Enhancing Rabies Surveillance and Management of Potential Human Exposures: An Automated Solution Using Electronic Public Health Case Reports — Nebraska, 2013–2014

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Office of the Director

Office of Public Health Preparedness and Response

#### Background

- Accurate/timely reporting of rabies test results and potential human exposures necessary to guide case management and define rabies epidemiology
- For rabies testing, Nebraska Department of Health and Human Services (NDHHS) collaborates with Kansas
   State University Rabies Laboratory (KSU-RL)
  - Electronic laboratory reporting (ELR) of test results (both positive and negative) into Nebraska's Electronic Disease Surveillance System (NEDSS) since 2011
  - Additional enhancements needed to capture/share exposure data with local health departments (LHD) for case follow-up

#### **Rabies Test Requisition**

When potential human exposure verified, NDHHS authorizes State-paid rabies testing through contractual agreement with KSU-RL

Prior to 2013, tests requisitioned via phone calls to NDHHS from persons submitting specimens

 Relevant exposure information ascertained; however, no efficient processes existed to disseminate information to Nebraska LHDs

April 2013, exposure-related data captured during rabies test requisition entered (manually) as case reports into NEDSS for immediate LHD notification

#### Number and Percent of Rabies Tests Reported via ELR (N=1,016) by Result and Species—Nebraska, July 1, 2013– June 30, 2014

Animal	<b>Total Tested</b>	(%)	Positive	(%)	Unsuitable	(%)
Species	(N)	(n/1,016)	(n)	(n/N)	(n)	(n/N)
BAT	643	(63.3)	4	(0.6)	9	(1.4)
CAT	153	(15.1)	2	(1.3)	1	(9.1)
DOG	107	(10.5)	0	(0.0)	1	(9.1)
RACCOON	21	(2.1)	0	(0.0)	0	(0.0)
BOVINE	45	(4.4)	4	(8.9)	0	(0.0)
OTHER	39	(3.8)	0	(0.0)	0	(0.0)
SKUNK	8	(0.8)	5	(62.5)	0	(0.0)
	1,016	(100.0)	15	(1.5)	11	(1.1)

#### Human Exposure Case Report Findings

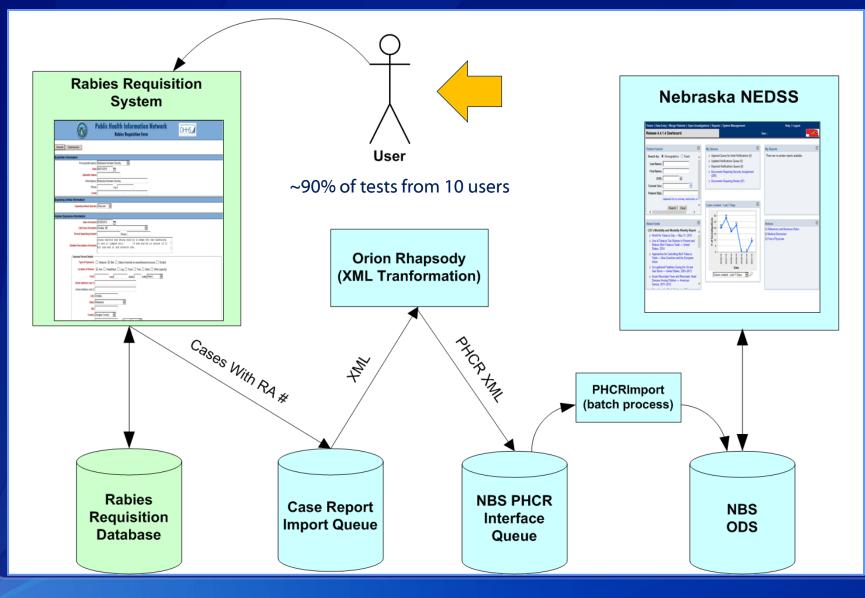
- 43.7% (444/1,016) of all tests NDHHS-paid
  - 5 (1.1%) positive; 7 (1.6%) unsuitable; 432 (97.3%) negative
- 606 potentially exposed persons
- Postexposure prophylaxis (PEP)
  - Administered to 19 (11 w/ 5 positives; 8 w/ 7 unsuitable tests)
  - Documented in 10 persons exposed to 3 animals testing positive but not requisitioned with NDHHS
  - Avoidance documented in 587 persons linked to negative tests

#### **Automated Public Health Case Reporting**

- October 2014, secure, Internet-based requisition system deployed for automated data capture
  - Test authorization -- Rabies Approval (RA) number assigned
  - Reporting of potentially exposed persons and capture of robust exposure-related data for subsequent automated messaging to NEDSS via electronic Public Health Case Reporting (PHCR)

## INTERNET-BASED RABIES TEST REQUISITION

#### **Automated Public Health Case Reporting**



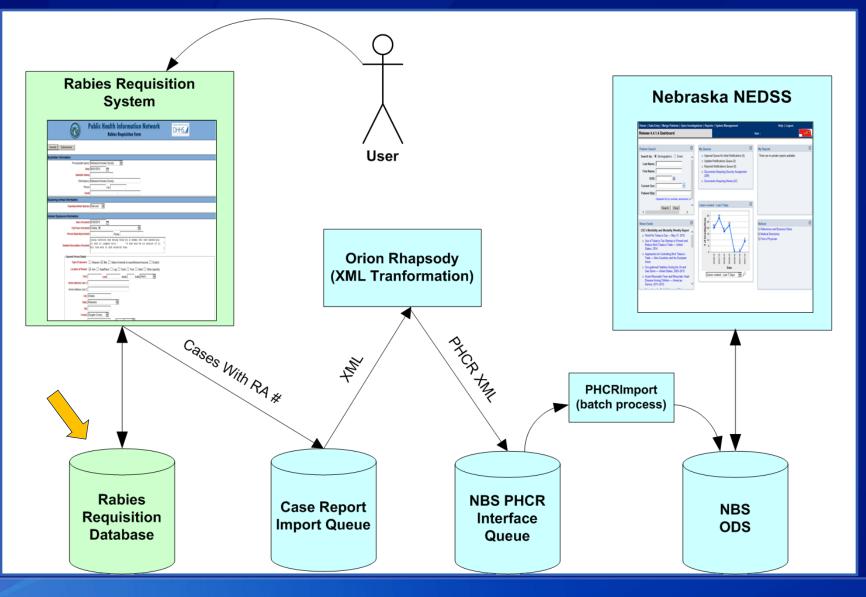
### **Rabies Test Requisition Form**

<b>Public Health Information</b> Rabies Requisition Form	Network
Please Enter PIN Rabies PIN: Submit	

#### **Rabies Test Requisition Form**

Public Health Information Network     Description       Rabies Requisition Form     DHHS	
Override Submissions	
Submitter Information	
Pre-populate Agency: Nebraska DHHS Vet EPI	
Date: 06/01/2015	
Submitter Name: Bryan Buss	
Clinic/Agency: Nebraska DHHS Vet EPI	
Phone: 402-471-8820 Fax: 402-742-2347	
Email: bryan.buss@nebraska.gov	
Exposing Animal Information	
Exposing Animal Species: Select V	
Human Exposure Information	
Date of Incident:	
City/Town of Incident: Select	
Person Reporting Incident: Phone:	
Detailed Description of Incident:	
Exposed Person Details	
Type of Exposure: Abrasion Bite Proximity (Bats) Saliva of animal on wound/lesions/mucosa Scratch	
Location of Wound: 🗌 Arm 🗌 Head/Neck 🗌 Leg 🗌 Trunk 🗌 Foot 🗌 Hand 🔲 Other (specify)	
First: Last: Middle: Suffix Select 🗸	
Home Address Line 1:	
Home Address Line 2: Predefined algorithm	
State: Select Code establishes	
zip: eligibility for State-paid	d l
County: Select  DOB (mm/dd/yyy): Age: 0 years  tests on basis of criteria	a
Sex: Select V entered into form	
Home Phone:	
Cell Phone:	
Work Phone: Ext	

#### **Automated Public Health Case Reporting**



#### **Automated Public Health Case Reporting**

Tue 06/02/2015 9:13 AM

То

Dear

dhhs.nehan@nebraska.gov

Rabies report 230EX4W received by Nebraska DHHS

# Auto-generated e-mail confirmation to submitter and NDHHS staff

Tue Jun 02 09:12:35 CDT 2015

Thank you for your submission.

The system has determined that this incident is eligible for payment by the State. Please proceed with submission of your sample with the RA Number = 2015-127.

For future correspondence, the ID number on your submission is 230EX4W, and it can be reviewed using the following link: <u>https://dhhs-nedss2.ne.gov/rabies/fs/complete.xhtml?pin=230EX4W</u>

Automated system message from Nebraska DHHS. Please do not reply.

#### **Pre-Populated KSU-RL Submission Form**

KANSAS STATE UNIVERSIT	(	RABIES DIAGNOSTIC REQUISI
Submitting State:  Kan Neb	raska RA# 2015-3	Laboratory Use Only: Lab No
Submit to:		
Attn: Rabies Laboratory		Negative
KSU Veterinary Diagnostic L 1800 N. Denison Avenue	aboratory	Unsuitable
Mosier Hall		Indeterminate
Manhattan, KS 66506–5601 Phone: (785) 532-4483		
Phone: (705) 552-4405		Signature/Date
SPECIMEN SUBMITTE		
Clinic/Agency Test Organiz	ation	Contact Test Submitter
		Mail South Phone #402-555-1212
City/State/Zip Lincoln	NE	68509 Fax # 402-111-2222
Do you request a faxed copy	of results? 🗆 No	
	Offosono: arte	3 168
SPECIMEN HISTORY		
Kind of Animal	Breed/Species	Age (approx.) Color/Description Gender
Cow		
Animal Location:		
Town Abel, NE	County Sa	aunders County Specific Location
Submitted animal's vaccinati		
Was the animal sick or actin		Ves
	neurological disorder	
•	)ther, describe:	= parajoo
Date of death:	Manner of d	leath
Date Submitted: 03/31/20		Joan 1
Owner/complainant name		Phone # 402-555-1212
Address test		Phone #
		State/ZIP NE 68504
		State/ZIP
EXPOSURE HISTORY		
Has the animal bitten any pe		Name: TEST TEST Date 03/30/2015
If yes, please give details of		is Name: 1201 1201 Date of 1201
If yes, please give details of	Incident: 1001	
March 1 in a since the second second	M	
Was this animal in contact w	ith a pet or domestic an	
If yes: Species		a status: Current Unvaccinated Not Current Unkno
If yes: Species If yes to any of the above:	Name/Owner	status: Current Unvaccinated Not Current Unkno
If yes: Species If yes to any of the above:		status: Current Unvaccinated Not Current Unkno

#### **Automated Public Health Case Reporting**

Fri 05/22/2015 1:05 PM

□dhhs.nehan@nebraska.gov	Auto-generated e-mail notification						
Rabies report 43N2WX received by Nebraska DHHS	port 43N2WX received by Nebraska DHHS NOT ELIGIBLE FOR STATE PAYMENT						
To 🗆 m.net							
Retention Policy Deleted Items (30 days)	Expires 06/22/2015						
This item will expire in 19 days. To keep this item longer apply a differ We removed extra line breaks from this message.	rent Retention Policy.						
A state of the state of	- 4 · · · I · · · 5 · · · I · · · 6 · · · I · · · 7 · · · I · · · 8 · · · I · · · △						
Fri May 22 13:05:20 CDT 2015							
The system has determined that this incident Not Eligible For State Payment. Only cases with elevated risk for potential human exposure to rabies virus are eligible for State payment of rabies testing fees. On the basis of the information provided, this submission DOES NOT meet the criteria necessary to be eligible.							

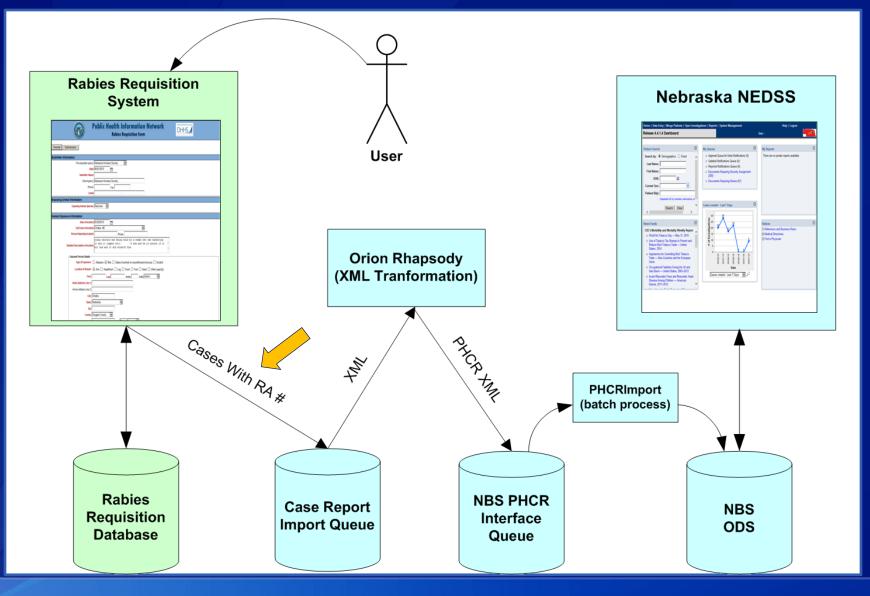
Upon receiving an ineligible determination, if you feel that unique circumstances exist which heighten the risk of human exposure to a rabid animal (e.g., vaccinated animal with clinical signs of rabies, other circumstance not addressed by the questions, or contact with potentially infectious nervous tissue), please contact the Nebraska Rabies Program at (402) 471-2937 to provide additional details. Eligibility will be considered on a case-by-case basis.

For future correspondence, the ID number on your submission is 43N2WX, and it can be reviewed using the following link: <u>https://dhhs-nedss2.ne.gov/rabies/fs/complete.xhtml?pin=43N2WX</u>

#### **Rabies Test Requisition Line-Listing**

Bit (RA, 2975-199)     T/OFTNK     INV CREATED     2015-05-18     Bat     Bit (RA, 2975-199)     Bit (RA, 2975-199)     De Wit, NE       602 (RA, 2015-015     642/04     642/04     642/04     642/04     640     640/04     640/04     640/04       602 (RA, 2015-015     643/04     642/04     640     640/04					alth Informatio Rabies Requisition For					
Instrume         Unit         Exercise         Space is	Create New Rabies Requisition	Report Submissions Invoice	es							
Inst         Same         Same         Secure 3         Exposed Person 9         Secure 3         Exposed S         Location 3         Maxed S           Sta 0.0550         Pin 0         MACRATO         Sta 0.0550         Exposed Person 9         Sta 0.0550         Exposed Person 9         Sta 0.0550         Chana Mi         Chana Mi         Sta 0.0550         Chana Mi         Sta 0.0550         Chana Mi         Chana Mi         Sta 0.0500         Chana Mi         Chana Mi         Sta 0.0500         Chana Mi         Chana Mi         Sta 0.0500         Chana Mi         Sta 0.0500         Chana Mi         Chana Mi         Sta 0.0500         Chana Mi         Sta 0.0500         Chana Mi         Chana Mi         Sta 0.0500         Chana Mi         Disbo 0.0500         Exposed Person Pin Mi         Sta 0.0500         Chana Mi         Chana Mi         Disbo 0.0500         Exposed Person Pin Mi         Sta 0.0500         Chana Mi         Chana Mi         Disbo 0.0500         Chana Mi         Disbo 0.0500         Chana Mi         Chana Mi         Chana Mi         Chana Mi         Chana Mi </th <th>Data Danas</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Data Danas									
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State         221:E00         MY CRATED         2015-0-01         Bat         Date         Control AL         Co	the second s						Bite			
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S43 (R4.2015.113)         5EAG341         AWAITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           583 (R4.2015.113)         5EAG341         AWAITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           583 (R4.2015.113)         5EAG341         AWAITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           583 (R4.2015.113)         5EAG341         AWAITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           584 (R4.2015.112)         20201/XR         1NV CREATED         2015-05-18         Bat         Proximity (Bats)         De Witt, NE	583 (RA 2015-111)	5EAG341	INV CREATED		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
\$63 (44.2015 / 11)         5EAG341         AWA/ITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           63 (44.2015 / 11)         5EAG341         AWA/ITING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           534 (84.2015 / 11)         20201/XR         INV CREATED         2015-05-18         Bat         Proximity (Bats)         De Witt, NE	583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat .	Proximity (Bats)	De Witt, NE		
S83 (04.2915-1111)         5EA0341         AWATING REVIEW         2015-05-18         Bat         Proximity (Bats)         De Witt, NE           S84 (04.2015-314)         2CG01XR         1NV CREATED         2015-05-18         Other         Bite         Bathelit, NE	583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat ·	Proximity (Bats)	De Witt, NE	· · · ·	
S84 (RA 2015-612) 2CG01XR 110 INV CREATED 2015-05-18 010 0ther 110 Bite Barthell, NE 110 Difference Barthell, NE 1	583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
	583 (RA 2015-111)	5EAG341 .	AWAITING REVIEW		2015-05-18	Bat .	Proximity (Bats)	De Witt, NE		
	1584 (RA12015-112)	2CG01XR	INV CREATED		2015-05-18	Other	Bite	Bartlett, NE		
Stig (Ra 2019-507)         2CUCR0A         INV CREATED         2015-05-12         Cow         Saliva of learning on avoid field instances         David City, NE	579 (RA 2015-107)	2CUCR0A	INV CREATED		2015-05-12	Cow	Saliva of animal on wound/lesions/mucosa	David City, NE		
500 (KA 2015-3401 78FGK8T INV CREATED 2015-05-12 Cat Bite	580 (RA 2015-108)	7BFGK6T	INV CREATED		2015-05-12	Cat	Bite			
575 (RA 2015-369) 59Q/3GRR INV CREATED 2015-05-11 Bat Proximity (Bats) Ornaha, NE	576 (RA 2015-105)	59Q8GRR ·	INV CREATED ·		2015-05-11	Bat ·	Proximity (Bats)	Omaha, NE	and the second second second	
5/5 (R4.2015-169) 59/08/GRR INV CREATED 2015-05-11 Bat Proximity (Bats) Ornaha, NE	576 (RA 2015-105)	59Q8GRR	INV CREATED		2015-05-11	Bat	Proximity (Bats)	Omaha, NE	100 C	
\$77 (B4 2015-050) 23CYW7H INV CREATED 2015-05-11 Bat Bite Crete, NE	577 (RA 2015-106)	23CYW7H	INV CREATED		2015-05-11	Bat .	Bite	Crete, NE		

#### **Automated Public Health Case Reporting**



# **NEDSS Documents Requiring Review**

#### Home | Data Entry | Merge Patients | Open Investigations | Reports | System Management

#### **Documents Requiring Review**

Help | Logout

😸 Print 🗋 Export

User : Bryan DHHS Buss 402.471.2937

		Results 1 to	20 of 33 Previous 1	1 2 Next		
					Remove All	I Filters/Sorts
Date Received	2 Туре	Jurisdiction	Patient	Test/Condition	Local ID	~
04/20/2015	Lab Report	Scotts Bluff County Health Department		Culture - Sterile Body Fluid	OBS22574998NE01	
05/07/2015	Lab Report	Scotts Bluff County Health Department		VARICELLA-ZOSTER VIRUS AB.IGM	OBS22673227NE01	
05/14/2015	Lab Report	Public Health Solutions		Culture - Campylobacter species	OBS22712207NE01	
05/18/2015	Case Report	Public Health Solutions		Animal Exposure (bite or nonbite)	DOC10012028NE01 (New)	
05/18/2015	Case Report	Public Health Solutions		Animal Exposure (bite or nonbite)	DOC10012029NE01 (New)	
05/18/2015	Case Report	Public Health Solutions		Animal Exposure (bite or nonbite)	DOC10012030NE01 (New)	
05/18/2015	Case Report	Public Health Solutions		Animal Exposure (bite or nonbite)	DOC10012031NE01 (New)	
05/19/2015	Lab Report	Public Health Solutions		RABV AG TISS QL IF	OBS22737011NE01	
05/20/2015	Lab Report	Public Health Solutions		MICROORGANISM IDENTIFIED Demographic Information Section	OBS22679253NE01	
05/21/2015	Lab Report	Panhandle Public Health Department		Culture - Campylobacter species	OBS22780310NE01	
05/27/2015	Lab Report	Panhandle Public Health Department	1	CAMPYLOBACTER SP RRNA	OBS22776451NE01	
05/27/2015	Case Report	Panhandle Public Health Department		Animal Exposure (bite or nonbite)	DOC10013006NE01 (New)	
05/27/2015	Case Report	Panhandle Public Health Department		Animal Exposure (bite or nonbite)	DOC10013007NE01 (New)	
05/28/2015	Lab Report	Scotts Bluff County Health Department		VZV DNA XXX QL PCR	OBS22779118NE01	
05/28/2015	Case Report	Lancaster County HD	1	Animal Exposure (bite or nonbite)	DOC10013008NE01 (New)	
05/28/2015	Lab Report	Panhandle Public Health Department		RABV AG TISS QL IF	OBS22781219NE01	
05/29/2015	Lab Report	Southwest Nebraska Public Health Department	it j	Culture Result:	OBS22785461NE01	
05/29/2015	Lab Report	Public Health Solutions		Besult Besult Result Result Result	OBS22785581NE01	
05/29/2015	Lab Report	Iowa DOH		HCV QUANT, RESULT	OBS22785901NE01	
05/30/2015	Lab Report	Scotts Bluff County Health Department		HCV GENTYP SERPL PCR	OBS22788530NE01	

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#### **NEDSS Public Health Case Report**

Tue 06/02/2015 9:14 AM

Nebraska NEDSS Alerts <nedss\_noreply@nedss.ne.gov>

Priority Medium: Alert from NBS indicating Animal Exposure (bite or nonbite)

То	Buss, Bryan;	≣				
8		1 · · ·	2 .	 3 · · · · · · ·	4 · · ·	5 · · · △

A Case Report indicating Animal Exposure (bite or nonbite) was received on 6/2/15 9:14 AM for Four Corners Health Department Jurisdiction with an identifier of DOC10013016NE01.

> Auto-generated e-mail notification to NDHHS staff

#### **NEDSS Public Health Case Report**

					<u> </u>
Home   Data Entry   Merge Patients   Open Investigations   Reports   S	ystem Management			Help   Logout	
View Document				User : Bryan DHHS Buss 402.471.2937	2
				View File   Return to Documents Requiring F	Review
Mark As Reviewed   Create Investigation   Transfer Ownership   Delete					Print
				Patient ID: 739347	
Jurisdiction: Southwest Nebraska Public Health Department		Pro	gram Area: VET/EPI	Fatencia, 759547	•
Date Received: 06/01/2015			ument ID: DOC10013010NE01		
Case Report: Animal Exposure (Bite Or Nonbite)					
	Disease Specific Questions   Associated Participants   Associated Lab Reports	Additional Info	rmation		
Sending System Information				Back	to top
	Public Health Document Container		Sending System ID	595	
Sending Facility	NE DOH		Sending System	Rabies Exposure	
Message Creation Date	06/01/2015		Message Status		
Document Header				Back	to top
Document Type	Case Report		Sending System Event ID	595	
Description	Case Report from NE Rabies Exposure Portal for Incident 595		Purpose	Share	
Patient Name			Sending System Patient ID		
Date of Birth			Reported Age		
Race			Ethnicity		
Sex	Male		Contact Info	MCCOOK, Nebraska 69001	
				Red Willow County	
Disease Specific Questions				Back	<u>to top</u>
Exposing Animal Species		Cat			1
Rabies Vaccination Status		Unknown			1
Was the animal quarantined?		No			1
Was the Animal Euthanized?		Yes			
Ownership Status of the Animal		Stray			
Cell Phone					
		Bite			
		Hand			
		No			
Reported by (Name)					
Reported by (Phone)					
		Stray farm cat bit hand when he was trying to give it a penicillin shot.			
Nebraska RA Number					
			Other		
Was The Animal Captured?		Yes			
Was The Animal Retrievable?					
Was The Animal Tested?		Yes			1

### **Animal Exposure Investigation**

Home   Data Entry   Merge Patients   Open Investigations   Reports   System N	Aanagement	Help   Logout
Add Investigation: Animal Exposure (bite or nonbite)		User : Bryan DHHS Buss 402.471.2937
		Submit Cancel
Male		Patient ID: 7393474 * Indicates a Required Field
Patient Administrative Human Exposure Animal and or Incident Wound T Information Information	Freatment Laboratory Contact Records	
Patient Information		Back to top
Collapse Subsections General Information		
* General Information As of Date:	06/01/2015	
Comments:		
		~
Name Information		
* First Name:		]
Middle Name:		]
* Last Name:	f and a second se	]
Suffix:		
Other Personal Details Date of Birth:	ma	
Date of Birth: Current Sex:		
Is the patient pregnant?:		
Is the patient deceased?:		
Deceased Date:		
Reporting Address for Case Counting		14
Street Address 1:		
Street Address 2:		]
	мссоок	
	Nebraska	
	69001	
County:	Red Willow County	

#### **Electronic Rabies Laboratory Report**

Home   Data Entry   Merg	e Patients   Open Invest	igations   Reports   System Management   Help   Logout
View Lab Report		User: Bryan DHHS Buss 402.471.2937
Patient ID: 7228317   Obse	ervation ID: OBS2202260	2NE01 Return to File: Events
Transfer Ownership		Delete Create Print Investigation
Created: 01/28/2	2015 by: NEDSS ELR load	Updated: 01/30/2015 by: Chris FCHD Lawrence 402.362.2621
Lab Report Date: 01/28/2		eceived by Public Health: 01/28/2015
Submitted by Outside Fac		dorred by rabile reader of the total
· · · · · · · · · · · · · · · · · · ·	<i></i>	
View Lab Report	aculta L Order Information	Other Information   Custom Fields
	cesuits   Order information	
Patient Information		Back to Top
	bat bb NEGATIVE-27Jan20	015KSRAB52
Alias:		
Home Address:	York, Nebraska 68467 Yor	k County
Home Phone:		Work Phone: Ext:
Sex:		Race:
DOB:		Age:
Deceased:		Death Date/Time:
Marital Status:		Ethnicity:
Patient Comments:		SSN:
ID Type	ID	Assigning Authority Expiration Date
10 1990	20150127 1	2 16 840 1 113883.5
Account number	2015-22	

Test Results		Back to Top			
Ordered Test: Codes: Status:	RABV AG TISS QL IF (RABIES VIRUS AG) 6528-4(LN LOINC)/RABIES_VIRUS_AG(L LOCAL) Final				
Resulted Tests a	nd Results				
Resulted Te	st: RABV AG TISS QL IF(RABIES VIRUS AG)				
Result					
Reference Rang	NEGATIVE	Date/Time: 2015-01-27 00:00:00.0			
Interpretatio		Performing Facility:			
Result Metho	d:	Facility ID:			
Test Code( Result Code(	is: Final s): 6528-4 (LN LOINC) /RABIES_VIRUS_AG (L LOCAL) s): is: VAC_STATUS:none] HUMAN_BITTEN:no] HUMAN_EXP_HIST: in bedroom] ANIMAL_CONTACT:no] ANIMAL_CONTACT:no] ANIMAL_CONT_HIST:] RA:2015-22] COUNTY:York] PREP:mm/rd] READ_BY:rd/dw				
Order Information	1	Back to Top			
Facility and Provid	der Information				
F	Reporting Facility: KState				
	Ordering Facility: There is no Ordering Facility selecte	d.			
O	ordering Provider: Four Corners Health Dept. York				
Order Details					
	Program Area: Vet/Epi				
	Jurisdiction: Four Corners Health Department				
Share record with Guests for this Program Area and Jurisdiction					
	ecimen Collected: 01/27/2015 12:00 AM Specimen Source:				
	Specimen Site:				
A	ccession Number: 2941.52				

Species and Breed = First and Middle Name Point Location = Patient Address Vaccination and Exposure History = Result Comment

#### **Contact Tracing to Link Exposed Person(s) to Test Result**

Home   Data Entry	Merge Patients   Open Investigations   Repo	Help   Logout					
Patient File				User : Bryan DHHS Buss 402.471	.2937		
					Delete Print		
bat bb NEGATIVE	E-27Jan2015KSRAB52			Patie	ent ID: 7228317		
Summary	Events Demographics						
				E	xpand All   Collapse All		
Patient Events H	Istory Lab Reports   Mobidity Reports   Vaccinations   Tre	atments I Case Reports	Contact Records				
Investigations (0)				A	dd New Back To Top		
Lab Reports (1)				A	dd New Back To Top		
Date Received	Provider/Reporting Facility	Date Collected	Test Results	Associated With	Event ID		
01/28/2015 11:01 AM E	Reporting Facility: KState Ordering Provider: Four Corners Health Dept.	01/27/2015	RABV AG TISS QL IF:		OBS22022602NE01		
Morbidity Report	s (0)			A	dd New Back To Top		
Vaccinations (0)	- (-)						
				A			
Treatments (0)					<u>Back To Top</u>		
Case Reports (0)					<u>Back To Top</u>		
Contact Records					<u>Back To Top</u>		
Contacts Named by F	Patient:						
Patient Named by Co	ontacts: 2015KSRAB52 was named as a contact in the foll	owing Animal Exposure	a (hita or pophita) Investigations(s);				
Date Created	Named By		e (bite of nonbite) investigations(s).	Associated With	Event ID		
0 <u>1/30/2015</u> 10:49 AM			nimal Exposure (bite or nonbite) Disposition: Not Infected	CAS15534229NE01 Animal Exposure (bite or nonbite)	CON10143025NE01		
<u>01/30/2015</u> 10:54 AM		01/26/2015 A	Inimal Exposure (bite or nonbite) Disposition: Not Infected	CAS15534233NE01 Animal Exposure (bite or nonbite)	CON10143026NE01		
<u>01/30/2015</u> 11:10 AM			Inimal Exposure (bite or nonbite) Iisposition: Not Infected	CAS15534235NE01 Animal Exposure (bite or nonbite)	CON10143027NE01		
PreviousNext							
Summary	Events Demographics						

#### **Rabies Test Requisition Line-Listing**



Public Health Information Network Rabies Requisition Form



Create New Rabies Requisition Report Submissions Invoices

Date Range

1/1/15 5/1/15	Search								
IncidentId 🗢	Pin 🗘	NBS Status 🗢	Exposed Person 🗘	SubmitDate 🗘	Species ¢	Exposures ¢	Location O	Submitter 🗘	Inv O
594 (RA 2015-121)	6T44BVM	INV CREATED		2015-06-01	Raccoon	Bite	Omaha, NE		
595 (RA 2015-122)	668E1P0	AWAITING REVIEW		2015-06-01	Cat	Bite	McCook, NE		
596 (RA 2015-123)	2ZR1EBB	INV CREATED		2015-06-01	Bat	Bite	Omaha, NE		
597 (RA 2015-124)	2KQQN5D	AWAITING REVIEW		2015-06-01	Bat	Proximity (Bats)	Papillion, NE		
598 (RA 2015-125)	33BJQU6	INV CREATED		2015-06-01	Bat	Proximity (Bats)	David City, NE		
598 (RA 2015-125)	33BJQU6	INV CREATED		2015-06-01	Bat	Proximity (Bats)	David City, NE		
599 (RA 2015-126)	5NH2LVZ	INV CREATED		2015-06-01	Dog	Bite	Ceresco, NE		
593 (RA 2015-120)	BSB4MC	AWAITING REVIEW		2015-05-28	Bat	Proximity (Bats)	Lincoln, NE		
591 (RA 2015-118)	L7M50R	INV CREATED		2015-05-27	Squirrel	Bite	York, NE		
592 (RA 2015-119)	1A8R1Q	AWAITING REVIEW		2015-05-27	Cat	Bite	Alliance, NE		
592 (RA 2015-119)	1A8R1Q	AWAITING REVIEW		2015-05-27	Cat	Bite	Alliance, NE		
588 (RA 2015-115)	MX38KP	INV CREATED		2015-05-26	Raccoon	Saliva of animal on wound/lesions/mucosa	David City, NE		
588 (RA 2015-115)	MX38KP	INV CREATED		2015-05-26	Raccoon	Saliva of animal on wound/lesions/mucosa	David City, NE		
589 (RA 2015-116)	46MZLN	INV CREATED		2015-05-26	Bat	Proximity (Bats)	Columbus, NE		
590 (RA 2015-117)	GYRQ8D	INV CREATED		2015-05-26	Bat	Proximity (Bats)	Lincoln, NE		
587	43N2WX	NOT FOUND		2015-05-22	Cat	Scratch	Lincoln, NE		
586 (RA 2015-114)	NLJ22	INV CREATED		2015-05-20	Cat	Bite	Omaha, NE		
585 (RA 2015-113)	25QG82W	INV CREATED		2015-05-19	Bat	Proximity (Bats)	Lincoln, NE		
581 (RA 2015-109)	710FTNK	INV CREATED		2015-05-18	Bat	Bite	Omaha, NE		
582 (RA 2015-110)	6H2UB92	INV CREATED		2015-05-18	Cat	Bite	Benkelman, NE		
583 (RA 2015-111)	5EAG341	INV CREATED		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
583 (RA 2015-111)	5EAG341	INV CREATED		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
583 (RA 2015-111)	5EAG341	AWAITING REVIEW		2015-05-18	Bat	Proximity (Bats)	De Witt, NE		
584 (RA 2015-112)	2CG01XR	INV CREATED		2015-05-18	Other	Bite	Bartlett, NE		
579 (RA 2015-107)	2CUCR0A	INV CREATED		2015-05-12	Cow	Saliva of animal on wound/lesions/mucosa	David City, NE		
580 (RA 2015-108)	7BFGK6T	INV CREATED		2015-05-12	Cat	Bite			
576 (RA 2015-105)	59Q8GRR	INV CREATED		2015-05-11	Bat	Proximity (Bats)	Omaha, NE		
576 (RA 2015-105)	59Q8GRR	INV CREATED		2015-05-11	Bat	Proximity (Bats)	Omaha, NE		
577 (RA 2015-106)	23CYW7H	INV CREATED	hanno, riyan	2015-05-11	Bat	Bite	Crete, NE	Sinoy Rolas	

### **Invoice Management and Reconciling of Tests**

Public Health Information Network       Description of the distance form         Rabies Requisition Form       Description of the distance form							
Create New Rabies	Requisition Report S	Submissions Invoices	5				
Add Invoice							
ld ≎	Month 🗘	Comment \$	Inv Amt 🗘	Paid Dt 🗘	PDF		
6	2015-2	RA2014-456 in this PDF not reconciled by new process. Manually reconciled with other 2014 tests.		03/30/2015	↓ Download	Reconcile Tests	Edit
7	2015-3	March 2015 Invoice 22 samples RA45 included in PDF but not invoiced as previously paid.		04/30/2015	↓ Download	Reconcile Tests	Edit
8	2015-4	April 2015 Invoice 21 samples Page one invoice was superseded. Correct invoice on last page.		05/21/2015	↓ Download	Reconcile Tests	Edit

#### **Invoice Management and Reconciling of Tests**



#### Internet-Based Rabies Test Requisitions— Nebraska, Oct. 1, 2014–May 30, 2015

#### 213 submissions met criteria – RA number assigned

- 7 submissions did not meet payment approval criteria
- 2 exposures rejected in error, code revised to correct issue

#### 293 total exposed persons

 Median per submission = 1 (range, 1–7)

Species	n
Bat	91
Cat	54
Dog	32
Cow	19
Raccoon	13
Horse	1
Other	3
Total	213

### Number of Reported Animal Exposures by Species and Type—Nebraska, Oct. 1, 2014–May 30, 2015

Species	Bite	Proximity (Bats)	Saliva in wound or mucosa	Scratch w/ saliva	Total
Bat	16	121	2	1	140
Cat	51	-	8	2	61
Dog	27		20		47
Cow	-	-	27	-	27
Raccoon	11	-	2	1	14
Horse	-	-	1	-	1
Other	3	-	- 1	-	3
Totals	108	121	60	4	293

#### Conclusions

- Comprehensive Rabies Program case management system developed with automated data capture
  - Both test results and associated human exposure information
- LHD Real-time access to all rabies data via NEDSS
- Readily accessible electronic data available to document:
  - Economic and health benefits of State-funded rabies testing
  - PEP avoidance when indicated

Rabies ELR and automated capture of animal exposure data for case management in Nebraska can serve as national model, particularly for other NEDSS states

#### **Next Steps**

 Develop automated analytic processes for visual display of results and data (i.e. "Rabies dashboard")
 Develop data interface for automated redirect from NDHHS to KSU-RL on-line form to complete seamless electronic requisition

# **QUESTIONS?**

#### Acknowledgments

- Nebraska Department of Health and Human Services
  - Thomas J Safranek
  - Kevin Cueto
  - Cole Vanicek
  - Alison Keyser-Metobo
  - Dorothy Smiley
  - Jesse Clarke



- Inductive Health
- KSU Veterinary Diagnostic
   Laboratory
  - Mike Moore
  - Rolan Davis
  - Praveen Ramanan
  - Eric Herrman
  - Gary Anderson



Thanks to all local health department surveillance staff throughout Nebraska who manage animal exposures within their jurisdictions.



#### For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333 Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348 E-mail: cdcinfo@cdc.gov Web: http://www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention. Likewise, the authors' findings and conclusions do not necessarily represent the views of the Nebraska Department of Health and Human Services.



Office of the Director

Office of Public Health Preparedness and Response