





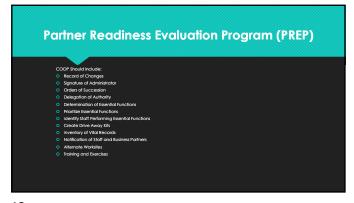




Partner Readiness Evaluation Program (PREP) PREP has moved back to Department of Health Senior Services' (DHSS)
 Office of Emergency Coordination (OEC) in the past couple of months. Lead Coordinator for PREP is now Tyler Bax O We are planning to have multiple LPHA's join either in person or virtual meetings soon to discuss current or future response plans with a focus towards Continuity of Operations Plans (COOP) initially.

Partner Readiness Evaluation Program (PREP) Continuity of Operations (COOP) plan COOP is to establish policy and guidance to ensure that essential functions for an agency are continued if manmade, natural, or technological emergencies disrupt or threaten to disrupt normal operations.

11 12



Partner Readiness Evaluation Program (PREP)

O COOP Plan Record of Changes

Publication Change History: All components of the COOP Plan should be reviewed, at a minimum, on an annual basis and any revisions should be made to all maintained copies and disseminated, as necessary. Changes made to the COOP Plan should be documented in the following Record of Changes.

WHEN? WHY? HOW?

WAS IT EFFECTIVE?

13 14

O The mission of the PREP in Continuity of Operations (COOP) planning is to utilize all available resources to maximize contribution to the overall continuity of operations response effort while assuring essential functions. O Following emergencies, disasters, or other events—deliberate, accidental, or resulting from natural events each agency/county is responsible to provide specific essential functions recognized in this plan.

COOP Activation

COOP plans should be activated when:

An incident occurs requiring relocation of any essential functions (building compromised)

Essential functions are significantly compromised

Staffing levets are significantly compromised (i.e. influenza pandemic)

Key partners are not available for normal operations

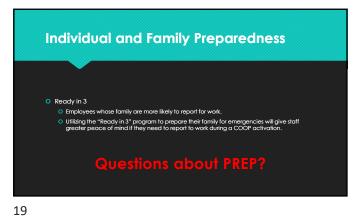
Essential systems are unavailable (power, water, information technology).

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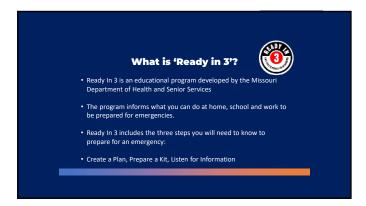
Staff During a COOP Using essential functions, determine which staff will be utilized during COOP to complete the essential functions, as well as their back-ups.

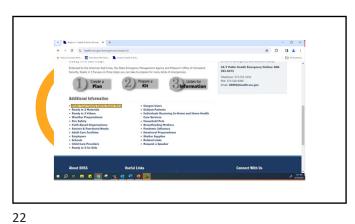
Return to Normal Operations

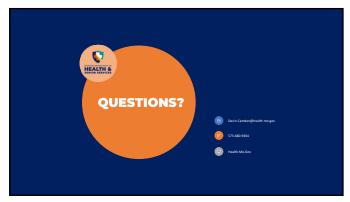
Surviving and or replacement organization personnel resume normal agency operations from the original or replacement operating facility.







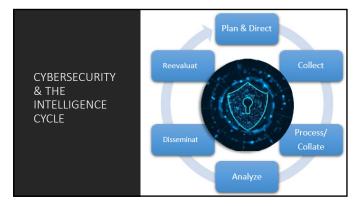














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Current Cyber Threats - Sophisticated cyber actors and nation-states exploit vulnerabilities to steal information and money and are developing capabilities to disrupt, destroy, or threaten the delivery of essential services.

Motives vary depending on which size of operation, and "backing" of operation (Nation States)

Security - Cyberspace is particularly difficult to secure due to a number of factors:

The ability of malicious actors to operate from anywhere in the world

The cat and mouse game - patching vs exploiting vulnerabilities.

Personal Security - We can't control who targets us, but we can control how much of a target we are.

Eving Marion Kauffman School reports ransonware incident in early May

| Ransas City's official velosite is back after it was drawn all six. What is a cyber started after employee clicked malicious file

| Ransas City's official velosite is back after it was drawn all six. What is a cyber started after employee clicked malicious file

| Accomption as you massive cyberattack started after employee clicked malicious file

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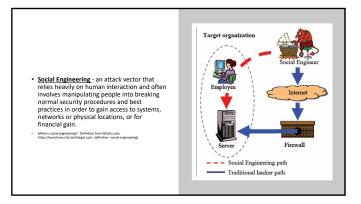
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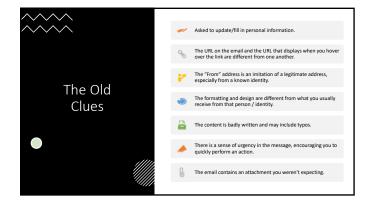
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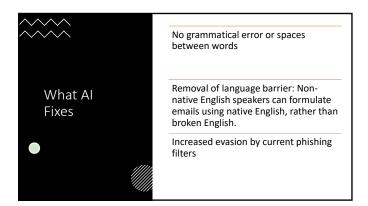


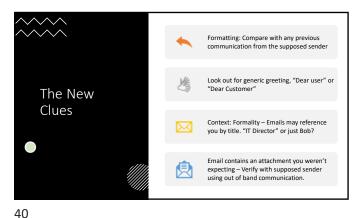


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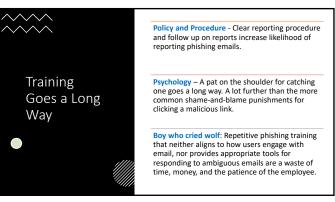








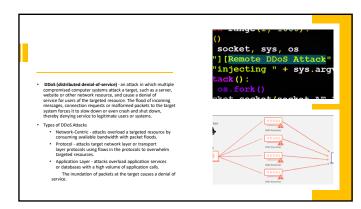
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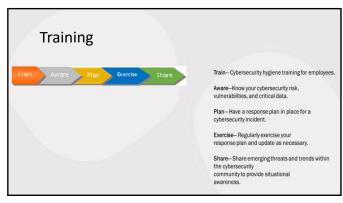
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Third Party Vendors

Why Managing Third-Party Cybersecurity Risk Matters

https://www.sagedatasecurity.com/blog/why-managingthird-party-cybersecurity-risk-matters

Why is third-party risk management
essential to cybersecurity?

Attackers know third parties hold many of the
keys to the enterprise network, so third-party
professionals.

https://searchsecurity.techtarget.com/feature/Why-is-thirdparty-risk-management-essential-to-cybersecurity

55 56



Basic CIS Controls

1. Inventory and Control of Hardware Assets
2. Inventory and Control of Software Assets
3. Continuous Vulnerability Management
4. Controlled Use of Administrative Privileges
5. Secure Configuration for Hardware and Software on Mobile Devices, Laptops, Workstations and Se
6. Maintenance, Monitoring and Analysis of Audit Logs

CIS Controls

Mitigate 85% of your Risk

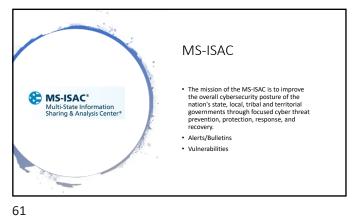
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Center for Internet Security*

 Organizational CIS Controls
 17. Implement a Security Awareness and Training Program
 18. Application Software Security
 19. Incident Response and Management
 20. Penetration Tests and Red Team Exercises

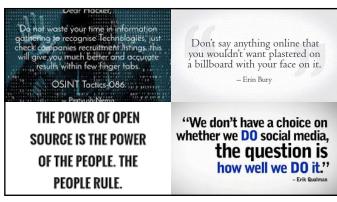
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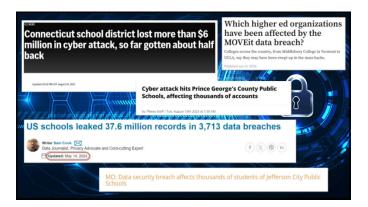




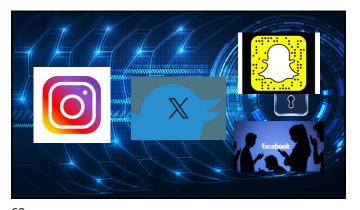








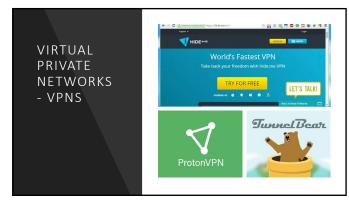






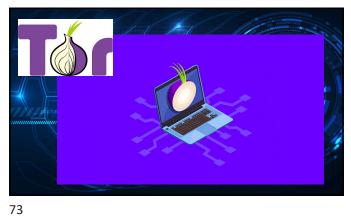
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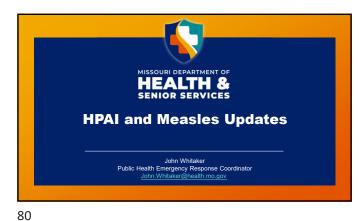










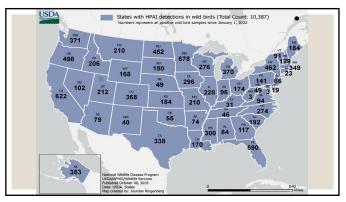


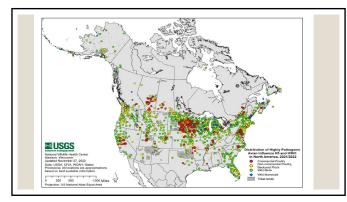


Bird Flu - A Brief History of H5N1

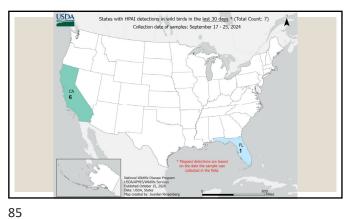
- 1959 H5N1 first identified in Scotland poultry outbreak
- 1997 First known human infection in Hong Kong
- 2003-2005 H5N1 reemerged in poultry in Asia; Spread to Africa, Middle East and Europe
- 2020 HPAI Clade 2.3.4.4b H5N1 discovered in Europe wild birds
- 2021 H5N1 first seen in North American wild birds
- 2022 USDA Poultry Response Began
- 2024 Dairy cattle infected (320 herds in 14 states so far)
- April 1, 2024 Dairy worker contracted H5N1 in Texas

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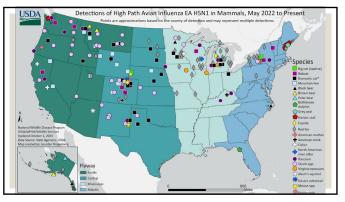


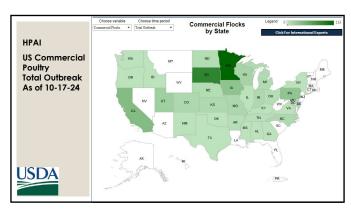


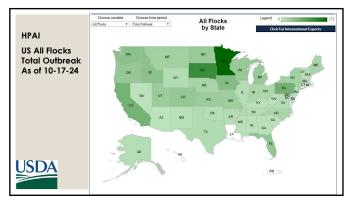
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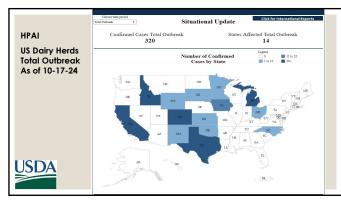




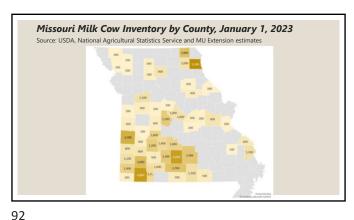












HPAI / H5N1 in Missouri

Missouri Poultry Affected since 2021:

- 26 Total Commercial and Backyard Flocks
- 605,029 birds
- Last Detection: February 23, 2024

Missouri Dairy Herds Affected:

• None as of October 17th, 2024

HPAI / H5N1 in Missouri

Missouri Human Case:

- One case as of 10-17-2024
- Identified through normal influenza surveillance at a hospital
- No known exposure to cows, poultry, or wild birds
- CDC sequencing confirmed H5N1
- Serology samples collected for antibody analysis

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Measles Update

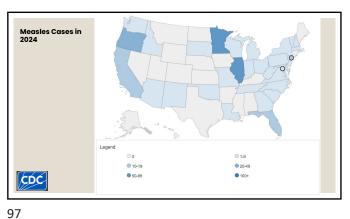
Characteristics:

- Highly infectious; Spreads airborne person-to-person
- Vaccination is highly effective in preventing severe disease
- Can linger and be infectious in closed spaces for two hours
- Can Cause severe rash, pneumonia, blindness, & encephalitis
- Case Fatality Rate:
 - 0.1% in developed countries
 - 15% in undeveloped countries

Measles History

- 9th Century: First written medical account
- 1912 Became nationally notifiable disease in US ~6,000/yr.
- 1950's Most children contracted Measles, and each year:
 - 400 to 500 people died
 - 48,000 were hospitalized
 - 1,000 suffered encephalitis (swelling of the brain)
- 1962 Vaccine developed
- 1978 CDC set goal to eliminate measles by 1981
- 2000 Measles declared eliminated in US

95 96



Measles Update

2024 Cases in US:

- 267 Total ; 40% hospitalized
- Age

98

100

- Under 5 years: 110 (41%)

- 5-19 years: 83 (31%) • 20+ years: 74 (28%)
- Vaccination Status
 - Unvaccinated or Unknown: 88%
 - One MMR dose: 7%
 - Two MMR doses: 4%

- 14 US Outbreaks in 2024:
 - Philadelphia, PA
 - Seattle, WA
 - Broward County, FL
 - Bay Area, CA
 - Montgomery County, OH
 - Twin Cities, MN
 - Chicago, IL
- > 1,200 cases in 2019

DHSS Measles / HPAI Exercises

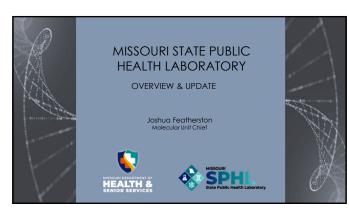
- Sept. Oct. 2024: Six Virtual Tabletop Exercises with LPHAs and DHSS Epi Staff
- · Lessons Learned / Outcomes:

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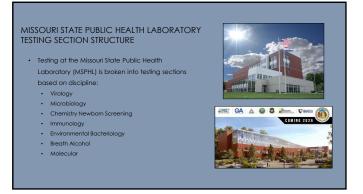
- State Epis are a good resource for information and
- Regional DHSS offices have a limited supply of specimen collection kits.
- The SPHL can analyze Measles and HPAI samples
- Case confirmation can take several days
- MDA is lead for farm HPAI outbreaks. Biosecurity concerns may prevent LPHA staff from visiting farms
- Public information requires coordination with state partners.







101 102



MOLECULAR TESTING OVERVIEW

Real-Time Polymerase Chain Reaction (RT-PCR)

Detects, amplifies, identifies, and quantifies target RNA/DNA

Exnasds wabs are tested for presence of influenza genetic material

Whole Genome Sequencing

Determines the genetic sequence of an organism's genome to gather additional information beyond identity

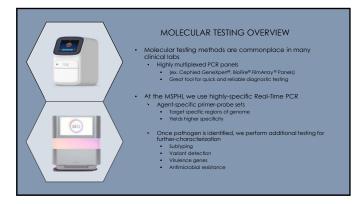
Exsequence influenza sample to identify any mutations that may confer antivial resistance

Advantages/Limitations:

Ropid results

High specificity

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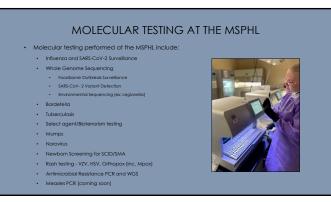
MOLECULAR TESTING AT THE MSPHL

The MSPHL Molecular Unit focuses primarily on two methodologies:

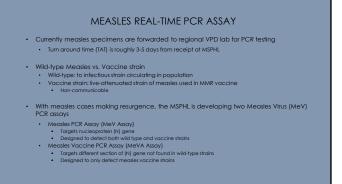
Real-Time Polymerase Chain Reaction (PCR)
Whole Genome Sequencing (WGS)

Specialize in molecular assay development, implementation, and testing:
Ebola (2014)
Tika (2014)
Molecular Newborn Screening (WGS) for foodborne outbreak surveillance (2018)
Mumps (2019)
SARS-CoV-2 PCR/WGS (2020/2021)

105 106



Bioinformatics and Data Processing
 WGS methods generate a ton of data
 WGS data must be analyzed using bioinformatics analysis techniques
 Without access to bioinformatics analysis, WGS data is unusable
 The MSPHL partners with the University of Missouri's Department of Biomedical Informatics, Biostatistics and Medical Epidemiology (BBME)
 Through partnership, BBME provided bioinformatics services/support to MSPHL
 initing a source for bioinformatics is a barrier for many SPHLs and partnership creates opportunity for future WGS applications



MEASLES RT-PCR ASSAY

Two-assay testing algorithm allows for rapid distinction between wildtype infections vs. vaccine strain

Expedites epidemiology's disease investigation

Ability to identify a meastle infection as vaccine strain minimizes need for public health response

Assay defails

Requires state epidemiologist consultation prior to testing

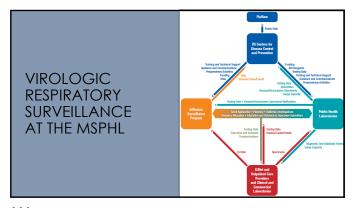
Specimen types accepted

Respiatory swab (collected within 1-10 days of

Utine (collected within 4-10 days of onset)

Live Fall 2024

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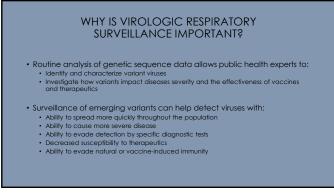


RESPIRATORY VIRUS SURVEILLANCE

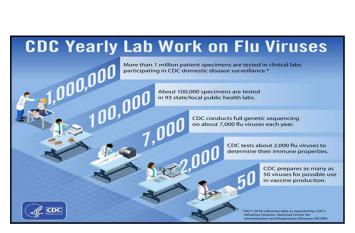
- MSPHL partners with CDC for virologic respiratory surveillance
- Influenza
- SARS-CoV-2

- Purpose:
- Track which viruses are circulating throughout the state
- Monitor for novel variants
- Situational awareness of circulating awareness of circulating seasonal influenza viruses
- Antiviral resistance testing
- Annual vaccine strain selection
- Antigenic and genetic characterization

111 112



VIROLOGIC RESPIRATORY SURVEILLANCE AT THE MSPHL Subtyping performed on influenza A influenza A positives to identify potential variants positives failing to Subset of Genotyping performed on influenza B Specimens received on the CDC CDC for further at MSPHL Influenza/SARS-CoV-2 assay positives and testing WGS performed on SC2 positives







ACKNOWLEDGEMENTS

- CDC Measles (RT-PCR Assay for the Detection of Measles Virus RNA in Clinical Samples. Version 3.0. 8/20/2021.

- Hummel et al., J. Virol. Methods. 132(1-2) 2006 p166.

- Nestibo, Lindsay, et al. "Differentiating the Wild from the Attenuated during a Measles Outbreak." Pacelarities & Child Health, vol. 17, no. 4, 1 Apr. 2012, pp. e32-e33, www.ncbi.nlm.nig.gov/pmc/articles/PMC3381670.

- Influenza Virologic Surveillance Right Size Roadmap, 2^{rul} Ed. Brammer et al. Centers for Disease Control and Prevention, Association of Public Health Laboratories. October 2022.

- CDC. "Influenza Virus Genome Sequencing and Genetic Characterization." Influenza (Flu), 2024, https://www.cdc.gov/flu/php/viruses/genetic-characterization.html@CDC_AAref_Val=https://www.cdc.gov/flu/about/professionals/genetic-characterization.htm

- University of Missouri's Department of Biomedical Informatics, Biostatistics, and Medical Epidemiology

- The magnificent Molecular Unit at the Missouri State Public Health Laboratory!

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28/10/2024







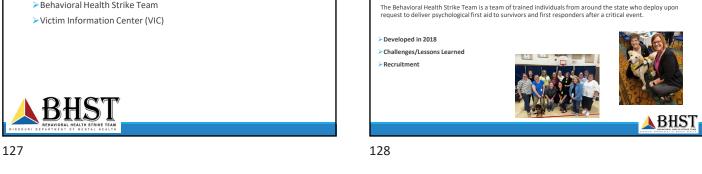


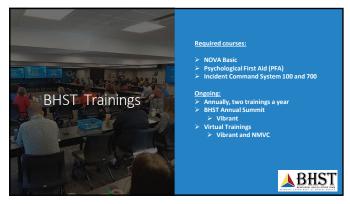












Specializations VIC (Victim Information Center) Children Mass Violence Natural disasters Repatriation St. Louis Pilot Others

MO Behavioral Health Strike Team (BHST)

129 130





131 132









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Beckie Gierer Alyssa Backes
Director, Office of Disaster Services MO Department of Mental Health
Beckie Gierer@dmh.mo.gov
573-751-8136 Follow ODS
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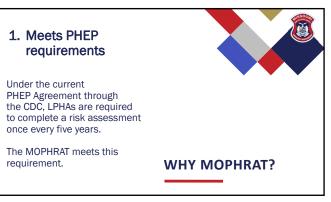




 MOPHRAT helps Local Public Health Agencies (LPHAs) "Risk is the product of · Guides planners through a quantitative analysis of various the expected natural and man-made hazards severity of an event and · Considers the services provided by LPHAs and the local the probability healthcare system that the event · Aids in data-informed decision making during the planning will occur." **MOPHRAT PROGRAM OVERVIEW**

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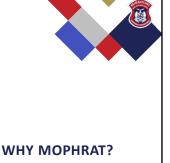


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2. Tailored to public health

The MOPHRAT is tailored to the needs of LPHAs. Other assessment tools focus on healthcare/hospital systems or emergency management.

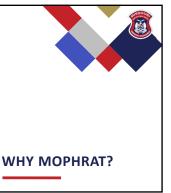
The MOPHRAT bridges the gaps between tools to aid in public health-specific planning.



3. Plug-and-play (mostly)

Most of the data has already been compiled for you and ease of use, including Missouri-specific hazards based on actual events.

LPHAs can also enter their own hazards and data into the tool, making it customizable.



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4. Reach at-risk populations

Emergency planners need to know how to identify, locate and reach affected groups in an emergency.

The MOPHRAT identifies at-risk populations, helping planners develop strategies to meet needs during disasters.



WHY MOPHRAT?

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MISSOURI RISK ASSESSMENT STATISTICS FISCAL YEAR KAISER PERMANENTE MOPHRAT OTHER 2019 1 -- THIRA 63 N/A 2020 2 2021 13 2 2022 4 2023 12 2024 24 2 1 2025 26 Counties have selected Capability 1 on their yearly work plans, with completing a risk assessment as a planned

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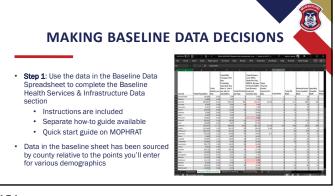


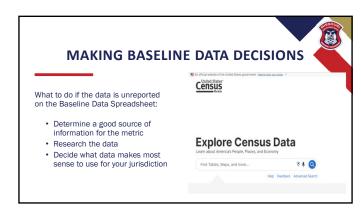
COMMON **QUESTIONS AND CONCERNS**

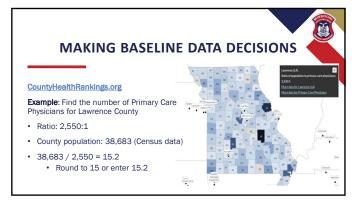
- · What data should we use?
- · Who can help with additional data?
- What if our county doesn't have a
- Why didn't our analysis work and graphs/ratios tabulate?



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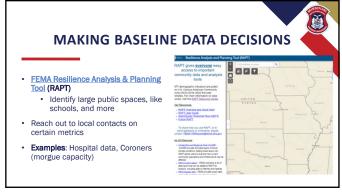


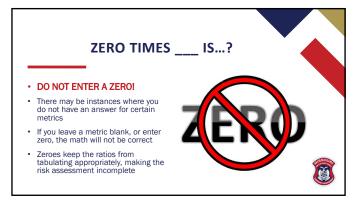


Health Resources & Services Association (HRSA) data.hrsa.gov.

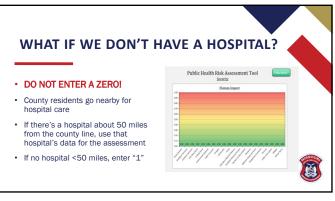
• Area Health Resources Files
• Types and numbers of clinicians
• Can search by M.D. and D.O., primary care, and combine numbers
• Example: Lawrence County has 19 M.D.s and 3 D.O.s, totaling 22

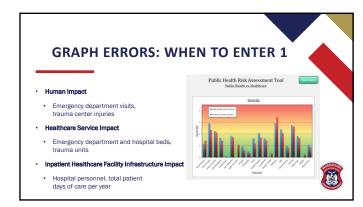
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HAZARD
WORKSHEETS:

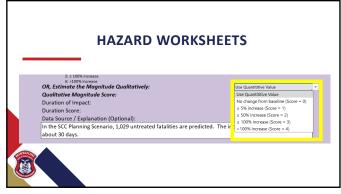
QUALITATIVE VS.
QUANTITIATIVE

Step 2: Review and complete
Hazard Worksheets

Quantitative: Entering a number

Qualitative: Descriptive data drop-downs
Baseline change percentage
Length of impact

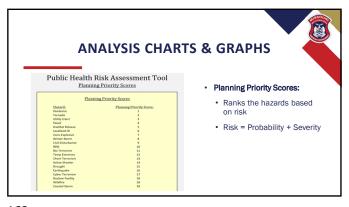
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HAZARD WORKSHEETS

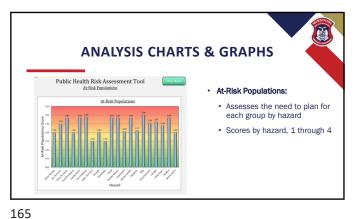
2.4.100% Increase
2.100% Increase
2.100% Increase
3.100% In

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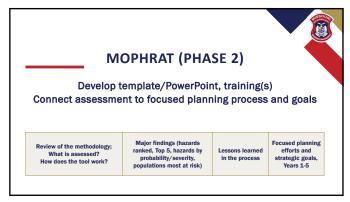
ANALYSIS CHARTS & GRAPHS Public Health Risk Assessment Tool · Severity Charts: • Scores by hazard, 1 through 4

163 164



OTHER TIPS & TAKEAWAYS · Use a consistent file naming convention Start the process with determining baseline o Year/County/Jurisdiction · Don't get overwhelmed or in the weeds o Example: 2023 Cedar County Reach out for one-on-one technical Submit your completed risk assessment · Allow yourself time to work on this toward Add your agency logo and/or name in the top right corner of the MOPHRAT spreadsheet Not a one and done: work on it in intervals Hazard Worksheets may take some time; some more than others

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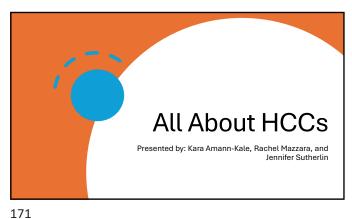




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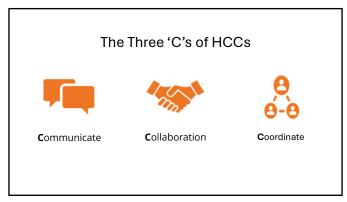




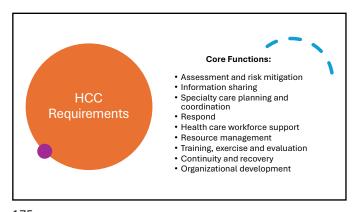
• "An HCC is a network of individual public and private health care and response organizations in a defined geographic location that partner to conduct preparedness activities and collaborate to ensure that each member has what it needs to respond to disasters and emergencies." What is a Healthcare Core Capabilities Coalition? • Foundation for Health Care and Medical Readiness • Health Care and Medical Response • Continuity of Health Care Service Delivery • Medical Surge

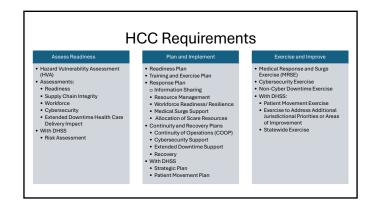
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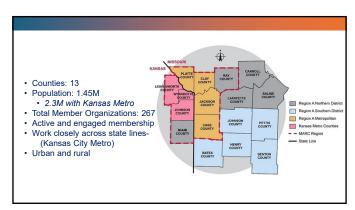






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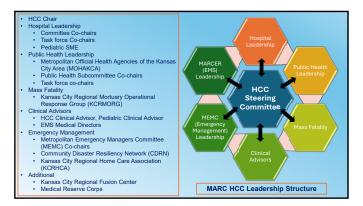
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PSC BOARD MID-AMERICA HEPA MARC RHSCC Circle of Friends RAPIO

ASSOCIATION OF THE ASSOCI KCAMSC USAS CITY AREA MAIN SECURITY The MARC Health Care Coalition exists as the health and medical arm of the Regional Homeland HOSPITAL Security Coordinating Committee. This structure allows collaboration and coordination across disciplines and agencies to ensure inclusive planning and response.

182



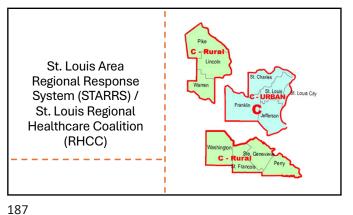
Missouri Healthcare Coalition ESF8 Emergency Prepare Facilitated by Missouri Hospital Association • Counties: 92 · Population: 2,476,639 • Total Member Organizations: 426 Mission: To connect and support health and medical communities through enhanced emergency preparedness and resiliency Vision: The HCC is the recognized leader in coordination, collaboration and communication for healthcare emergency management.

183 184

· Structure Nonurban Missouri HCC Board • 20 members (4 from each region) Missouri · Provides oversight, guidance and policy for HCC and Healthcare • 5 regions Regional meetings with HCC members - standardized Coalition portions of meetings ESF8 · Newsletter and other information sharing to entire membership for consistent communication Emergency Committees **Preparedness** · Composed of members from all regions and disciplines Staff Alliance 5 staff members (funded at some level to support HCC) Clinical Advisor (also regional liaison) Liaison for each region (some cover multiple regions)



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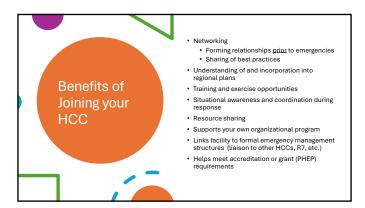
• STARRS is a non-profit designed to increase regional preparedness across the region. Primary funding from STARRS **STARRS** comes from the Urban Area Security Initiative (UASI) • The UASI region consists of the Urban Counties of Region C as well as Monroe, Madison, and St. Clair Counties in IL. • The RHCC is a branch of what STARRS does for Region C

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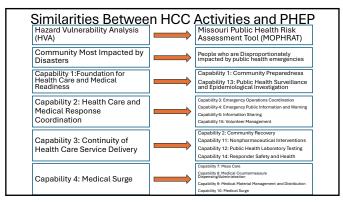
St. Louis Regional **Healthcare Coalition**

- The RHCC Represents both the urban and rural parts of Region C
- · Comprised of 5 Subcommittees:
- Healthcare Providers (hospital, FQHCs, etc)
- Public Health
- Mass Fatality
- Emergency Medical Services (EMS)
- Emergency Management
- Interface with STARRS for regional projects and training and exercise





190 189





191 192



Our health department is a strong supporter of the Missouri Healthcare Coalition and the governing board for one simple reason: collaboration! We look at the ability to work with likeminded individuals and entities from a related industry as vital in our response protocols as it is always comforting to realize you've got help in the emerging situation and they are one phone call away! Plus, the networking for non-emergency situations is irreplaceable!"

- Public Health Emergency Planner in the MO HCC

Testimonials –
Public Health

Tender Health

Our relations beneficial for response and HCC provide for our well-for supplies efforts aroun collaboration region. Our reservices avail not be aware I mentioned the endured. Ho good working ensures we a disaster.

- Public Health

Our relationship with the HCC has been beneficial for us as we navigated COVID-19 response and a tornado in our county. The HCC provided resources, as well as concern for our well-being. They provided guidance for supplies and updates on the response efforts around the state. Our HCC is a collaboration of many agencies in our region. Our meetings allow us to learn of services available in our area that we may not be aware of.

I mentioned two events that our county endured. However, we are grateful for a good working relationship with the HCC that ensures we are prepared to respond to any disaster.

- Public Health Administrator in the MO HCC

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Testimonials —
Public Health

Testimonials —
Public Health

Public Health

I find participating in the Southeast Region of the Missouri Healthcare Coalition very rewarding – offering several benefits.

Networking and collaborating with professionals across various entities can lead to new partnerships and opportunities. By sharing our experiences and best practices we have helped each other identify effective strategies and solutions with common issues. The coalition offers learning opportunities to assist in gaining insights into new trends, research and innovations in healthcare. Working collectively has led to more significant improvements in health outcomes in our respective communities.

By participating, you contribute to a larger mission and can help drive meaningful change in your community.

- Public Health Administrator in the MO HCC

Testimonials – Public Health

194

Participation in the HCC has helped form valuable relationships with local and regional healthcare organizations, along with the Missouri Hospital Association. It also allows our organization access to communication systems, training, and exercises. This access aids with planning, information sharing, and resource coordination and is what helps keep us actively involved in the HCC.

- Emergency Preparedness Planner in MO

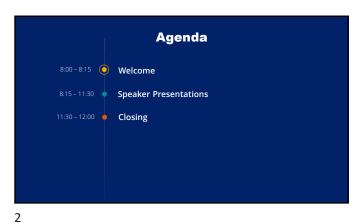
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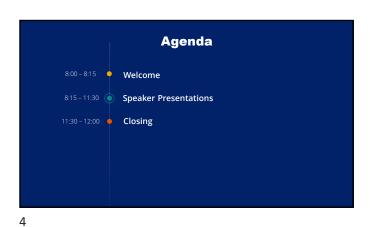
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Fall Preparedness Summit Day 2 Begins @ 8:00am





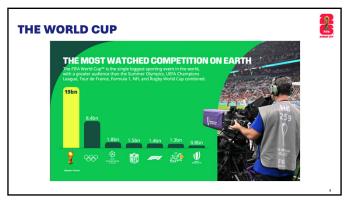


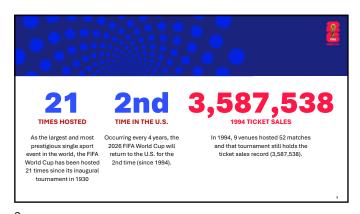








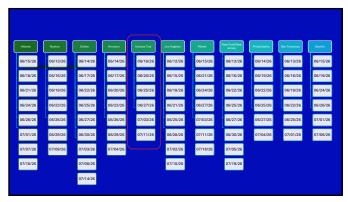






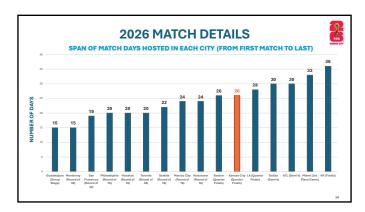
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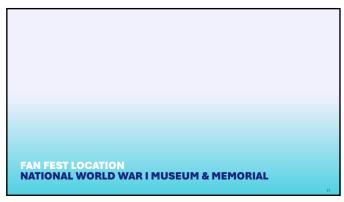






COMPETITION VENUE: ARROWHEAD STADIUM **OVERLAY** TICKETS + HOSPITALITY SPONSORS + CLEAN Fans can pre-register for FIFA World Cup 26 ticket information at FIFA.com/tickets Temporary infrastructure will Sponsorship limited to FIFA differ dramatically from typical Arrowhead setup Commercial Partners Host Committee responsible for Pre-registrations for hospitality package information are also available on FIFA.com/hospitality Bus loading and staging ensuring FIFA brand is protected mile around stadium Pedestrian queuing No branding other than FIFA and Commercial Partners allowed Security perimeter and Broadcasting compound Media tribune Hospitality village

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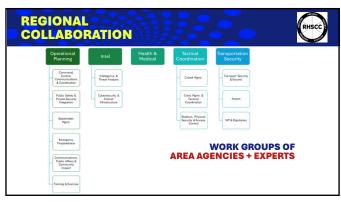


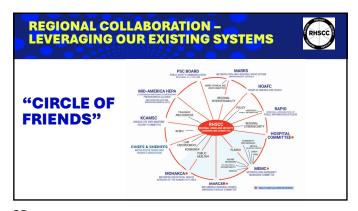




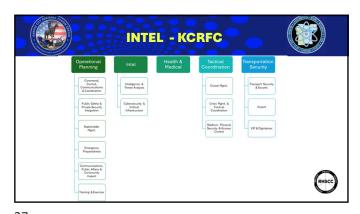


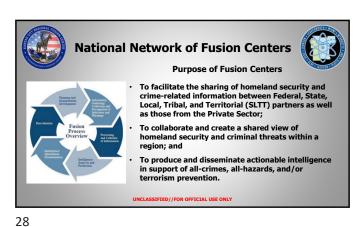






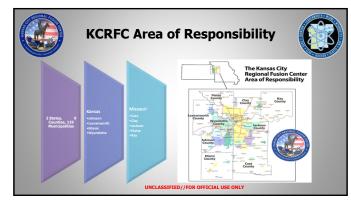






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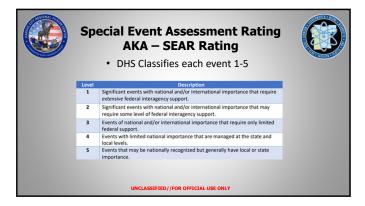




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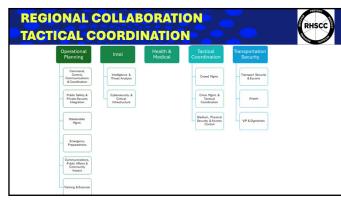


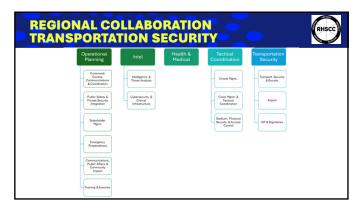


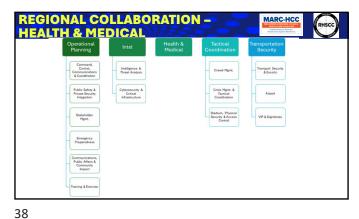


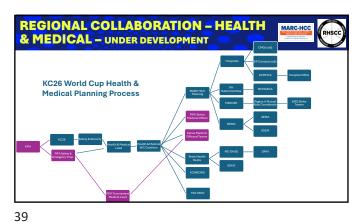


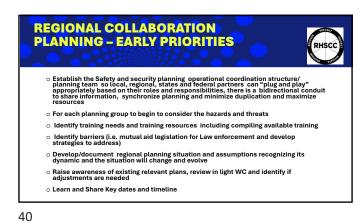












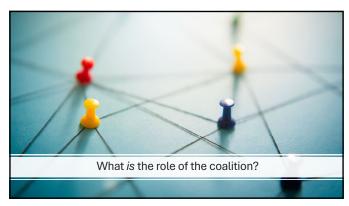


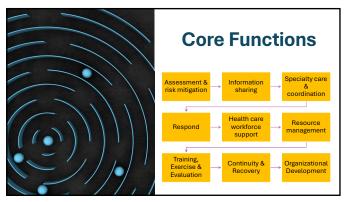






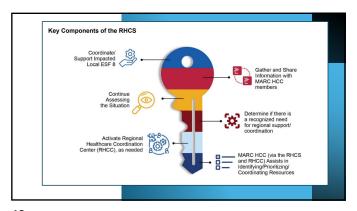






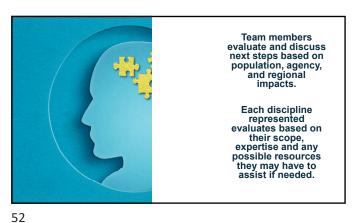
'HCCs collaborate to ensure each member has what it needs to respond to emergencies and other events, including medical equipment and supplies, realtime information, communication systems, and educated and trained health care personnel in the event of an emergency,' (ASPR).

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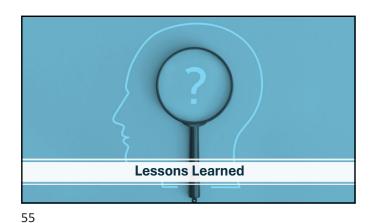
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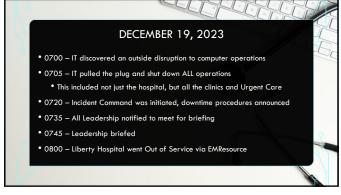
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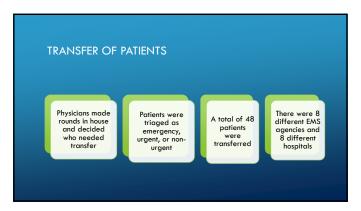


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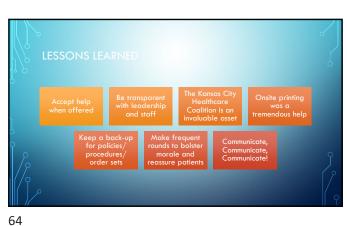


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