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Health Tackling Conference April 21, 2005*

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*Database Inventory and Partnerships:
Nevada Experience*

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FOCUS

How we accomplished or completed the data inventory activity?

Who did what and when?

What did we find? Or

What was the final result?

Was it worth it ?

Brief History

- Why we had to do this activity
- What are the benefits of evaluating existing data systems?
- Who will analyze the information collected?
- What is next? after we complete this activity?

Process

As with any other data collection projects we started with:

- Defining the problem or issue
- Learning from CDC, neighboring state programs' experience, and national partners
- Consulting with our state and community partners
- Creating definitions
- Creating data collection form/s or survey
- Piloting the survey.
- Collecting the data.
- Analyzing the data.
- Reporting & Representing our findings.

Nevada Planning Consortium (NPC)

includes several public and environmental health experts
and

- ❖ Health care providers and professionals
- ❖ Environmental scientists
- ❖ Environmental engineers
- ❖ Chronic disease prevention, early detection, treatment and control specialists
- ❖ Epidemiologists
- ❖ Biostatisticians
- ❖ Social workers
- ❖ Health educators
- ❖ Policy makers
- ❖ Health advocates
- ❖ Demographers
- ❖ Data and surveillance Experts
- ❖ IT staff
- ❖ Other

Questions

How to and **what** is the best way to accomplish this CDC-required activity in a

- Practical (doable)
- Time efficient
- Cost effective
- Useful manner
- Impacts the surveillance and community health positively

for our EPHT program, community stakeholders and national partners?

Data Systems Inclusion Criteria

- Directly or indirectly associated with or related to:**
 - Health outcomes (chronic and non-infectious diseases and conditions)
 - Environmental hazards in (air, soil, water, and food)
 - Exposures to these hazards or bio-monitoring data
- Potential to serve the needs of the:**
 - EPHT Program
 - Community partners - Data Owners
 - Neighboring states
 - National EPHT network
- Additional data sets**
 - Population demographics
 - Geographic data GIS
 - Ionizing radiation
 - Public policy databases

How did we identified (systems)?

Geographic location

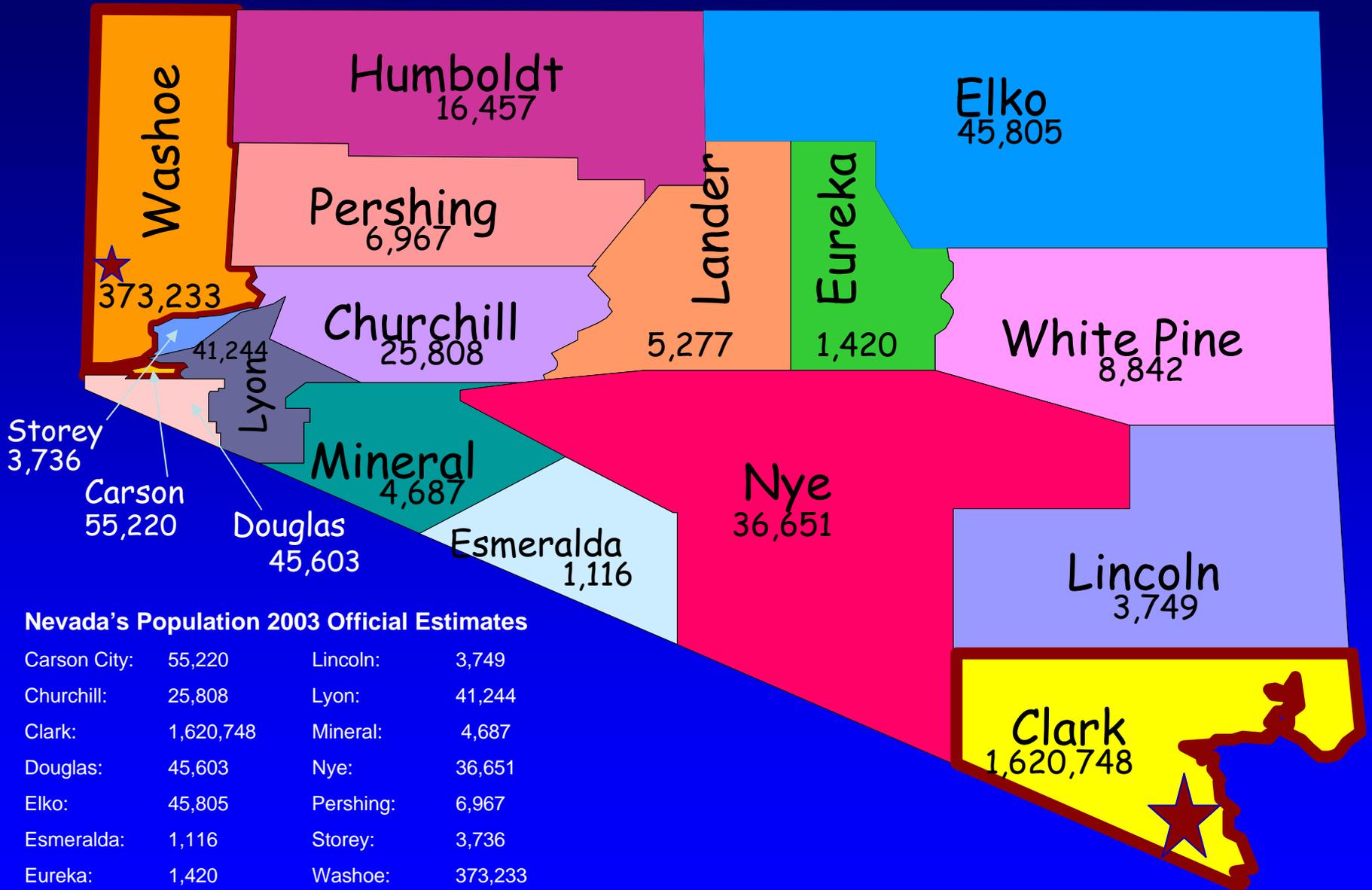
- **North** (Reno 20%) - **South** (Las Vegas 70%)
- **Urban** (Clark, Washoe , and Carson) - **Rural** (Douglas, Elko, Lyon, Storey and Churchill) - **Frontier** (9/17 counties)

State level, limited geographic unit county, city or specific community

Agency Type or Profile

- **State** (Health Division, Nevada State Health Laboratory, Division of Environmental Protection, Health Planning and Vital Statistics, Information Technology etc.)
- **Public** (university, county health districts, hospitals, schools, etc.)
- **Private for Profit** (private labs, hospitals, etc.)
- **Nonprofit** (ACS, ALA, AIDA)

2003 Estimated Population Distribution By County



Nevada's Population 2003 Official Estimates

Carson City:	55,220	Lincoln:	3,749
Churchill:	25,808	Lyon:	41,244
Clark:	1,620,748	Mineral:	4,687
Douglas:	45,603	Nye:	36,651
Elko:	45,805	Pershing:	6,967
Esmeralda:	1,116	Storey:	3,736
Eureka:	1,420	Washoe:	373,233
Humboldt:	16,457	White Pine:	8,842
Lander:	5,277	State Total:	2,296,566

Approach

How data was collected?

Methods used

• Created a multi-tier comprehensive Database Assessment Survey IN COLLABORATION WITH NEW MEXICO PROGRAM – Ms. GINA ARANDA

• Completed (face to face, paper and pen, online survey, and telephone)

Data collected in each survey

- Evaluate the potential of prospective data system Phase I
- Identify the usefulness of the data systems Phase II

Field tested the survey

Implemented data collection

Multi-Tier Database Assessment Survey

(ADOPTED FROM THE NEW MEXICO PROGRAM – Ms. GINA ARANDA)

- **Phase I (Identify perspective databases)**
 - Part A – General Information (what/where)**

- **Phase II (Evaluate Usability)**
 - Part B - Additional Information – Content**
 - Part C - Demographic Information**
 - Part D - Usage and Quality**
 - Part E - Technology**

- **EPHT program staff developed short presentation to:**
 - Explain the process and the rationale behind this data collection activity
 - Educate database owners about the value of partnering with the EPHT and understanding potential benefits for their agencies

Who had access to complete the survey ?

- ❖ EPHTS staff
- ❖ Consortium members
- ❖ Community Partners
- ❖ Data Owners

All collected questionnaires were reviewed for completeness by:

- Kathleen Fox-Williams, BS, MS NV. Division of Environmental Protection
- Edward Foster, Environmental Scientist, NV. Department of Agriculture
- Randel Stevens, PhD NV. Department of Information Technology
- Maryanna Moyer, BS NV. Health Division
- Miki Yamaotchi, MPH, University of Nevada, Reno

Assessment and Characterization

□ Each available data system was evaluated for:

❖ **Completeness**

❖ **Accessibility**

❖ **Validity**

❖ **Reliability**

❖ **Link-ability with other networks, data systems and the EPHTN**

❖ **Confidentiality**

❖ **Sustainability**

**After 20 months completed
assessment and characterization
of 221 database and systems**

Results

- No data system met all our criteria
- Most of the data systems were incomplete or inadequate (i.e. hospital discharge and emergency department data)
- Except for few data sources (i.e. census data, and air quality) most of the data systems that partially met the criteria were in the area of health outcomes or public health (i.e. cancer registry, BRFSS, vital records, and birth defects data)
- Very few exposure data systems were identified
- Very few environmental data systems that were potentially useful met the criteria

Results

- **Most of the existing environmental hazards data was not ongoing and had term limits 2 or 3 years**
- **Most of the environmental data systems were particularly designed to collect data for financial, legal, regulatory and ecological purposes**
- **Except for the environmental, health determinants data (i.e. behavioral, social, policy , etc.) was of adequate quality**
- **Socio-economic data was identified from the Demographic Center at the University of Reno**

Findings-Outcomes- Lessons Learned

- Most of the systems collected data at the state level
- County or community data was lacking
- Hospital discharge data, urgent care centers, and emergency room data had excellent potential to be part of the EPHTS network health outcome data
- Opened communication channels with data owners
- Built strong relations with community partners
- Most of the existing data system lacked adequate staffing and funding
- Plans to enhance environmental hazards and exposure data
 - School of public Health
 - Division of Environmental Protection
 - Department of Agriculture
 - Nevada State Health Lab

Findings-Outcomes- Lessons Learned

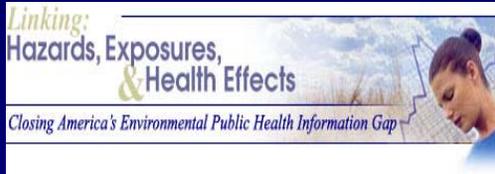
- Don't have high hopes to discover the most perfect data sets because most probably they don't exist
- Very few "good" sets were identified
- Spatial data and geographic unit data was lacking
- We have a lot of work to do
- EPHT can assist in the enhancement of existing ongoing data systems
- Involving community partners in early stages is essential to design and facilitate the process
- Accurate evaluation for the community capacity and identified gaps and priorities

Findings-Outcomes- Lessons Learned

- **Applying the knowledge gained from this activity will shape future plans and activity**
- **Linking disparate data sets (i.e. hospital discharge and air quality data) is possible**
- **This activity influenced and facilitated all other program components (education, partnerships, surveillance etc.) and helped the program identify and collaborate with nontraditional partners**
- **Most of the databases were initially created to serve owner's purposes. However, several databases could be potentially very useful for the EPHT Program**
- **Data owners/administrators and agencies identified are natural partners for the EPHTS program**
- **It is essential to support data owners and provide adequate funding and technical assistance for community partners**
- **Additional efforts are required to improve county and community level data collection**
- **This activity showed us which data set, topics and data elements are important and relevant for our community partners**

Conclusion

- ✓ Provided the EPHT program a great and spontaneous start to fit in and blend with existing chronic disease surveillance, and tracking systems
- ✓ Helped identifying appropriate partners and nontraditional partners to address difficult data and novel issues
- ✓ Helped recognizing mutual benefits of coordination among traditional non traditional partners
- ✓ Indicators project enhancement



State of Nevada Environmental Public Health Tracking System Bio-Surveillance Database Assessment Survey

Part A General Information

Background: The need for a national environmental public health tracking surveillance network was documented by the *Pew Environmental Health Commission* in its January 2001 report *America's Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network*. The "gap" that this report describes is the lack of basic information that could document possible links between environmental pollutants, chronic diseases, and other diseases. The *Pew* report also indicates that the nation's preparedness against biological and chemical terrorism and underscores the need for a strong tracking infrastructure that can rapidly detect and respond to disease outbreaks associated with terrorist acts. Thank You for participating in this Survey. Visit us at our Website at <http://health2k.state.nv.us/ephts/> to learn more about the Nevada Environmental Public Health Tracking System.

Date: _____

Interviewer (if present): _____
(provide name)

Name of interviewee: _____
(provide name)

Interviewee contact information: _____
(phone number) (additional phone number) (e-mail address)

Database owner name: _____
(division / department / private)

Physical database location : _____
(building / area of state)

Database manager: _____
(provide name)

Manager contact information: _____
(phone number) (additional phone number) (e-mail address)

Name of database: _____
(provide name if exist, note if a registry)

Approximate number of records: _____

Database updated ? _____
(intermittent / weekly / monthly / yearly / not at all)

What is this database used for? _____



State of Nevada Environmental Public Health Tracking System Bio-Surveillance Database Assessment Survey

Part B Additional Information

Date: _____
(mm/dd/yy)

Name of interviewer *(if present)* _____
(please provide first and last name)

Name of interviewee: _____
(please provide first and last name)

Database content description: _____

Please list existing legislation that affects the collection, integration or sharing of data within the database. _____

What is the geographic coverage of the dataset *(use additional area if explanation needed)* ?

- a. Entire State of Nevada _____
- b. Nevada plus another region _____
- c. County / Counties (please list) _____
- d. Quadrant (please identify) _____
- e. Other _____



State of Nevada Environmental Public Health Tracking System Bio-Surveillance Database Assessment Survey

Part C Demographics

What is the smallest geographical unit identified in the dataset? *(please circle those that apply, if not listed use space provided)*

- a. Census tract c. City block b. Geocode d. Street address e. Zip code
f. Zip code + 5 digit g. Zip code + 4 digit h. Hydrologic unit code I. River / stream section j. Aquifer
k. Universal translocation system
-

Other *(please specify)*

What is the source of the data? *(please circle those that apply, if not listed use space provided)*

- a. Personal interviews b. Monitoring station c. Lab records d. Clinical visits e. Hospital admissions
f. Census g. Research h. Health Agency i. Emergency room visits j. Questionnaire / survey
k. Insurance records l. Required Reporting m. Registry *(specify)* n. Inventory *(specify)*

Other *(please specify)*

What is the approximate earliest collection date in the dataset?

What is the latest collection date in the dataset? *(note if ongoing)*

How often are the measurements taken? *(please circle, if not listed use space provided)*

- a. Near real time b. Weekly c. Daily d. Hourly e. Monthly
-

Other *(please specify)*

What is the sampling method? *(please circle, if not provided use space provided)*

- a. Random b. Probability sampling c. Syndromic (i.e. cpt, idn) d. Purposive



State of Nevada Environmental Public Health Tracking System Bio-Surveillance Database Assessment Survey

Part D Usage and Quality

Who are the principle users of the data? *(please describe in the space provided below)*

What is the principle use of the database? *(please describe in the space provided below)*

What characteristics should be noted about the quality of the data? *(i.e. gaps in datasets, limitations, collection, estimations etc.)*

What permission is required to use the data? *(please describe in the space provided below)*

Please provide examples of the dataset: *(please associate field names to the name of elements being measured or recorded)*

Please provide examples of data entry forms:

Please provide examples of available reports:



State of Nevada Environmental Public Health Tracking System Bio-Surveillance Database Assessment Survey

Part E Technology

Are data primarily submitted to the database electronically? (*circle one below*)

- a. Yes (*see below*) b. No c. Not Applicable / Available

If yes are data sent submitted via:

- a. E-mail b. Diskette c. FTP d. Fax e. Network (local) f. Wide Area Network (i.e. Internet)

Other (*please specify*)

How are the data stored? (*circle one below*)

- a. Hard drive b. CD-Rom c. Data storage provider d. Data storage
e. Network Facility

Other (*please specify*)

What computer platform is used to host the database? (*circle one below*)

- a. Personal Computer (Intel x86 / AMD) b. IBM Mainframe c. Sun Microsystems d. Macintosh e. Sparc f. Silicon Graphic

Other (*please specify*)

What operating system is used to host the database? (*circle one below*)

- a. Unix b. Macintosh c. Microsoft (*i.e. NT, 2000, XP*) d. Microsoft Server (*i.e. NT, 2000, 2003*) e. Linux

Other (*please specify*)

What format or database server does the database adhere to? (*circle one below*)

- a. Flat File b. DB2 c. MS Excel d. MS SQL e. SAS / SPSS / STATA f. GIS g. Fox Pro h. Paradox i. MS Access j. Oracle

Other (*please specify*)

How are data within the database typically accessed? (*circle one below*)

- a. Web-based Internet b. Web-based intranet c. Client-Server Application d. Terminal to main frame (*i.e. ADM*) e. Application f. Manual

Other (*please specify*)



Questions

Thank You