Because the NIS reports hospital discharges rather than unique patients, we were unable to identify patients with multiple hospitalizations or estimate the per-person costs of hepatitis A inpatient care. We were also not able to separately report the costs associated with liver transplantation.

Even though using highly sensitive inclusion criteria might have introduced an element of cost overestimation in some patients incidentally diagnosed with hepatitis A while admitted for other conditions, our results almost certainly underestimate hospitalization costs associated with the ongoing hepatitis A outbreaks because NIS does not include hospital-based physician fees. Moreover, the national $306.8 million estimate does not account for outpatient visits, emergency department visits that did not result in an admission to the same hospital, lost productivity, out-of-pocket costs to patients or their informal caregivers, or public health costs associated with the hepatitis A outbreaks, further reinforcing the conservative nature of this estimate.

Given the high proportion of hospitalized patients during the ongoing hepatitis A outbreaks, we estimated the average hepatitis A–related hospitalization costs to highlight the preventable economic burden of these outbreaks on healthcare systems and state governments. Hepatitis A is a vaccine-preventable disease. Despite longstanding vaccination recommendations for adults at increased risk for hepatitis A virus infection or adverse consequences of infection, self-reported adult hepatitis A vaccination coverage with ≥2 doses was only 10.9% for persons ≥19 years of age in 2017 (*6*). Our findings underscore the importance of improving hepatitis A vaccination coverage among at-risk adults, in accordance with Advisory Committee on Immunization Practices recommendations (*7*).

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Crimean-Congo Hemorrhagic Fever Virus Antibodies among Livestock on Corsica, France, 2014–2016

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We conducted a serologic survey for Crimean-Congo hemorrhagic fever virus antibodies in livestock (cattle, sheep, and goats; N = 3,890) on Corsica (island of France) during 2014–2016. Overall, 9.1% of animals were seropositive, suggesting this virus circulates on Corsica. However, virus identification is needed to confirm these results.

Crimean-Congo hemorrhagic fever (CCHF), the most widespread tickborne viral infection in humans, is a zoonotic disease caused by an orthonairovirus of the *Nairoviridae* family. Symptoms in humans vary from a nonspecific mild febrile syndrome to severe hemorrhagic disease that sometimes leads to death (*1*,*2*), and a wide range of animals are asymptomatic reservoirs (*1*). Corsica is an island of France located in the northwestern part of the Mediterranean Sea (Figure, panel A). Entomologic surveys have revealed that one of the main vectors of CCHF virus (CCHFV), the *Hyalomma marginatum* tick, is abundant on this island (*1*,*3*,*4*). Therefore, we performed a serologic cross-sectional survey to assess the prevalence of antibodies against CCHFV in domestic ruminants on Corsica. This work was approved by the French Ministry of Agriculture (Direction Départementale de la Cohésion Sociale et de la Protection des Populations of Corse-du-Sud and Haute-Corse and General Directorate for Food).

As part of national surveillance for animal diseases, veterinarians collected cattle, goat, and sheep blood samples during 2014–2016. In total, 3,890 animals (1,731 cattle, 1,035 goats, 1,124 sheep) were sampled from 269 farms, originating from 46% (137/298) of the municipalities with ruminant farming activities (*3*).

We tested the collected serum samples for the presence of CCHFV IgG using a double-antigen ELISA kit (ID Screen CCHF Double Antigen Multispecies, ID.Vet, https://www.id-vet.com) according to the manufacturer's instructions (Appendix Figure, https://wwwnc.cdc.gov/EID/article/26/5/19-1465-App1.pdf). For this kit, the 95% CI for sensitivity is 96.8%–99.8%, and 95% CI for specificity is 99.8%–100% (*5*). To confirm ELISA results, we sent 35 ELISA-positive and 5 ELISA-negative serum samples to a Biosafety Level 4 laboratory (Laboratory Jean Mérieux, Lyon, France) to be analyzed by the World Health Organization and World Organisation for Animal Health national reference center for CCHFV (Institut Pasteur and Institut de Recherche Biomédicale des Armées, Paris, France). We used the pseudo–plaque reduction neutralization test (PPRNT) (*6*) to measure the neutralizing antibodies against IbAr10200 (same antigen used in ELISA) in triplicate. We included Hazara virus (same serogroup as CCHFV) and Dugbe virus (closely related virus, Nairobi sheep disease serogroup) to detect possible immune cross-reactions. We estimated overall and species-specific IgG prevalence against CCHFV using a β-binomial logistic regression model of data grouped by farm.

The overall estimated seroprevalence was 9.1% (95% CI 6.9%–11.9%); estimated seroprevalence in cattle was 13.3% (95% CI 10.2%–17.3%), goats 3.1% (95% CI 1.4%–7.0%), and sheep 2.5% (95% CI 1.0%–5.9%). CCHFV antibodies were detected across the island; 35.8% (49/137; 95% CI 27.8%–44.4%, estimated by exact binomial test) of the investigated municipalities had ≥1 positive ELISA test result. Because serum samples were not available from all municipalities, we used Voronoi polygons to draw regional boundaries and estimate the spatial distribution of seroprevalence across the island. Seroprevalence was high in the northwest corner of Corsica; however, most regions lacked evidence of seropositivity (Figure panel A). In areas corresponding to negative polygons, the probability of nondetection of positive serum samples was estimated assuming 3 levels of estimated serop-

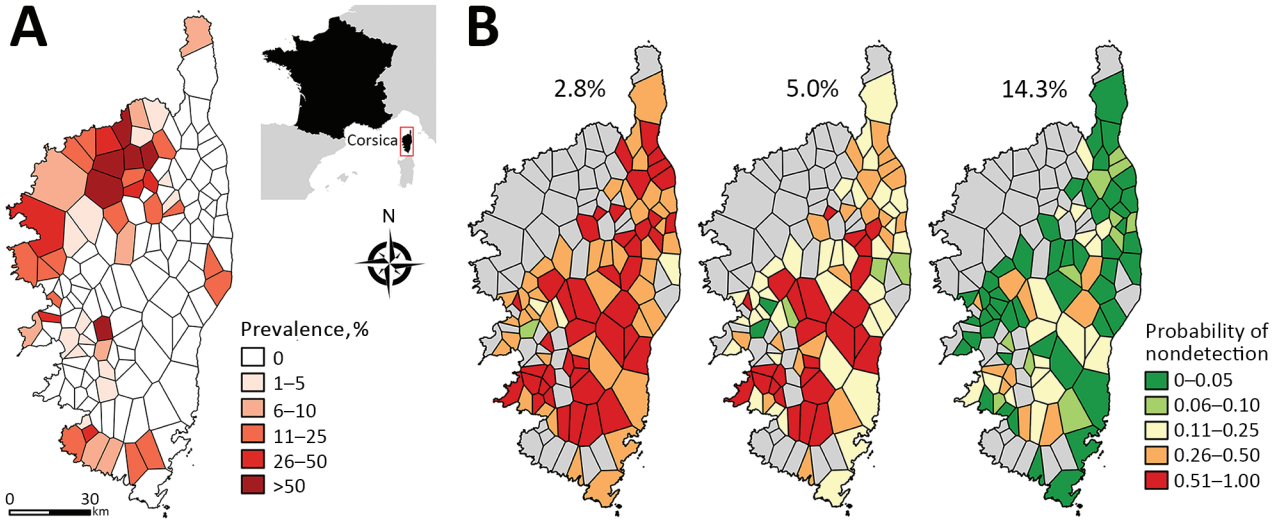

Figure. Prevalence and probability of nondetection of antibody against Crimean-Congo hemorrhagic fever virus (CCHFV) in ruminants, Corsica, France, 2014–2016. A) Spatial variability of CCHFV antibody prevalence. Inset indicates location of the island of Corsica in relation to France. B) Probability of nondetection of CCHFV antibody in areas where estimated prevalence was null. Three different probabilities were estimated in accordance with different assumptions of the estimated true seroprevalence, corresponding with the 10% quantile (2.8% seroprevalence), 25% quantile (5.0% seroprevalence), and 50% quantile (14.3% seroprevalence). In this analysis, a Voronoi diagram was used to divide the island into regions; the centroids of Voronoi polygons corresponded to municipalities where blood samples were collected.

revalence corresponding with the 10% quantile (2.8% seroprevalence), 25% quantile (5.0% seroprevalence), and 50% quantile (14.3% seroprevalence) (Figure, panel B) and by accounting for sample size. These data show that if seroprevalence in these regions is ≤5%, the probability of nondetection is high (Figure, panel B), and if the seroprevalence in these regions is ≥14.3%, the probability of nondetection is low. Therefore, the chance that we missed hotspots of transmission is highly unlikely.

Of 35 ELISA-positive serum samples tested, none showed neutralizing antibodies against Hazara and Dugbe viruses, and no ELISA-negative serum sample showed neutralizing antibodies against CCHFV, Hazara virus, or Dugbe virus (at lowest dilution 1:20; Appendix Table). Of 35 ELISA-positive serum samples, 23 had neutralizing antibodies against CCHFV at the 1:40 dilution, and 10 remained positive at the 1:80 dilution (including 2 positive at the 1:320 and 1:640 dilutions).

Our serologic survey results suggest CCHFV circulates in livestock on Corsica. Relative discrepancies between ELISA (35 positives) and PPRNT (23 positives) findings might result from their different target epitopes; the ELISA measures total immunoglobulin (neutralizing and nonneutralizing antibodies) and PPRNT just a subset (functional neutralizing antibodies) (*7*). Seroprevalence estimates were higher in cattle than smaller ruminants, probably reflecting that cattle in Corsica are more infested by *Hy. marginatum* ticks (*3*).

As of February 2020, CCHFV has not been detected in ticks on Corsica (*8*), and no clinical human case has been reported. The presence of a genetically close and less virulent strain in ticks on Corsica might help explain the lack of these findings. CCHFV was detected in ticks in Spain, where the first human cases were reported in 2016 (*9*), and in a tick collected on a migratory bird in Italy (*10*). Entomologic and epidemiologic investigations to identify the incriminated strain and characterize its spatial distribution are ongoing. This work will be essential to assess the risk for human CCHFV exposure and raise public health awareness on Corsica and in neighboring areas.

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Rise in Murine Typhus in Galveston County, Texas, USA, 2018

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Murine typhus, an undifferentiated febrile illness caused by *Rickettsia typhi*, is increasing in prevalence and distribution throughout Texas. In 2018, a total of 40 cases of murine typhus were reported in Galveston County. This increase, unprecedented since the 1940s, highlights the importance of awareness by physicians and public health officials.

Murine typhus is an undifferentiated febrile illness endemic worldwide in tropical and subtropical seaboard regions, where rats and rat fleas (*Xenopsylla cheopis*) are involved in the maintenance and transmission of the etiologic agent, *Rickettsia typhi* (*1*). Once prevalent in the United States, the disease was nearly eradicated following vector control practices of the 1940s using DDT (*2*). In 2012, murine typhus was identified in 2 patients from Galveston, Texas. The identification of cases in a city where murine typhus was perceived to have been eliminated prompted the investigation and identification of 12 patients from Galveston County in 2013 (*3*). Since then, murine typhus has been reported to the Galveston County Health District (GCHD) yearly (1 case in 2014, 8 in 2015, 2 in 2016, and 17 in 2017). Murine typhus has also increased in prevalence and distribution throughout Texas (*4*). To call attention to this increasingly prevalent disease, we

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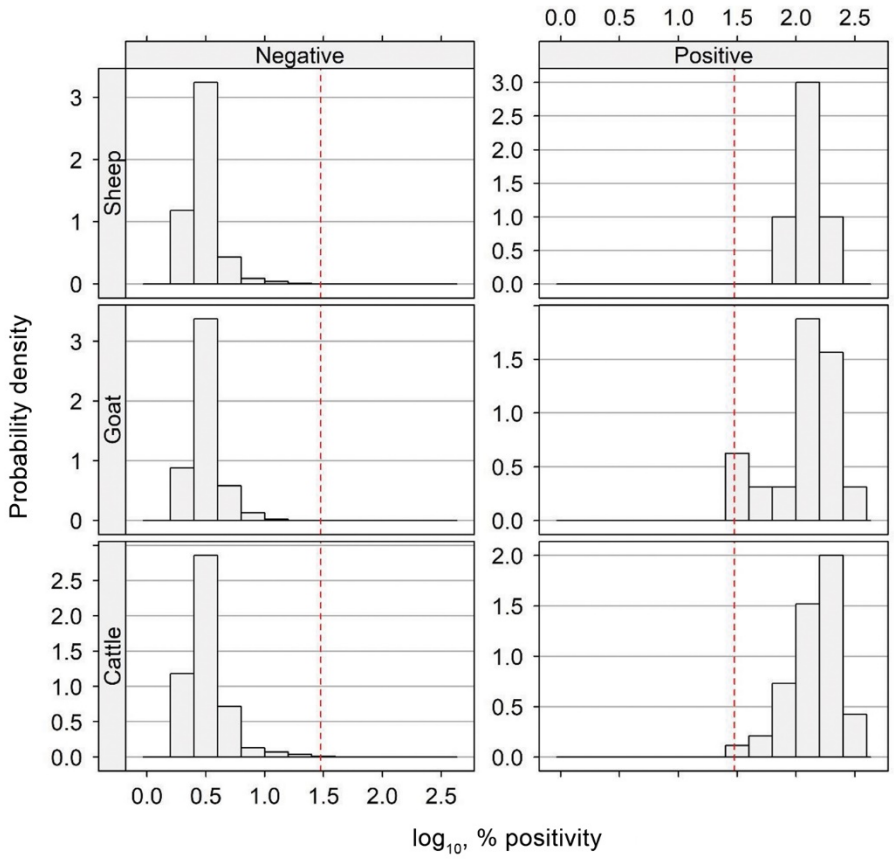
Crimean-Congo Hemorrhagic Fever Virus Antibodies among Livestock on Corsica, France, 2014–2016

Appendix

Appendix Table. Results of PPRNT on 35 ELISA-positive and 5 ELISA-negative sera, using CCHF (in triplicate), Hazara, and Dugbe viruses*

		ELISA test		PPRNT					
				CCHFv					
Sample code	Municipality	PP ELISA	Status ELISA	1st replicate†	2nd replicate	3rd replicate	Consensual titre	Hazara virus	Dugbe virus
1	Vico	292	Positive	Positive	40	80	80	<20	20
2	Vico	263	Positive	Negative	40	80	40	<20	20
3	Vico	175	Positive	Negative	20	20	20	<20	<20
4	Vico	251	Positive	Negative	40	40	40	<20	<20
5	Palasca	147	Positive	Positive	40/80	40	40	20	<20
6	Palasca	177	Positive	Positive	40/80	80	80	20	20
7	Palasca	129	Positive	Positive	80	40	80	20	<20
8	Tolla	221	Positive	Negative	40	40	40	<20	<20
9	Tolla	220	Positive	Negative	20/40	40	40	20	<20
10	Tolla	271	Positive	Negative	20/40	20	20	<20	<20
11	Castifao	194	Positive	Positive	40	40	40	20	<20
12	Castifao	161	Positive	Negative	20	20	20	20	<20
13	Castifao	162	Positive	Negative	20	40	20	<20	<20
14	Olmi Cappella	168	Positive	Positive	80	80	80	20	<20
15	Olmi Cappella	169	Positive	Positive	80	80	80	20	<20
16	Olmi Cappella	213	Positive	Positive	640	320	640	20	<20
17	Pietralba	157	Positive	Negative	80	80	80	20	<20
18	Pietralba	175	Positive	Positive	320	320	320	20	<20
19	Pietralba	157	Positive	Negative	40	40	40	<20	<20
20	Omessa	221	Positive	Positive	40	40	40	<20	20
21	Omessa	190	Positive	Negative	20/40	20	20	<20	<20
22	Omessa	202	Positive	Positive	80	80	80	<20	<20
23	Occhiatana	157	Positive	Negative	40	40	40	20	<20
24	Occhiatana	174	Positive	Negative	80/160	20	20	20	<20
25	Occhiatana	177	Positive	Negative	40	20	20	<20	<20
26	Cargèse	294	Positive	Positive	40	20	40	20	<20
27	Cargèse	235	Positive	Negative	40	20	20	<20	<20
28	Cargèse	317	Positive	Positive	80	<20	80	20	20
29	Cargèse	288	Positive	Negative	80	<20	20	20	20
30	Asco	188	Positive	Negative	20/40	<20	20	<20	20
31	Asco	190	Positive	Negative	40	40	40	<20	20
32	Asco	159	Positive	Negative	20	40	20	<20	<20
33	Casanova	151	Positive	Negative	20/40	40	40	20	<20
34	Casanova	139	Positive	Negative	20/40	80	40	20	<20
35	Casanova	164	Positive	Negative	20/40	20	20	20	<20
36	Vico	3	Negative	Negative	20	40	20	<20	<20
37	Vico	4	Negative	Negative	<20	20	<20	<20	<20
38	Tolla	29	Negative	Negative	20	<20	<20	<20	<20
39	Casanova	3	Negative	Negative	20	<20	<20	<20	<20
40	Olmi Cappella	3	Negative	Negative	<20	<20	<20	<20	<20

*For the first assay with CCHFv, the positive control could not be validated, which avoided the titration of neutralizing antibodies and resulted in a simple positive/negative note. A consensual titre was determined as a result from triplicates. CCHF, Crimean-Congo hemorrhagic fever; CCHFv, Crimean-Congo hemorrhagic fever virus; PPRNT, Pseudo-Plaque Reduction Neutralization Test.
†Positive control not validated.



Appendix Figure. ELISA results for the 3,890 serums, stratified by species (sheep, goat and cattle). Results are presented in Percent Probability (PP), which is the optical density obtained for the tested sample divided by the optical density of the positive control of the test, multiplied by 100. Log10 (PP) is represented on the plots. According to the manufacturer's instructions of the test, samples presenting a PP lesser than or equal to 30% (<=1.5 in Log10) are considered negative and those greater than 30% (>1.5 in log10) are considered positive.