





Surveillance of Animal Bite Incidents 2010-2014

Rhode Island Department of Health

Division of Preparedness, Response, Infectious
Disease and Emergency Medical Services

Center for Acute Infectious Disease Epidemiology



About Animal Bite Incidents

- Rabies is a deadly viral disease that affects the nervous system. It is spread through contact with saliva of an infected animal.
- Humans may be exposed to the rabies virus through a bite, scratch or direct contact, where there is contamination of a scratch, abrasion, mucous membrane, or fresh open wound with potentially infectious material such as saliva or central nervous system tissue from an animal.
 - RIDOH refers to such exposures to as “animal bite incidents”
- RIDOH provides case management services that include exposure evaluation, confirmation of animal capture and quarantine or confirmation of animal capture and euthanasia, coordination with the laboratory for follow up on animal testing results, notification to the patient of the status of the investigation, rabies risk communication to the patient and release/referral for post-exposure prophylaxis (PEP)
- Only mammals, including humans, can get the rabies virus
- In RI, animals most likely to carry rabies include dogs, cats, ferrets, bats, skunks, raccoons, foxes, and woodchucks
- As a result of increased case management, assessment, and vaccination, the last case of human rabies in RI occurred in 1940



Notes on Data

- Case counts include animal bite incidents
- “Event Date” (used to classify cases by month and year) is generated based on the availability of data in the following order:
 1. Illness onset date
 2. Specimen collection date
 3. Date of report to public health agency
- Rate is calculated per 100,000 population. The population denominator is based on US Census Population. Rates are based on 2010 census data.

Summary: Animal bite incidents in RI, 2010-2014



- The number of reported animal bite incidents and recommendations for post-exposure prophylaxis (PEP) increased from 2010-2014.
- Patients were exposed to a wide variety of animals between 2010 and 2014: most commonly, dogs, bats, raccoons, foxes, and skunks.
- Between 2010 and 2014, PEP was recommended following exposures to a variety of animal species: most frequently, bats, cats, dogs, raccoons, skunks, and foxes.
- Rates of animal bite incidents were higher among females than males between 2010 and 2014
- From 2010-2014, animal bite incidents were reported among all age groups, especially children.
- The highest rates of animal bite incidents occurred in Bristol and Washington counties from 2010-2014.
- Although cases of animal bite incidents were reported during all months, the majority of cases were reported during the summer months from 2010-2014.

Figure 1. Reported Cases of Animal Bite Incidents and Post-Exposure Prophylaxis (PEP) Recommendations by Year, RI, 2010-2014

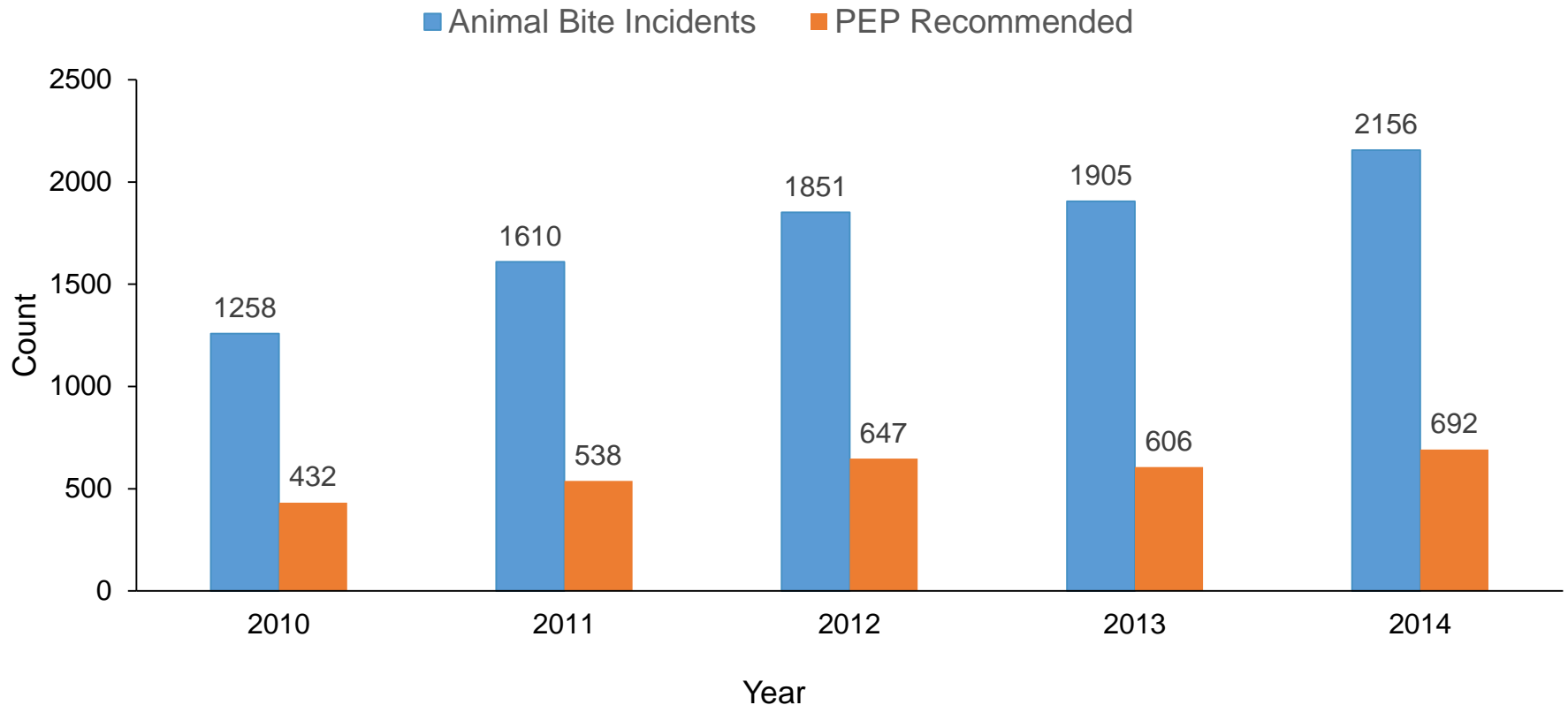


Figure 1: The number of animal bite incidents and recommendations for PEP increased steadily from 2010 to 2014.

Figure 2. Animal Bite Incidents by Species of Animal, RI, 2010-2014

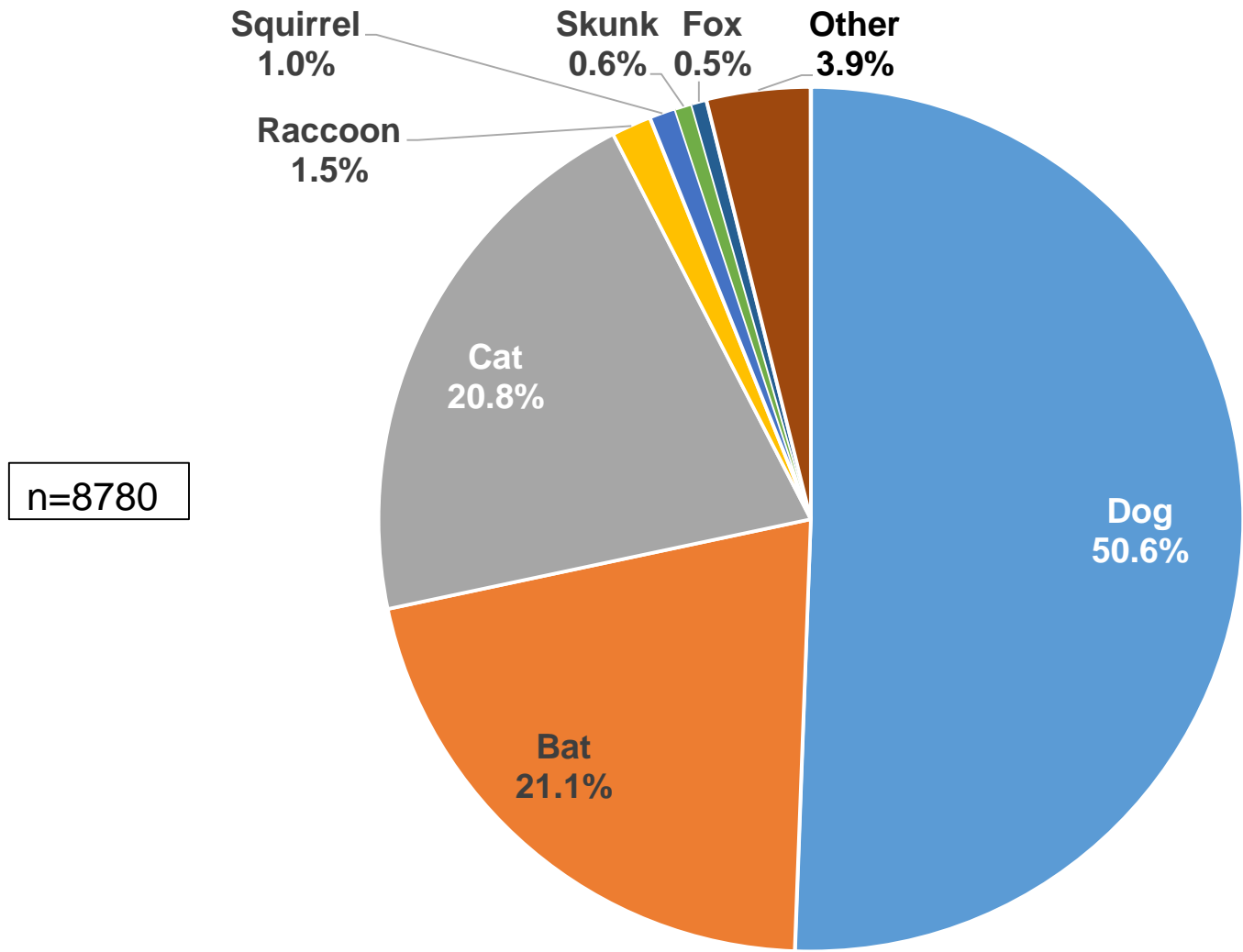


Figure 2: The largest proportion of reported animal bite incidents was among dogs, followed by bats, cats, other species, raccoons, squirrels, skunks, and foxes from 2010-2014.

Figure 3. PEP Recommendations by Species of Animal, RI, 2010-2014

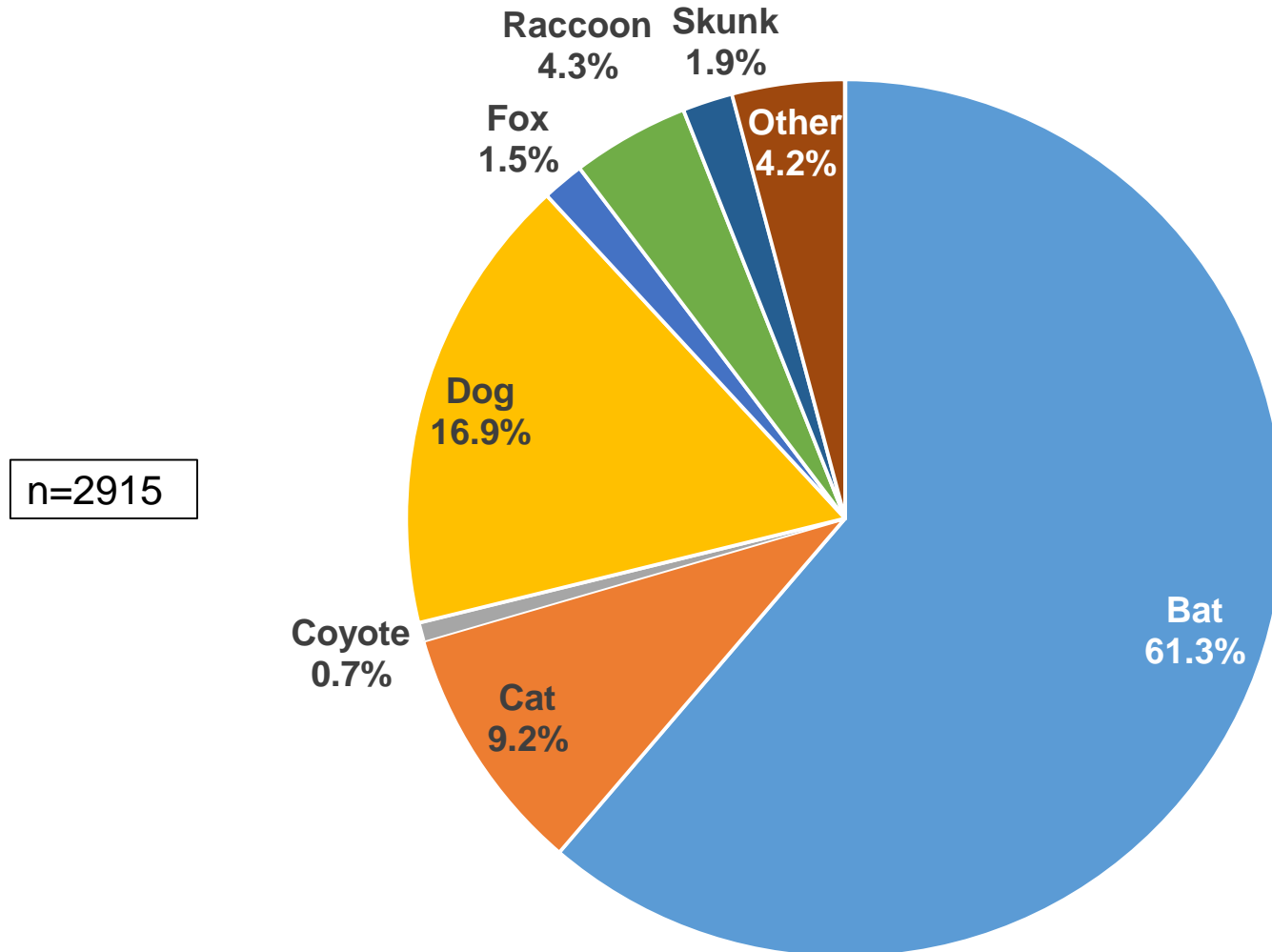


Figure 3: The largest proportion of PEP recommendations was given to those exposed to bats, followed by dogs, cats, raccoons, foxes, skunks, coyotes, and other species.

Figure 4. Rates of Animal Bite Incidents by Sex and Year, RI, 2010-2014

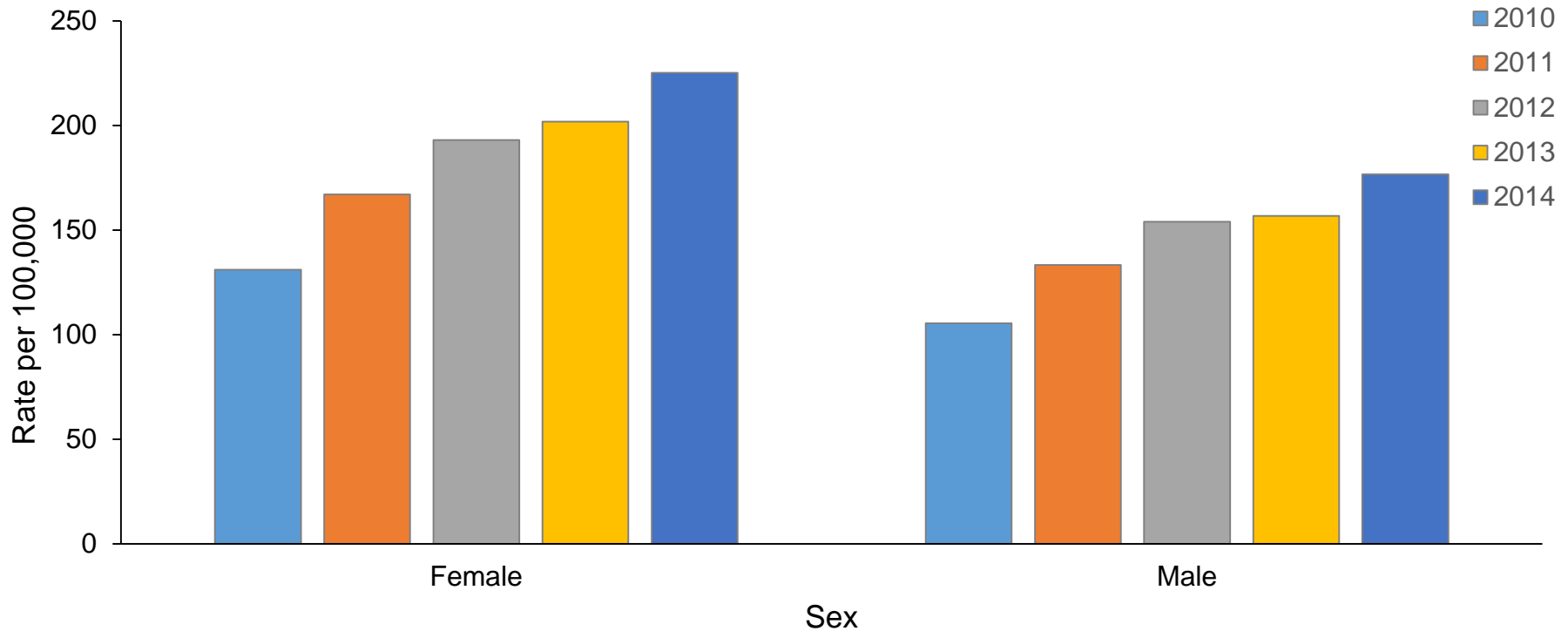


Figure 4: Rates of animal bite incidents were higher among females every year between 2010-2014 compared to males.

Figure 5: Rates of Animal Bite Incidents by Age Group, RI, 2010-2014

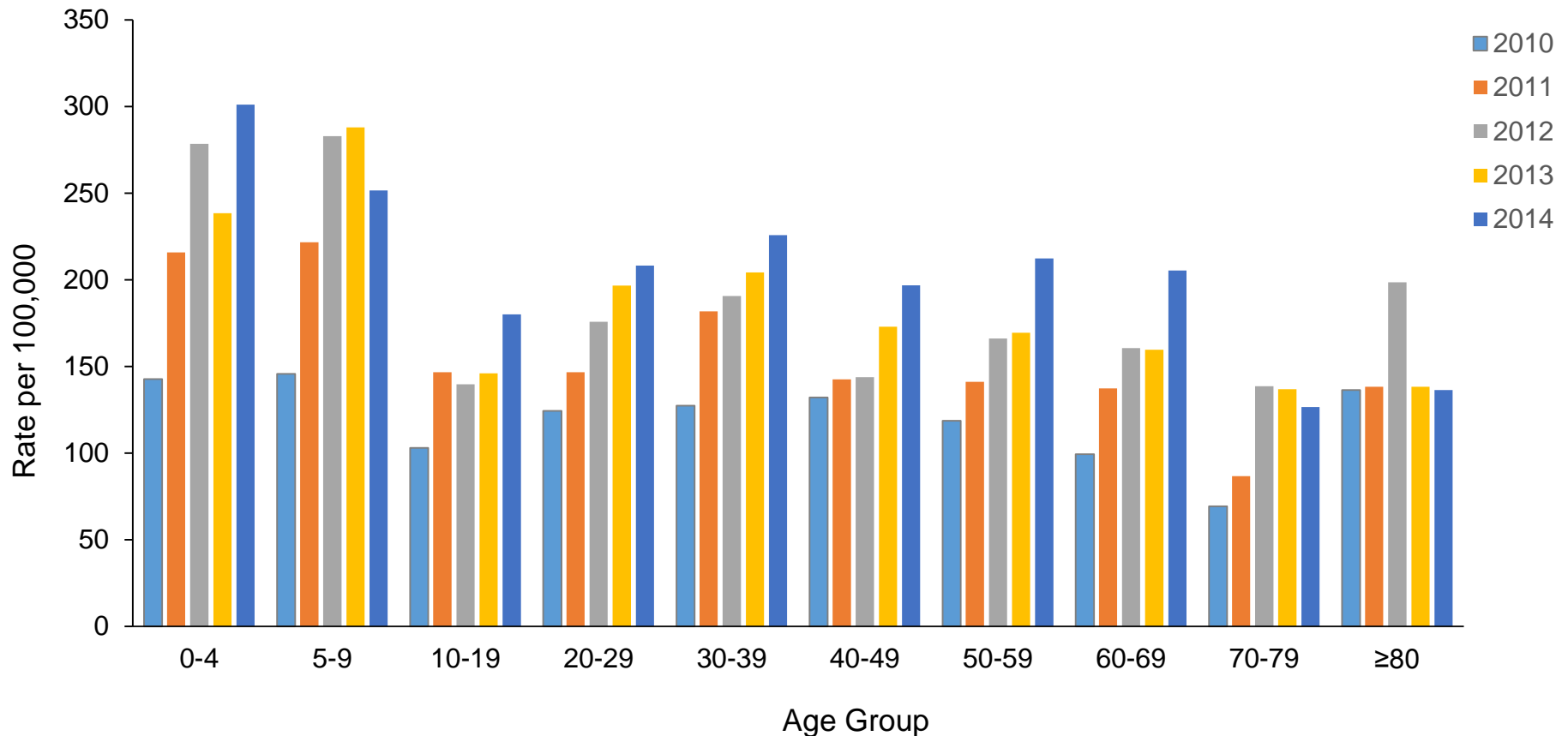


Figure 5: Animal bite incidents occurred among all age groups from 2010-2014. They were most common among children under the age of 10.

Figure 6. Rates of Animal Bite Incidents by County and Year, RI, 2010-2014

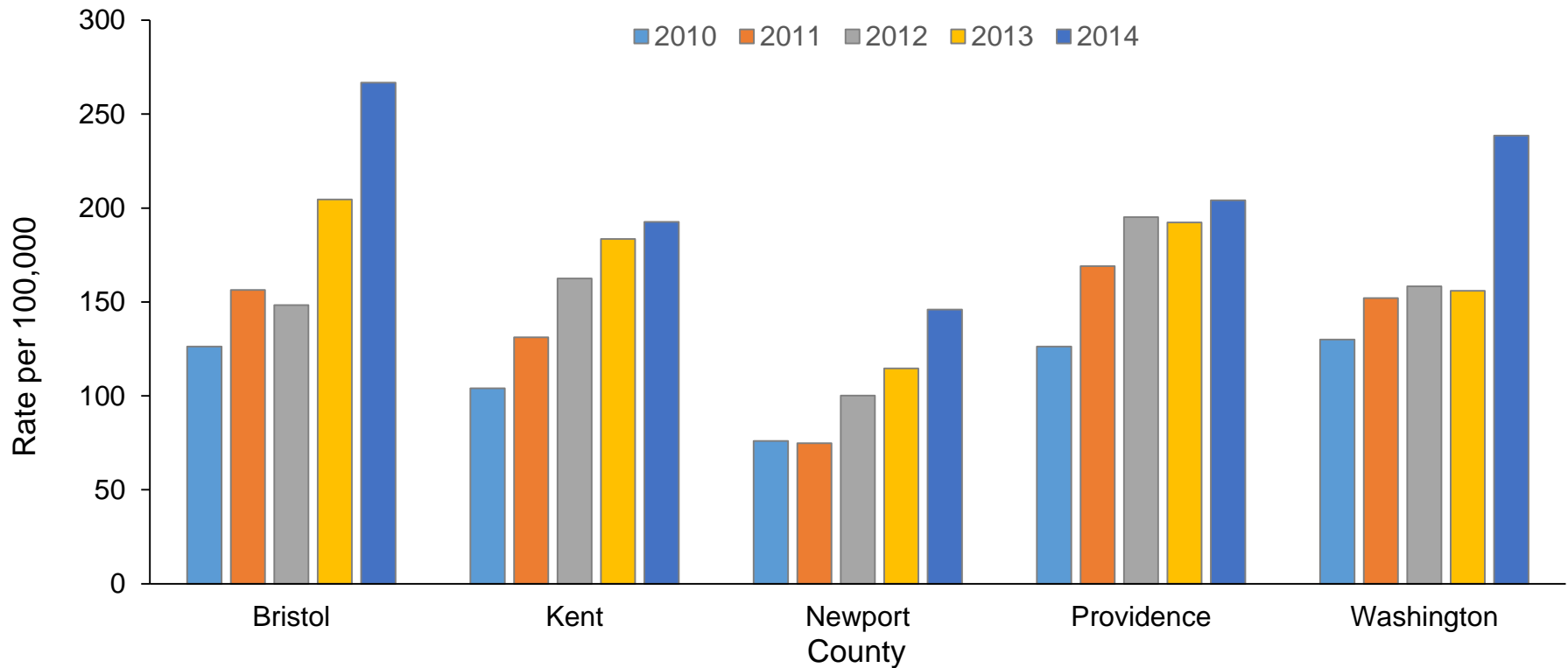


Figure 6: In 2014, rates of animal bite incidents were highest in Bristol and Washington counties. Newport County consistently had the lowest rates of animal bite incidents between 2010 and 2014.

Figure 7: Reported Animal Bite Incidents by Month and Year, RI, 2010-2014

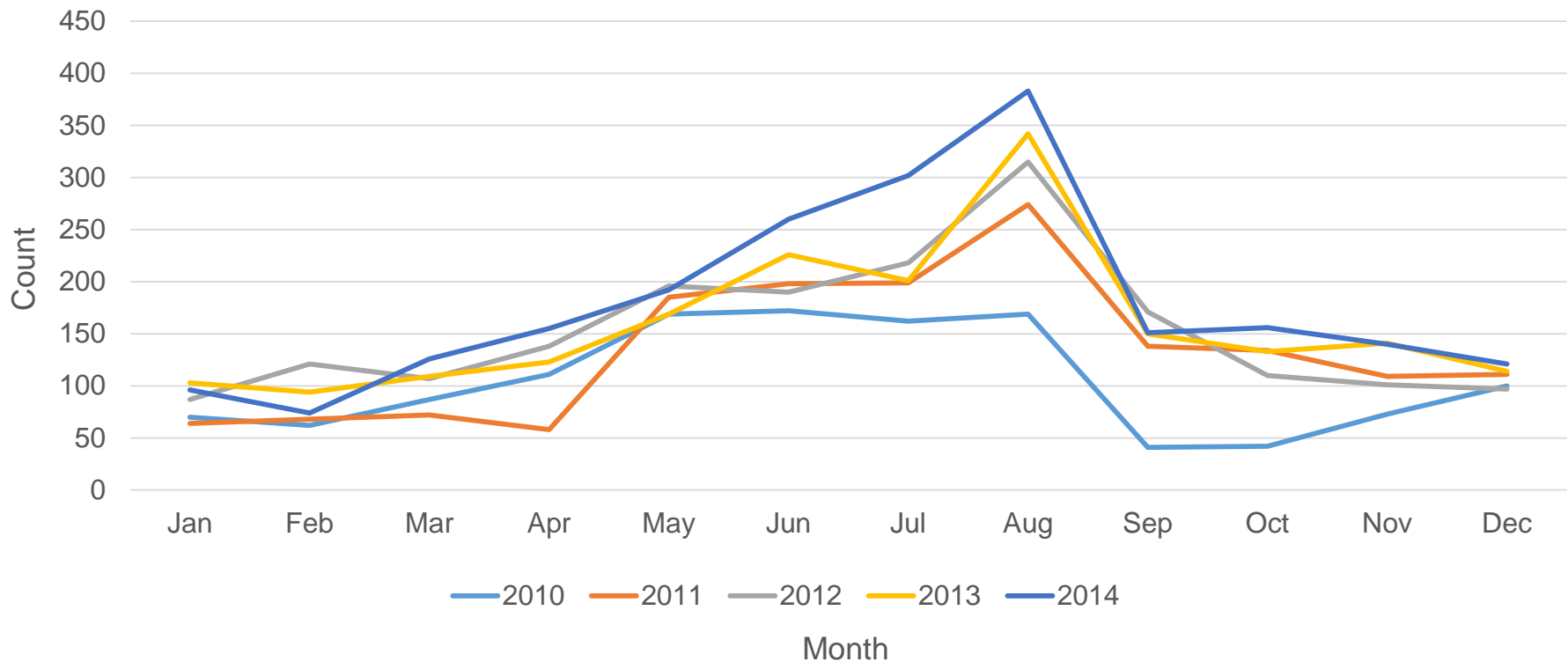


Figure 7: While animal bite incidents were reported year-round from 2010-2014, most incidents were reported during the summer months. The frequency of incidents reported peaked each year between May and August.

Table 1. Frequency of Animal Bite Incidents and PEP Recommendations by Year, RI, 2010-2014



Table 1. Frequency by Year

	2010	2011	2012	2013	2014
Animal Bite Incidents	1258	1610	1851	1905	2156
PEP Recommendations	432	538	647	606	692

Table 2. Frequency of Reported Exposing Animal Types by Year, RI, 2010-2014



Table 2. Frequency of Reported Exposing Animal Types by Year, RI, 2010-2014					
Species	2010	2011	2012	2013	2014
Bat	264	351	431	346	459
Cat	295	371	387	333	438
Dog	596	736	915	1060	1135
Raccoon	20	15	15	52	28
Skunk	6	13	16	17	4
Squirrel	11	32	14	11	19
Fox	12	14	9	5	8
Other	54	78	64	81	65
Total	1258	1610	1851	1905	2156

Table 3. Frequency of Animal Bite Incidents Requiring PEP Recommendation by Species and Year, RI, 2010-2014



Table 3. Frequency of Animal Bite Incidents Requiring PEP Recommendation by Species and Year, RI, 2010-2014					
Species	2010	2011	2012	2013	2014
Bat	260	324	415	337	450
Cat	48	61	82	44	34
Dog	64	84	88	115	143
Fox	11	13	8	5	8
Raccoon	20	13	14	51	28
Skunk	6	12	15	17	4
Other	22	31	25	37	25



Table 4. Frequency of Animal Bite Incidents by Age Group and Year, RI, 2010-2014

Table 4. Frequency by Age Group and Year

	2010	2011	2012	2013	2014
0-4	82	124	160	137	173
5-9	88	134	171	174	152
10-19	148	211	201	210	259
20-29	184	217	260	291	308
30-39	159	227	238	255	282
40-49	204	220	222	267	304
50-59	180	214	252	257	322
60-69	102	141	165	164	211
70-79	40	50	80	79	73
≥80	70	71	102	71	70
Unknown	<5	<5	0	0	<5
Total	1258	1610	1851	1905	2156

Table 5. Rates of Animal Bite Incidents by Age Group and Year, RI, 2010-2014



Table 5. Rate by Age Group and Year

	2010	2011	2012	2013	2014
0-4	142.74	215.85	278.51	238.48	301.14
5-9	145.60	221.71	282.93	287.89	251.49
10-19	102.87	146.66	139.71	145.97	180.02
20-29	124.35	146.66	175.72	196.67	208.16
30-39	127.31	181.76	190.56	204.17	225.79
40-49	132.10	142.46	143.75	172.89	196.85
50-59	118.67	141.08	166.13	169.43	212.28
60-69	99.26	137.22	160.57	159.60	205.34
70-79	69.30	86.62	138.60	136.86	126.47
≥80	136.30	138.25	198.61	138.25	136.30
Unknown	0	0	0	0	0

Tables 6 and 7. Frequency and Rates of Animal Bite Incidents by Sex and Year, RI, 2010-2014



Table 6. Frequency by Sex and Year

	2010	2011	2012	2013	2014
Female	713	909	1051	1099	1226
Male	536	678	783	797	898
Unknown	9	23	17	9	32
Total	1258	1610	1851	1905	2156

Table 7. Rate by Sex and Year

	2010	2011	2012	2013	2014
Female	131.0	167.0	193.1	202.0	225.3
Male	105.4	133.4	154.0	156.8	176.6
Unknown	1.8	4.5	3.3	1.8	6.3

Table 8. Frequency of Animal Bite Incidents By County and Year, RI, 2010-2014



Table 8. Frequency by County and Year

	2010	2011	2012	2013	2014
Bristol	63	78	74	102	133
Kent	173	218	270	305	320
Newport	63	62	83	95	121
Providence	791	1059	1223	1205	1279
Washington	165	193	201	198	303
Unknown	<5	0	0	0	0
All	1258	1610	1851	1905	2156

Table 9. Rates of Animal Bite Incidents by County and Year, RI, 2010-2014



Table 9. Rate by County and Year

	2010	2011	2012	2013	2014
Bristol	126.3	156.4	148.4	204.5	266.7
Kent	104.1	131.2	162.5	183.6	192.6
Newport	76.0	74.8	100.1	114.6	146.0
Providence	126.2	169.0	195.2	192.3	204.1
Washington	129.9	152.0	158.3	155.9	238.6
Unknown	2.4	0.0	0.0	0.0	0.0



Table 10. Frequency of Animal Bite Incidents by Month and Year, RI, 2010-2014

Table 10. Frequency by Month and Year					
	2010	2011	2012	2013	2014
Jan	70	64	87	103	96
Feb	62	68	121	94	74
Mar	87	72	107	109	126
Apr	111	58	138	123	155
May	169	185	196	169	192
Jun	172	198	190	226	260
Jul	162	199	218	201	302
Aug	169	274	315	342	383
Sep	41	138	171	150	151
Oct	42	134	110	133	156
Nov	73	109	101	141	140
Dec	100	111	97	114	121
Total	1258	1610	1851	1905	2156