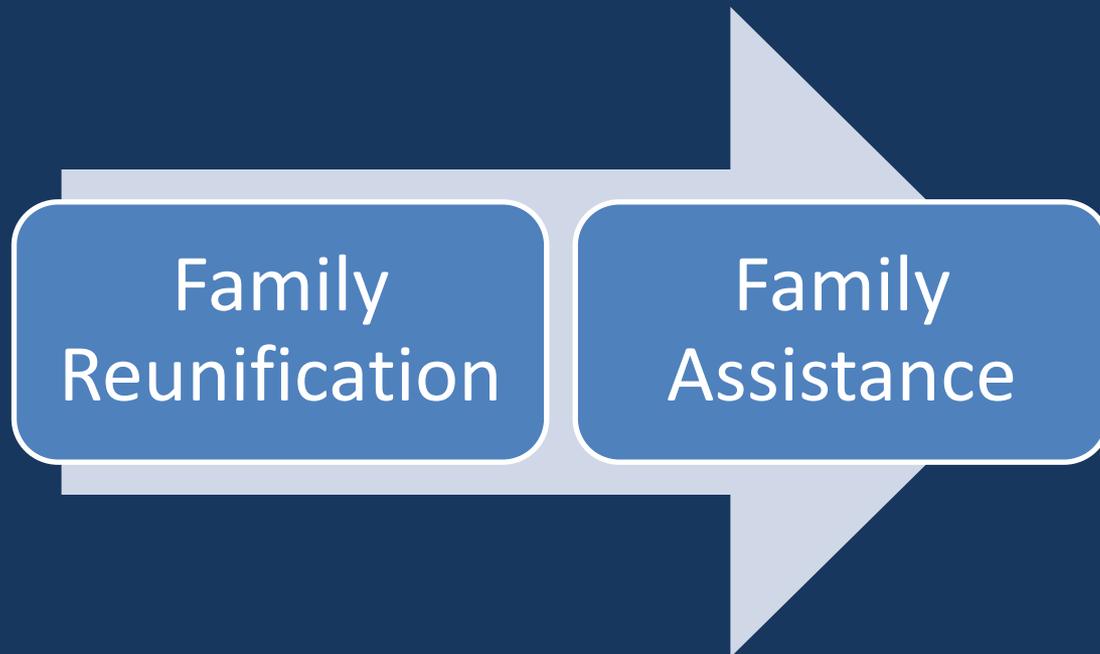


Team Response

- Deployment Team arrival:
 - Locate the reunification kit
 - Specific site set-up
 - Critical security points
 - ICS Roles
 - Limited equipment and resources
- Incident briefing to arriving team members.

Always Remember....

- A Family Reunification Center can transition into a Family Assistance Center...



What is a Family Assistance Center?

- A secure facility established to serve as a centralized location to provide information and assistance about missing or unaccounted persons and deceased
- Support the reunification of the missing or deceased with their loved ones

Family Assistance Center

- Provides two types of benefits for families of victims:
 - Information:
 - Notifying families of status of victim
 - Updates regarding incident recovery efforts
 - Services:
 - Emotional support, spiritual care, health and social services

Purpose of a Family Assistance Center

- Long-term operation
- Private, safe and secure location for family members to grieve
- Provide factual information
- Provide assistance to family members
- Identify and organize all service providers in one location
- Coordinate interagency response
- Avoid duplication of services and efforts

Family Assistance Services

- Safety and Security
- Crisis and grief counseling
- Official briefings (facts)
- Collection of ante mortem information
- Meals and beverages
- Financial assistance
- Transportation
- Child Care
- Spiritual care
- Health services
- Death notifications (possibly)
- Other services as deemed necessary



Concerns of Family Members

Notification of Involvement

“What happened?”

- Initial notification
- Immediate factual information

Access to Resources and Information

“How will I get information and resources?”

- Crisis Counseling
- Information regarding investigation
- Financial / logistical
- Legal rights

Victim Accounting

“Where is my loved one?”

- Search, rescue, hospitalization
- Search & recovery of fatalities
- Identification, death certification, and return of remains

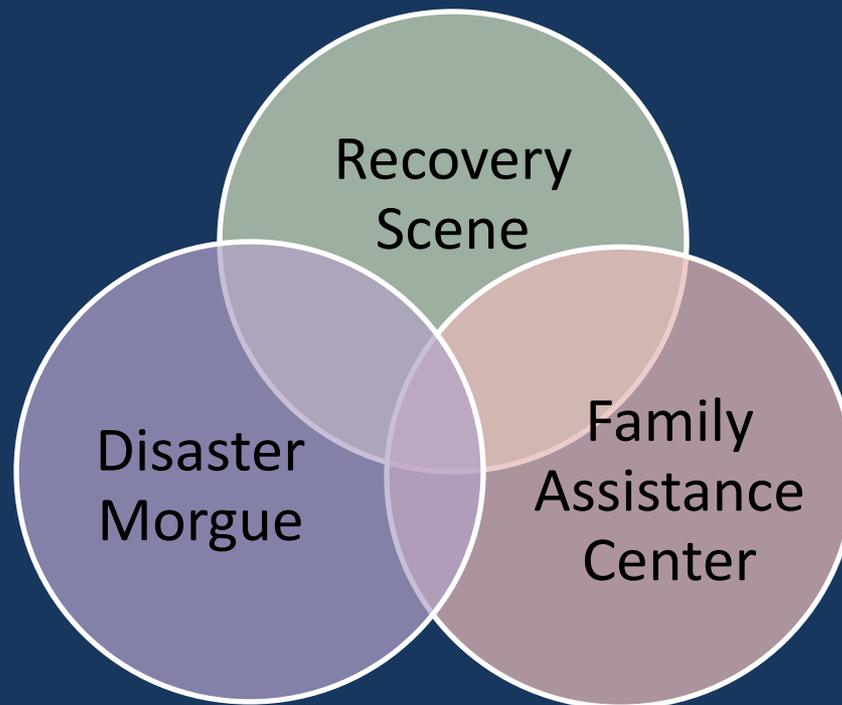
Personal Effects

“Where are their belongings?”

- Recovery, processing and return of personal effects
- Associated and unassociated

Operational Areas of Concern

- 3 operational areas of greatest concern to both ME/coroner AND family members?





Testing the *Reunification Process*



Exercise Objectives

- Assess the effectiveness of the procedures and activities to operate a site.
- Collaborate and share information.
- Evaluate the implementation of Incident Command System/Unified Command.



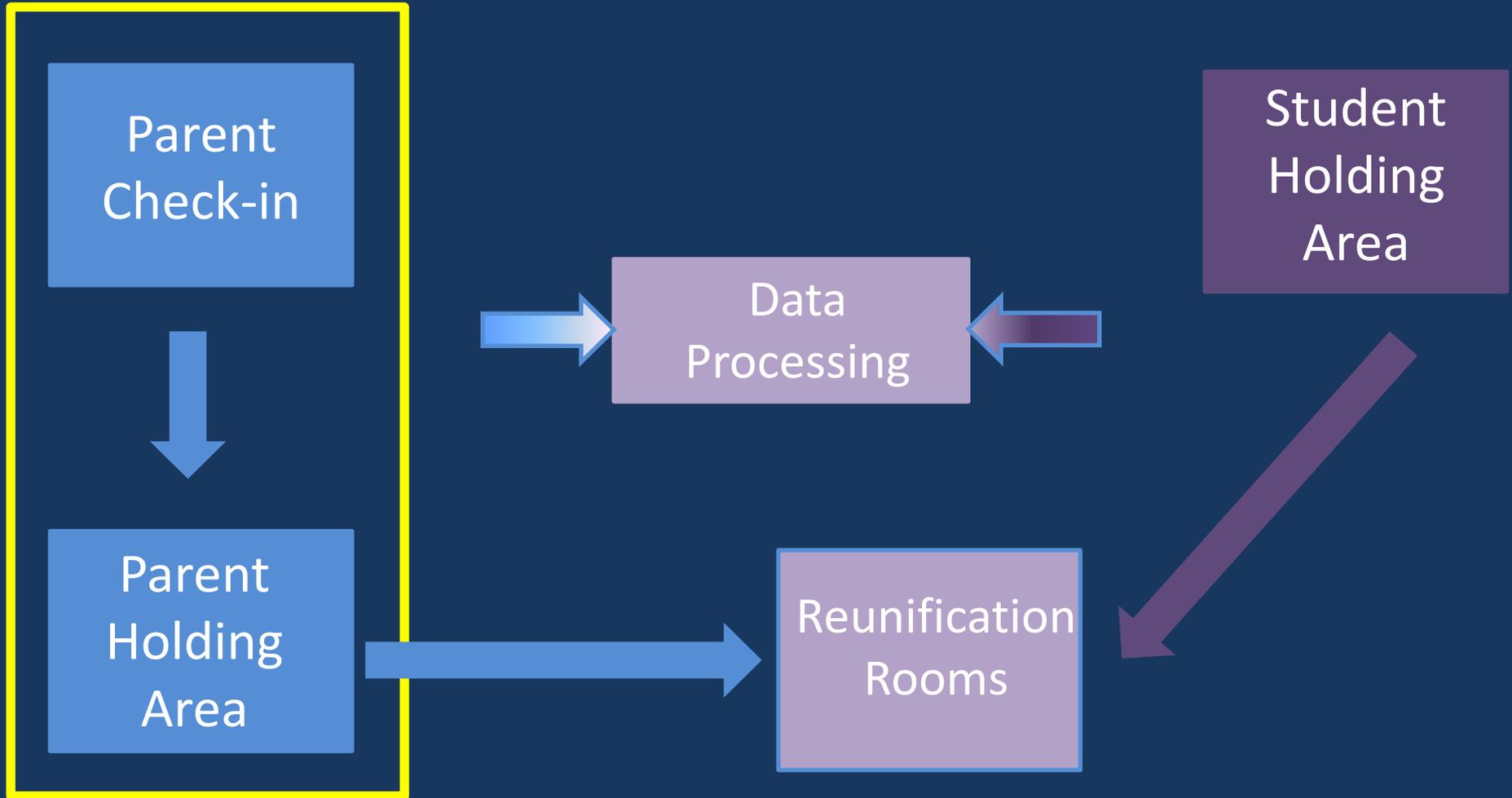
Participating Organizations

- County
 - Chester County Sheriff's Office
 - Chester County Detectives
 - Chester County Department of Emergency Services
 - Chester County Intermediate Unit
- Local Fire and EMS Agencies
- Non-Governmental Organizations
 - Medical Reserve Corps (MRC)
 - Collegium Charter School
 - Local Boy Scouts

Exercise Overview

- Notifications to Deployment Team and Sherriff's Office
- Deployment Team arrival:
 - Locate the reunification kit
 - Assign ICS Roles and area set-up
 - Assign Sherriff's to critical security points
 - Assign School Staff to appropriate locations
 - Equipment and resources
- Incident briefing provided to arriving area supervisors
- Reunification process

Reunification Process

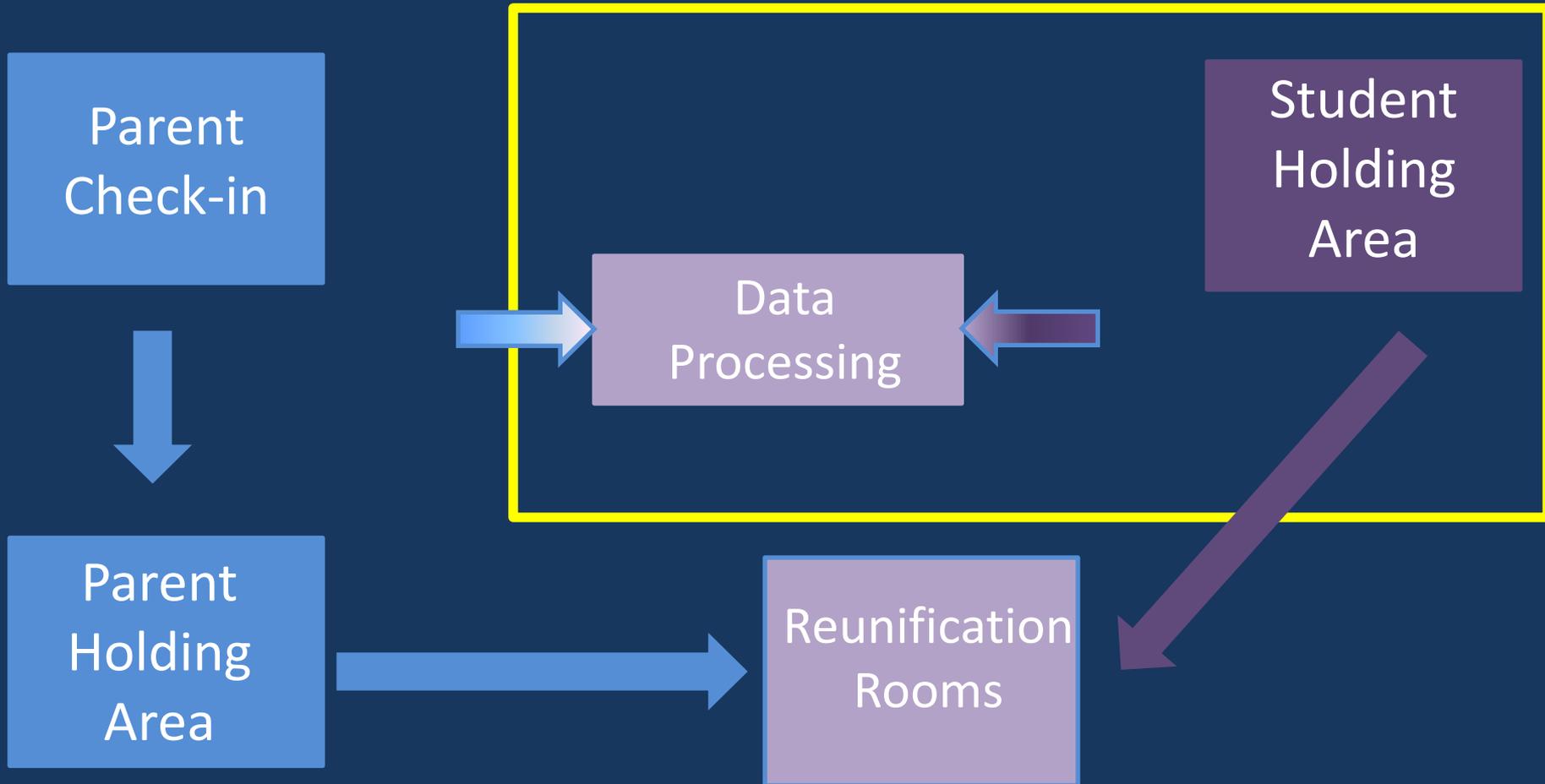


Parent Check-in/Parent Waiting

Lessons Learned

- Accurate information obtained on the Emergency Release Form.
- Layout of the Reunification Site.
- Information disseminated to parents at the Parent Waiting Area needs to come from a PIO or school representative.

Reunification Process

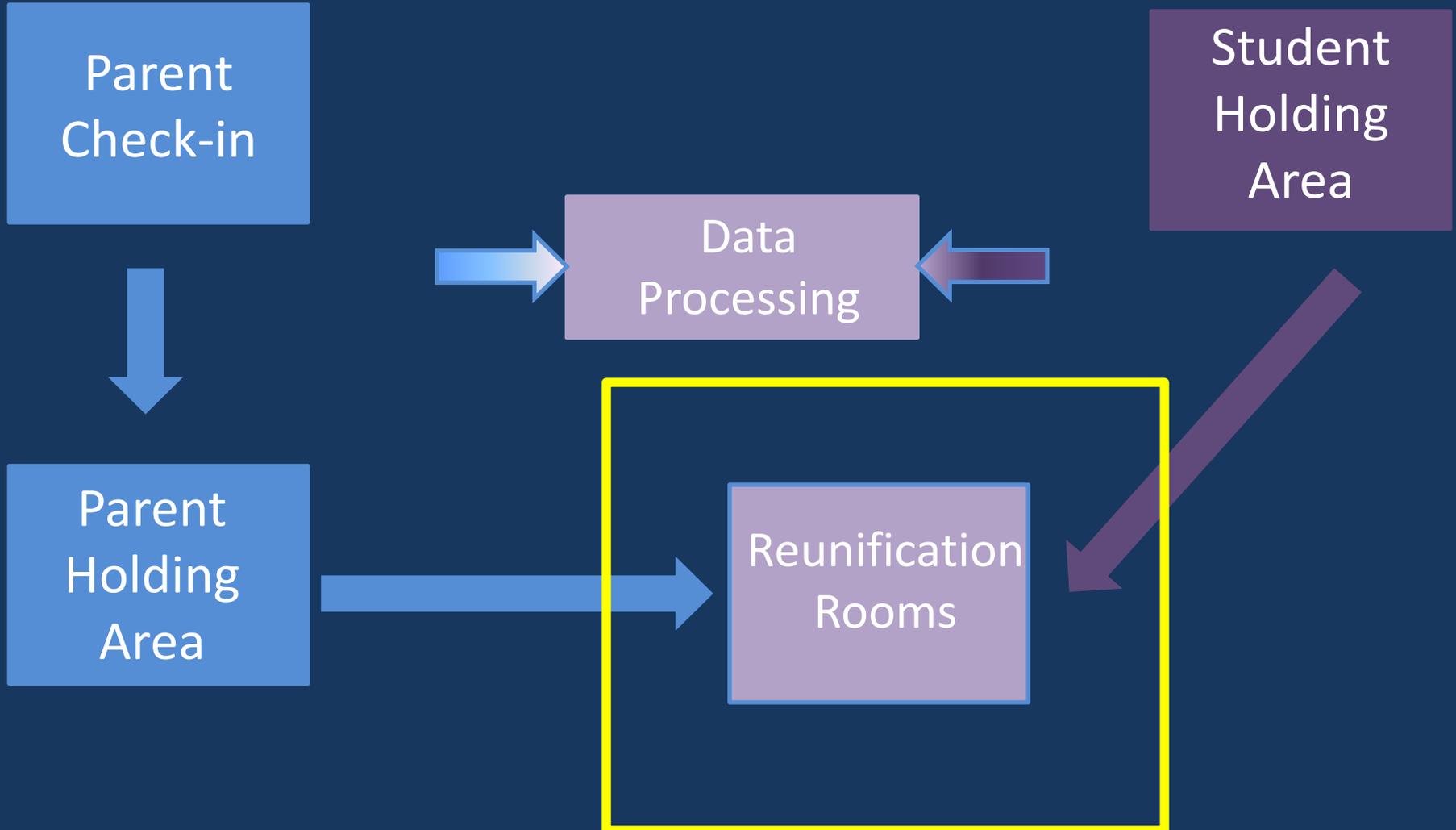


Student Holding Area/Data Processing

Lessons Learned

- School administration supplies master student roster
 - Accurate information obtained on the Student Release Form.
- Two runners escorting students and parents to Reunification Rooms.
- Communication between Operations Division and School Emergency Operations Center.

Reunification Process



Reunification Rooms

Lessons Learned

- Parents and children should be reunited in private.
 - Staff Reunification Room with:
 - Law Enforcement
 - Counseling
 - School staff member
- Provide follow-up information to parents:
 - Symptoms and signs to look for
 - Family Assistance

Overall Exercise Lessons Learned

- Appropriate agencies participated.
- All critical communication devices (and internet services) were functional.
 - Student roster accessed electronically from the Reunification Site.
 - Provide Sheriff with radio to communicate to Reunification Deployment Team Supervisor.
- Staff followed the incident command structure.
- Site security worked well.
- Public Information in Parent Waiting Area
- Identification of School Staff
- TRAINING!!!

Next Steps

- Develop a Family Assistance Center Plan
 - Following Family Reunification Activation
 - Activation during Community Event Emergency
- Family Assistance Table Top Exercise
 - October 2016

Take away...

- Find and build your team...
- Develop a reunification process...
- Find reunification sites...





Thank You!



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Services, Emergency Management Division*

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Updates from the Pennsylvania Department of Health (PADOH)

May 18, 2016

Agenda

1. Capabilities
2. Health Care Coalitions
3. Strategic National Stockpile
4. Novel diseases and Ebola

Public Health and Health Care Capabilities

Jeffrey Backer

Planning and Operations Director
Bureau of Public Health Preparedness
Pennsylvania Department of Health

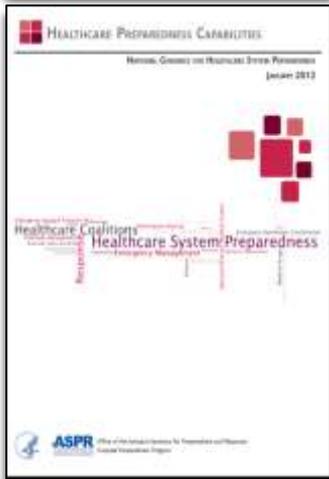
Public Health and Health Care Capabilities

Public health preparedness capabilities

- 1 Community preparedness
- 2 Community recovery
- 3 Emergency operations coordination
- 4 Emergency public information and warning
- 5 Fatality management
- 6 Information sharing
- 7 Mass care
- 8 Medical countermeasure dispensing
- 9 Medical materiel management and distribution
- 10 Medical surge
- 11 Non-pharmaceutical interventions
- 12 Public health laboratory testing
- 13 Public health surveillance and epidemiological investigation
- 14 Responder safety and health
- 15 Volunteer management

Health care preparedness capabilities

- 1 Health care system preparedness
- 2 Health care system recovery
- 3 Emergency operations coordination
- 4
- 5 Fatality management
- 6 Information sharing
- 7
- 8
- 9
- 10 Medical surge
- 11
- 12
- 13
- 14 Responder safety and health
- 15 Volunteer management



Emergency Support Functions

ESF 1 – Transportation

ESF 2 – Communications

ESF 3 – Public works and engineering

ESF 4 – Firefighting

ESF 5 – Emergency management

ESF 6 – Mass care, housing and human services

ESF 7 – Logistics management and resource support

ESF 8 – Public health and medical services

ESF 9 – Search and rescue

ESF 10 – Oil and hazardous materials response

ESF 11 – Agriculture and natural resources

ESF 12 – Energy

ESF 13 – Public safety and security

ESF 14 – Long term community recovery

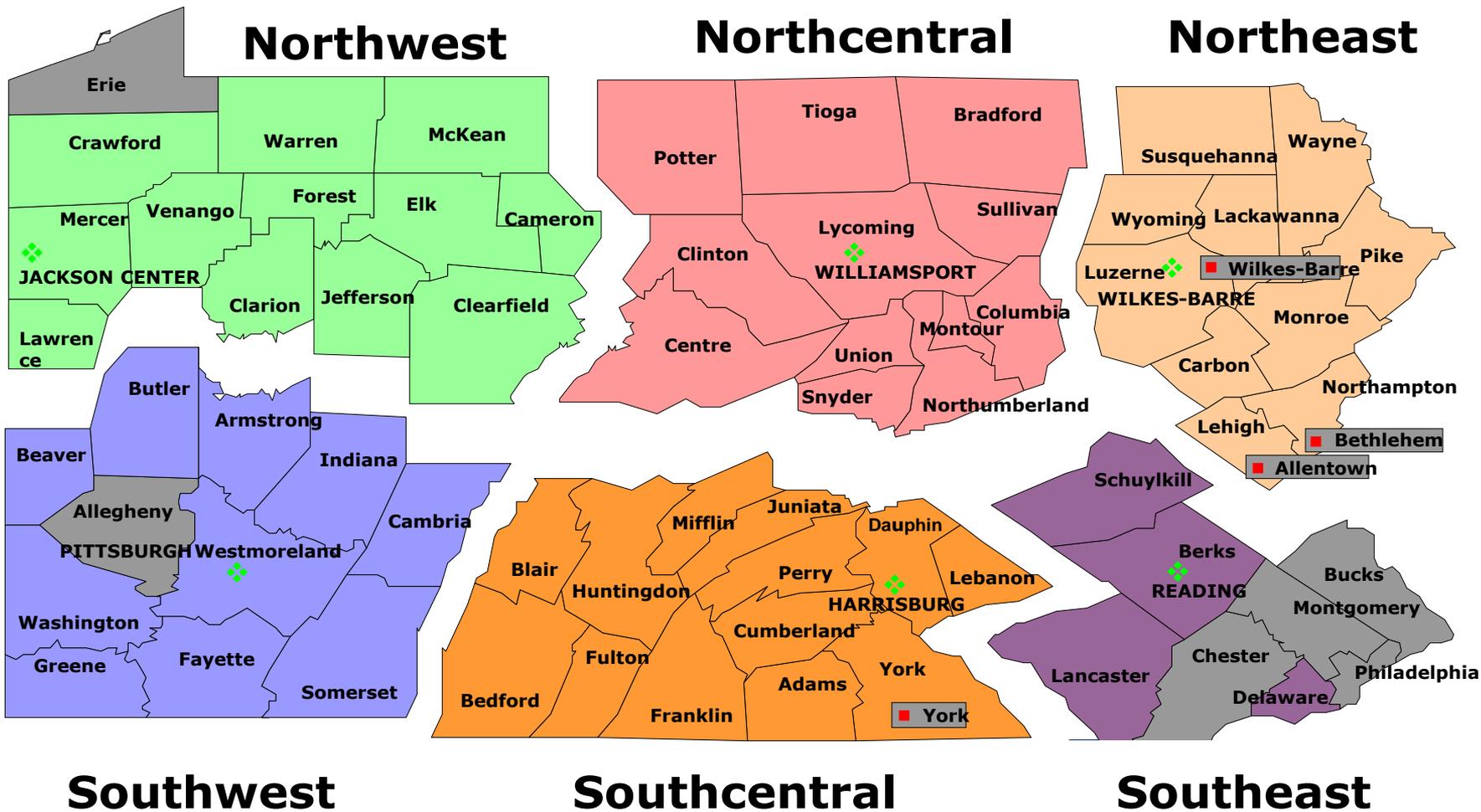
ESF 15 – External affairs

People

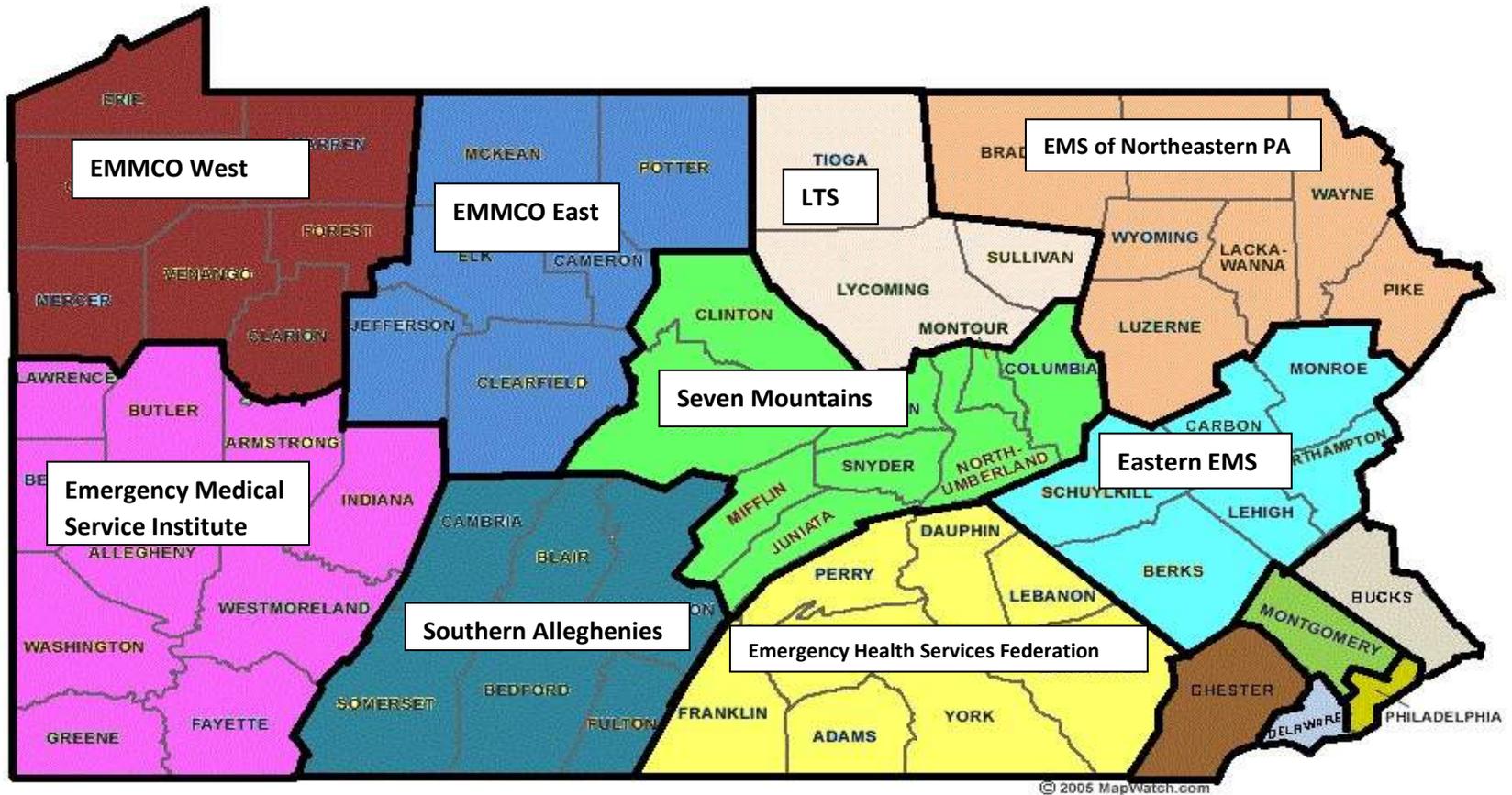
- Public health
- Health care
- Emergency medical services
 - EMS strike teams
- Behavioral health
 - Disaster crisis outreach and referral teams (DCORT)
- Coroners and funeral directors
- Volunteers/SERVPA
 - Medical reserve corps
 - State medical assistant teams

Health Districts

County Health Departments Municipal Health Departments District Offices



EMS Council Regions



Mobile Medical Equipment



Mobile Medical Equipment



▶ Alternate Care Sites



EMS Strike Teams



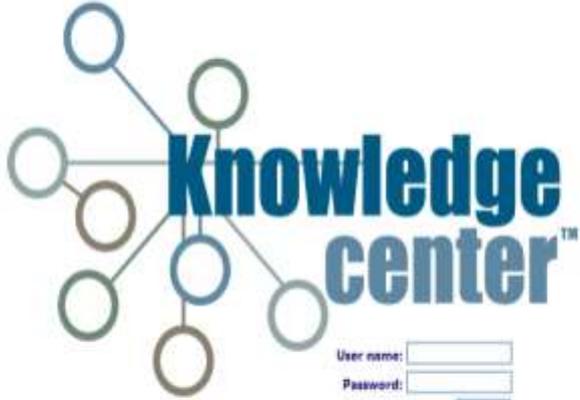
State Medical Assistance Teams

- Three teams: Southeastern Pa., Indiana County and Erie County
- Medical surge event support either at a local health care organization or provision of field operations at the incident site
- Equipment and supplies to support operations for 96 hours or more



Knowledge Center

Welcome to the PA Dept. of Health Production Knowledge Center®



User name:

Password:

Login

Statewide Incident Management System Common Operating Picture

Medical Surge



SEOC/DOC Event Coordination



2016 Public Health Preparedness Summit



Building Coalitions and Strengthening our Community

Sept. 14-16, 2016

Blair County Convention Center

Altoona, Pa.



#PHPSummit16

Health Care Coalitions and the Regional Task Force Where Public Health and Emergency Management Collide

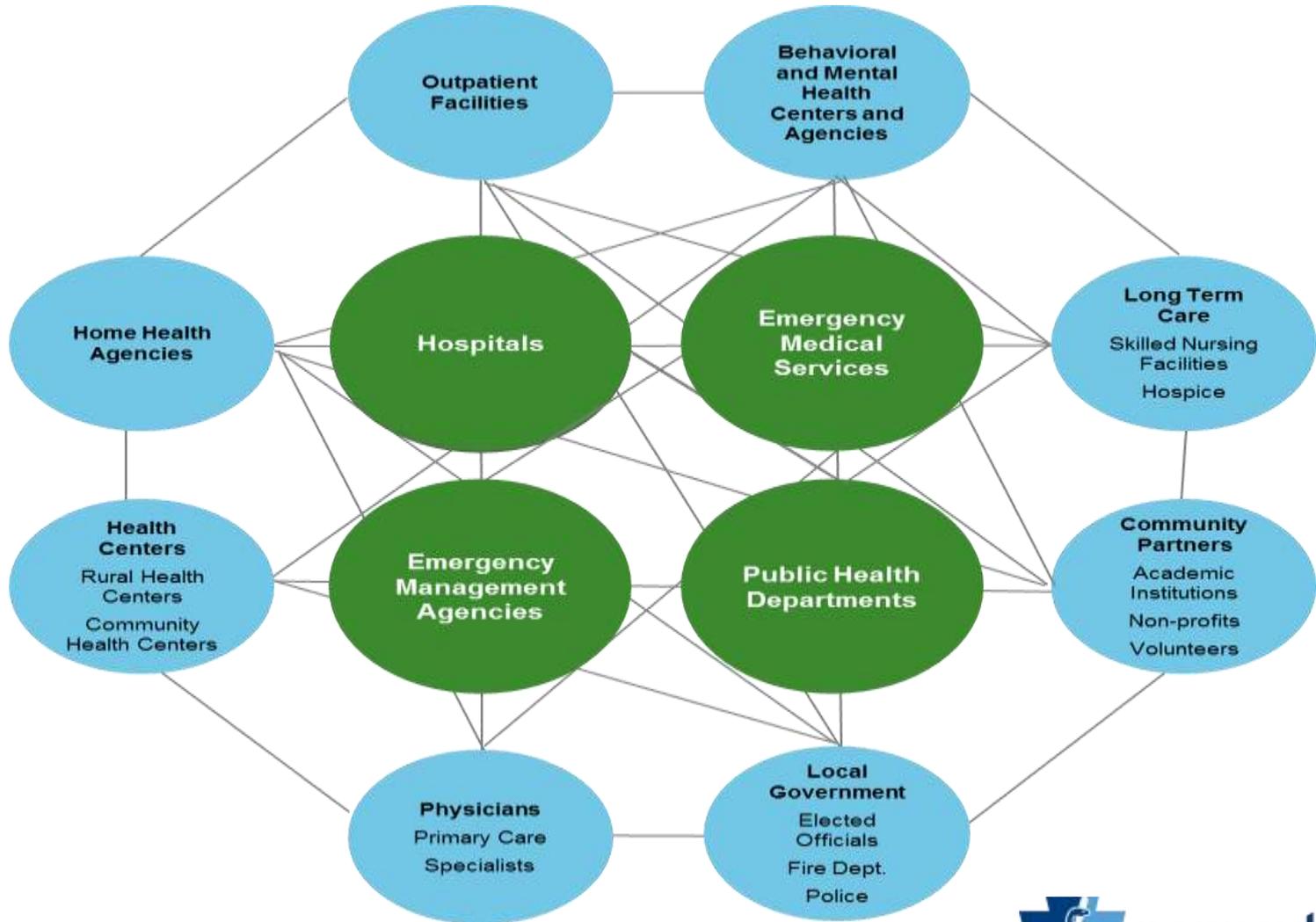
Andrew Pickett

Director, Bureau of Public Health Preparedness
Pennsylvania Department of Health

Health Care Preparedness Funding

- Federal funders push towards regional efforts
- Concept of a “Health Care Coalition” (HCC)
 - Regional organization tasked with planning, training, exercising, and sharing information and resources
 - Operational role
 - Not as first responders, but as a coordinating entity among the ESF 8 community
 - Multi-agency coordination, not incident command or EOC
 - “One stop shop” for external partners (PADOH, county and local emergency management, etc.)

Makeup of a Health Care Coalition



Benefits for Regional Task Forces

- More robust health and medical preparedness on a regional level
- Better inclusion of all sectors within the health and medical community
- Partnership between health care and emergency management with a single point of contact
- Funding available for health and medical efforts that will benefit first responder community

Benefits for Healthcare Coalitions/Health

- Fits into federal funder model
- Allows broader health and medical community access to funding
- Allows coalitions/H and M subcommittees to engage in projects that would otherwise be unavailable
- Allows health and medical community a degree of autonomy while still fitting into regional preparedness model

Pennsylvania's Mass Distribution of Medical Countermeasures

State Operational Readiness Review

Joanne Roth

Community Preparedness Planning and Response Section
Chief

Operational Readiness Review

- Purpose - identify gaps
- Conducted by – the Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)
- Process
- Outcome

Operational Readiness Review

Process

- ORR tool
 - PHEP capabilities
 - Capability 1 – Community preparedness
 - Capability 3 – Emergency operations coordination
 - Capability 4 – Emergency public information and warning
 - Capability 6 – Information sharing
 - Capability 8 – Medical countermeasure dispensing
 - Capability 9 – Medical materiel management and distribution
 - Capability 14 – Responder safety and health
 - Capability 15 – Volunteer management
 - Capability function ratings
 - Early
 - Intermediate
 - Established
 - Advanced

Operational Readiness Review

Next Steps

- Technical assistance (TA) – 2016
 - State level
 - Requested TA
 - Provided by CDC DSLR
 - City readiness initiative (CRI) counties
 - Requested TA
 - Provided by PADOH BPHP
- ORR – 2017

Medical Materiel / Countermeasure



Medical Countermeasures Activities

- Fall 2015 – Papal visit and CHEMPACK temporary move
- May 2016 – Vibrant response
- May 2016 – Pittsburgh Metropolitan Statistical Area (MSA) full – scale exercise
- June 2016 – Delaware County dispensing exercise
- Fall 2016 – Pike MSA – full scale exercise



Ebola Viral Disease and other Novel Diseases: Pennsylvania's Concept of Operation

Diane Brannon-Nordtomme

Planning and Emergency Response Coordination Section Chief

- Assumptions regarding Ebola viral disease and novel diseases(EVD/ND) in Pa.
 - Pa. monitors travelers from countries where there is active EVD/ND outbreak. or has been an active EVD/ND outbreak
 - EVD/ND patients present at hospitals and other health care facilities when signs and symptoms occur.

- Transport of suspected EVD/ND patient
 - EMS agencies may receive calls to residences or other locations for a potential EVD/ND case
 - Acutely ill patients are transported to nearest hospital

- Transport of suspected EVD/ND patient
 - If patient is not acutely ill, every attempt is made to directly transport patient to Ebola Assessment Treatment Facility (EA/TF) by a pre-selected transport team.
 - Currently, there are 10 transport teams identified by Bureau of Emergency Medical Services to transport EVD/ND patients.

- Treatment of suspected EVD/ND or confirmed EVD/ND in patients
 - CDC provides guidance for treatment of EVD/ND.
 - Pa. utilizes a two-tier hospital system.

- Tier one – front line hospitals
 - All hospitals in Pa. are frontline hospitals
 - All hospitals are able to screen, isolate and inform regarding EVD/ND Patients.
 - It is necessary to isolate potential EVD/ND patients for up to twenty-four hours.

- Tier two – EVD/ND assessment/treatment hospitals
 - For patients suspected of EVD from residence or from a Frontline hospital.
 - Eight in Pennsylvania.
 - Diagnosis and treatment of patients from onset to outcome.

- ConOps also includes guidance on
 - ▣ Remains care
 - ▣ Waste management in hospitals, from transport and in private residences
 - ▣ Communications strategies
 - ▣ Utilization of regional Ebola treatment facility
 - ▣ Johns Hopkins Medicine in Baltimore, Md.
 - ▣ References to CDC guidance on EVD/ND

QUESTIONS COMMENTS



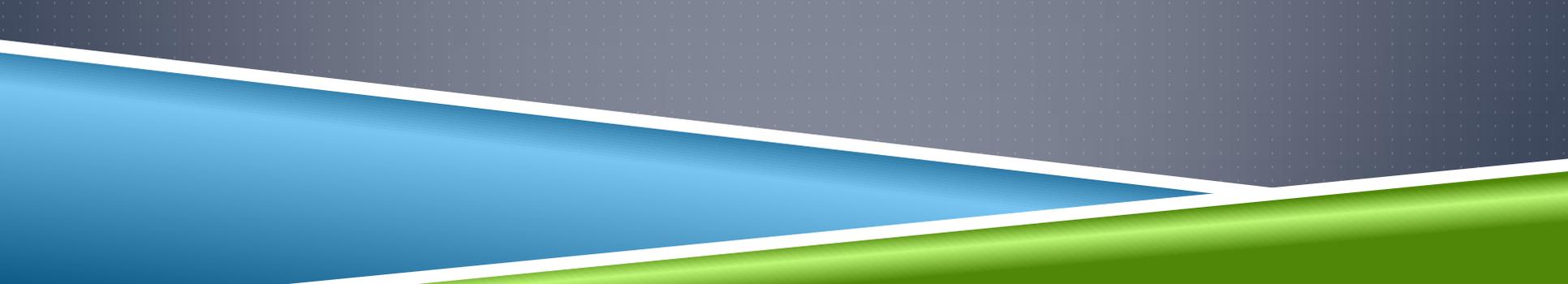
THANK YOU!

THE GOOD, THE BAD, THE GREAT

IMT & EOC Coordination on the September 2013 Floods

Amy Danzl

Boulder Office of Emergency Management



BOULDER EOC

- ▶ Situational Awareness
- ▶ Resource Mobilization
- ▶ Coordination & Partnerships
- ▶ Forge & Implement Dynamic Solutions
- ▶ Policy Group Management



WHY IT MATTERED

- ▶ 1102 People Evacuated by Air
- ▶ 558 Animals Evacuated by Air
- ▶ 707 People Evacuated by Road
- ▶ Only Four Deaths



RELATIONSHIPS, CONFLICTS & FAILURES



IMTS & EOCs: COMMONALITIES

- ▶ Results
- ▶ Mutual SA & Info Support
- ▶ Restore order in chaos.
- ▶ Uniquely trained.
- ▶ Problem solving oriented.



IMTS & EOCs: DIFFERENCES

- ▶ Command & Control versus Coordination & Support.
- ▶ Scope: incident footprint versus the whole community.
- ▶ Authorities: single line versus multiple authorities.
- ▶ 12-hour versus undefined operational periods.
 - ▶ Planning Cycle.
 - ▶ Staff Transitions.
 - ▶ Briefings.
 - ▶ Media.
- ▶ Dynamic versus static IAPs.
- ▶ Style of Management.
- ▶ Skill sets and training.



IMTS & EOCs: COMPLEMENTATION

IMTs

- ▶ Command & Control
- ▶ Primary Objective: Life Safety
- ▶ Needs Additional Resources
- ▶ Needs Additional Coordination
- ▶ Manages the Incident

EOCs

- ▶ Support & Coordinate
- ▶ Primary Objective: Unmet Needs
- ▶ Fills Resource Requests
- ▶ Coordinates with MAC or Policy Groups
- ▶ Manages the Coordination of the Event Surrounding the Incident

DELEGATION VS. DECLARATION

DELEGATION VS. DECLARATION

Delegations

- ▶ Wildfire Model.
- ▶ Well practiced in Colorado.
- ▶ Delegate authority.
 - ▶ Can specify which authorities are delegated and which are maintained.
- ▶ Local to Sheriff to State (EFF) to Federal (FMAG).

Declarations

- ▶ All-Hazards Model.
- ▶ Every special district (including fire districts) is responsible for declaring their own disaster in order to access funds.
- ▶ Everyone maintains their authority (and responsibility to pay).
 - ▶ Flood: Boulder EOC authorized resource orders because the County and State were paying.
- ▶ Local to County to State to Federal (Stafford Act, "Major Disaster" w/potential IA and PA)

DELEGATION VS. DECLARATION

Delegations

- ▶ Funding: Upfront cost-share agreement, usually costing the local jurisdiction nothing or very little.
- ▶ Under EFF or FMAG, the State of Feds can hire contractors (such as volunteer firefighters) to prevent the emergency from escalating.

Declarations

- ▶ Funding: 75% reimbursement of eligible expenses come weeks, months or years later.
 - ▶ Payment of staff is equal to that paid prior to the disaster.
 - ▶ Response: \$3.2m, Reimbursable: \$1.6m.
- ▶ Utilizes an Emergency Operations Plan (EOP) and annexes.
 - ▶ Must be followed to be eligible for reimbursement.

FLOOD EXPERIENCE: COMMAND VS. SUPPORT

- ▶ Jurisdictions maintained authority
- ▶ FPDs became branches or divisions
- ▶ Mission clarity



SOLUTIONS: COMMAND VS. SUPPORT



▶ Delegation:

- ▶ Mission definition
- ▶ Pre-script
- ▶ Education for all-hazards
- ▶ Conflict resolution process
- ▶ EOP + Annexes

▶ Transition:

- ▶ Roles and responsibilities
- ▶ Unique capabilities
- ▶ Relationship and communication

FLOOD EXPERIENCE: AUTHORITY TO ORDER

- ▶ All-Hazards Declaration: authority and payment
- ▶ County and State Cost Share
- ▶ IMT subject to agreement - Preorder
- ▶ Interagency Dispatch



SOLUTIONS: AUTHORITY TO ORDER



- ▶ Nuances in transition meeting
- ▶ Resource Mobilization Standards
 - ▶ Developing statewide curriculum
- ▶ More informed all-hazards IMT response
- ▶ Ductile: able to undergo change of form without breaking.

FLOOD EXPERIENCE: ALL-HAZARDS COMPLEXITY

- ▶ Footprint - shower units, catering, office trailers.
- ▶ Hundreds of special districts: water districts, ditch companies, school districts, 22 fire protection districts, multiple cities and townships.
- ▶ Financial impacts



SOLUTIONS: ALL-HAZARDS COMPLEXITY



- ▶ Scoping: duration and pre-order
- ▶ Understanding the geo-political environment
 - ▶ IMT status and mobilization board in WebEOC
- ▶ Developed Field 213RR for pre-IMT deployment
- ▶ Creative collaboration - Fuel pump security

FLOOD EXPERIENCE: THE GREAT



- ▶ Got the job done!
- ▶ Sheriff's confidence and trust in our IMT3.
- ▶ Learned the all-hazards environment.
- ▶ Honest desire to improve teams statewide based on learning from this all-hazards incident.

“Peace cannot be kept by force. It can only be achieved by understanding.”

–Albert Einstein

QUESTIONS?



Amy Danzl

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Boulder, Colorado

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Weather Hazards & Forecast Challenges across the Commonwealth

Presentation & Panel Discussion

Tuesday, May 17, 2016 1:30-3:00PM
 Wednesday, May 18, 2016 8:30-10:00AM





Session Outline

Introduction
 Jeff Jumper, PEMA State Meteorologist

Weather Trivia
 Peter Jung, Warning Coordination Meteorologist – NWS State College
 Fred McMullen, Warning Coordination Meteorologist – NWS Pittsburgh

Seasonality of PA Weather & Forecast Challenges
 Dr. John Scala, Certified Consulting Meteorologist & WGAL-TV





Session Outline

Panel Discussion

Moderator
 Barbara Watson, Meteorologist-in-Charge – NWS State College

Panel Members
 Peter Jung, Warning Coordination Meteorologist – NWS State College
 Fred McMullen, Warning Coordination Meteorologist – NWS Pittsburgh
 Dr. John Scala, Certified Consulting Meteorologist & WGAL-TV
 Joe Murgo, WTAJ-TV Chief Meteorologist
 Jeff Jumper, PEMA State Meteorologist



 pennsylvania
EMERGENCY MANAGEMENT AGENCY



pennsylvania 

Panel Questions

How would you describe your audience on social media?

How has it evolved?

How do you expect it to change?

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EMERGENCY MANAGEMENT AGENCY

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EMERGENCY MANAGEMENT AGENCY



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Panel Questions

How do you handle misinformation?

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EMERGENCY MANAGEMENT AGENCY



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Panel Questions

What is your biggest weather fear for your jurisdiction?

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Panel Questions

Which particular weather event type has the greatest effect on you?





Panel Questions

What are your primary sources of weather information?

Why?





Panel Questions

How often do you need a forecast update?

What forecast changes do you feel warrant an update?





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EMERGENCY MANAGEMENT AGENCY

Panel Questions

How much lead time do you require in non-severe warnings & advisories?

(i.e., freezing rain, wind chill, fire weather)



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Pennsylvania High Impact Weather Trivia

**Did this happen in Pennsylvania?
If so, where (and when)?**

pennsylvania
EMERGENCY MANAGEMENT AGENCY



EF-3 Tornado: Lyons, PA (Berks County) May 30, 1998



Wall Cloud: Allentown, PA (Lehigh County) June 30, 2015



Tsunami: Hawaii, 1946



Flooding: Easton, PA (Northampton County) June 29, 2006



Turnpike Accident: Lower Bucks County, PA February 14, 2014



EF-1 Tornado: Lawrence County, PA 2013



Heavy Snow: Terra Alta (Preston County, WV) 2010

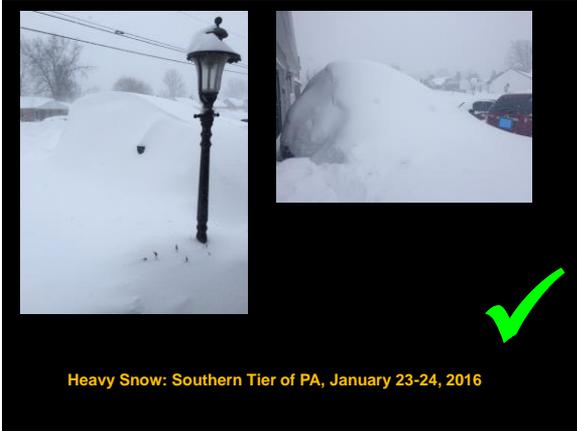


EF-2 Tornado: White Horse (Lancaster County) Feb 24, 2016





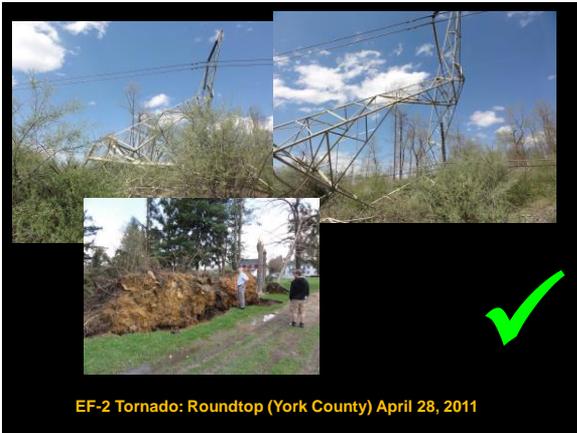


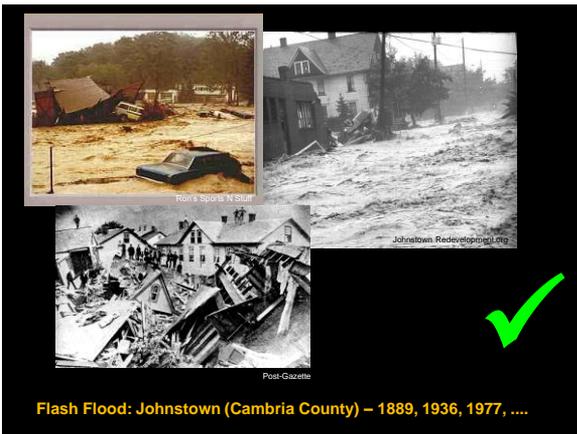


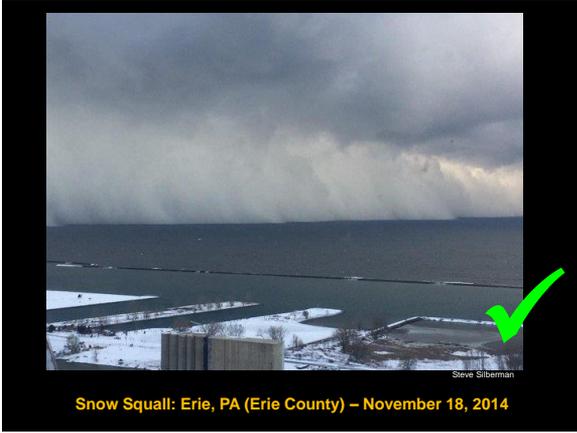












Snow Squall: Erie, PA (Erie County) – November 18, 2014

Weather Resources

Local National Weather Service Weather Forecast Offices are your primary point of contact for county specific weather and climate information.

- **National Weather Service – Binghamton, NY**
 - Bradford, Lackawanna, Luzerne, Pike, Susquehanna, Wayne and Wyoming counties
<http://www.weather.gov/bgm/>
- **National Weather Service – State College, PA**
 - Adams, Bedford, Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Columbia, Cumberland, Dauphin, Elk, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Lycoming, McKean, Mifflin, Montour, Northumberland, Perry, Potter, Schuylkill, Snyder, Somerset, Sullivan, Tioga, Union, York and Warren counties
<http://www.weather.gov/ctp/>
- **National Weather Service – Mounty Holly, NJ**
 - Berks, Bucks, Carbon, Chester, Delaware, Lehigh, Monroe, Montgomery, Northampton and Philadelphia counties
<http://www.weather.gov/phi/>
- **National Weather Service – Pittsburgh, PA**
 - Allegheny, Armstrong, Beaver, Butler, Clarion, Fayette, Forest, Greene, Indiana, Jefferson, Lawrence, Mercer, Venango, Washington and Westmoreland counties
<http://www.weather.gov/pbz/>
- **National Weather Service – Cleveland, OH**
 - Crawford and Erie counties
<http://www.weather.gov/cle/>



Weather Resources

Additional information can be found on rivers/hydrology through the River Forecast Centers:

- Mid-Atlantic River Forecast Center – <http://www.weather.gov/marfc/>
- Ohio River Forecast Center – <http://www.weather.gov/ohrfc/>

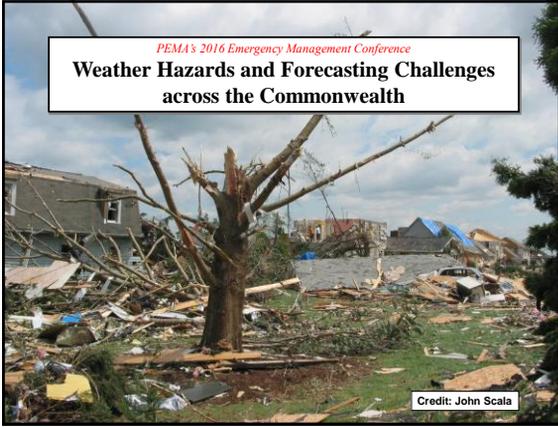


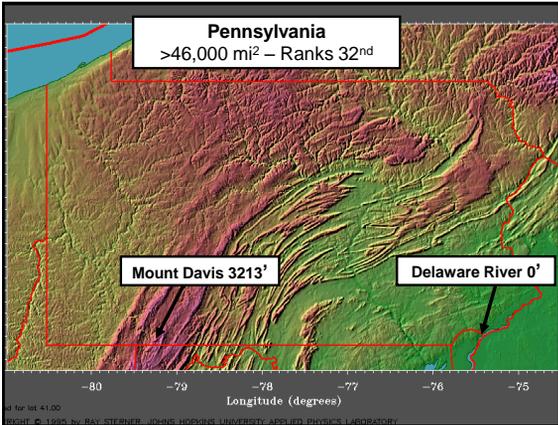
Additional information can be found on climate through the following resources:

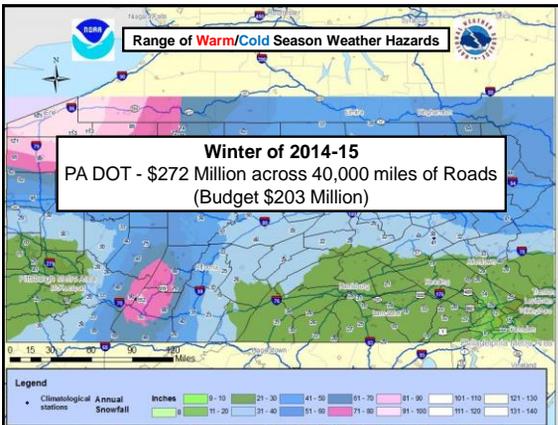
- **Pennsylvania State Climatologist**
 - <http://climate.met.psu.edu/> – Phone: 814-865-8732
- **National Centers for Environmental Information (NCEI)**
formerly National Climatic Data Center (NCDC)
 - <https://www.ncei.noaa.gov/> – Phone: 828-271-4800
- **Climate.gov**
 - <https://www.climate.gov/>

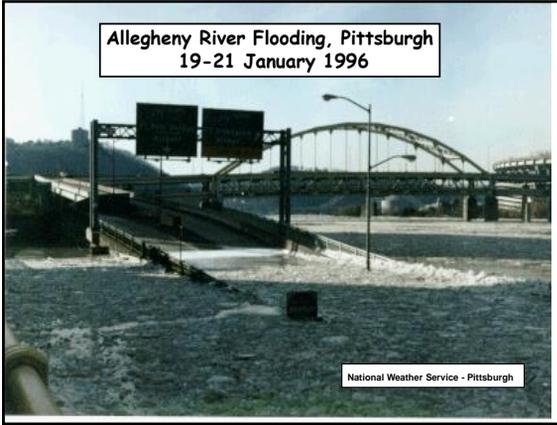
Additional weather information can be found through the following resources:

- **Storm Prediction Center** – <http://www.spc.noaa.gov/climo/online/>
- **National Hurricane Center** – <http://www.nhc.noaa.gov/climo/>
- **Flood Insurance Rate Maps (FIRMs)**
 - PA Department of Community & Economic Development – <http://www.pafloodmaps.com/>
- **FEMA Flood Map Service Zone** – <https://msc.fema.gov/portal>
- **Earthquakes, Energy, Soil, Water Use, Volcanos**
 - US Geological Survey – <http://data.usgs.gov/datacatalog>
- **Remote Sensing Data**
 - National Operational Hydrologic Remote Sensing Center – <http://www.nohrsc.noaa.gov/>

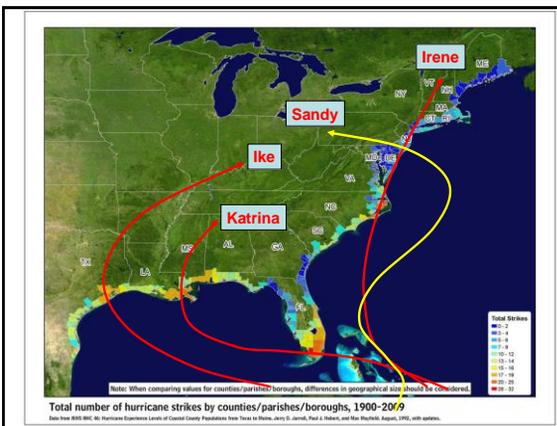


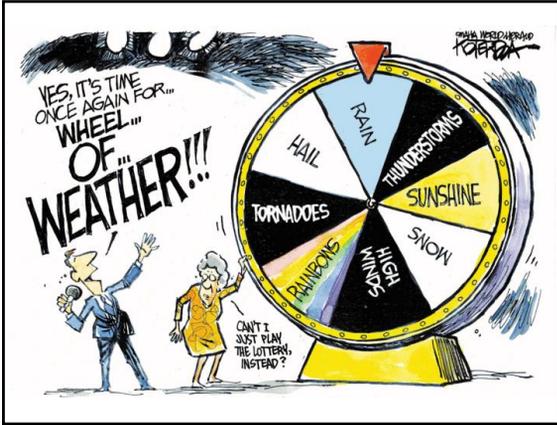


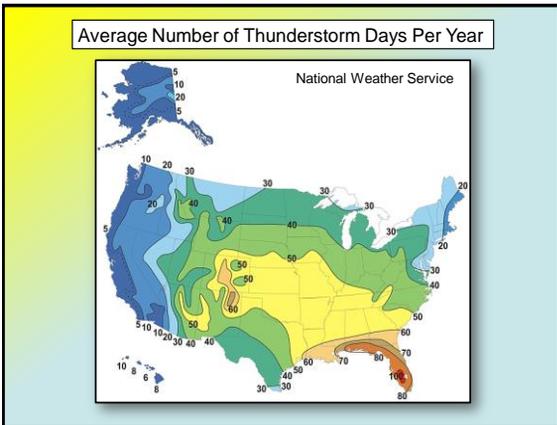


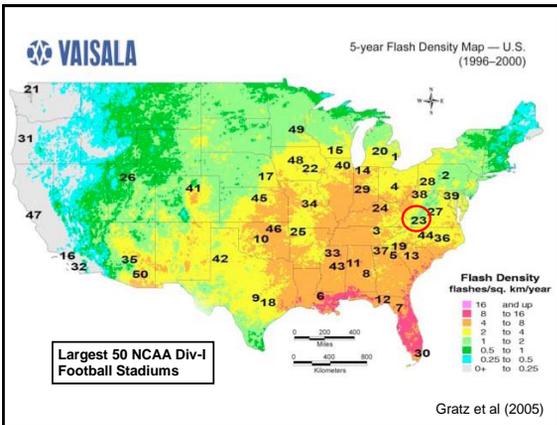












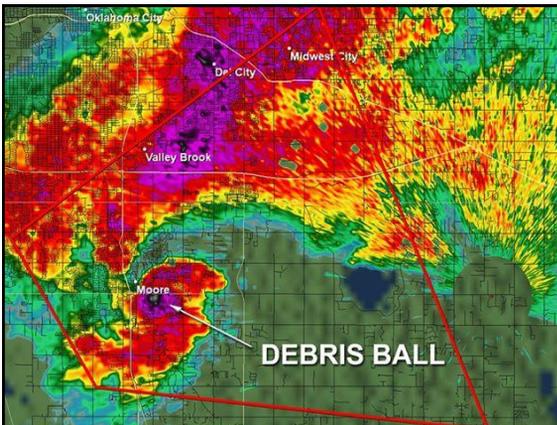


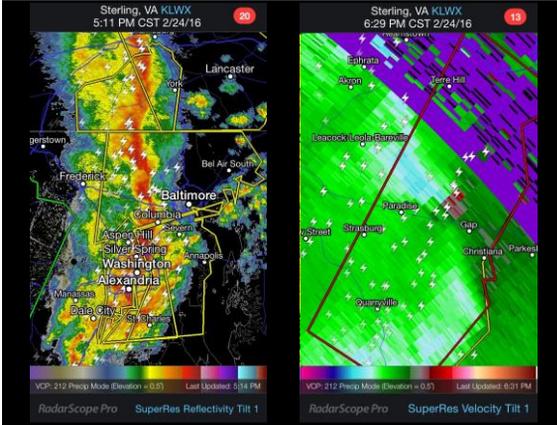














Numerical Weather Prediction

Global Models (operational)	Mesoscale Models (operational)	Ensemble Prediction Systems
CMC	AFWA MMS	CMC
ECMWF	NAM	ECMWF
NCEP GFS	CMC GEM	NCEP GFS
NOGAPS	RUC	NCEP SREF
UKMET		NOGAPS

Credit: John Scala

**Challenge of Conveying
Life-Threatening Weather Information**



- Pre-conditioning of response to severe weather
- Individual perception of risk and vulnerability
- Variable tolerances (human, physical, programmatic)
- Communicating range of impacts to diverse audience

Traffic jam - Moore, OK
May 20, 2013

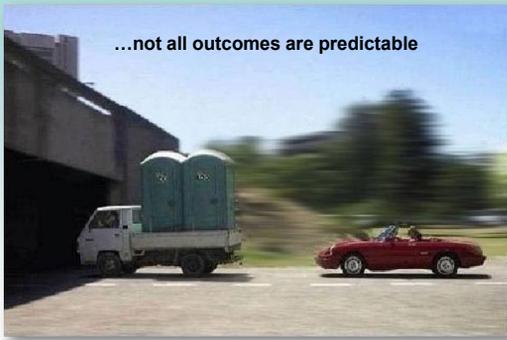
Smithville, Mississippi
April 27, 2011



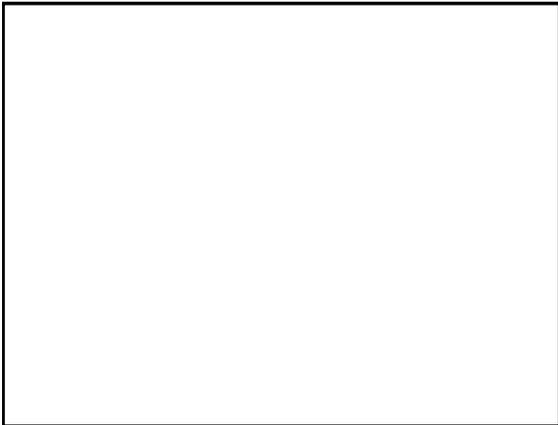
**"...providing more accurate forecasts may
not lead to rational decision making."**
Harold Brooks, National Severe Storms Lab

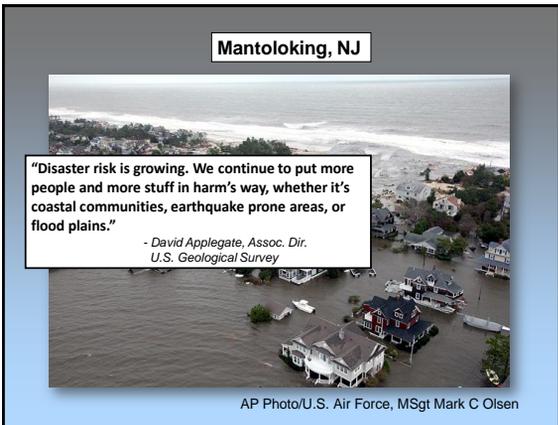
MS EMS/NWS MEM

Communicating Risk...









Kinzua Viaduct Bridge – constructed 1882, improved 1900...



... destroyed July 21, 2003



Credit: John Scala

S Annville Township
Healthy Hardwood
2.5 feet in Diameter



Credit: John Scala

