

ANIMAL BITE SYNDROMIC SURVEILLANCE AND SEASONALITY

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PURPOSE

- To determine if the current animal bite syndrome developed at the national level is keying in on correct wording in order to provide state level data that could be monitored in an effort to identify areas and seasons of highest risk.
- If not, what could be modified to improve this syndrome
- This presentation will summarize those findings.

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OBJECTIVES

- What is an animal bite syndrome.
- Summarize ways that hospitals or clinics can help improve syndrome.
- Determine seasons of highest risk for animal and insect bites.

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WHAT IS SYNDROMIC SURVEILLANCE?

- Collection of de-identified health data from health care facilities around the state of North Dakota
- Data is grouped together into “syndromes” based on symptoms/and or signs mentioned in the chief complaint or reason for visit. (ie chief complaint of cough/fever may be grouped into an influenza-like syndrome)
- Data is utilized to identify outbreaks of illnesses that may be occurring around the state of North Dakota or to estimate increases or decreases in various conditions or illnesses.



WHAT IS AN ANIMAL BITE SYNDROMIC SURVEILLANCE?

- Using the de-identified syndromic surveillance health data collected, to look for people presenting to health care facilities due to animal bites, whether the animal is wild or domestic.



NATIONAL ANIMAL BITE SYNDROME

- In the current **Animal Bite Syndrome** the system looks for the following Chief Complaint Search Terms
 - Aldilla, animal, ara?a, arana, ardilla, bite-frost, cat, dog, gato, jelly fish sting, mangota, mordedura, mordida, pica, pica, picadura, rabies, raccoon, snake
- In the current **Insect Bite Syndrome** the system looks for the following Chief Complaint Search Terms
 - Ant bites, bee bite, bee sting, beesting, bug bite, fireant, insect, mosquito, spider, sting, stings, wasp
- In the current **Rabies Bite Syndrome** the system looks for the following Chief Complaint Search Terms
 - Rabies



SUGGESTED SEARCH TERMS FOR ANIMAL BITES

- Suggested Chief Complaint Search Terms for **Animal**
 - dog, cat, squirrel, bat, parrot, and animal bite
- Words that contributed to incorrect data being pulled
 - tripped, walking, human bite, cath/catheter, ate, allergies, pic/pic line and dental disorder



SUGGESTED SEARCH TERMS FOR INSECT BITES

- Suggested Chief Complaint Search Terms for **Insect**
 - insect bit(e), non-venomous insect bite, venomous insect bite, arthropod, bug bite, bee, wasp, yellow jacket, hornet, spider, tick, and mosquito
- Words that contributed to incorrect data being pulled
 - sting(s,ing), denies, repellent/spray, and dental disorder.



SUGGESTED SEARCH TERMS FOR RABIES

- Suggested Chief Complaint Search Terms for **Rabies**
 - rabies contact, series, vaccine for, needs rabies shot, up to date on rabies, cat bite, dog bite, bite by unspecified animal and animal bite
- Special case involving a fox bite



HOW CAN HOSPITALS OR CLINICS IMPROVE THIS SYNDROME?

- Improving education among those who work closely with animal bites
- Clearer data entered into “chief complaint”
- Need data to include type of animal and where on the body the bite occurred
- Make sure insect is listed as well for all insect bites
- Post exposure prophylaxis (PEP) may or may not be known – it would be beneficial to know if PEP was started.



DATA ANALYSIS



ANIMAL BITES SEEN MOST OFTEN BY HEALTHCARE PROVIDERS

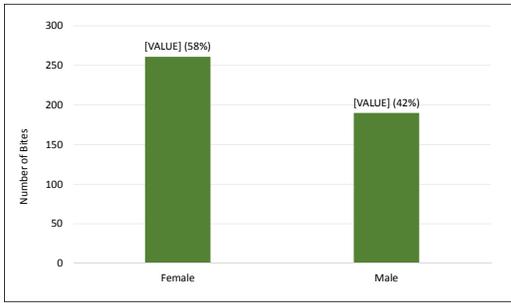
For the time period of 6/29/2014 to 6/21/2015 there were a total of **451 animal bites**

- **Dog** 302 (67%)
- **Cat** 129 (29%)
- **All other animal bites** 20 (4%)



ALL ANIMAL BITES BY GENDER

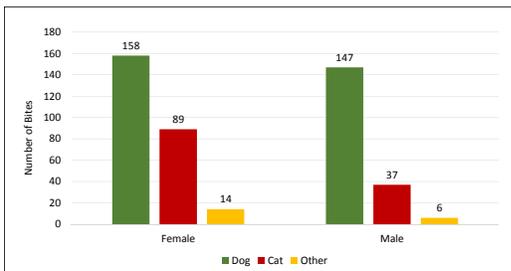
Date Range: 6/29/2014 to 6/21/2015



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ANIMAL BITES BY GENDER BROKEN DOWN BY ANIMAL

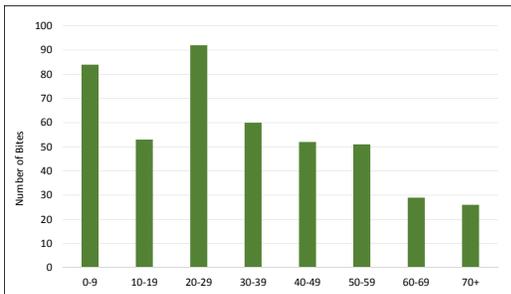
Date Range: 6/29/2014 to 6/21/2015



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ALL ANIMAL BITES BY AGE GROUP

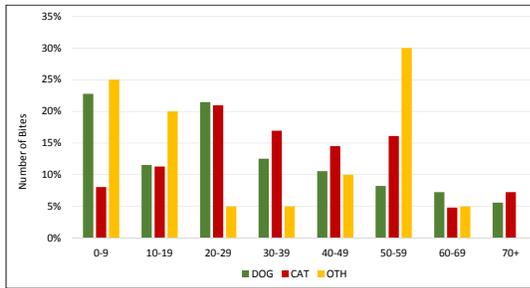
Date Range: 6/29/2014 to 6/21/2015



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ANIMAL BITES BY AGE GROUP BROKEN DOWN BY ANIMAL

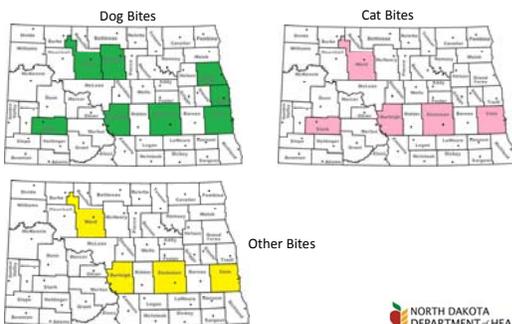
Date Range: 6/29/2014 to 6/21/2015



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ANIMAL BITES BY LOCATION BROKEN DOWN BY ANIMAL

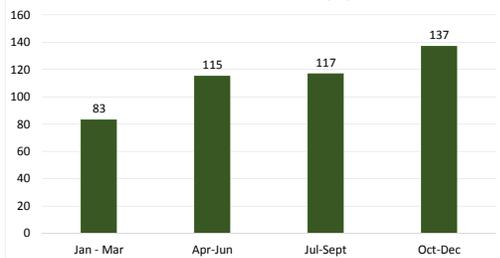
Date Range: 6/29/2014 to 6/21/2015



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WHAT SEASONS ARE HIGHEST RISK FOR ANIMAL BITES?

Number of Animal Bites by quarter



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POST EXPOSURE PROPHYLAXIS

	Rabies PEP given/unknown animal	Rabies PEP given/known Animal	Animal current on vaccine; no mention of vaccine given to patient	Bite by animal; no mention of vaccine given to patient
Total Data Set	490	490	490	490
Bite Code	1	2	3	4
Total Bites	16	22	78	374
# Dog Bites w/PEP	0	10	0	0
# Dog bites w/out PEP	0	0	55	244
#Cat bites w/PEP	0	12	0	0
#Cat bites w/out PEP	0	0	23	103
Unknown Animals	16	0	0	27
Percentage of bites	3.3	4.5	15.9	76.3



OTHER BITE DATA THAT BECAME APPARENT DURING ANALYSIS OF ANIMAL BITE DATA

Insect Bite Types

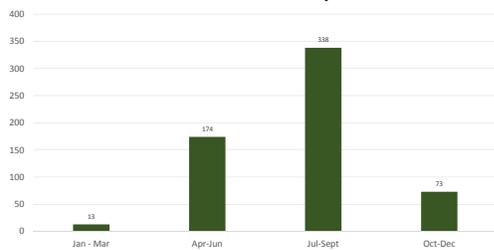
Insect/Bug	Tick	Spider	Mosquito	Wasp/Bee/Hornet/Yellow Jacket	Other
355	68	59	26	83	7

Total Number of Insect Bites: 598



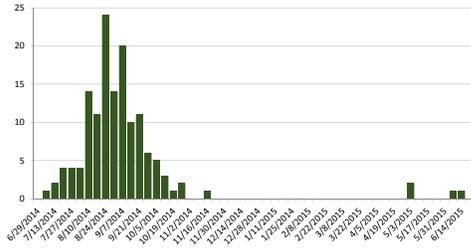
WHAT SEASONS ARE HIGHEST RISK FOR INSECT BITES?

Number of Insect Bites by Season



SEEKING MEDICAL ATTENTION

- Wasp/Bee/Hornet/Yellow Jacket caused the most people to seek medical care
- Seasonality of Wasp/Bee/Hornet/Yellow Jacket



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DOES THE ANIMAL BITE SYNDROME WORK FOR IDENTIFYING PROBLEMS IN NORTH DAKOTA?

- Yes, but it needs to be reviewed in order to remove insect bites from the information collected.
- Additionally, this analysis shows that additional terms could be added to the syndrome to capture more specific data.

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WHERE ARE WE HEADED?

- Human-animal contact becoming more frequent
- Current animal bite syndrome needed to be analyzed
- Identify regions of state that are at higher risk for certain bite types, specific times of the year
- Improve education among those who work closely with animal bites

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THANK YOU!

A special thanks to:

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QUESTIONS??