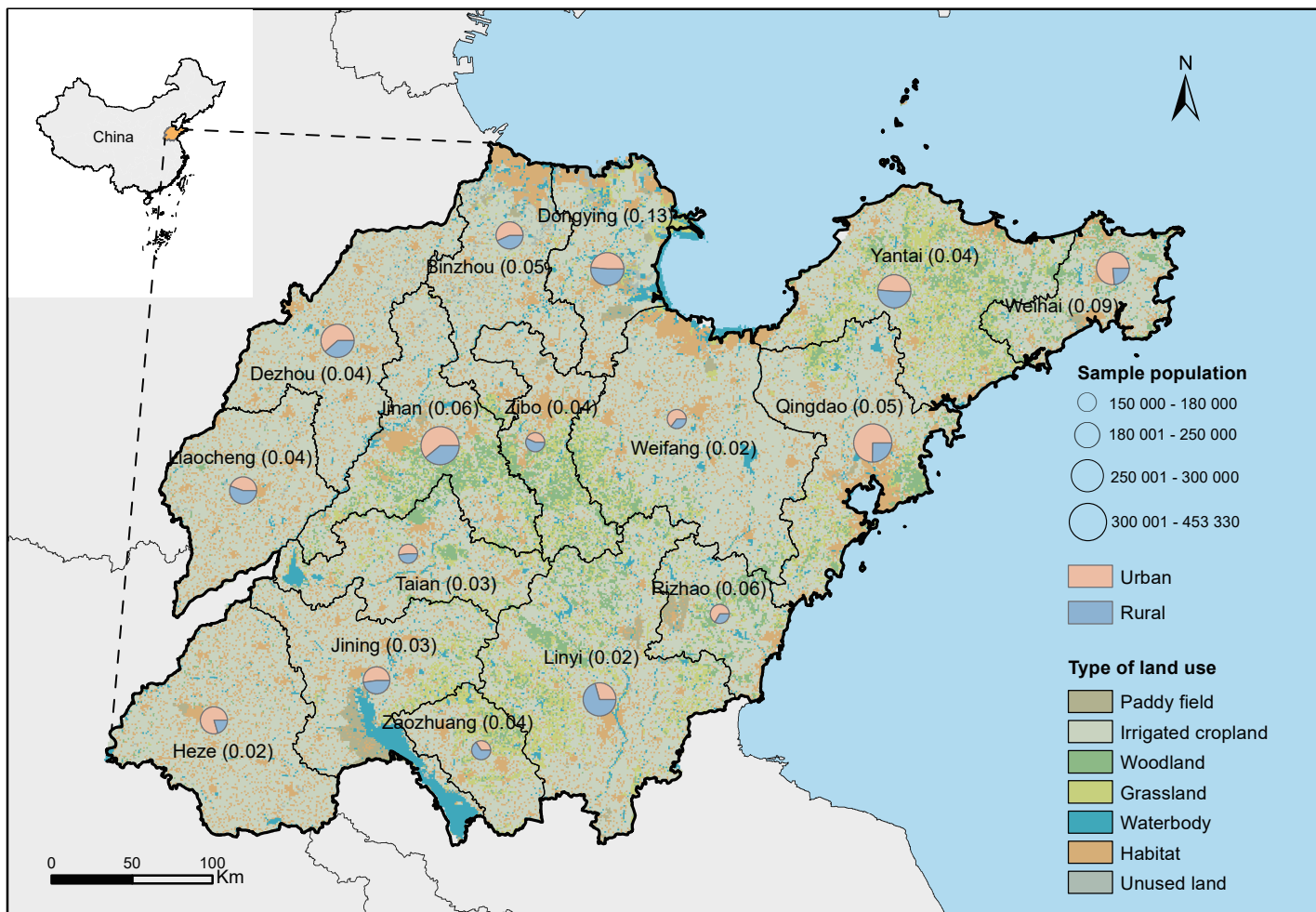
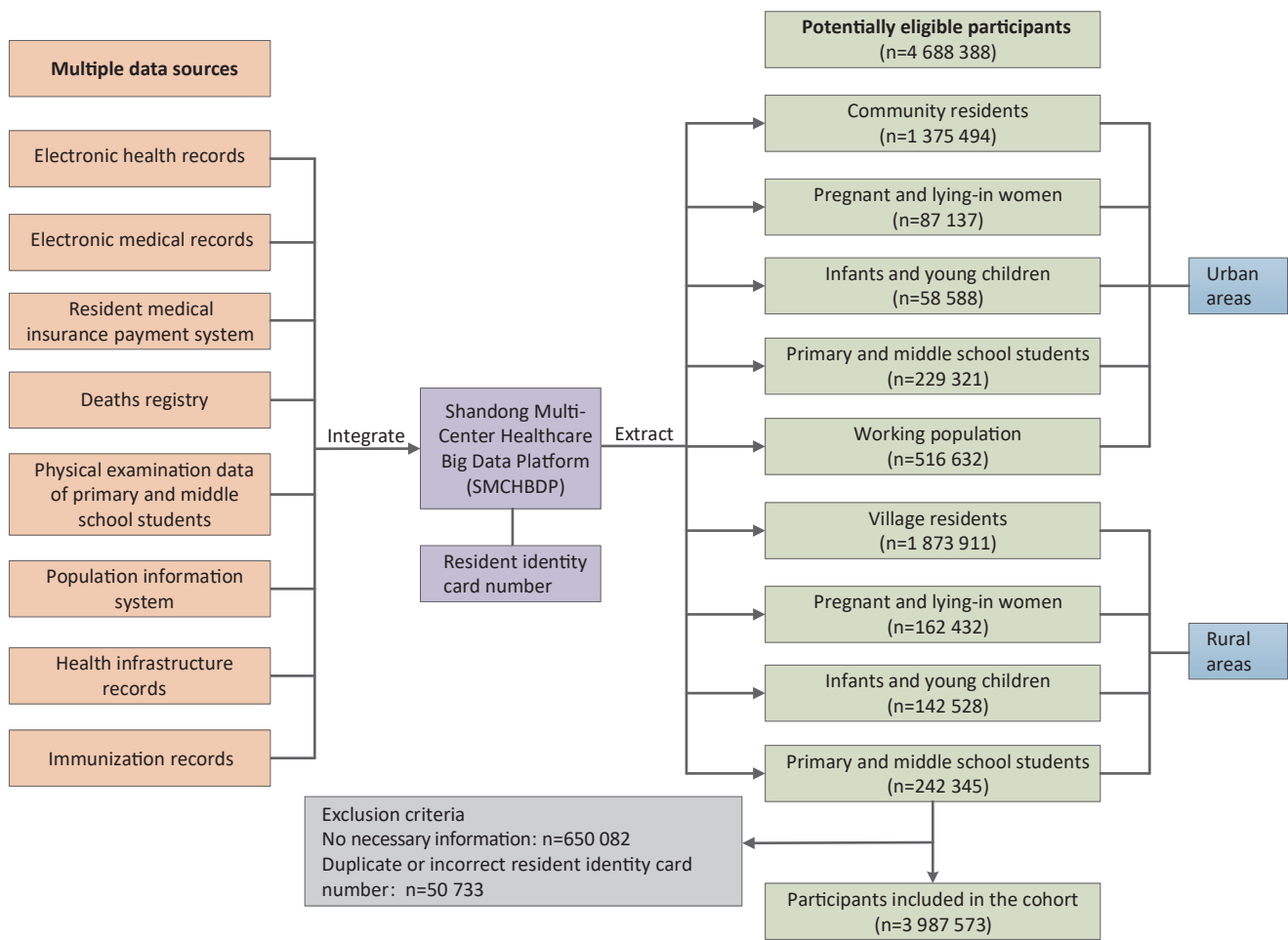


## Additional file 1

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**Figure S1: Geographical distribution of participants in Shandong province, China.** Figures in brackets represent the sample proportion of each city (sample population divided by total population).

### **Text S1: Description and classification of 39 notifiable infectious diseases in China**

The 39 notifiable infectious diseases are divided into the following three classes: class A, which includes plague and cholera; class B, which includes SARS, HIV infection, viral hepatitis, poliomyelitis, avian influenza H5N1, measles, haemorrhagic fever, rabies, epidemic encephalitis B, dengue, anthrax, bacillary and amoebic dysentery, pulmonary tuberculosis, typhoid and paratyphoid, epidemic cerebrospinal meningitis, whooping cough, diphtheria, tetanus neonatorum, scarlet fever, brucellosis, gonorrhoea, syphilis, leptospirosis, schistosomiasis, malaria, avian influenza H7N9; class C, which includes seasonal influenza, mumps, rubella, acute haemorrhagic conjunctivitis, leprosy, typhus fever, visceral leishmaniasis, echinococcosis, filariasis, hand, foot, and mouth disease, Other infectious diarrhoea (infectious diarrhoeal diseases other than cholera, bacterial and amoebic dysentery, typhoid and paratyphoid).

In particular, we divided viral hepatitis into hepatitis A, B, C, D, and E; bacterial and amoebic dysentery into two separate categories of bacterial dysentery and amoebic dysentery; typhoid and paratyphoid into two separate groups of typhoid and paratyphoid; and seasonal influenza into traditional seasonal influenza and influenza A H1N1.

**Table S1**

Characteristics of infectious diseases in Shandong province, China, from January 2013 to June 2017

Infectious diseases	Case number (n,% )*					Age of onset Median (IQR)	Incidence density (per 100 000 person-years)					Incidence density between 2013-2017 (per 100 000 person-years)
	Total	Male	Female	Urban	Rural		2013	2014	2015	2016	2017	
<b>Respiratory</b>	61951	31443 (50.75)	30508 (49.25)	37361 (60.31)	24590 (39.69)	51 (31-64)	201.00	227.54	495.83	538.3	572.77	405.00
Influenza	44588	22093 (49.55)	22495 (50.45)	28466 (63.84)	16122 (36.16)	54 (40-66)	139.76	174.83	388.05	371.43	375.51	291.49
Pneumonia	10020	5081 (50.71)	4939 (49.29)	4300 (42.91)	5720 (57.09)	31 (5-61)	15.49	20.23	59.81	109.24	138.82	65.50
Pulmonary tuberculosis	3282	2110 (64.29)	1172 (35.71)	2087 (63.59)	1195 (36.41)	49 (29-64)	16.34	15.28	24.86	25.55	25.09	21.46
Varicella	1153	568 (49.26)	585 (50.74)	804 (69.73)	349 (30.27)	27 (12-54)	17.05	2.29	5.14	5.99	9.79	7.54
Scarlet fever	801	484 (60.42)	317 (39.58)	455 (56.8)	346 (43.20)	6 (5-7)	1.84	4.28	5.79	6.94	7.47	5.24
Mumps	623	405 (65.01)	218 (34.99)	341 (54.74)	282 (45.26)	10 (7-20)	6.97	4.18	3.77	2.81	2.68	4.07
Measles	616	283 (45.94)	333 (54.06)	362 (58.77)	254 (41.23)	30 (13-42)	2.09	3.90	4.65	6.38	1.34	4.03
Cryptococcosis	213	96 (45.07)	117 (54.93)	162 (76.06)	51 (23.94)	51 (41-61)	0.04	0.15	0.28	3.52	3.30	1.39
Rubella	149	67 (44.97)	82 (55.03)	62 (41.61)	87 (58.39)	26 (0-45)	0.35	0.56	0.88	1.48	1.75	0.97
Whooping cough	141	67 (47.52)	74 (52.48)	75 (53.19)	66 (46.81)	47 (4-66)	0.21	0.74	0.57	1.30	2.16	0.92
Aspergillosis	113	65 (57.52)	48 (42.48)	79 (69.91)	34 (30.09)	65 (57-74)	0.14	0.50	0.57	1.09	1.65	0.74
Roseola infantum	73	44 (60.27)	29 (39.73)	37 (50.68)	36 (49.32)	0 (0-0)	0.35	0.28	0.71	0.64	0.26	0.48
Influenza A H1N1	45	21 (46.67)	24 (53.33)	31 (68.89)	14 (31.11)	39 (24-55)	0.07	0.06	0.23	0.58	0.57	0.29
Blastomycosis	41	16 (39.02)	25 (60.98)	33 (80.49)	8 (19.51)	37 (28-54)	0.11	0.06	0.09	0.32	1.08	0.27
Meningococcal disease	36	22 (61.11)	14 (38.89)	24 (66.67)	12 (33.33)	48 (12-71)	0.11	0.03	0.14	0.40	0.62	0.24
Leprosy	19	10 (52.63)	9 (47.37)	16 (84.21)	3 (15.79)	49 (32-62)	0.04	0	0.03	0.32	0.26	0.12
Streptococcal pharyngitis	13	1 (7.69)	12 (92.31)	10 (76.92)	3 (23.08)	44 (35-54)	0.04	0.06	0.09	0.13	0.10	0.08
Legionellosis	9	3 (33.33)	6 (66.67)	7 (77.78)	2 (22.22)	5 (3-38)	0	0	0.03	0.13	0.15	0.06
Epidemic cerebrospinal meningitis	5	4 (80.00)	1 (20.00)	3 (60.00)	2 (40.00)	8 (6-9)	0	0.03	0.06	0.03	0.05	0.03

Nocardiosis	4	1 (25.00)	3 (75.00)	1 (25.00)	3 (75.00)	60 (50-68)	0	0.03	0.06	0	0.05	0.03
Histoplasmosis	3	1 (33.33)	2 (66.67)	3 (100.00)	0 (0.00)	34 (31-39)	0	0.03	0	0.05	0	0.02
Erythema infectiosum	2	1 (50.00)	1 (50.00)	2 (100.00)	0 (0.00)	53 (49-56)	0	0	0.03	0	0.05	0.01
Coccidioidomycosis	2	0 (0.00)	2 (100.00)	1 (50.00)	1 (50.00)	51 (47-54)	0	0	0.03	0	0.05	0.01
<b>Gastrointestinal</b>	9862	4437 (44.99)	5425 (55.01)	5135 (52.07)	4727 (47.93)	50 (33-63)	42.48	16.24	49.96	94.62	144.33	64.47
Typhoid	5466	2500 (45.74)	2966 (54.26)	2630 (48.12)	2836 (51.88)	57 (45-66)	27.59	6.20	22.36	48.78	95.56	35.73
Other infectious diarrhoea†	899	389 (43.27)	510 (56.73)	641 (71.3)	258 (28.7)	31 (3-53)	1.49	3.32	4.34	10.14	11.02	5.88
Ascariasis	833	370 (44.42)	463 (55.58)	166 (19.93)	667 (80.07)	33 (10-50)	2.79	0.43	9.67	8.05	4.89	5.45
Bacterial dysentery	625	285 (45.60)	340 (54.40)	469 (75.04)	156 (24.96)	46 (23-60)	7.25	3.78	3.57	3.02	2.99	4.09
Paratyphoid	610	225 (36.89)	385 (63.11)	531 (87.05)	79 (12.95)	41 (32-54)	0.21	0.12	0.31	9.11	12.61	3.99
Amoebic dysentery	322	146 (45.34)	176 (54.66)	115 (35.71)	207 (64.29)	49 (35-60)	0.32	0.65	2.7	3.97	2.42	2.11
Gastroenteritis due to Rotavirus	216	106 (49.07)	110 (50.93)	111 (51.39)	105 (48.61)	1 (1-3)	0.88	0.22	0.77	1.46	5.25	1.41
Intestinal infections due to <i>Escherichia coli</i>	206	103 (50.00)	103 (50.00)	21 (10.19)	185 (89.81)	48 (17-61)	0	0	1.87	3.02	1.34	1.35
Oesophagostomiasis	156	51 (32.69)	105 (67.31)	144 (92.31)	12 (7.69)	50 (42-58)	0	0	0.11	2.49	2.99	1.02
Hepatitis A	102	41 (40.20)	61 (59.80)	70 (68.63)	32 (31.37)	42 (29-58)	0.39	0.25	0.96	0.85	0.88	0.67
Enterobiasis	82	46 (56.10)	36 (43.90)	19 (23.17)	63 (76.83)	18 (10-43)	0.18	0	0.91	0.85	0.67	0.54
Hepatitis E	78	52 (66.67)	26 (33.33)	53 (67.95)	25 (32.05)	58 (43-65)	0.53	0.65	0.6	0.29	0.51	0.51
Bacterial foodborne intoxications, unspecified	54	28 (51.85)	26 (48.15)	40 (74.07)	14 (25.93)	41 (33-55)	0.21	0.15	0.23	0.69	0.46	0.35
Enteritis due to Norovirus	42	20 (47.62)	22 (52.38)	17 (40.48)	25 (59.52)	49 (28-58)	0.11	0.03	0.77	0.21	0.15	0.27
Cysticercosis	42	19 (45.24)	23 (54.76)	34 (80.95)	8 (19.05)	55 (38-66)	0.11	0.15	0.17	0.48	0.51	0.27
Infections due to other <i>Salmonella</i>	33	20 (60.61)	13 (39.39)	17 (51.52)	16 (48.48)	44 (27-64)	0	0.09	0.03	0.29	0.93	0.22
Taeniasis	14	5 (35.71)	9 (64.29)	9 (64.29)	5 (35.71)	39 (14-57)	0	0.03	0.09	0.13	0.26	0.09
Campylobacteriosis	10	4 (40.00)	6 (60.00)	4 (40.00)	6 (60.00)	52 (47-61)	0.04	0.03	0.06	0.03	0.26	0.07
Toxoplasmosis	9	3 (33.33)	6 (66.67)	4 (44.44)	5 (55.56)	40 (39-46)	0.07	0	0.06	0.11	0.05	0.06
Clonorchiasis	9	2 (22.22)	7 (77.78)	7 (77.78)	2 (22.22)	48 (44-61)	0.07	0	0	0.03	0.31	0.06
Botulism	9	2 (22.22)	7 (77.78)	6 (66.67)	3 (33.33)	32 (30-53)	0	0.03	0.06	0.11	0.10	0.06

Paragonimiasis	7	3 (42.86)	4 (57.14)	2 (28.57)	5 (71.43)	57 (52-66)	0	0	0	0.19	0	0.05
Trichuriasis	6	2 (33.33)	4 (66.67)	5 (83.33)	1 (16.67)	44 (39-48)	0.04	0	0	0.11	0.05	0.04
Cryptosporidiosis	5	4 (80.00)	1 (20.00)	4 (80.00)	1 (20.00)	45 (40-47)	0	0	0.03	0.08	0.05	0.03
Capillariasis	4	2 (50.00)	2 (50.00)	0 (0.00)	4 (100.00)	30 (15-47)	0	0	0.11	0	0	0.03
Enteritis due to Adenovirus	4	3 (75.00)	1 (25.00)	2 (50.00)	2 (50.00)	1 (0-17)	0.04	0.03	0.03	0.03	0	0.03
Listeriosis	3	0 (0.00)	3 (100.00)	3 (100.00)	0 (0.00)	48 (39-57)	0	0	0	0.05	0.05	0.02
Epidemic myalgia	3	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	68 (37-71)	0	0	0.03	0.05	0	0.02
Foodborne Bacillus cereus intoxication	2	1 (50.00)	1 (50.00)	2 (100.00)	0 (0.00)	69 (69-69)	0	0.03	0.03	0	0	0.01
Intestinal infections due to Yersinia enterocolitica	2	0 (0.00)	2 (100.00)	2 (100.00)	0 (0.00)	69 (65-73)	0	0	0.06	0	0	0.01
Foodborne Clostridium perfringens intoxication	2	0 (0.00)	2 (100.00)	2 (100.00)	0 (0.00)	43 (38-47)	0.07	0	0	0	0	0.01
Giardiasis	2	1 (50.00)	1 (50.00)	2 (100.00)	0 (0.00)	48 (40-55)	0.04	0	0.03	0	0	0.01
Foodborne staphylococcal intoxication	1	1 (100.00)	0 (0.00)	1 (100.00)	0 (0.00)	78 (78-78)	0	0.03	0	0	0	0.01
Dipylidiasis	1	0 (0.00)	1 (100.00)	0 (0.00)	1 (100.00)	56 (56-56)	0	0	0.03	0	0	0.01
Cystoisosporiasis	1	0 (0.00)	1 (100.00)	0 (0.00)	1 (100.00)	50 (50-50)	0.04	0	0	0	0	0.01
Fascioliasis	1	1 (100.00)	0 (0.00)	1 (100.00)	0 (0.00)	46 (46-46)	0.04	0	0	0	0	0.01
Syngamosis	1	1 (100.00)	0 (0.00)	0 (0.00)	1 (100.00)	31 (31-31)	0	0	0	0.03	0	0.01
<b>Vector-borne</b>	<b>1128</b>	<b>613 (54.34)</b>	<b>515 (45.66)</b>	<b>780 (69.15)</b>	<b>348 (30.85)</b>	<b>44 (31-54)</b>	<b>2.33</b>	<b>3.04</b>	<b>5.59</b>	<b>12.39</b>	<b>15.4</b>	<b>7.37</b>
Brucellosis	640	348 (54.38)	292 (45.62)	497 (77.66)	143 (22.34)	42 (30-50)	0.39	0.90	1.48	8.32	12.05	4.18
Hemorrhagic fever	151	103 (68.21)	48 (31.79)	68 (45.03)	83 (54.97)	49 (43-61)	0.92	0.84	1.13	1.19	0.67	0.99
Typhus fever	49	20 (40.82)	29 (59.18)	31 (63.27)	18 (36.73)	56 (48-63)	0.18	0.28	0.40	0.40	0.31	0.32
Orf	47	24 (51.06)	23 (48.94)	33 (70.21)	14 (29.79)	15 (8-24)	0.21	0.37	0.34	0.32	0.26	0.31
Erysipeloid	45	26 (57.78)	19 (42.22)	33 (73.33)	12 (26.67)	55 (38-64)	0.18	0.15	0.43	0.45	0.15	0.29
Severe fever with thrombocytopenia syndrome	44	22 (50.00)	22 (50.00)	23 (52.27)	21 (47.73)	63 (53-69)	0.07	0.06	0.68	0.34	0.15	0.29
Malaria	37	32 (86.49)	5 (13.51)	26 (70.27)	11 (29.73)	41 (31-47)	0.07	0.19	0.28	0.34	0.31	0.24
Spotted fever	23	6 (26.09)	17 (73.91)	18 (78.26)	5 (21.74)	42 (31-53)	0	0	0.31	0.13	0.36	0.15
Tularemia	20	6 (30.00)	14 (70.00)	11 (55.00)	9 (45.00)	57 (48-64)	0.04	0.06	0.14	0.11	0.41	0.13

Leptospirosis	10	3 (30.00)	7 (70.00)	5 (50.00)	5 (50.00)	28 (27-29)	0	0	0.03	0.11	0.26	0.07
Epidemic encephalitis B	10	4 (40.00)	6 (60.00)	9 (90.00)	1 (10.00)	52 (38-61)	0.18	0.03	0	0.11	0	0.07
Extraintestinal yersiniosis	9	4 (44.44)	5 (55.56)	7 (77.78)	2 (22.22)	60 (31-62)	0.04	0.06	0	0.13	0.05	0.06
Glanders	9	5 (55.56)	4 (44.44)	2 (22.22)	7 (77.78)	41 (37-59)	0	0	0.14	0.08	0.05	0.06
Cat-scratch disease	5	1 (20.00)	4 (80.00)	1 (20.00)	4 (80.00)	44 (11-53)	0	0	0.06	0.08	0	0.03
Relapsing fever	4	1 (25.00)	3 (75.00)	3 (75.00)	1 (25.00)	62 (47-74)	0.04	0.03	0	0	0.10	0.03
Monkeypox	4	2 (50.00)	2 (50.00)	3 (75.00)	1 (25.00)	46 (39-55)	0	0	0	0.05	0.10	0.03
Q fever	4	0 (0.00)	4 (100.00)	2 (50.00)	2 (50.00)	40 (19-67)	0	0	0.06	0.03	0.05	0.03
Yellow fever	3	1 (33.33)	2 (66.67)	0 (0.00)	3 (100.00)	69 (56-71)	0	0	0	0.08	0	0.02
Eastern equine encephalitis	2	0 (0.00)	2 (100.00)	0 (0.00)	2 (100.00)	69 (69-70)	0	0	0.03	0	0.05	0.01
Melioidosis	2	0 (0.00)	2 (100.00)	1 (50.00)	1 (50.00)	75 (71-78)	0	0	0.06	0	0	0.01
African trypanosomiasis	2	1 (50.00)	1 (50.00)	1 (50.00)	1 (50.00)	67 (61-74)	0	0.03	0	0	0.05	0.01
Visceral leishmaniasis	2	2 (100.00)	0 (0.00)	1 (50.00)	1 (50.00)	29 (28-30)	0	0	0	0.05	0	0.01
Dengue	2	1 (50.00)	1 (50.00)	1 (50.00)	1 (50.00)	21 (16-26)	0	0.03	0	0.03	0	0.01
Bartonellosis	1	0 (0.00)	1 (100.00)	1 (100.00)	0 (0.00)	53 (53-53)	0	0	0	0.03	0	0.01
Crimean-Congo haemorrhagic fever	1	0 (0.00)	1 (100.00)	1 (100.00)	0 (0.00)	41 (41-41)	0	0	0.03	0	0	0.01
Rickettsialpox	1	0 (0.00)	1 (100.00)	1 (100.00)	0 (0.00)	35 (35-35)	0	0	0	0.03	0	0.01
Lyme borreliosis	1	1 (100.00)	0 (0.00)	1 (100.00)	0 (0.00)	28 (28-28)	0.04	0	0	0	0	0.01
<b>Blood- and sexually transmitted</b>	10170	5285 (51.97)	4885 (48.03)	6971 (68.54)	3199 (31.46)	43 (31-55)	46.2	46.17	63.67	76.59	115.23	66.48
Hepatitis B	6576	4091 (62.21)	2485 (37.79)	4487 (68.23)	2089 (31.77)	46 (35-57)	38.00	36.77	48.28	45.08	47.23	43.03
Syphilis	1667	254 (15.24)	1413 (84.76)	1269 (76.12)	398 (23.88)	31 (27-38)	1.17	2.01	3.12	14.88	46.19	10.9
Hepatitis C	517	337 (65.18)	180 (34.82)	403 (77.95)	114 (22.05)	50 (38-60)	3.96	3.13	3.55	3.39	2.63	3.38
Gonorrhoea	433	263 (60.74)	170 (39.26)	222 (51.27)	211 (48.73)	43 (28-58)	0.6	0.43	3.01	4.95	5.61	2.83
Trichomoniasis	394	9 (2.28)	385 (97.72)	251 (63.71)	143 (36.29)	36 (28-45)	1.49	1.55	2.50	3.20	4.79	2.58
Anogenital warts	234	103 (44.02)	131 (55.98)	146 (62.39)	88 (37.61)	30 (25-45)	0.25	0.71	1.16	2.70	3.14	1.53
Cytomegaloviral disease	183	100 (54.64)	83 (45.36)	80 (43.72)	103 (56.28)	2 (0-32)	0.25	1.08	1.25	1.40	2.27	1.20

HIV infection	89	75 (84.27)	14 (15.73)	64 (71.91)	25 (28.09)	35 (28-48)	0.25	0.12	0.28	0.34	2.83	0.58
Anogenital herpes simplex infection	53	37 (69.81)	16 (30.19)	34 (64.15)	19 (35.85)	51 (38-54)	0.14	0.31	0.45	0.48	0.26	0.35
Granuloma inguinale	12	8 (66.67)	4 (33.33)	4 (33.33)	8 (66.67)	49 (41-53)	0	0.03	0.06	0.13	0.21	0.08
Hepatitis D	9	7 (77.78)	2 (22.22)	9 (100.00)	0 (0.00)	61 (45-62)	0.04	0.03	0.06	0.05	0.15	0.06
Chancroid	2	1 (50.00)	1 (50.00)	2 (100.00)	0 (0.00)	48 (44-51)	0.07	0	0	0	0	0.01
Warts of lips or oral cavity	1	0 (0.00)	1 (100.00)	0 (0.00)	1 (100.00)	4 (4-4)	0	0	0	0.03	0	0.01
<b>Mucocutaneous</b>	<b>23178</b>	<b>11435 (49.34)</b>	<b>11743 (50.66)</b>	<b>15500 (66.87)</b>	<b>7678 (33.13)</b>	<b>44 (14-62)</b>	<b>72.8</b>	<b>104.06</b>	<b>156.13</b>	<b>209.43</b>	<b>224.03</b>	<b>151.52</b>
Zoster	10636	4902 (46.09)	5734 (53.91)	7437 (69.92)	3199 (30.08)	58 (44-68)	28.76	36.91	73.71	100.29	115.7	69.53
Hand, foot, and mouth disease	5188	3158 (60.87)	2030 (39.13)	2466 (47.53)	2722 (52.47)	2 (1-4)	19.14	43.66	39.13	39.06	19.77	33.92
Viral conjunctivitis	1914	813 (42.48)	1101 (57.52)	1739 (90.86)	175 (9.14)	56 (42-65)	7.64	6.82	12.94	17.27	19.05	12.51
Trachoma	1176	478 (40.65)	698 (59.35)	934 (79.42)	242 (20.58)	57 (43-68)	9.98	6.20	7.18	6.99	9.11	7.69
Common warts	1156	645 (55.8)	511 (44.20)	805 (69.64)	351 (30.36)	34 (27-47)	0.71	1.98	5.42	13.27	19.57	7.56
Herpes simplex infections	718	326 (45.40)	392 (54.60)	521 (72.56)	197 (27.44)	43 (29-59)	2.12	2.39	3.97	7.04	9.01	4.69
Plane warts	487	187 (38.40)	300 (61.60)	321 (65.91)	166 (34.09)	32 (27-41)	0.71	0.84	2.67	5.27	7.57	3.18
Impetigo	479	204 (42.59)	275 (57.41)	288 (60.13)	191 (39.87)	33 (10-52)	1.27	1.49	2.58	5.35	5.25	3.13
Non-dermatophyte superficial dermatomycoses	339	170 (50.15)	169 (49.85)	244 (71.98)	95 (28.02)	33 (26-46)	0.50	0.74	1.84	4.24	3.91	2.22
Molluscum contagiosum	274	101 (36.86)	173 (63.14)	194 (70.8)	80 (29.20)	29 (25-37)	0.35	0.31	0.94	2.86	5.82	1.79
Infectious mononucleosis	243	129 (53.09)	114 (46.91)	181 (74.49)	62 (25.51)	6 (3-24)	0.81	1.92	1.79	1.69	1.60	1.59
Scabies	167	107 (64.07)	60 (35.93)	99 (59.28)	68 (40.72)	28 (21-45)	0.11	0.31	1.13	1.46	3.04	1.09
PIPSM	155	92 (59.35)	63 (40.65)	84 (54.19)	71 (45.81)	2 (1-3)	0.25	0.12	1.05	2.12	1.39	1.01
Myiasis	72	43 (59.72)	29 (40.28)	66 (91.67)	6 (8.33)	38 (26-54)	0.04	0.03	0.51	0.82	1.08	0.47
Tetanus	35	13 (37.14)	22 (62.86)	25 (71.43)	10 (28.57)	45 (27-53)	0.18	0.15	0.17	0.45	0.10	0.23
Rabies	29	19 (65.52)	10 (34.48)	11 (37.93)	18 (62.07)	29 (7-46)	0	0	0.60	0.11	0.21	0.19
Yaws	29	13 (44.83)	16 (55.17)	24 (82.76)	5 (17.24)	50 (31-62)	0	0	0.06	0.21	0.98	0.19
Acute hemorrhagic conjunctivitis	13	8 (61.54)	5 (38.46)	11 (84.62)	2 (15.38)	40 (34-50)	0.11	0	0.09	0.05	0.26	0.08
Eumycetoma	11	4 (36.36)	7 (63.64)	11 (100.00)	0 (0.00)	49 (42-75)	0.11	0	0.06	0.13	0.05	0.07



Infestation by mites	11	5 (45.45)	6 (54.55)	7 (63.64)	4 (36.36)	40 (24-61)	0.04	0.03	0.06	0.11	0.15	0.07
Infantile papular acrodermatitis	9	5 (55.56)	4 (44.44)	5 (55.56)	4 (44.44)	3 (2-12)	0	0	0.09	0.11	0.1	0.06
Echinococcosis	8	4 (50.00)	4 (50.00)	6 (75.00)	2 (25.00)	58 (42-61)	0	0.03	0.06	0.11	0.05	0.05
Sporotrichosis	7	1 (14.29)	6 (85.71)	4 (57.14)	3 (42.86)	51 (47-66)	0	0	0	0.08	0.21	0.05
Strongyloidiasis	5	3 (60.00)	2 (40.00)	3 (60.00)	2 (40.00)	68 (62-75)	0	0.06	0	0.08	0	0.03
Obstetrical tetanus	5	0 (0.00)	5 (100.00)	5 (100.00)	0 (0.00)	27 (24-30)	0	0	0	0.13	0	0.03
Hookworm diseases	4	1 (25.00)	3 (75.00)	3 (75.00)	1 (25.00)	51 (44-56)	0	0	0.09	0	0.05	0.03
Gas gangrene	3	2 (66.67)	1 (33.33)	3 (100.00)	0 (0.00)	60 (55-70)	0	0	0.03	0.05	0	0.02
Acanthamoebiasis	3	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	30 (27-33)	0	0.03	0	0.05	0	0.02
External hirudiniasis	1	0 (0.00)	1 (100.00)	1 (100.00)	0 (0.00)	69 (69-69)	0	0.03	0	0	0	0.01
Phaeohyphomycosis	1	0 (0.00)	1 (100.00)	0 (0.00)	1 (100.00)	40 (40-40)	0	0	0	0.03	0	0.01

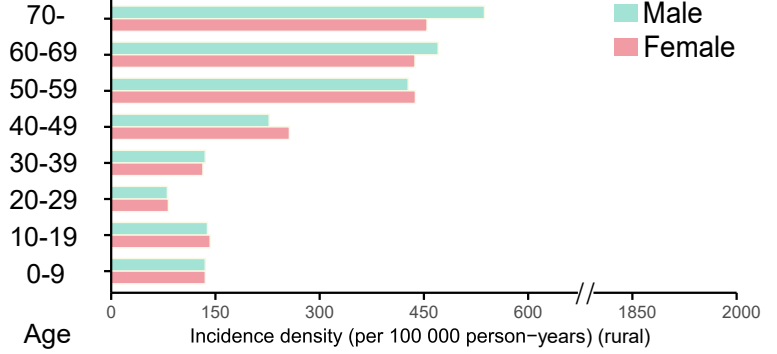
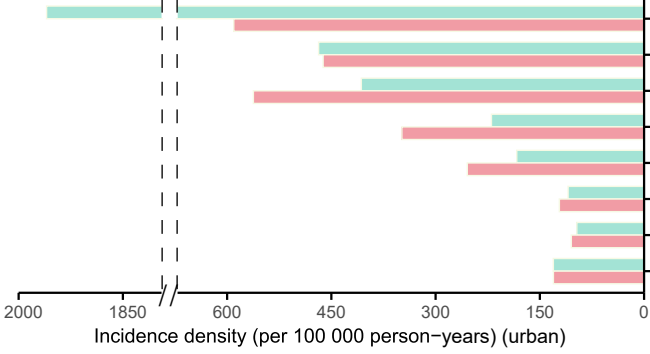
\*Total number of cases during January 2013 to June 2017.

†Infectious diarrhoeal diseases other than cholera, bacterial dysentery, amoebic dysentery, typhoid, and paratyphoid.

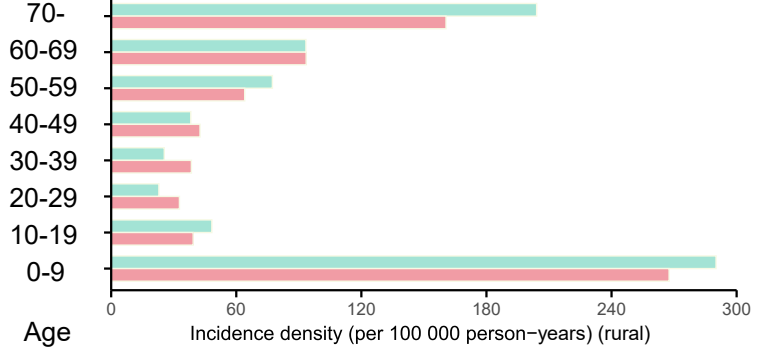
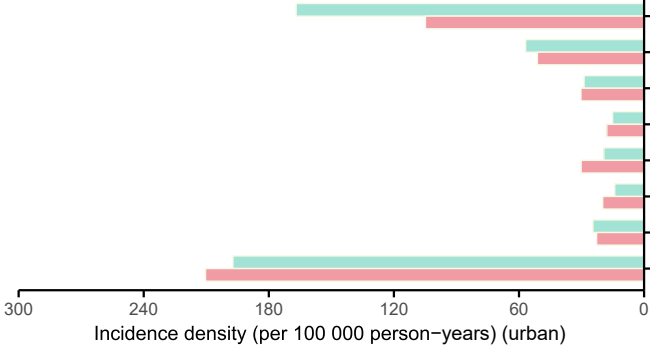
HIV=human immunodeficiency virus, PIPSM=picornavirus infections presenting in the skin or mucous membranes.

# Respiratory

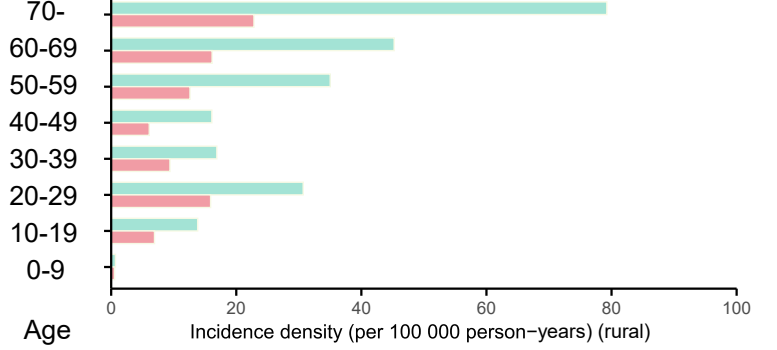
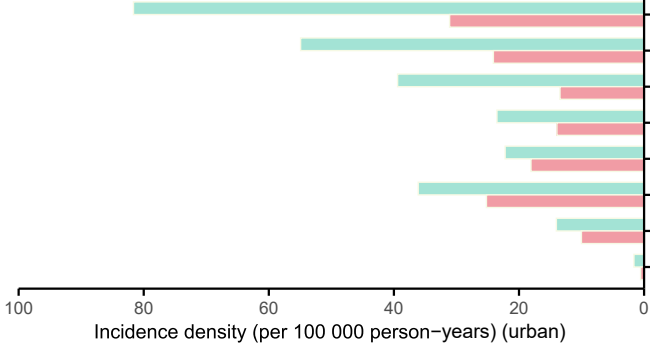
## Influenza



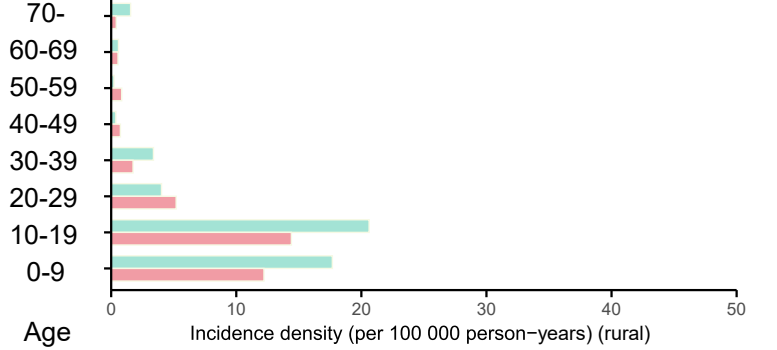
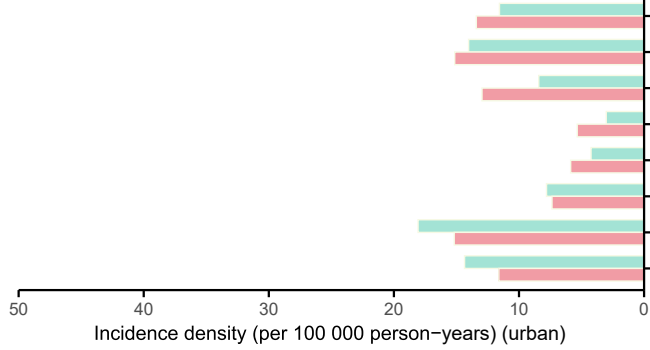
## Pneumonia



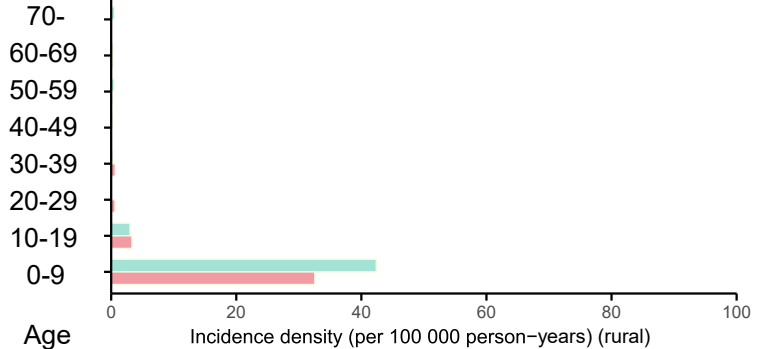
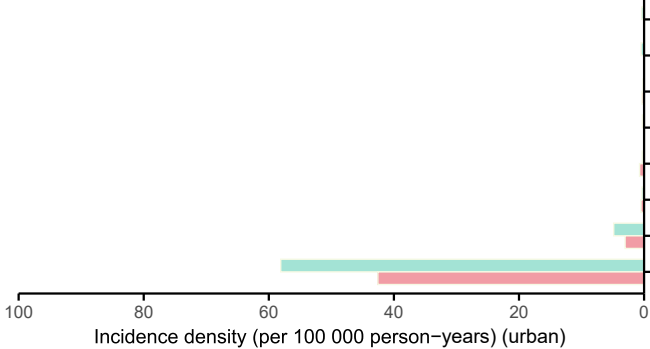
## Pulmonary tuberculosis



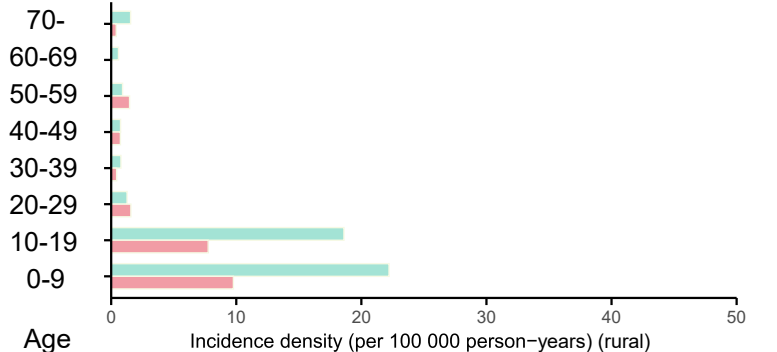
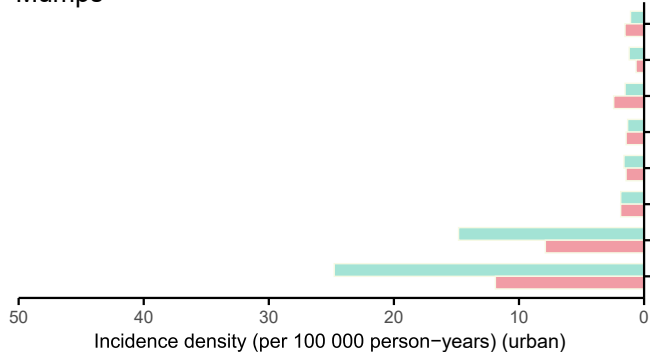
## Varicella



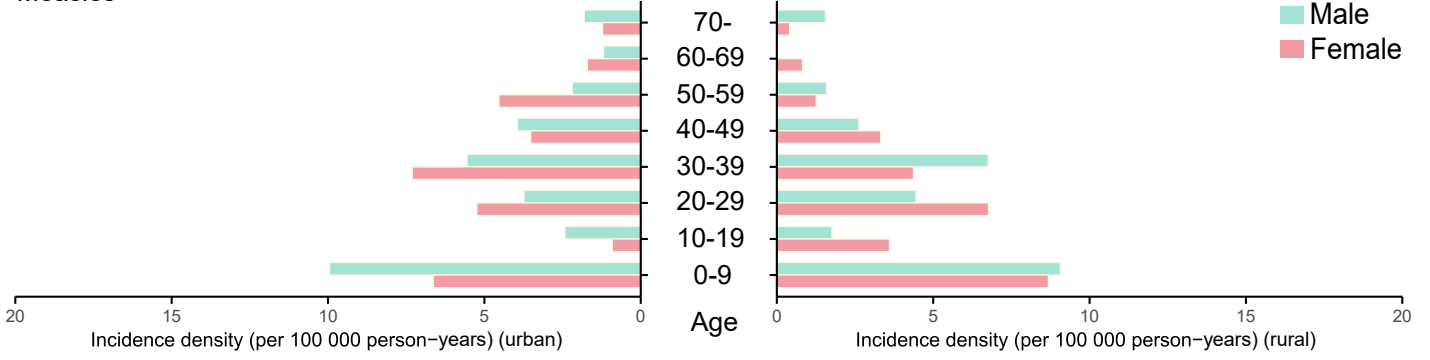
## Scarlet fever



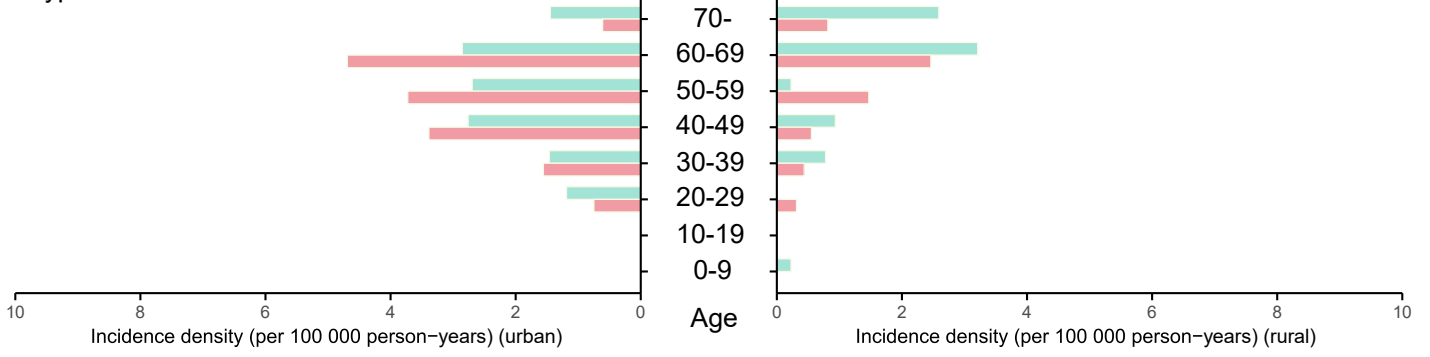
## Mumps



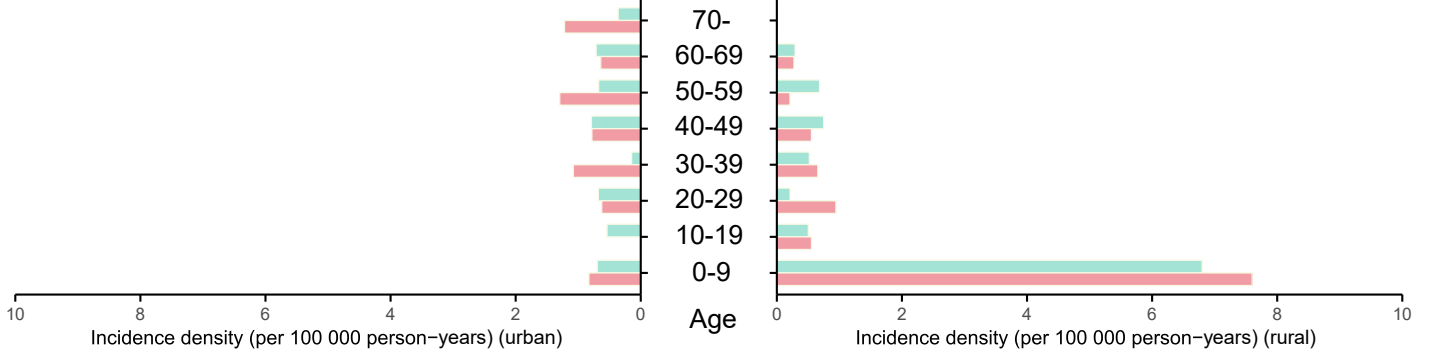
### Measles



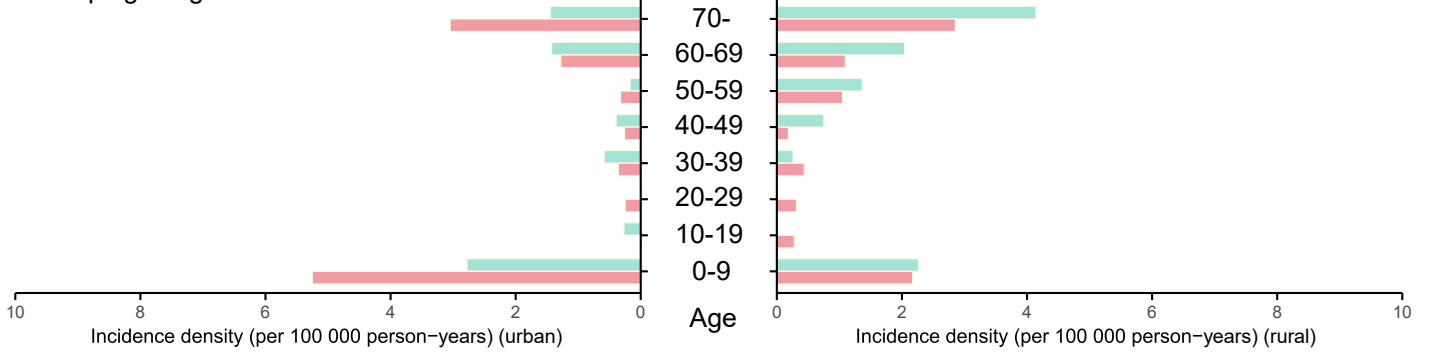
### Cryptococcosis



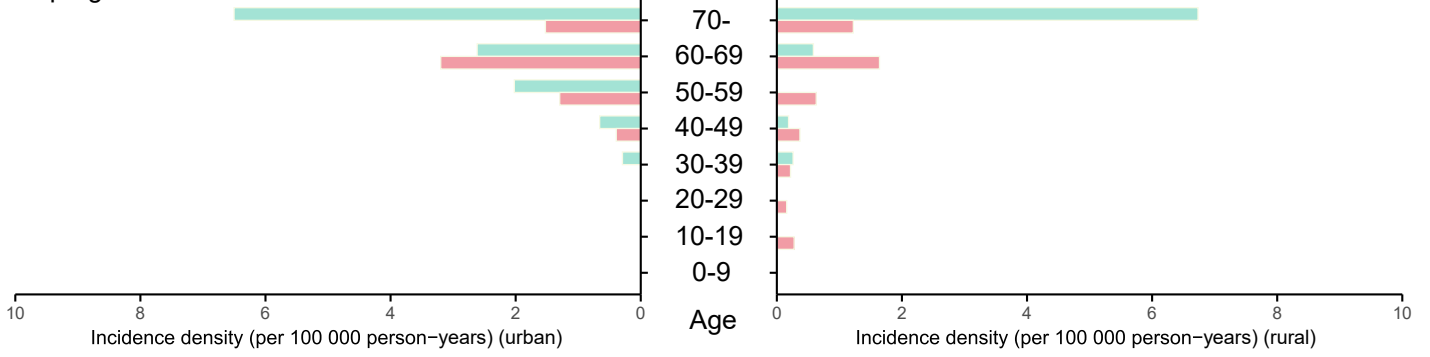
### Rubella



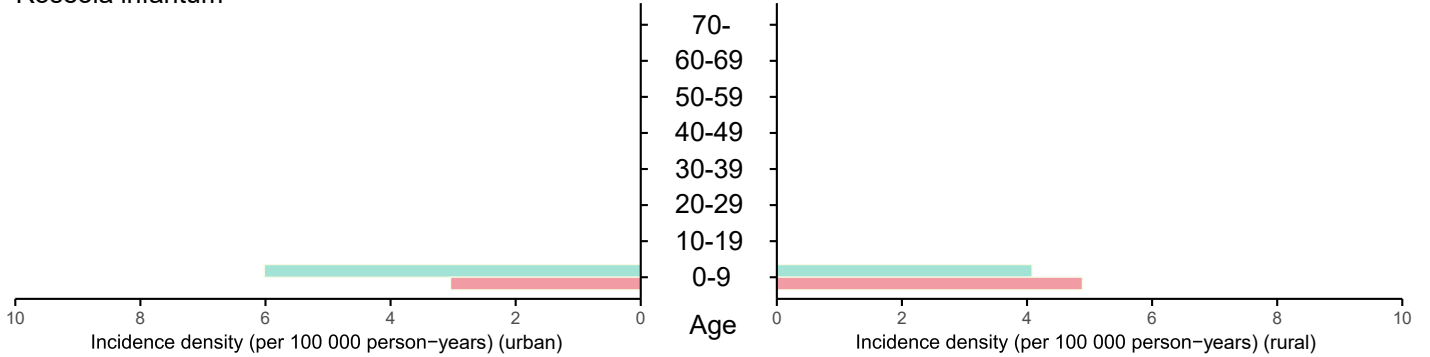
### Whooping cough



### Aspergillosis

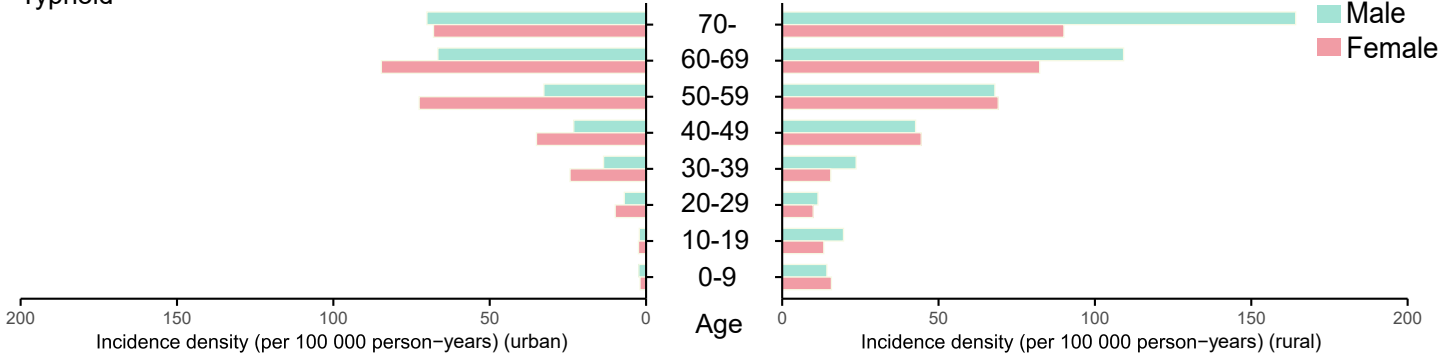


### Roseola infantum

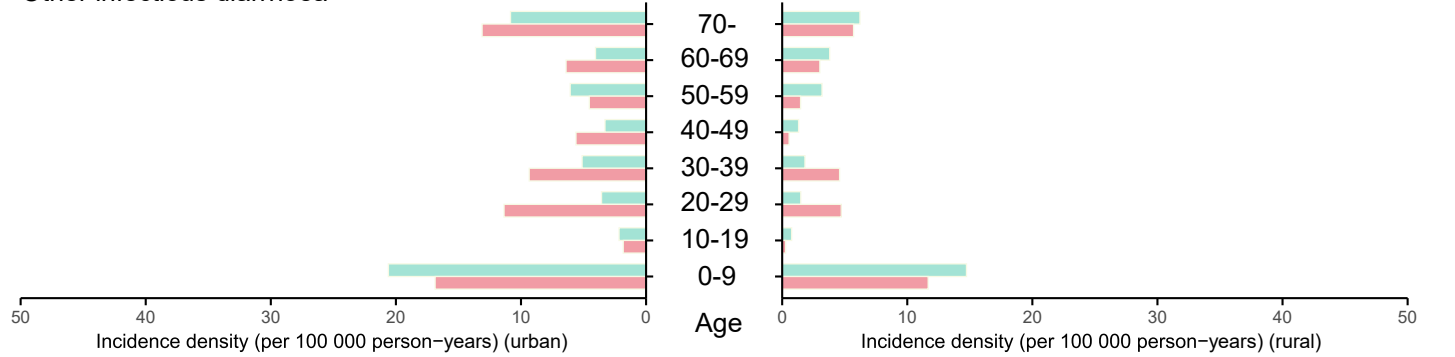


# Gastrointestinal

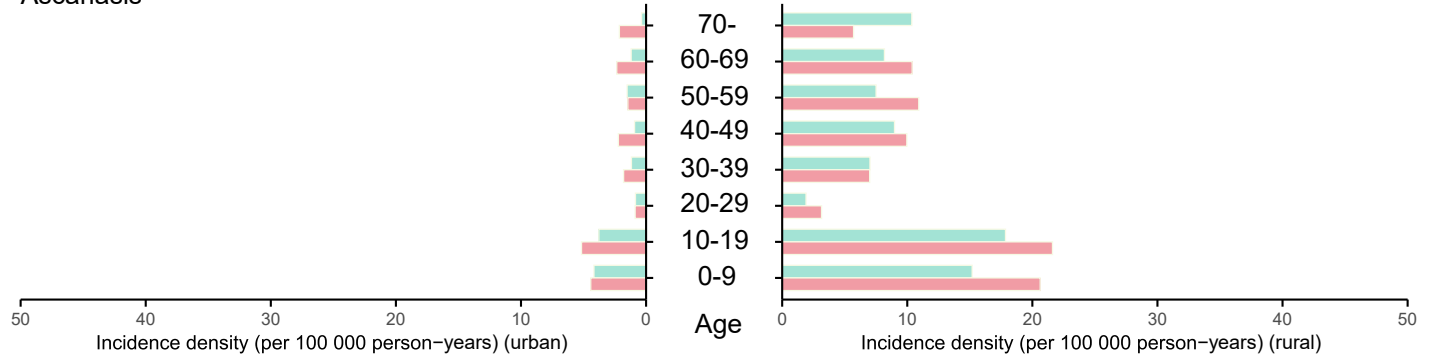
Typhoid



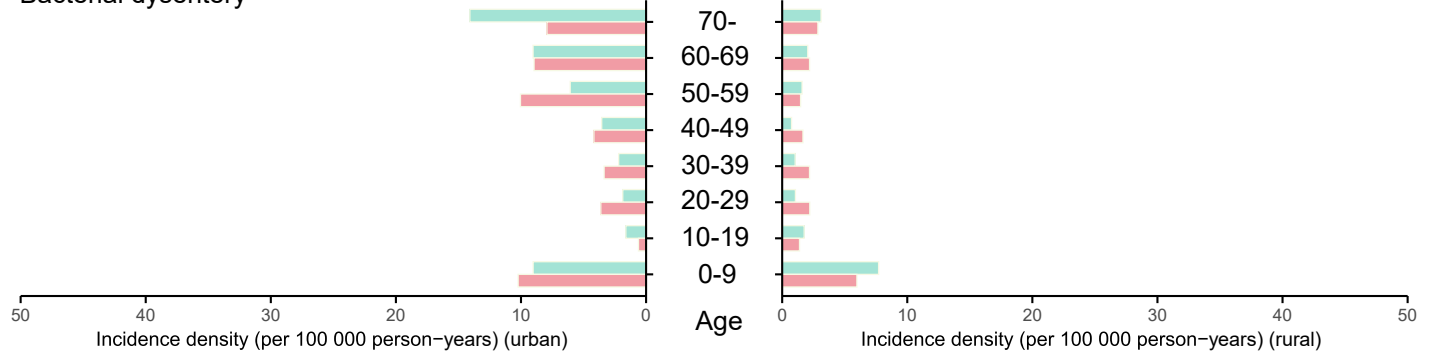
Other infectious diarrhoea



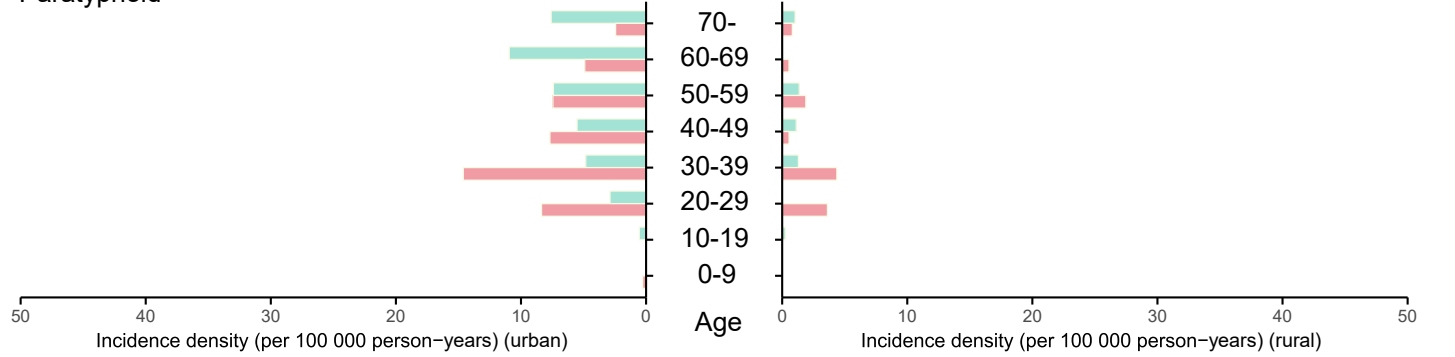
Ascariasis



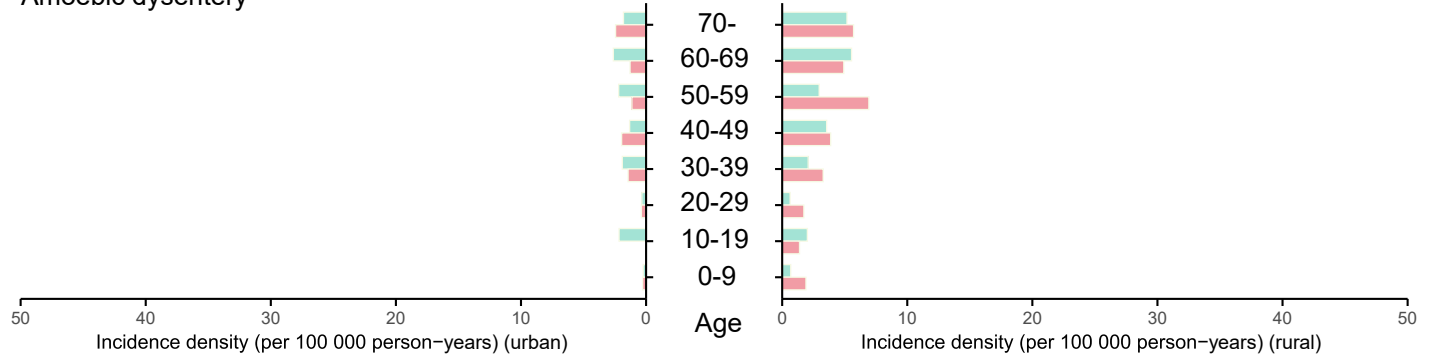
Bacterial dysentery



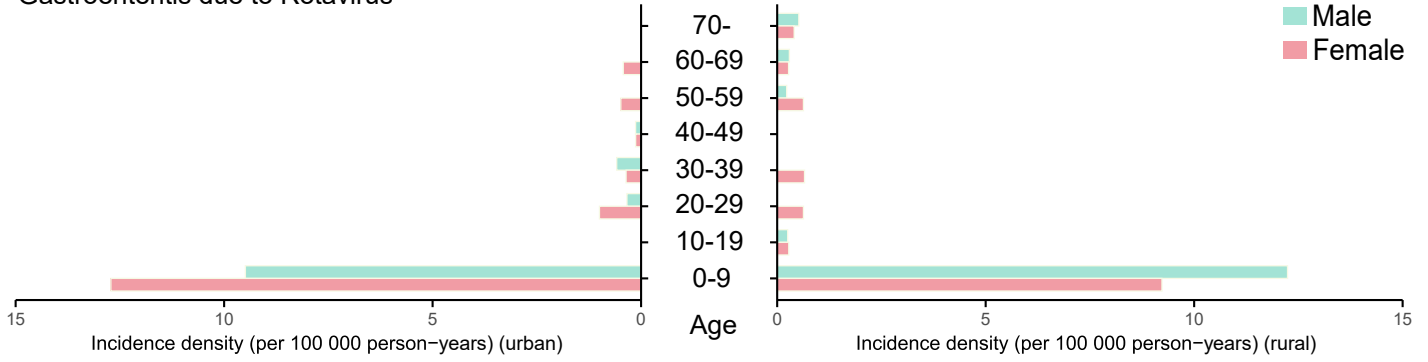
Paratyphoid



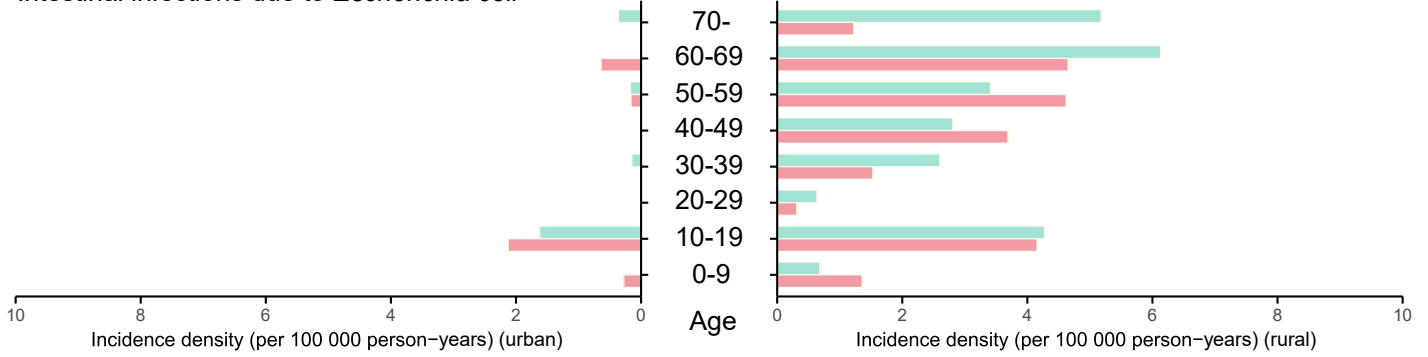
Amoebic dysentery



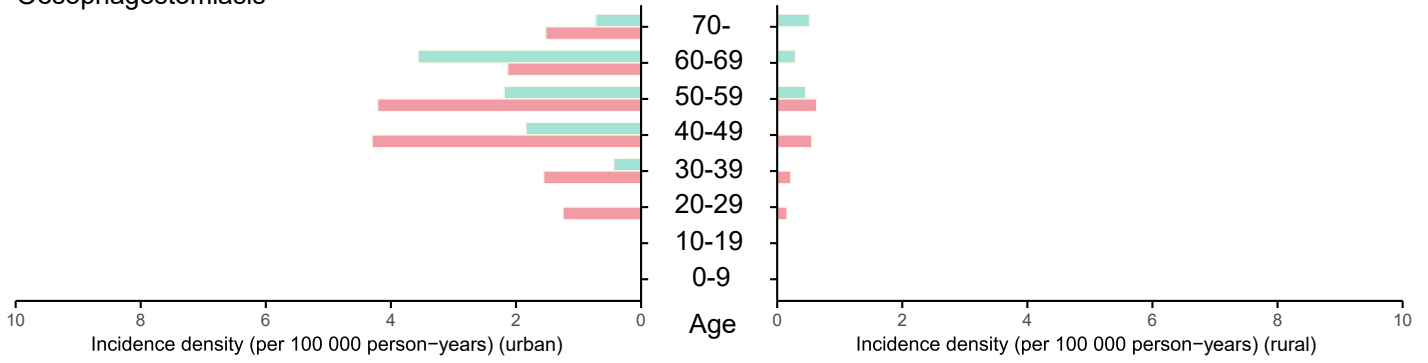
### Gastroenteritis due to Rotavirus



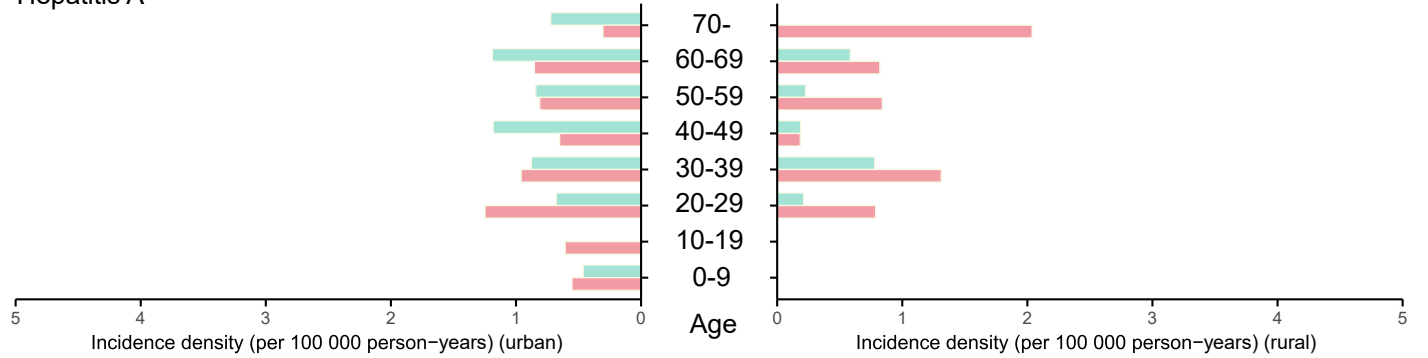
### Intestinal infections due to *Escherichia coli*



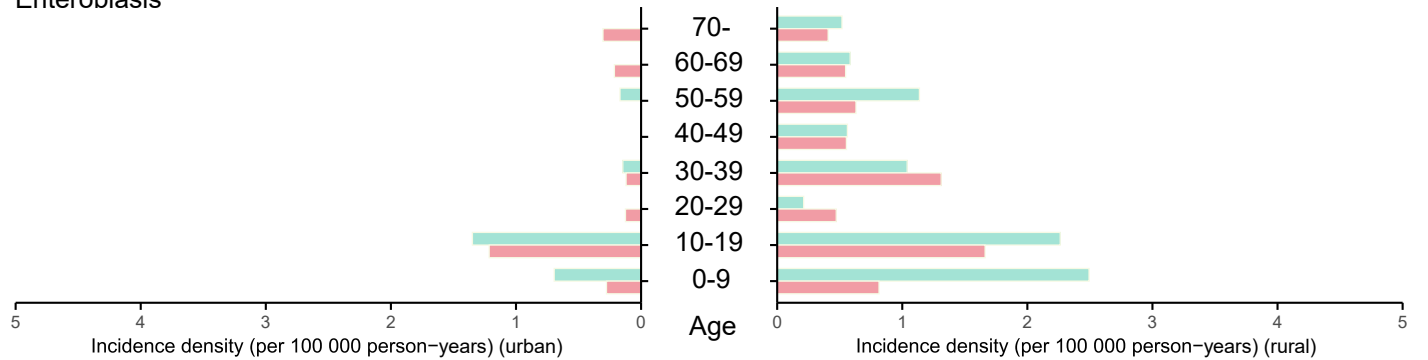
### Oesophagostomiasis



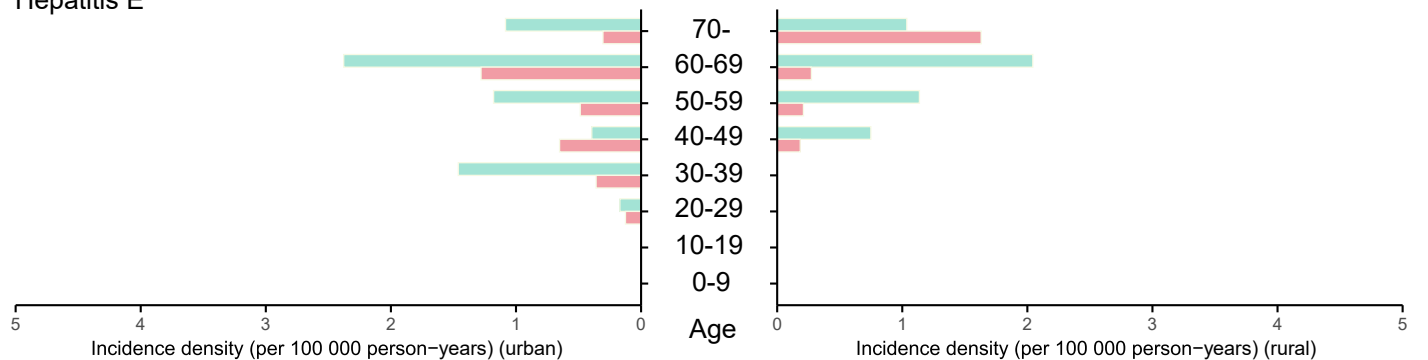
### Hepatitis A



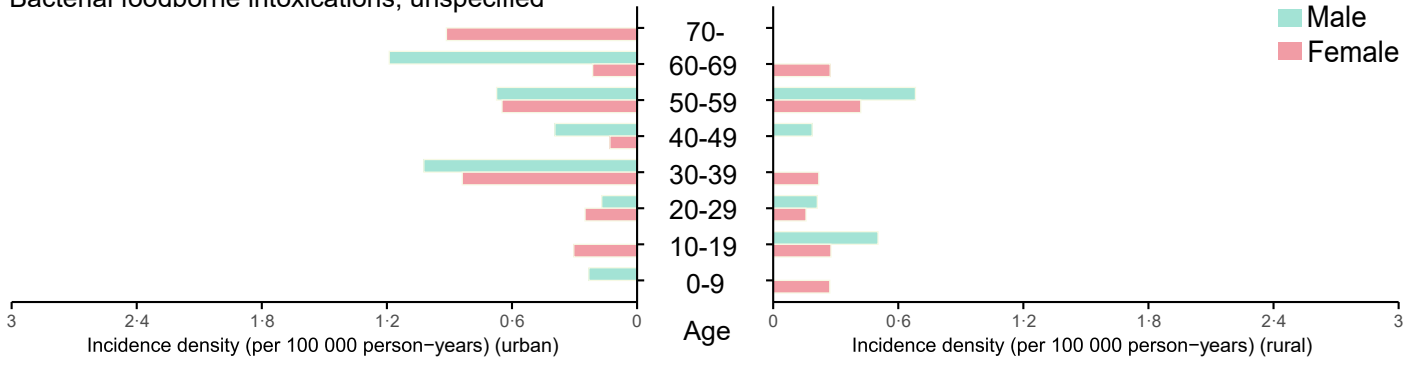
### Enterobiasis



### Hepatitis E

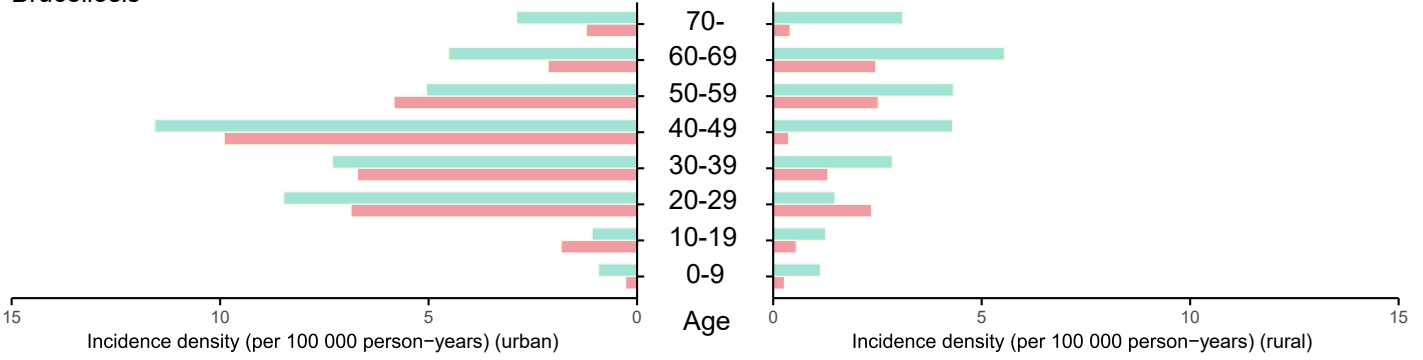


Bacterial foodborne intoxications, unspecified

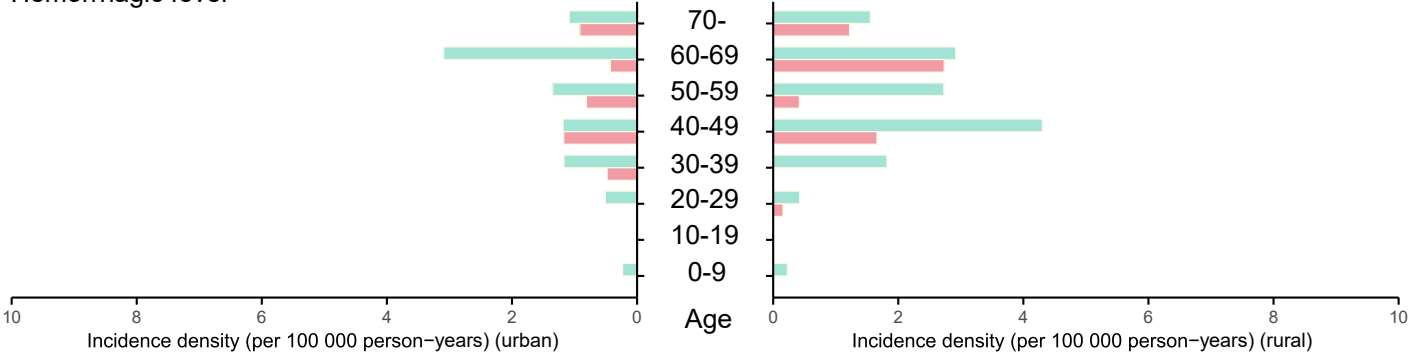


**Vector-borne**

Brucellosis

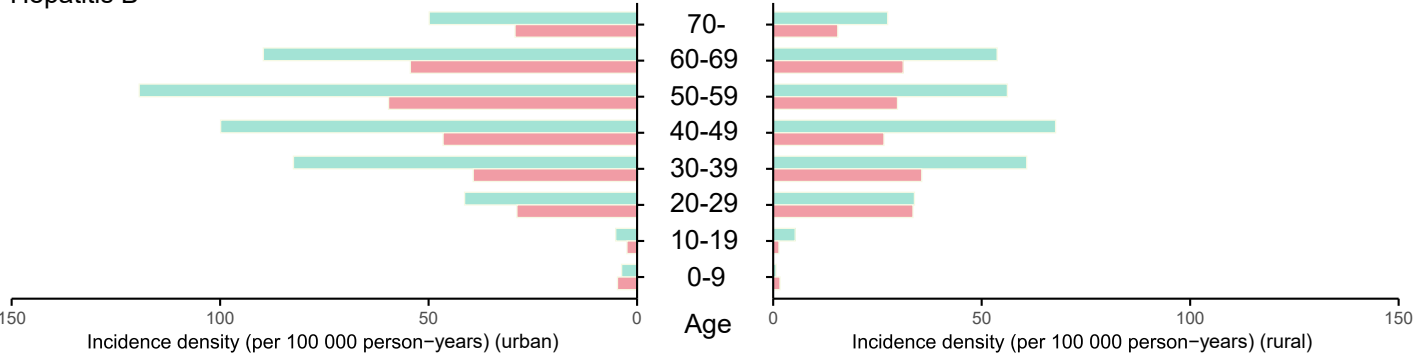


Hemorrhagic fever

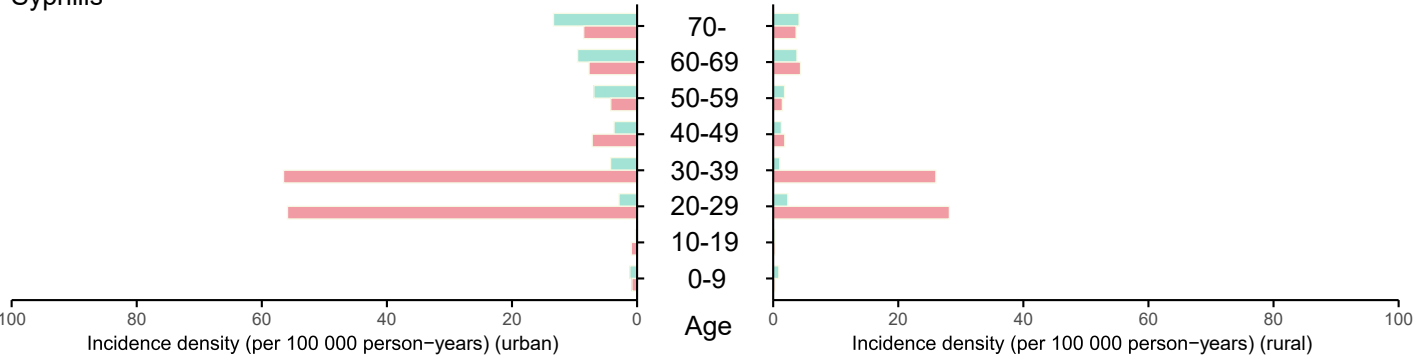


**Blood-transmitted and sex-transmitted**

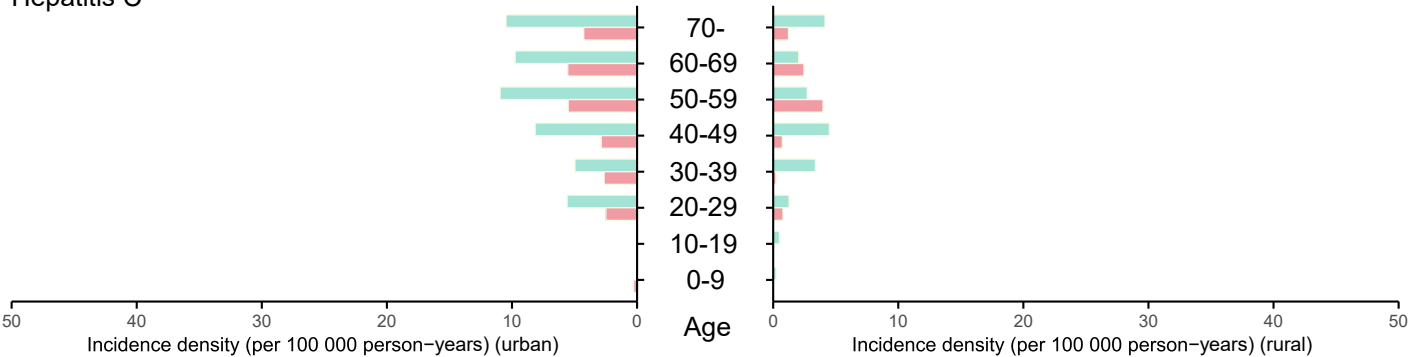
Hepatitis B



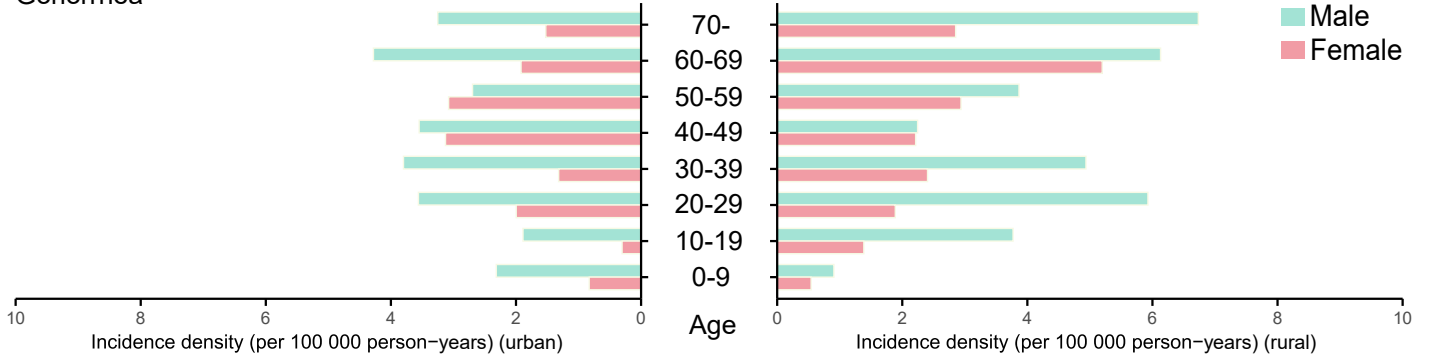
Syphilis



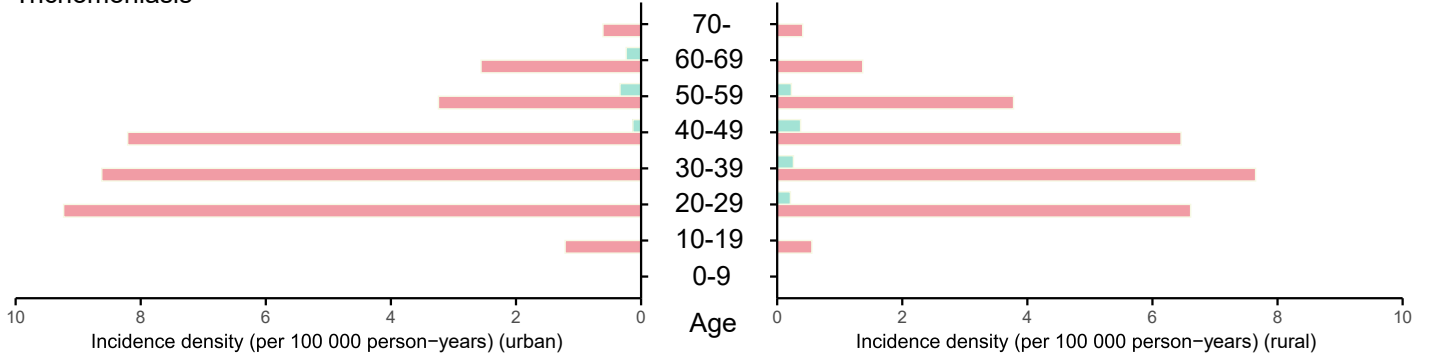
Hepatitis C



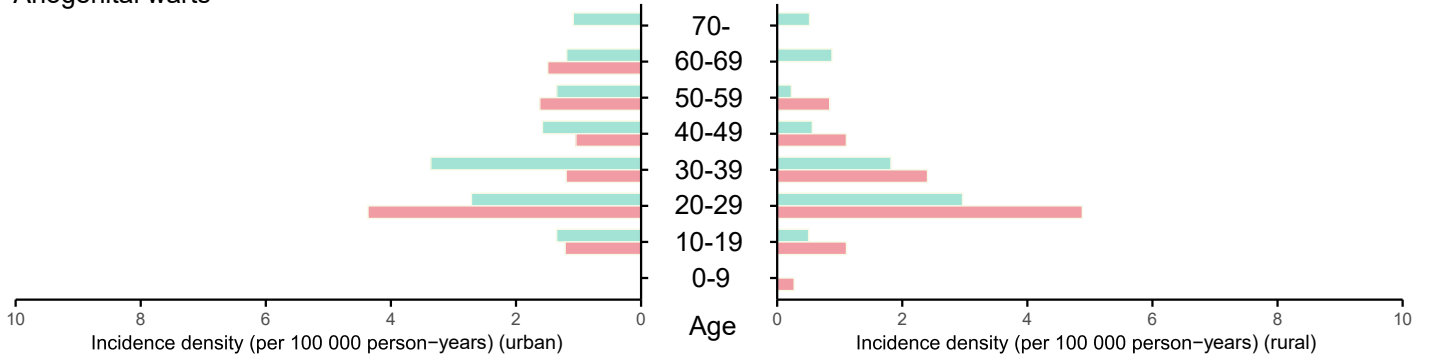
Gonorrhoea



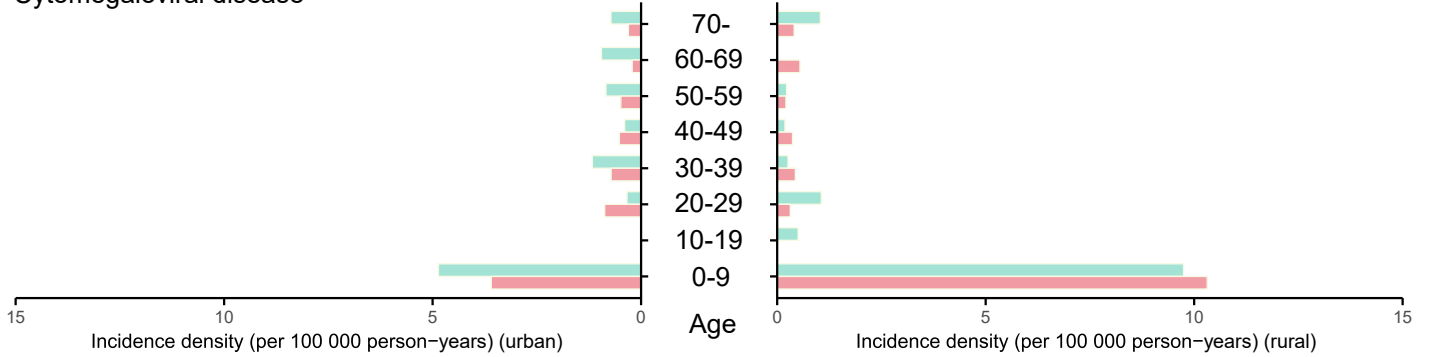
Trichomoniasis



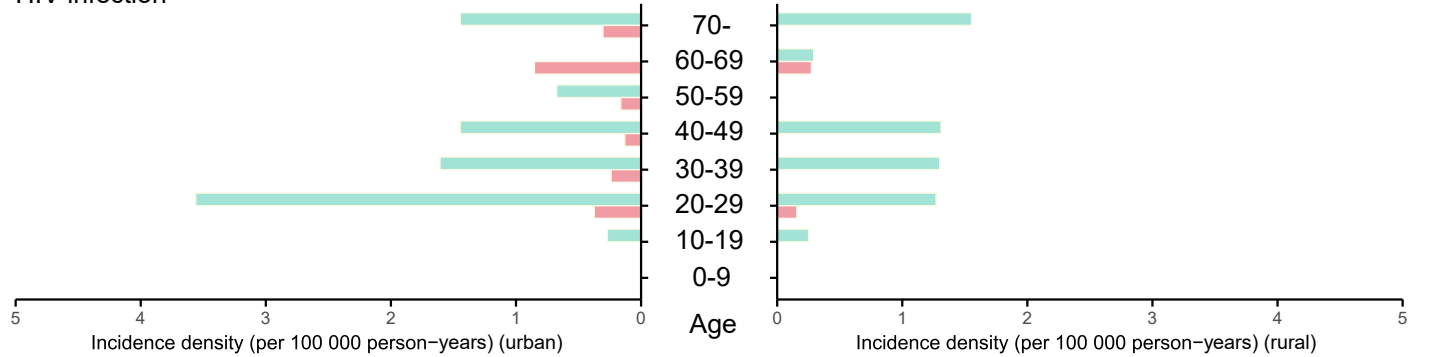
Anogenital warts



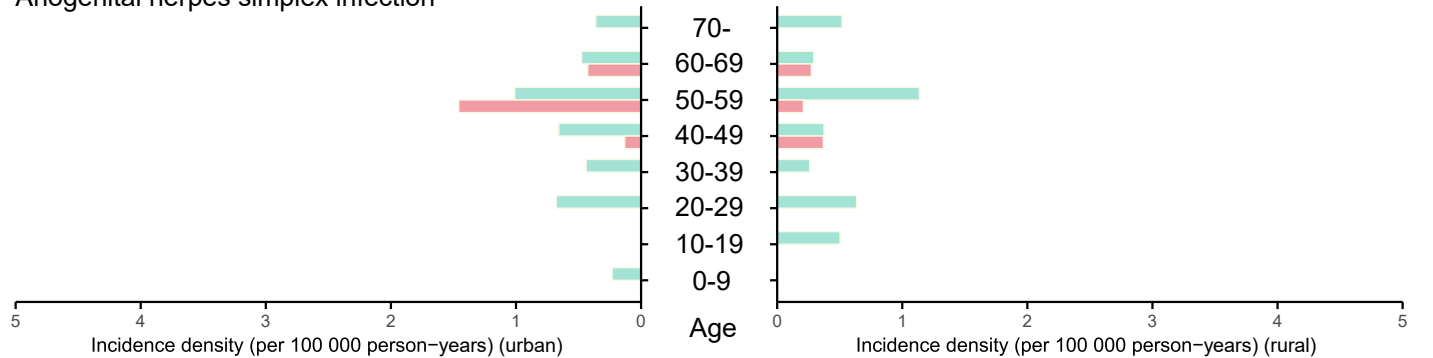
Cytomegaloviral disease



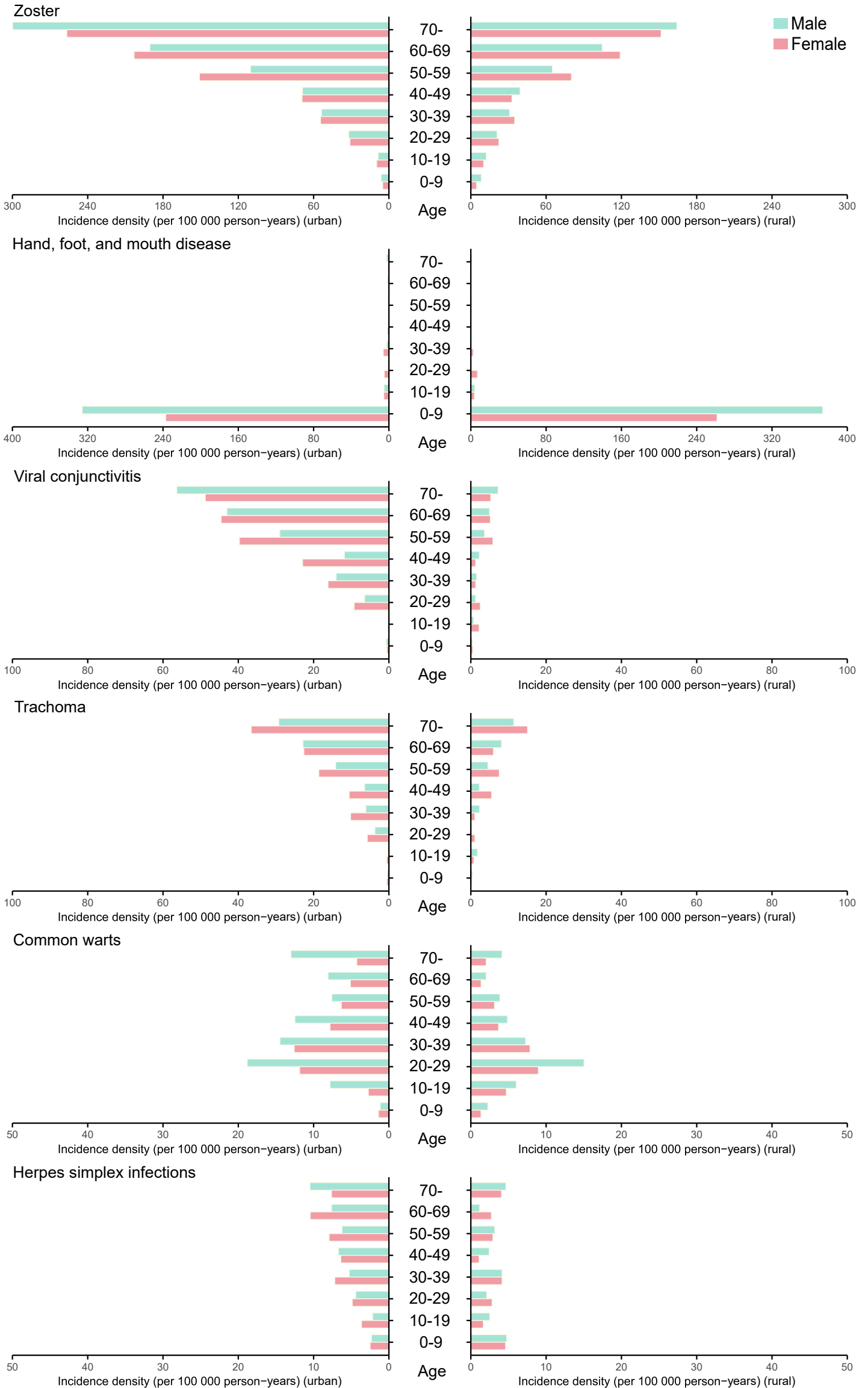
HIV infection



Anogenital herpes simplex infection

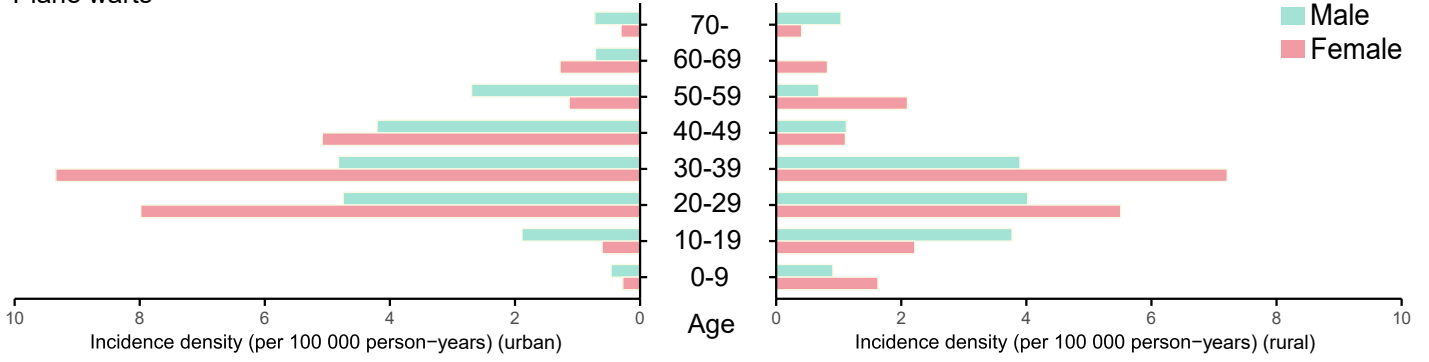


# Mucocutaneous

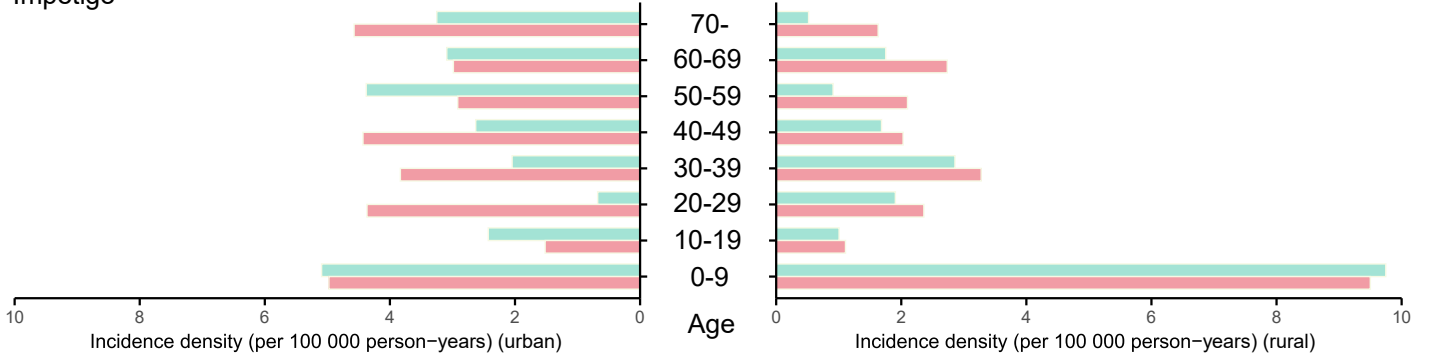




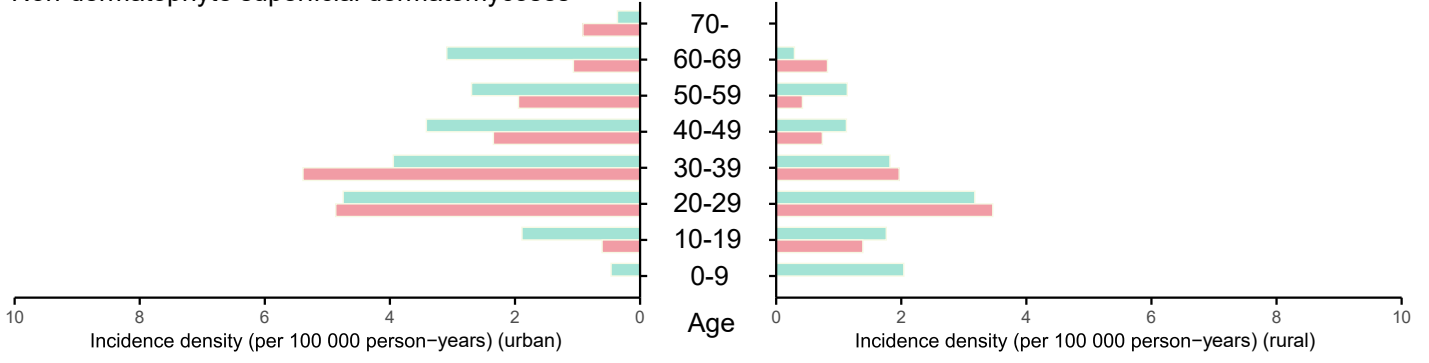
Plane warts



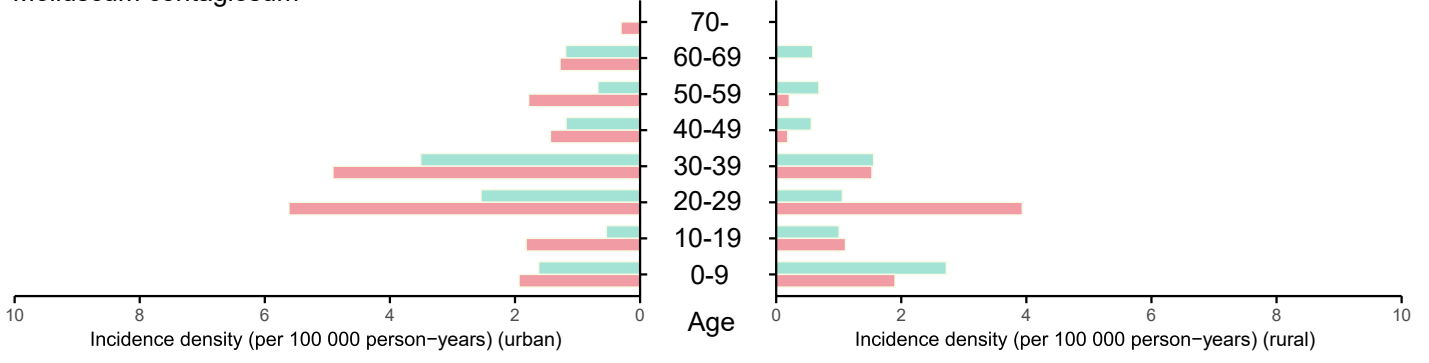
Impetigo



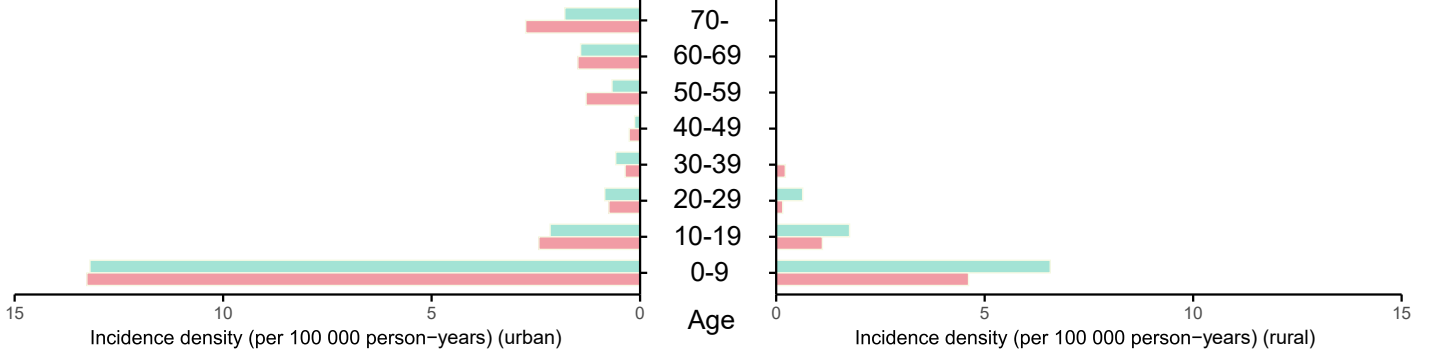
Non-dermatophyte superficial dermatomycoses



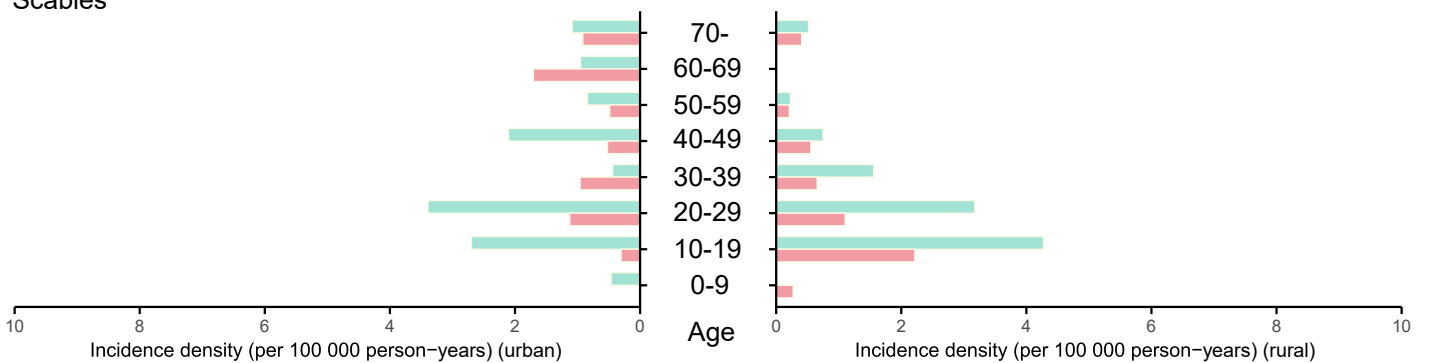
Molluscum contagiosum

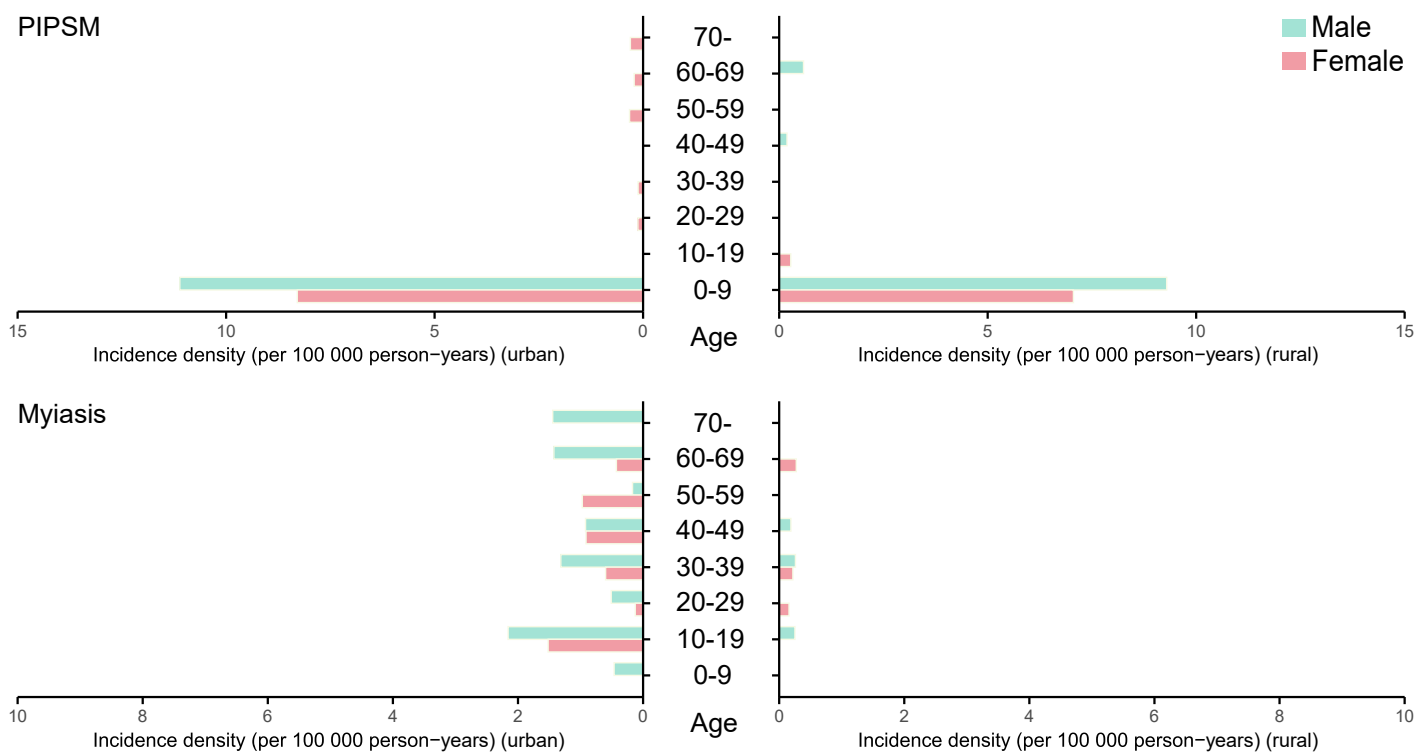


Infectious mononucleosis



Scabies

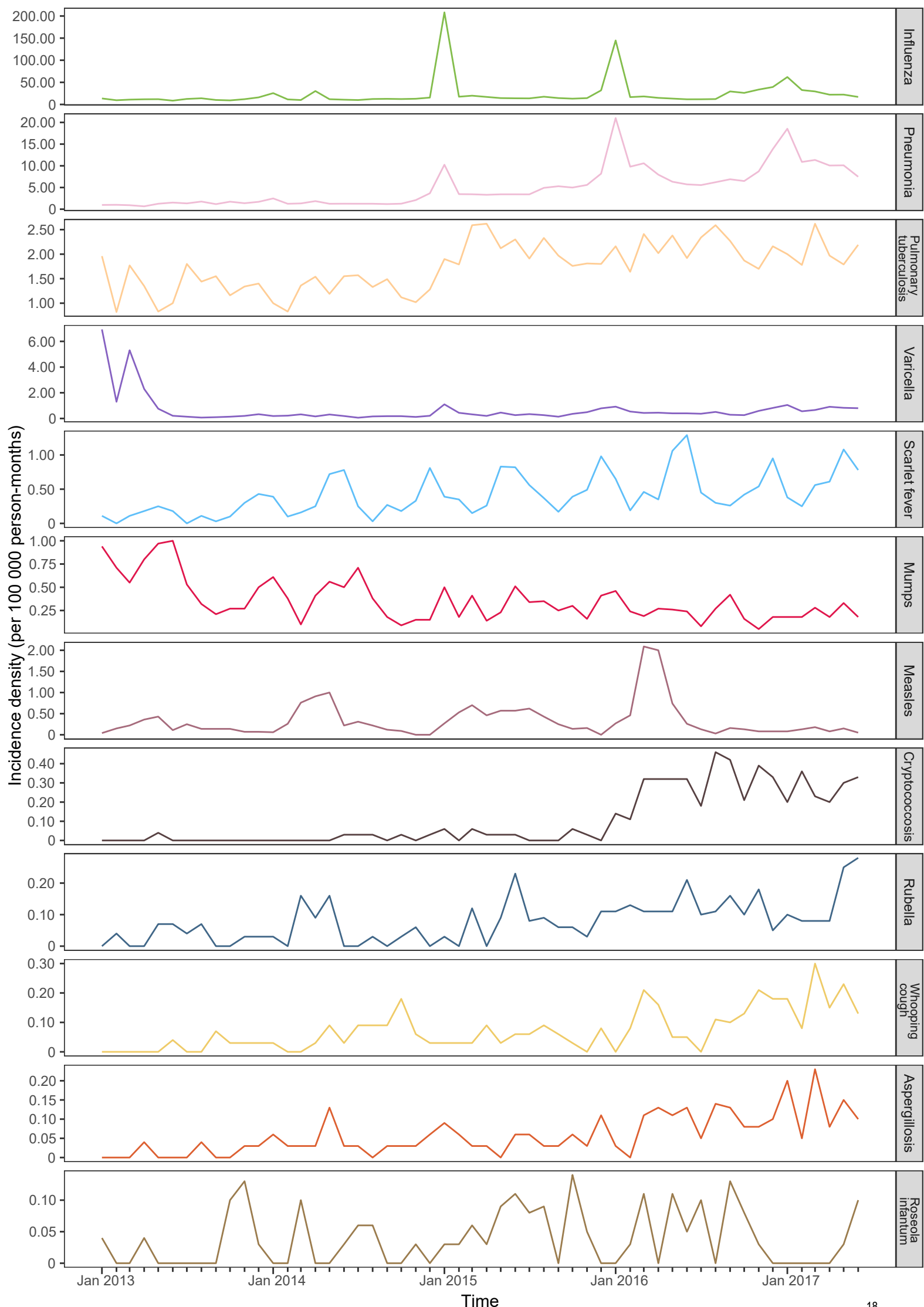


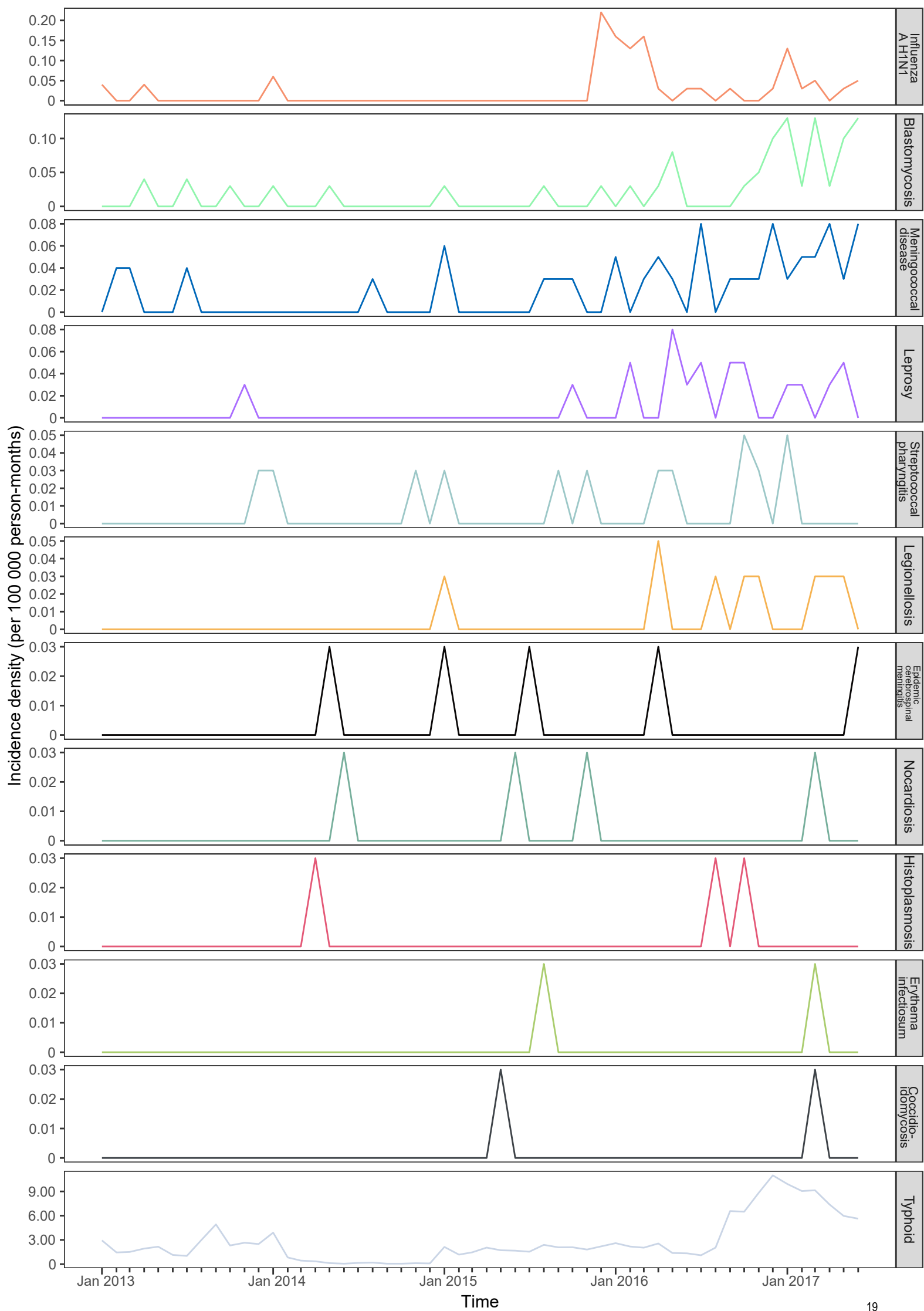


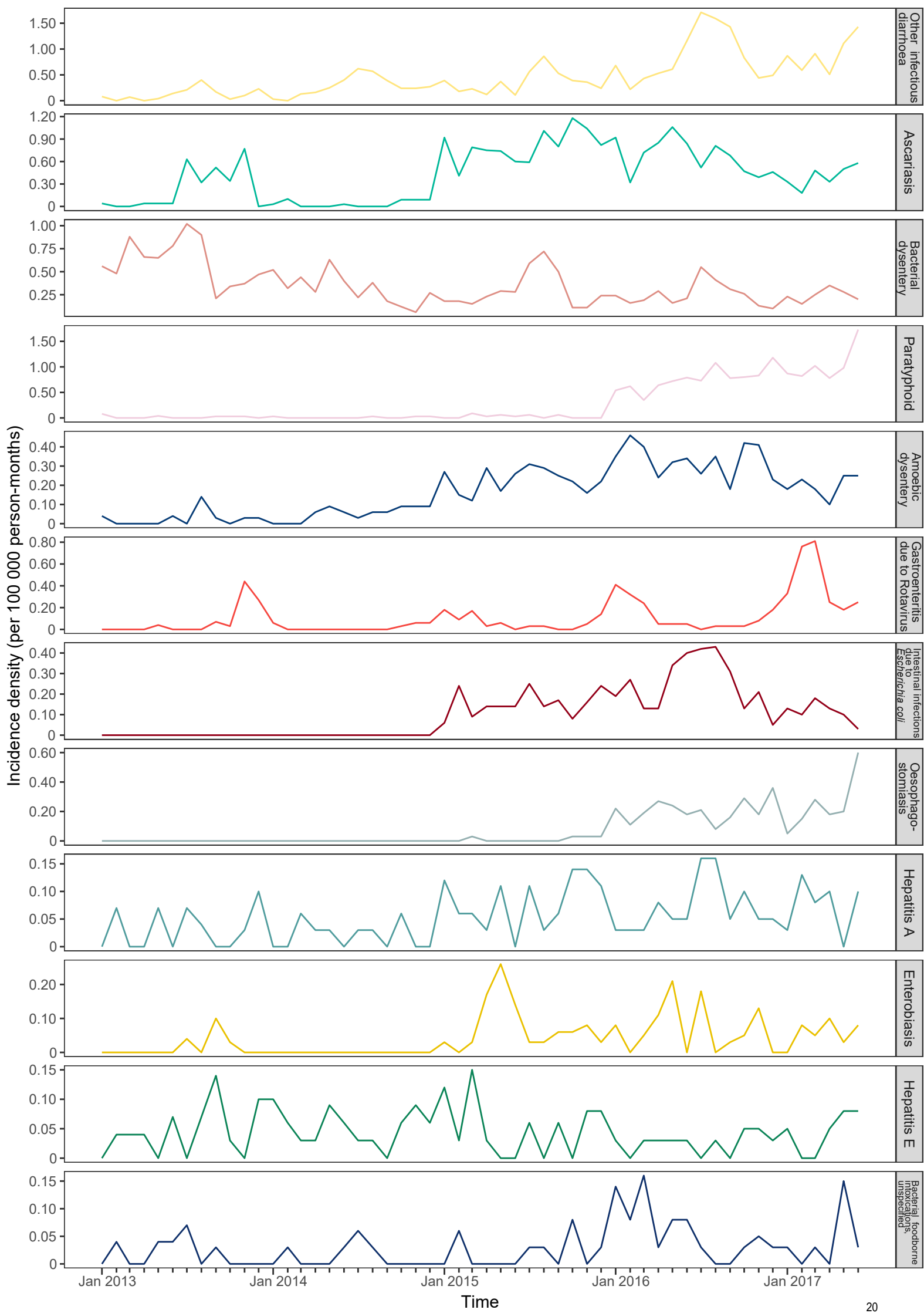
**Figure S2: Age and sex differences related to the incidence density of the top 50 infectious diseases across different geographical regions (urban vs. rural dimension).**

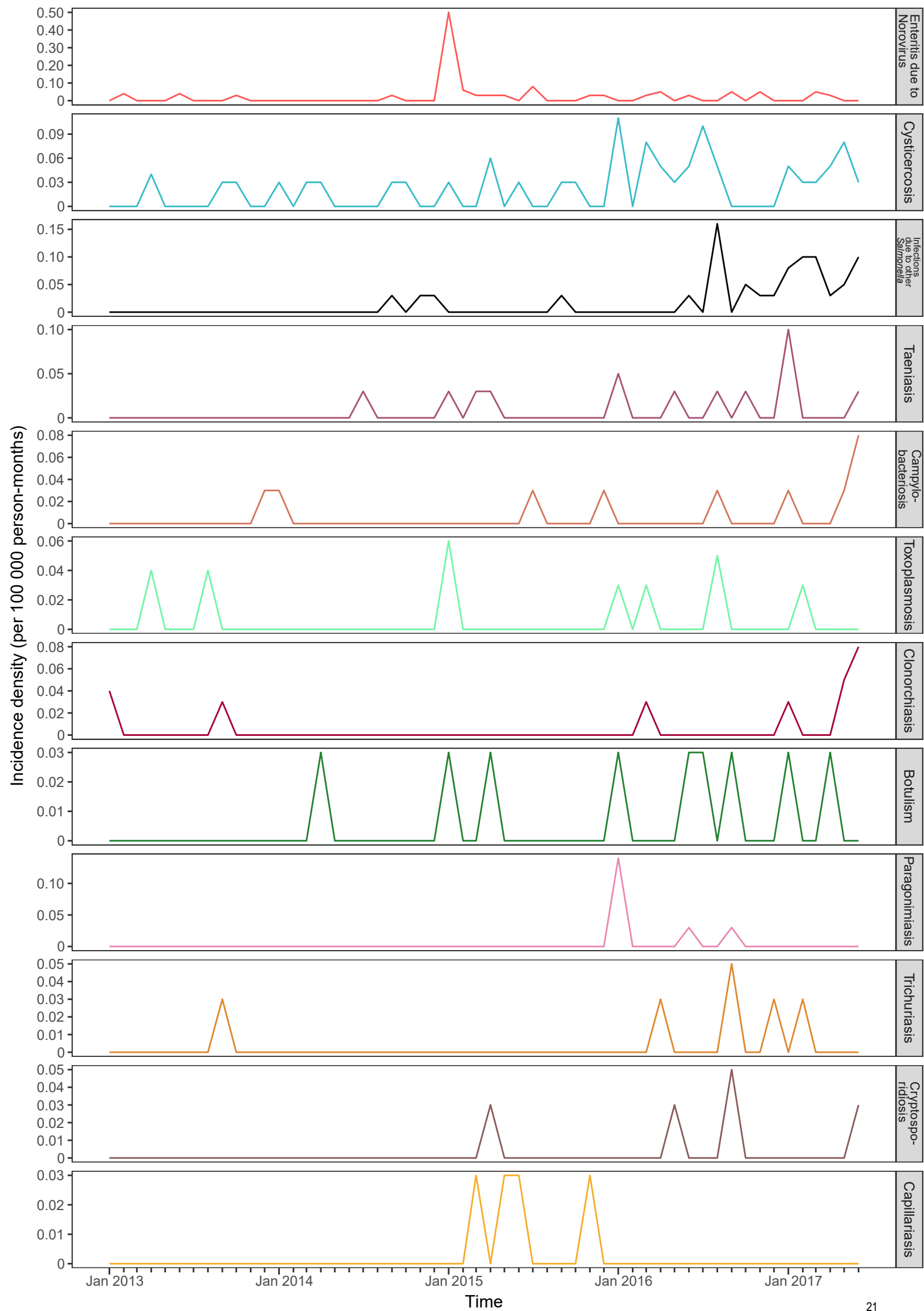
All infectious diseases with more than 50 cases (50 out of 130 infectious diseases) are shown.

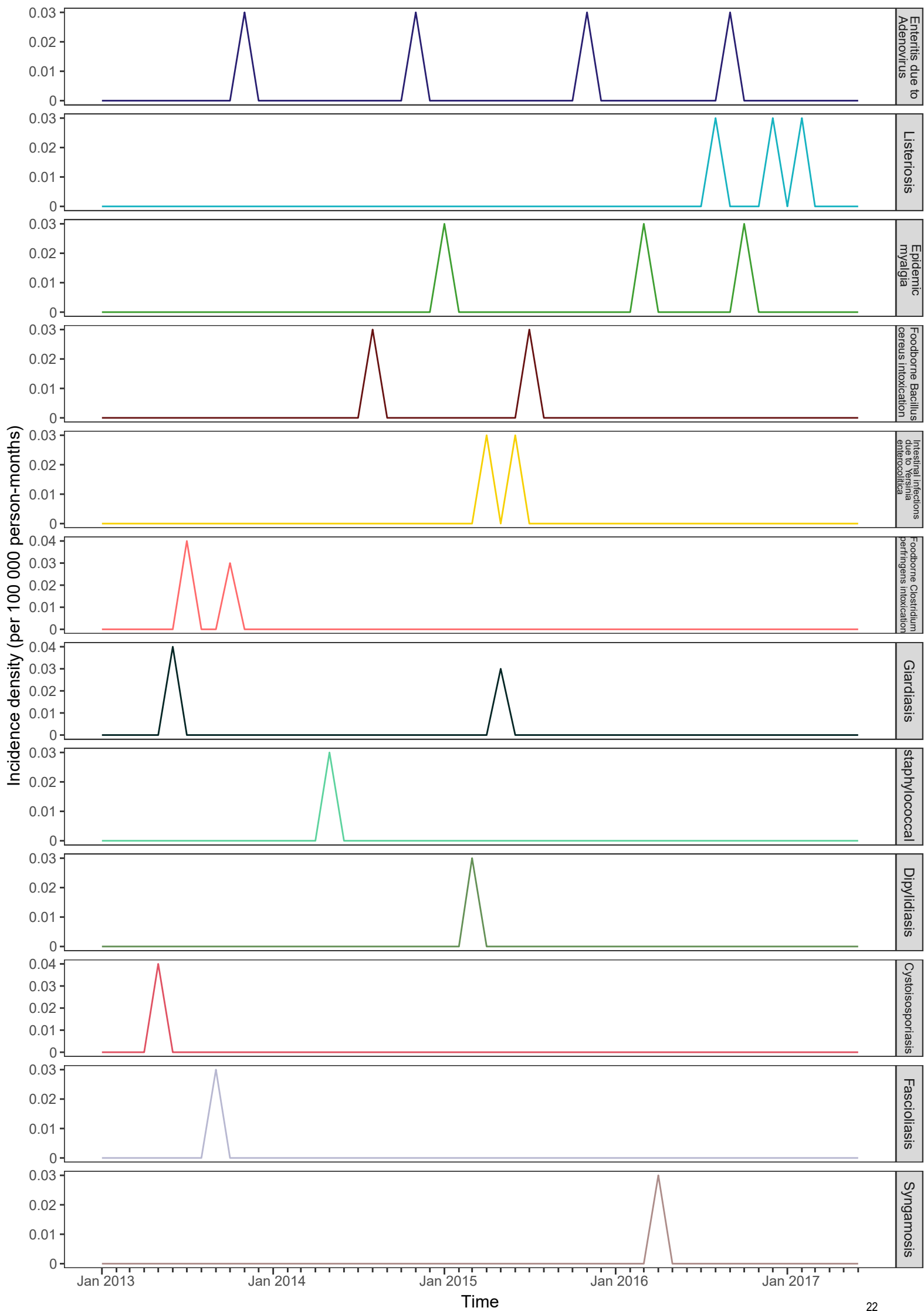
HIV=human immunodeficiency virus, PIPSM=picornavirus infections presenting in the skin or mucous membranes.

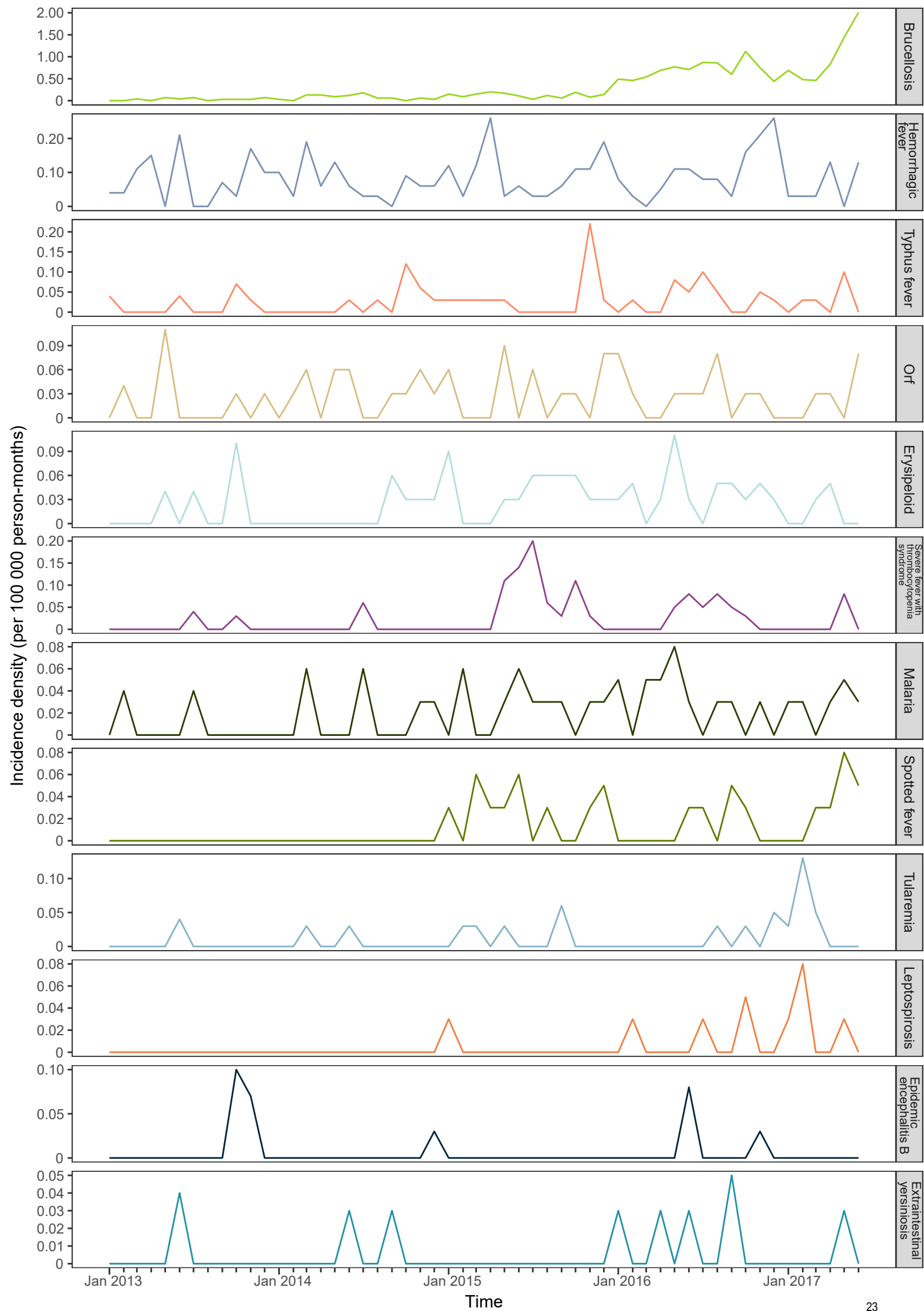




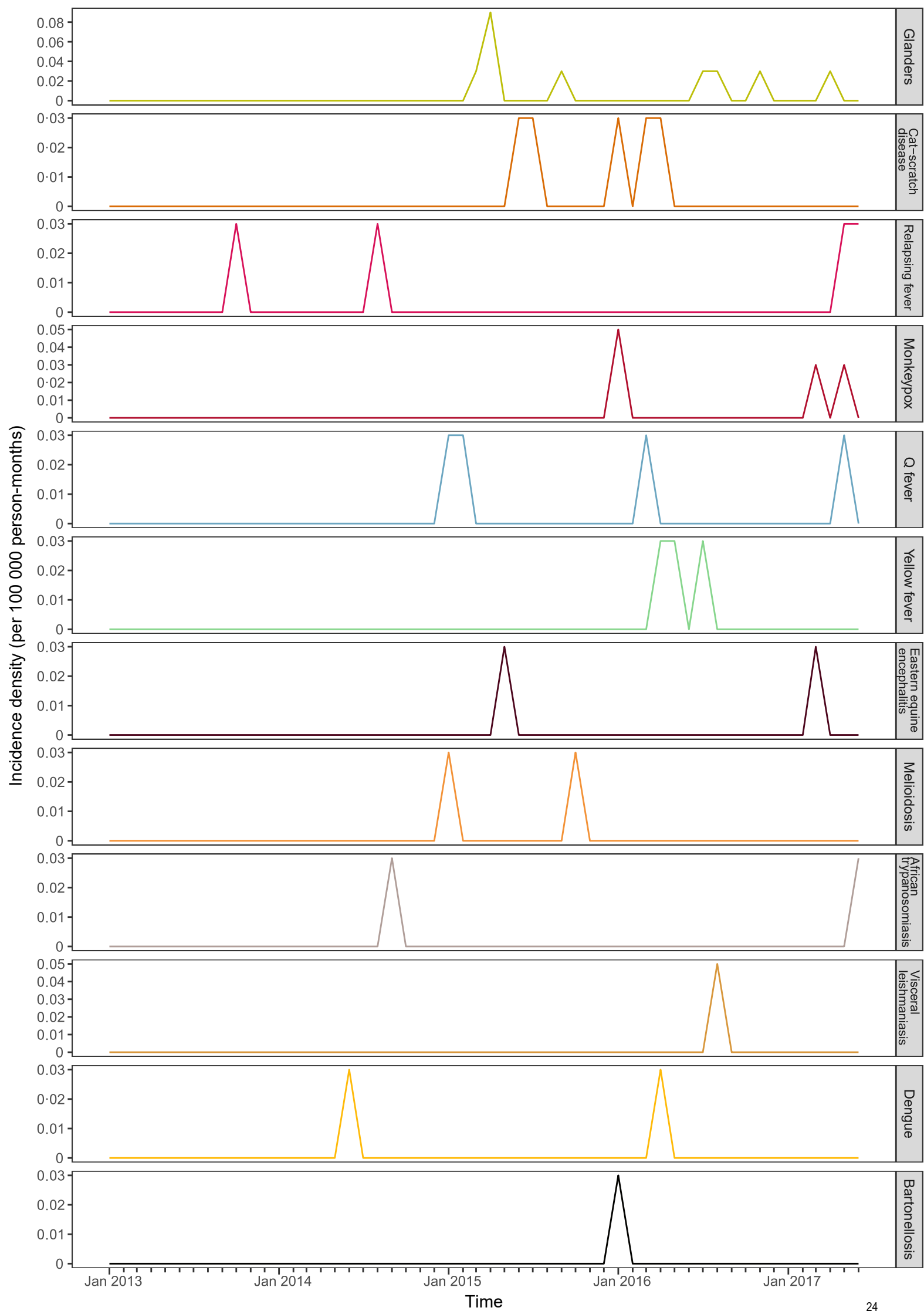


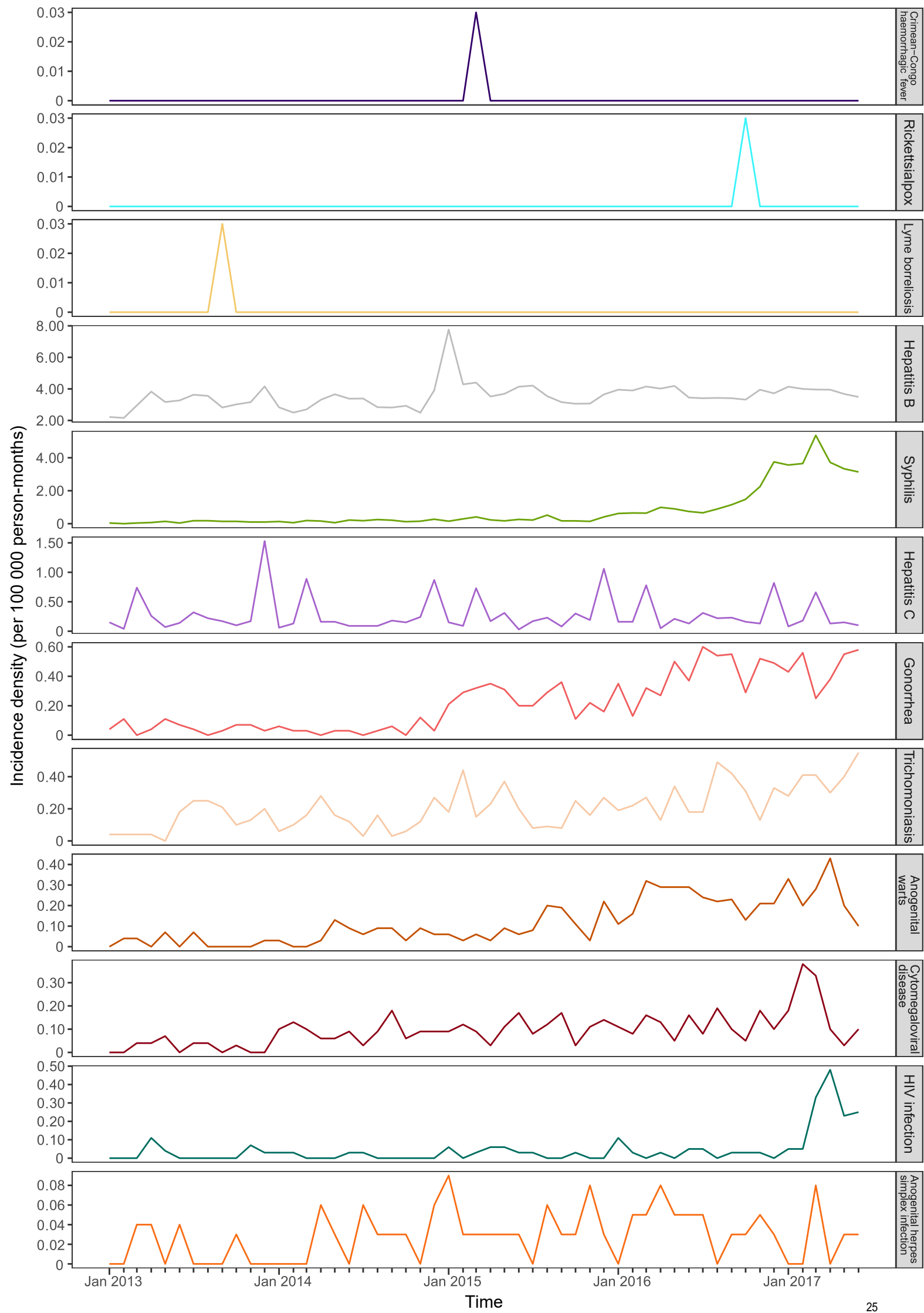


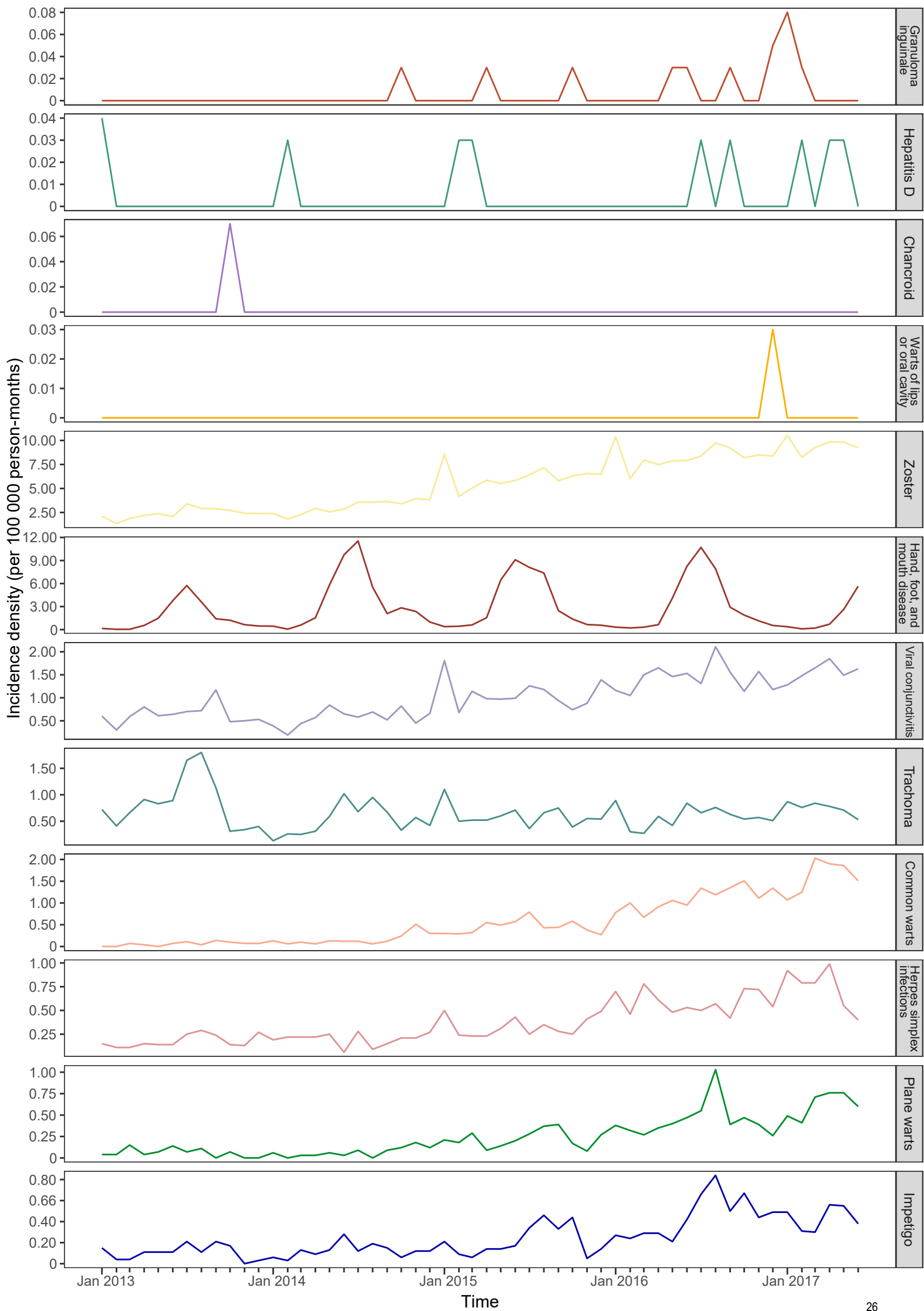


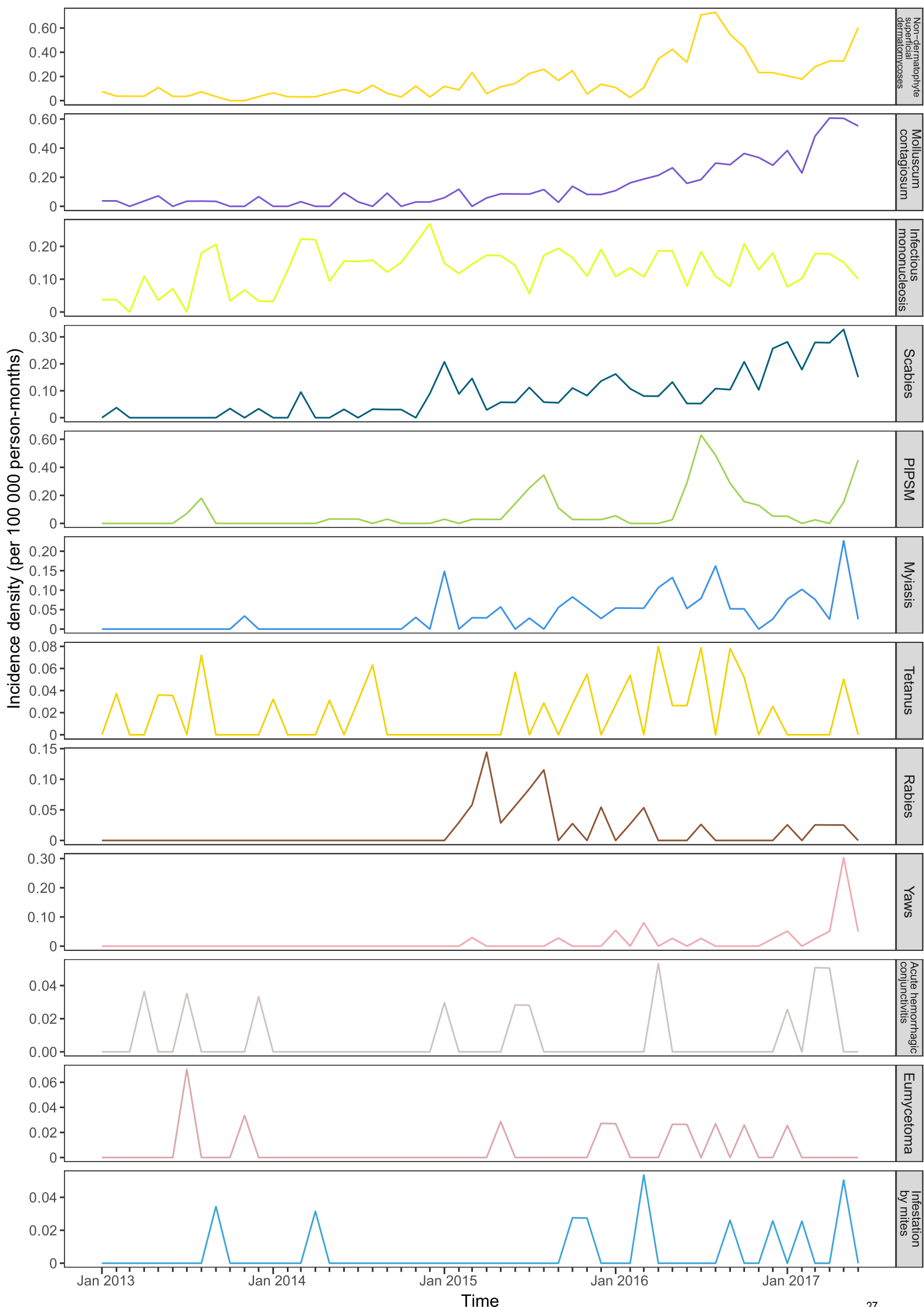


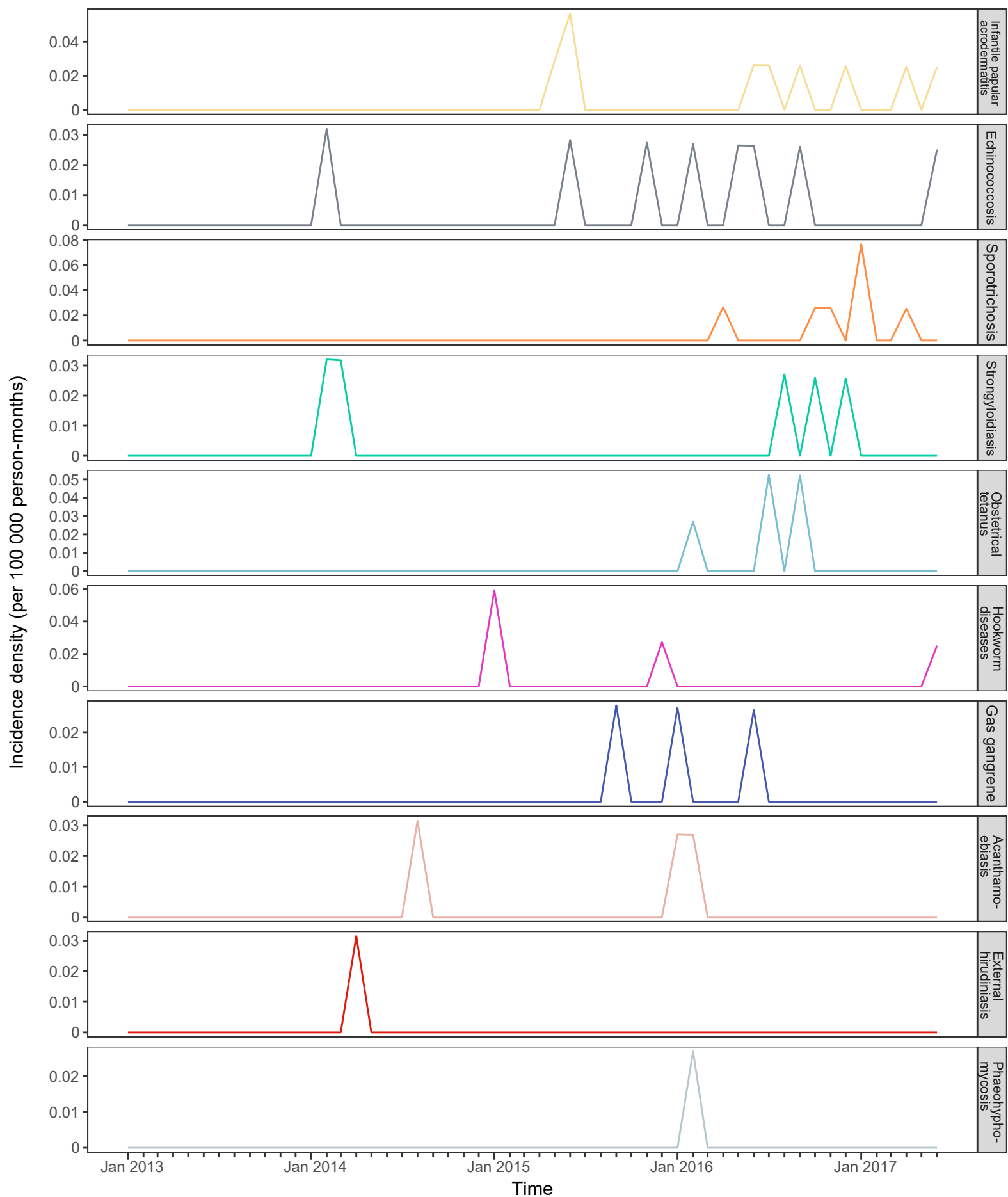








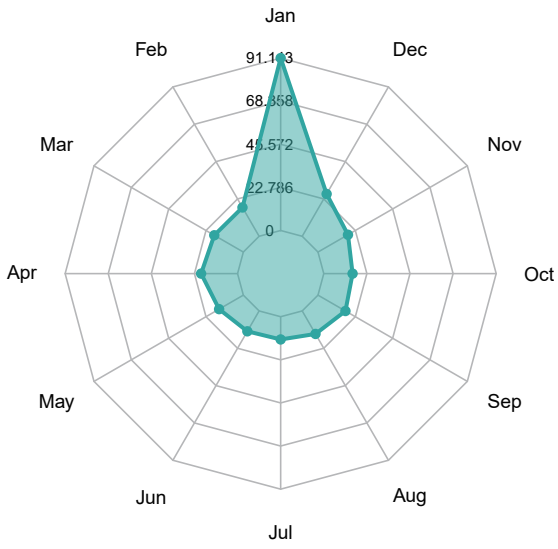




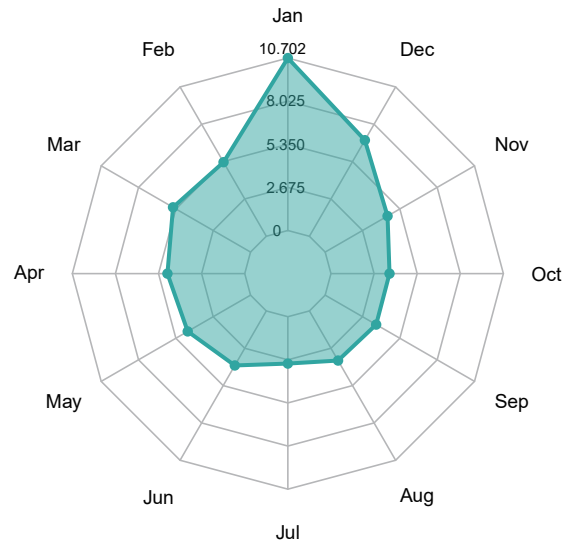
**Figure S3: Monthly incidence density of 130 infectious diseases, from January 2013 to June 2017.**

HIV=human immunodeficiency virus, PIPSM=picornavirus infections presenting in the skin or mucous membranes.

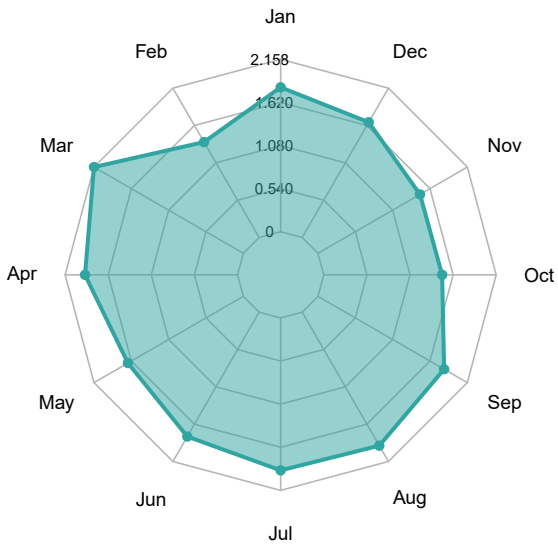
**Influenza**



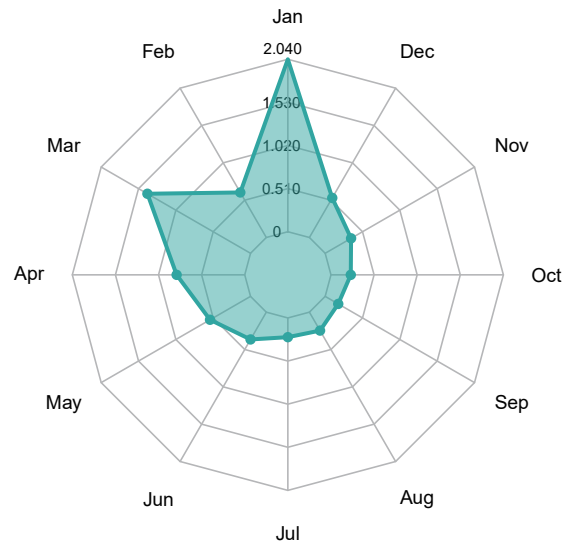
**Pneumonia**



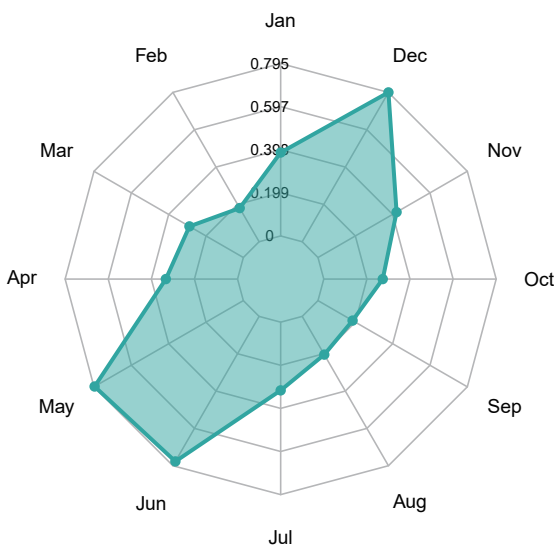
**Pulmonary tuberculosis**



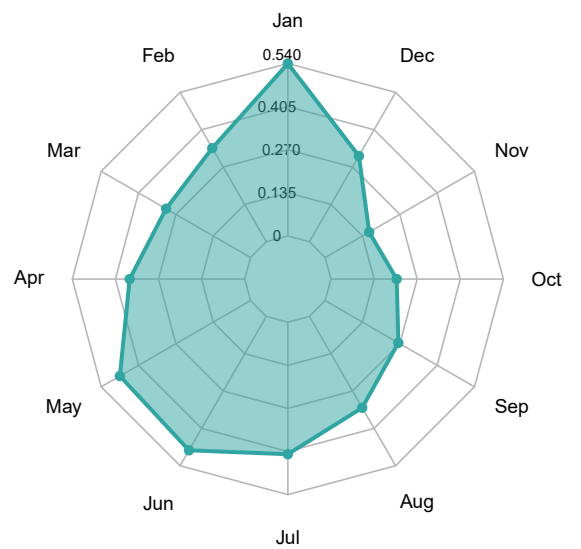
**Varicella**



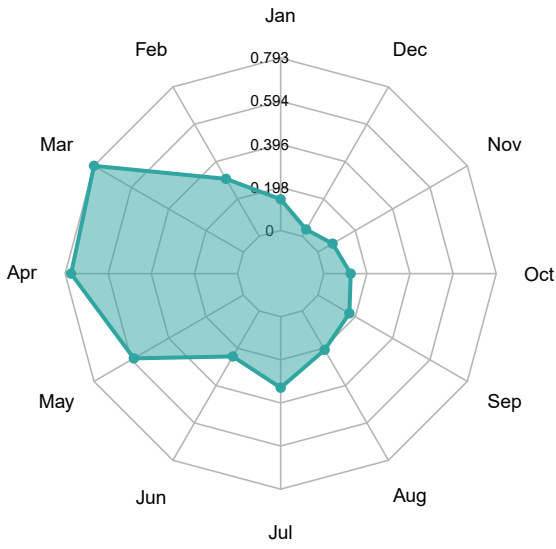
**Scarlet fever**



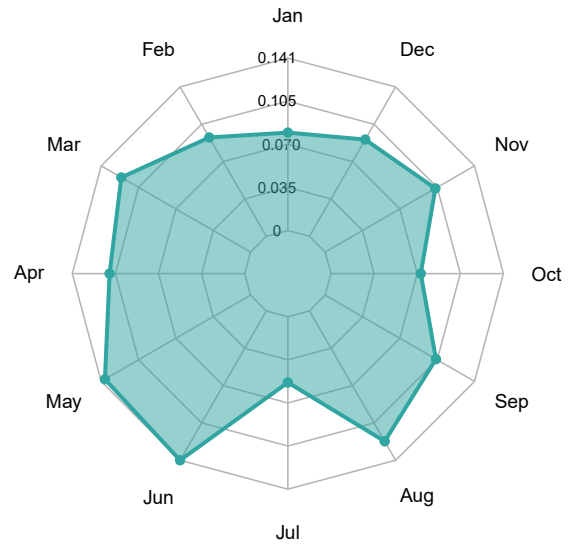
**Mumps**



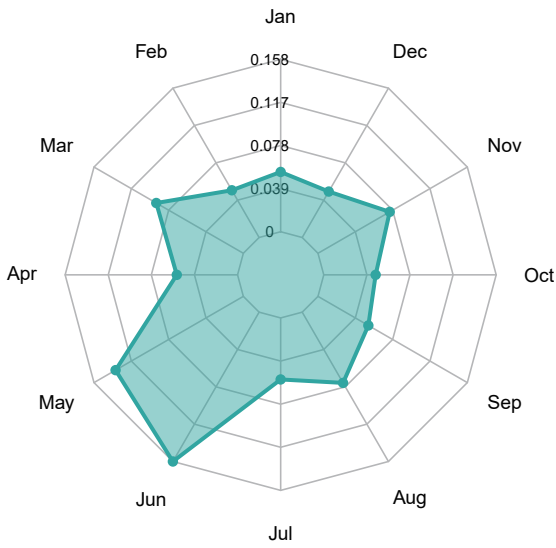
**Measles**



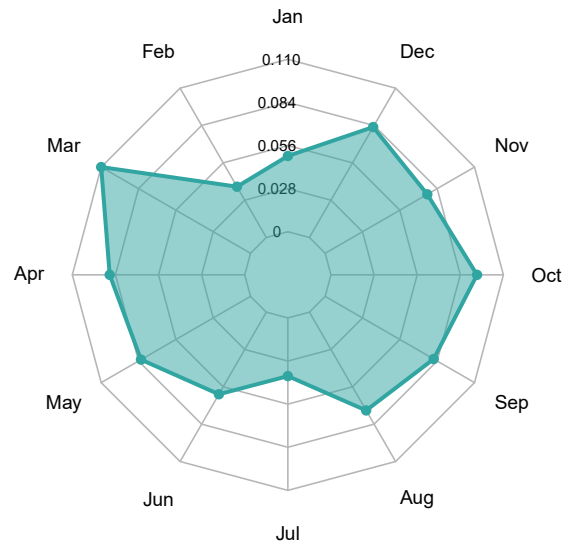
**Cryptococcosis**



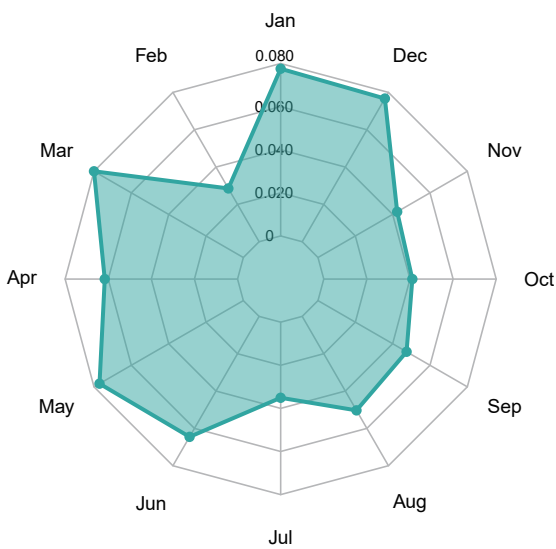
**Rubella**



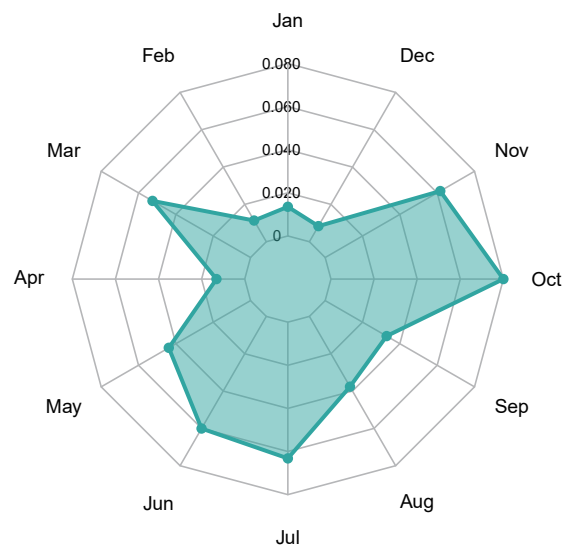
**Whooping cough**



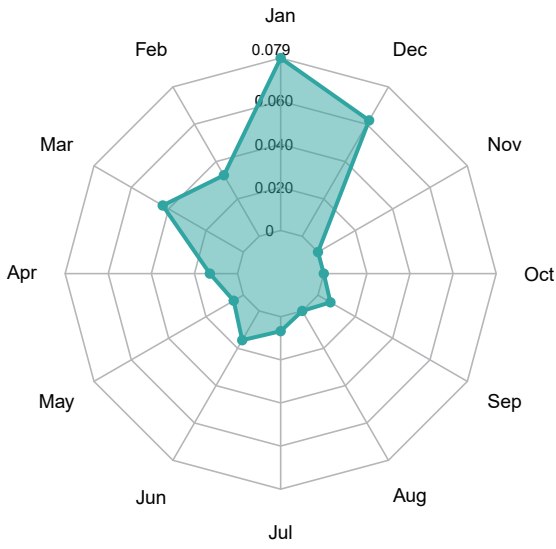
**Aspergillosis**



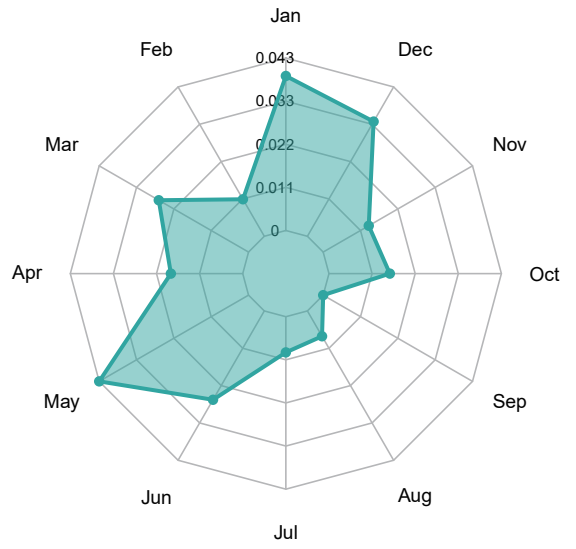
**Roseola infantum**



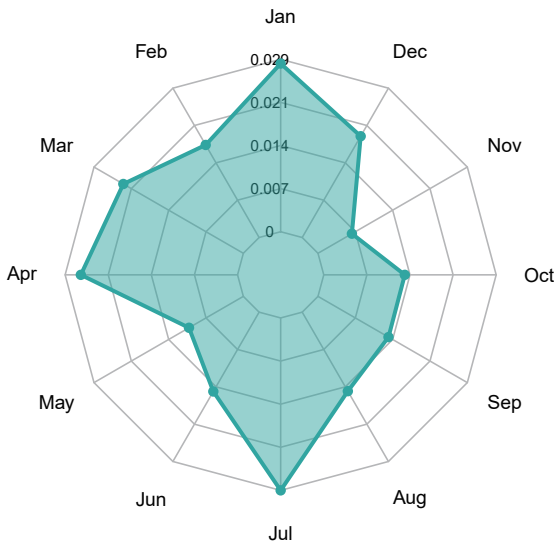
**Influenza A H1N1**



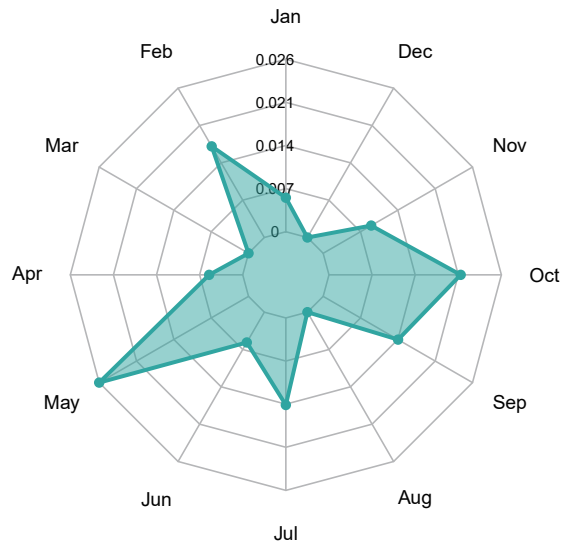
**Blastomycosis**



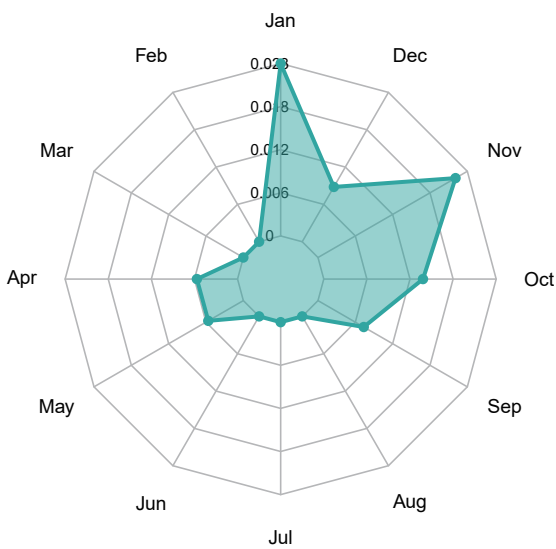
**Meningococcal disease**



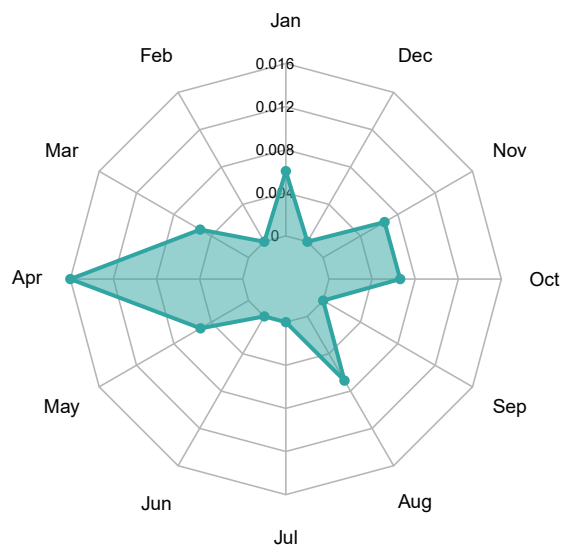
**Leprosy**



**Streptococcal pharyngitis**

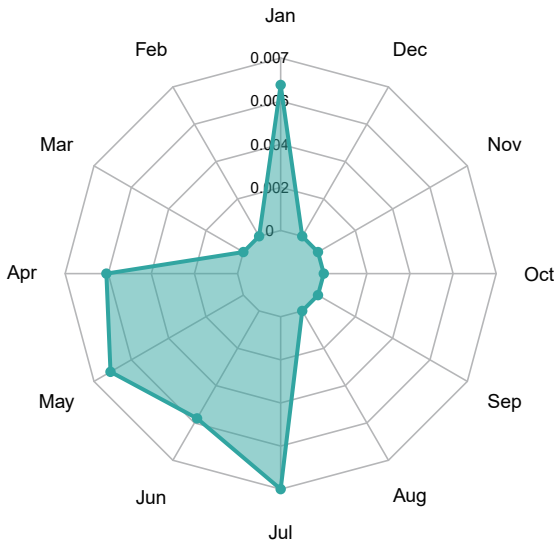


**Legionellosis**

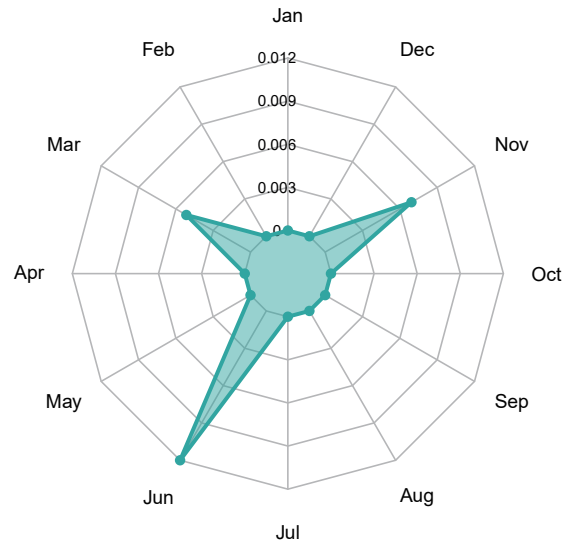




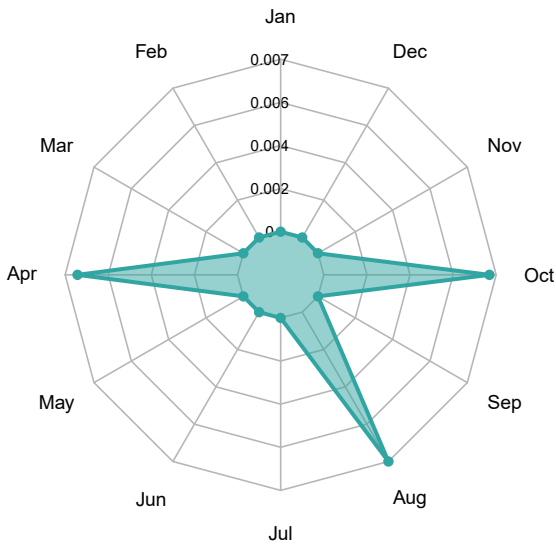
**Epidemic cerebrospinal meningitis**



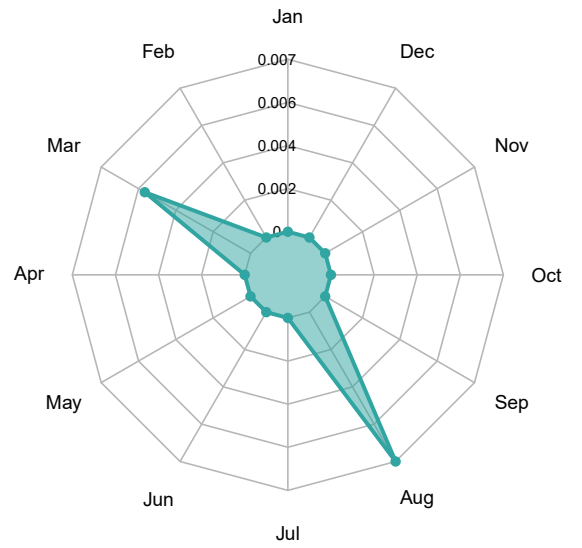
**Nocardiosis**



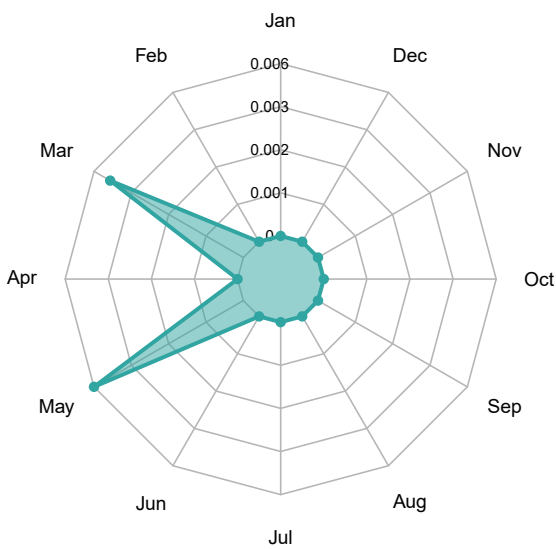
**Histoplasmosis**



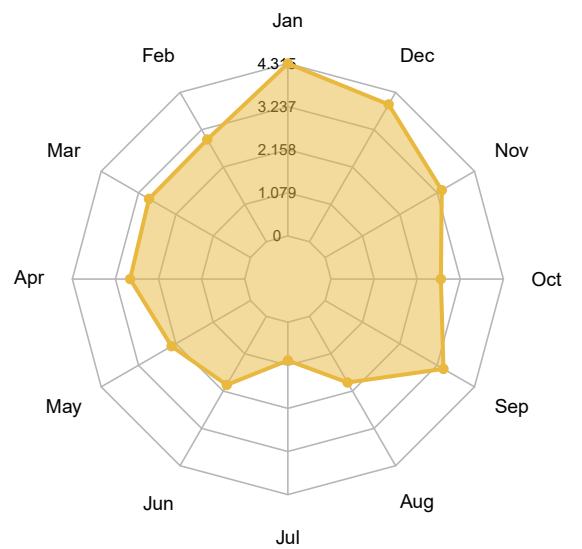
**Erythema infectiosum**



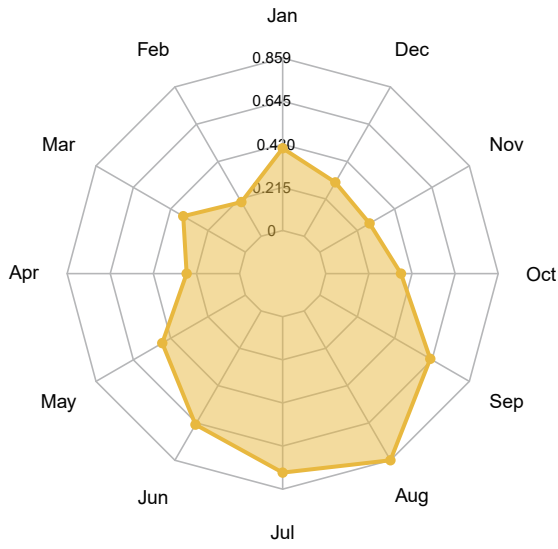
**Coccidioidomycosis**



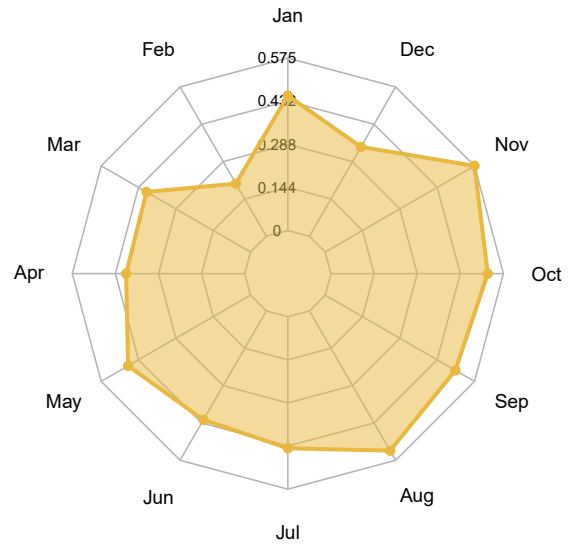
**Typhoid**



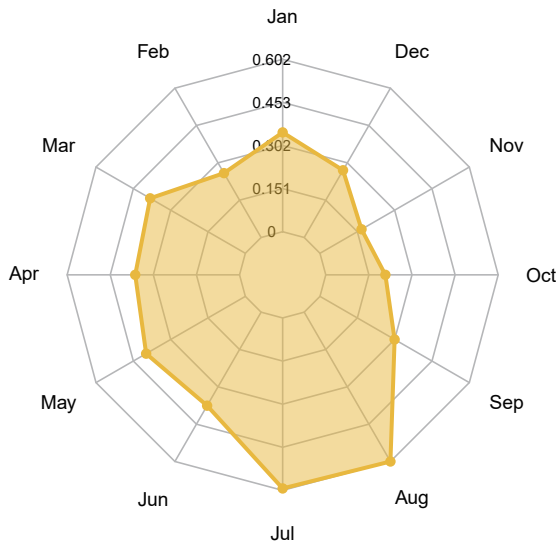
**Other infectious diarrhoea**



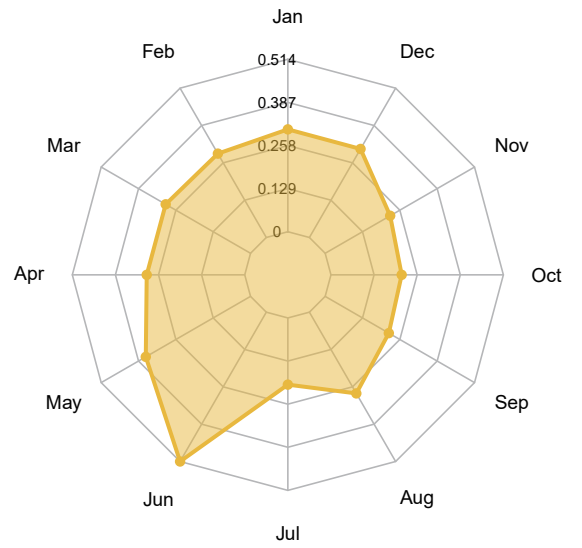
**Ascariasis**



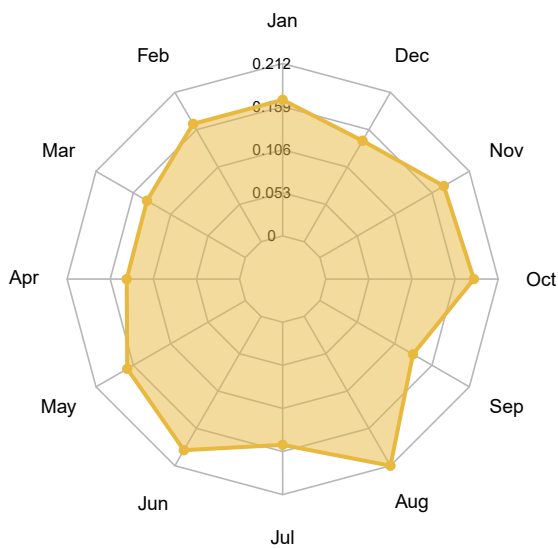
**Bacterial dysentery**



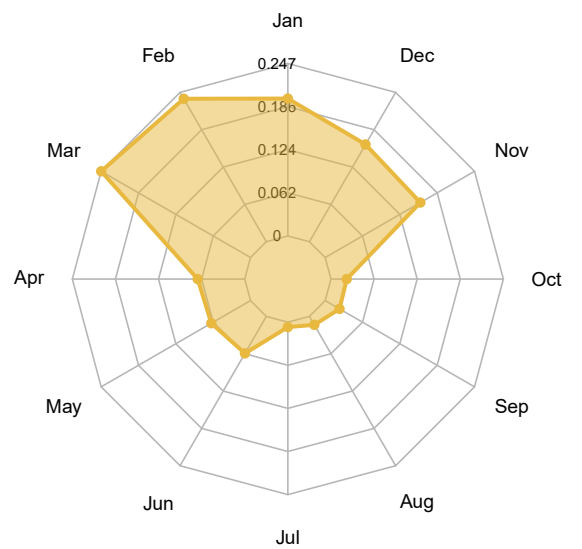
**Paratyphoid**



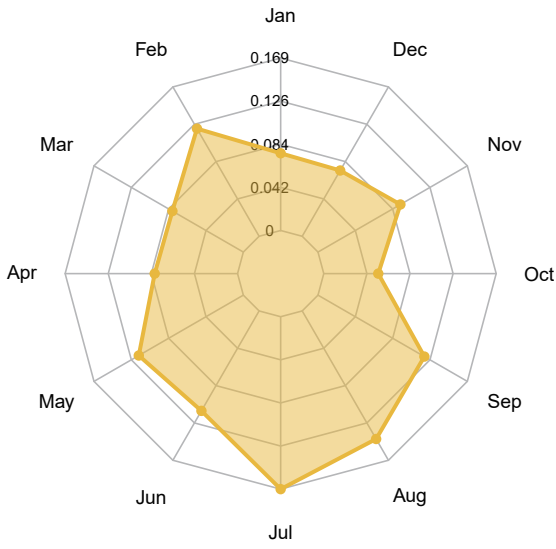
**Amoebic dysentery**



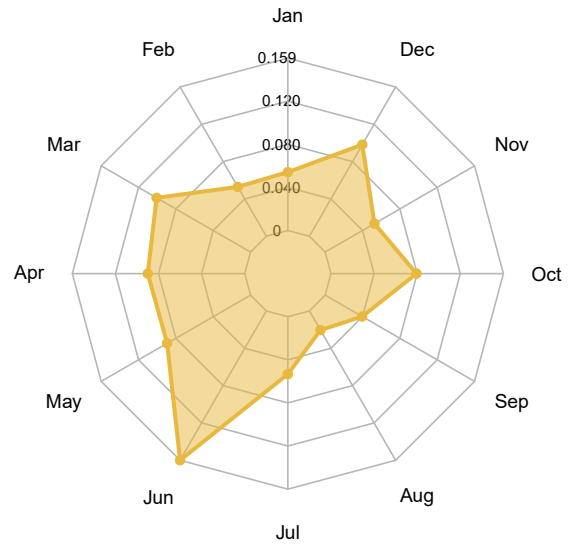
**Gastroenteritis due to Rotavirus**



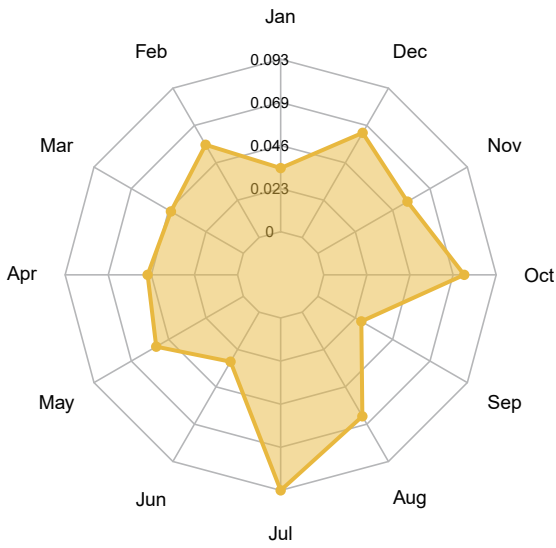
**Intestinal infections due to *Escherichia coli***



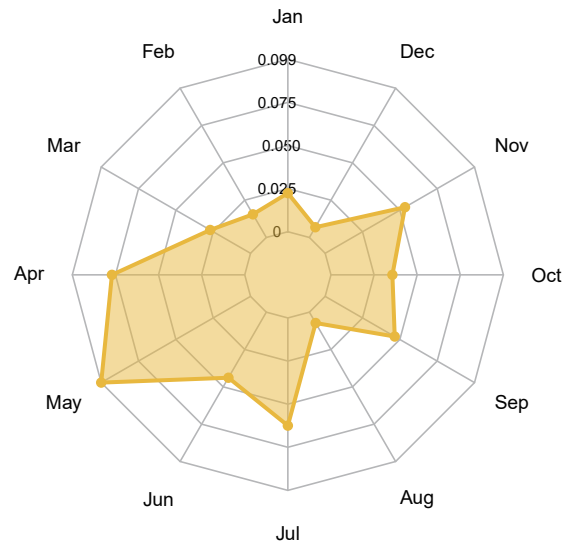
**Oesophagostomiasis**



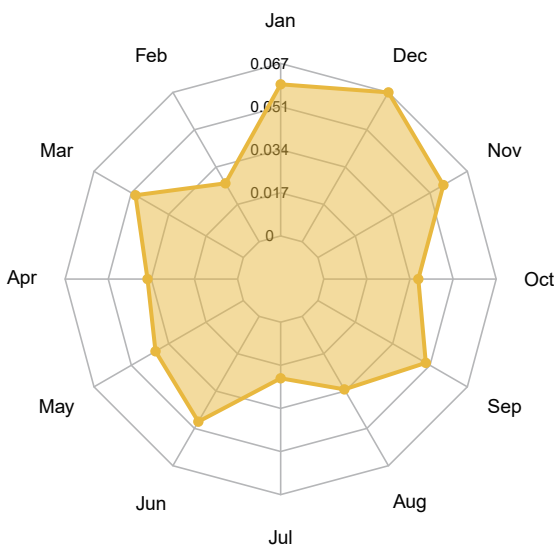
**Hepatitis A**



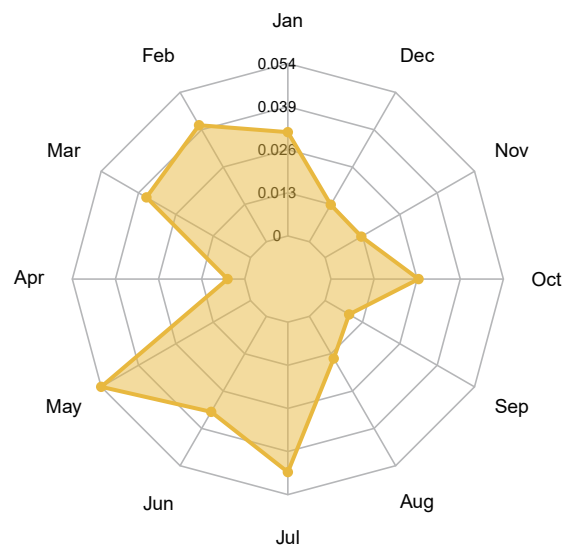
**Enterobiasis**



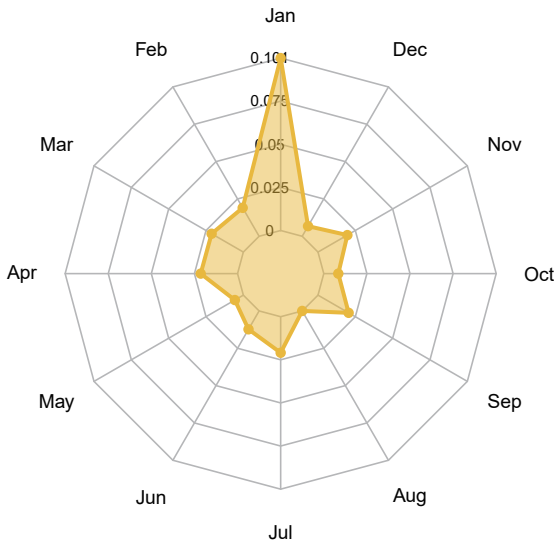
**Hepatitis E**



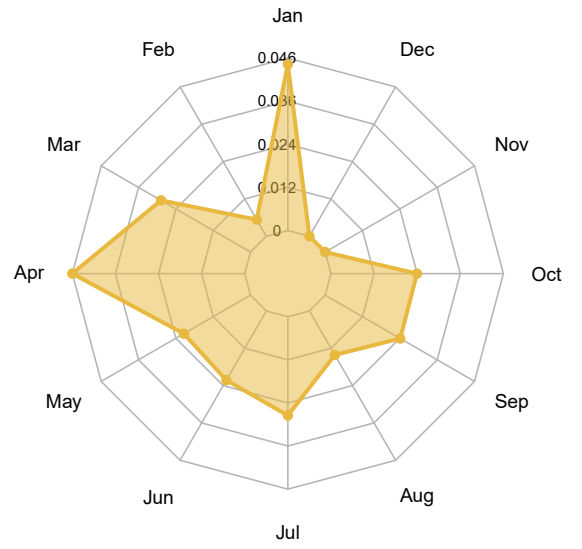
**Bacterial foodborne intoxications, unspecified**



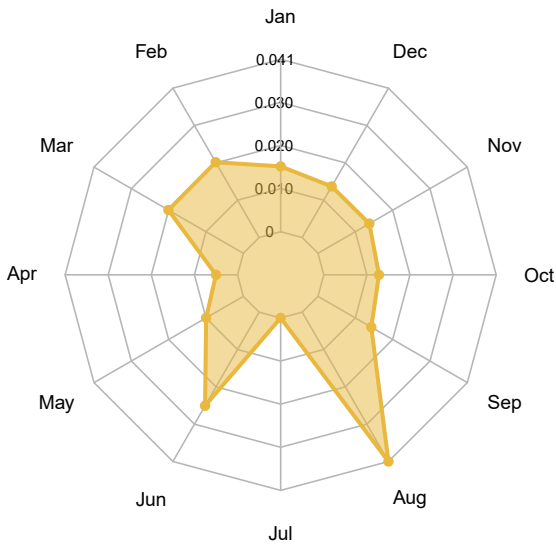
**Enteritis due to Norovirus**



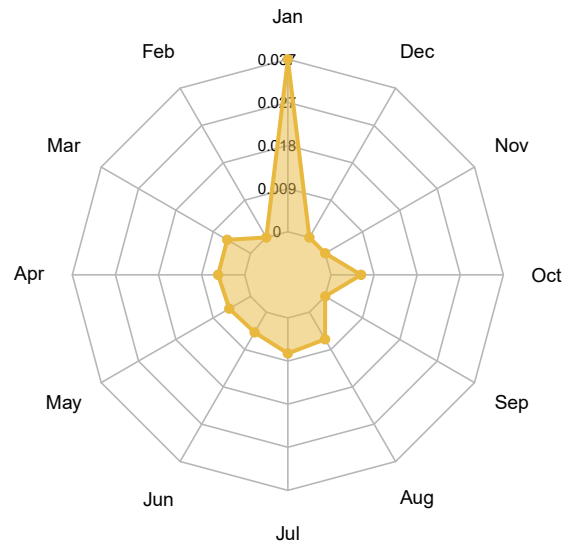
**Cysticercosis**



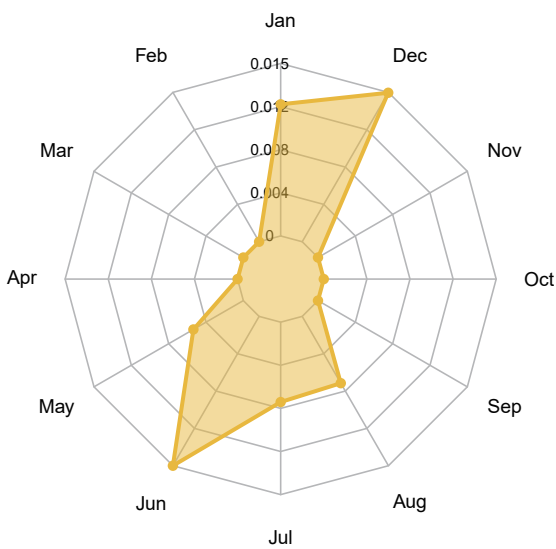
**Infections due to other *Salmonella***



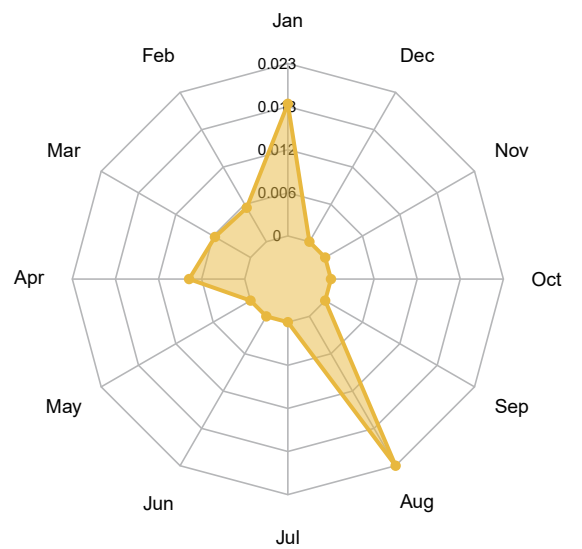
**Taeniasis**



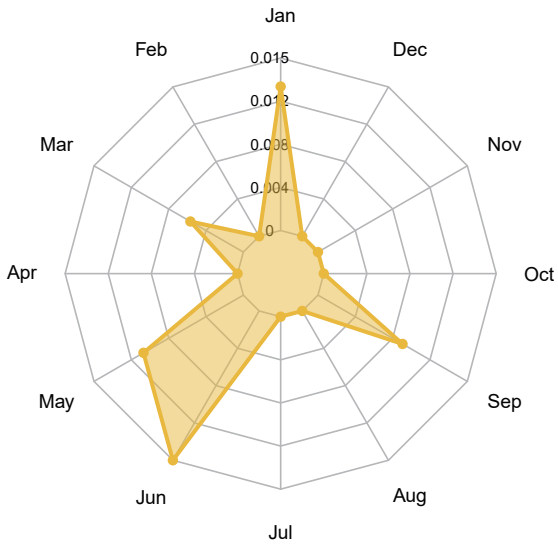
**Campylobacteriosis**



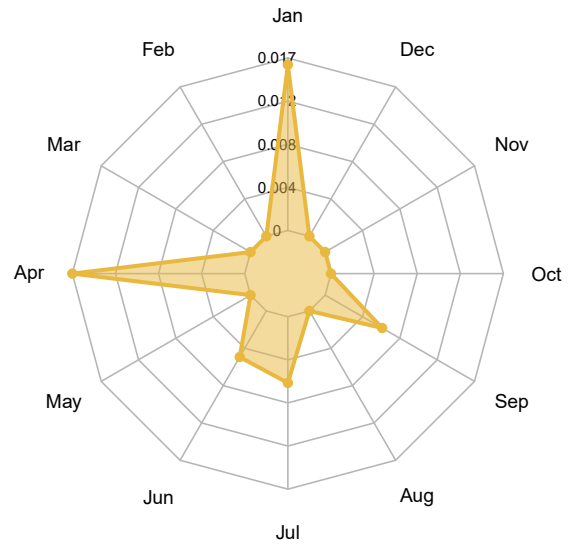
**Toxoplasmosis**



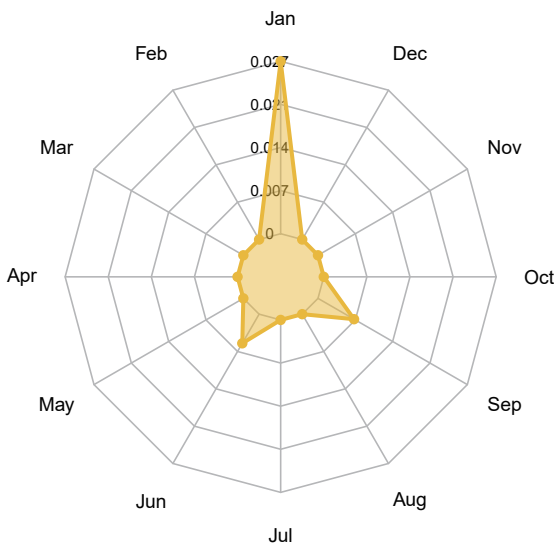
**Clonorchiasis**



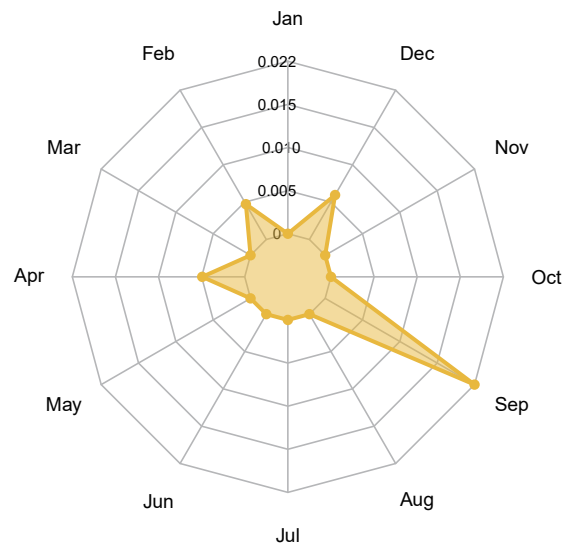
**Botulism**



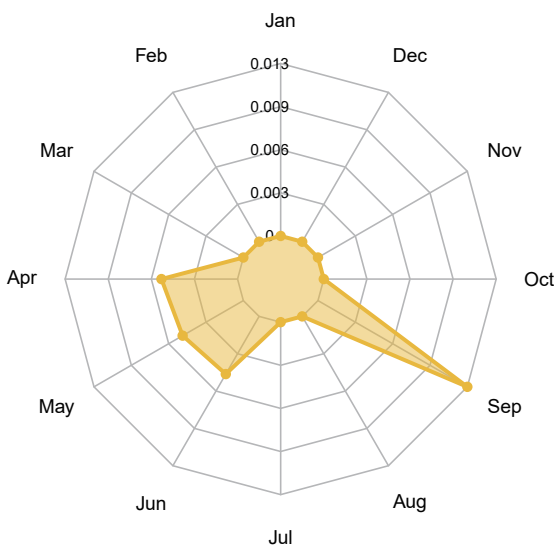
**Paragonimiasis**



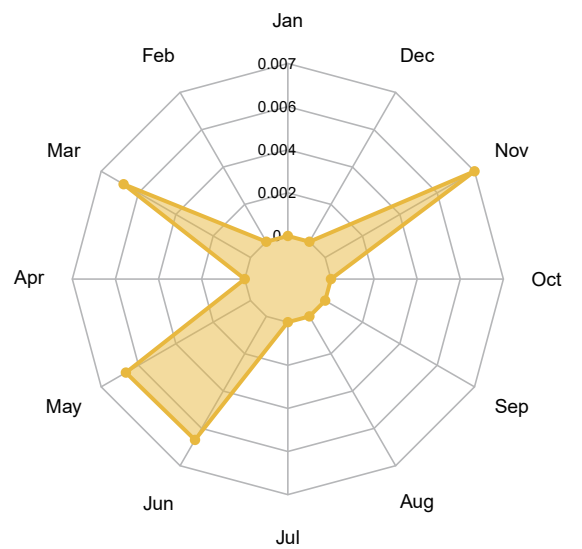
**Trichuriasis**



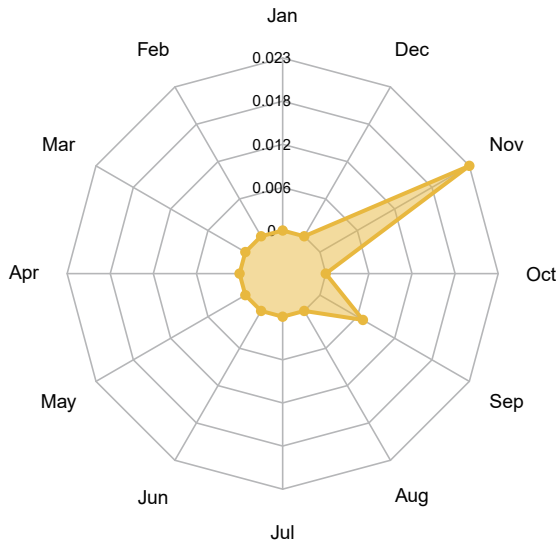
**Cryptosporidiosis**



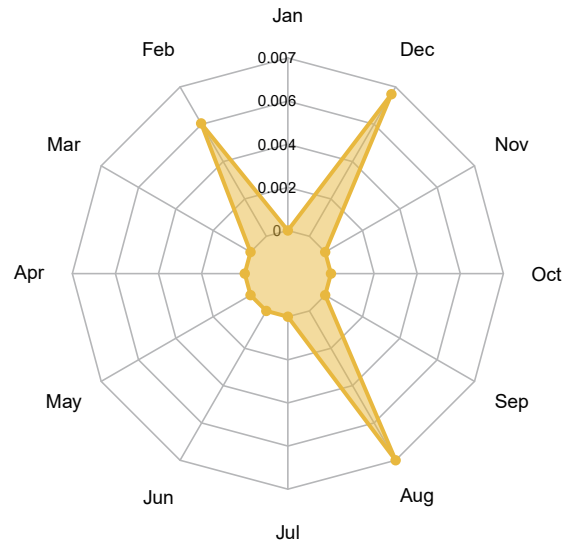
**Capillariasis**



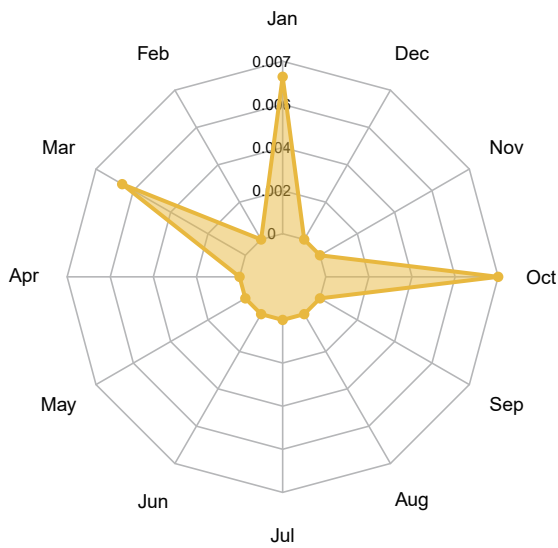
**Enteritis due to Adenovirus**



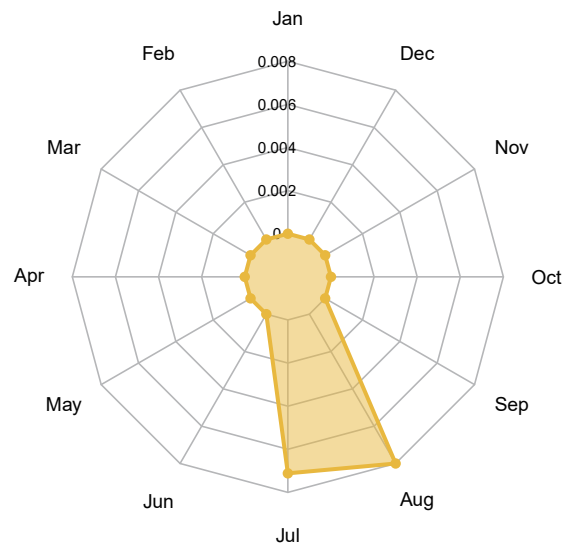
**Listeriosis**



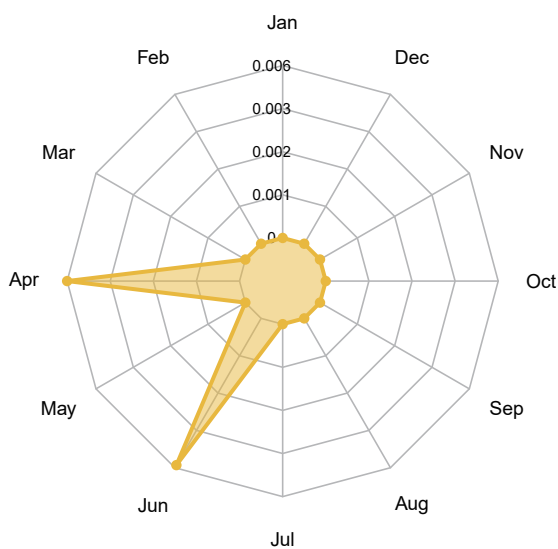
**Epidemic myalgia**



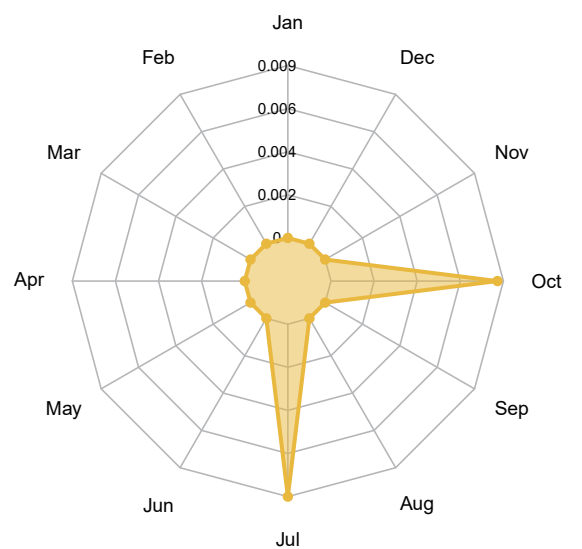
**Foodborne Bacillus cereus intoxication**



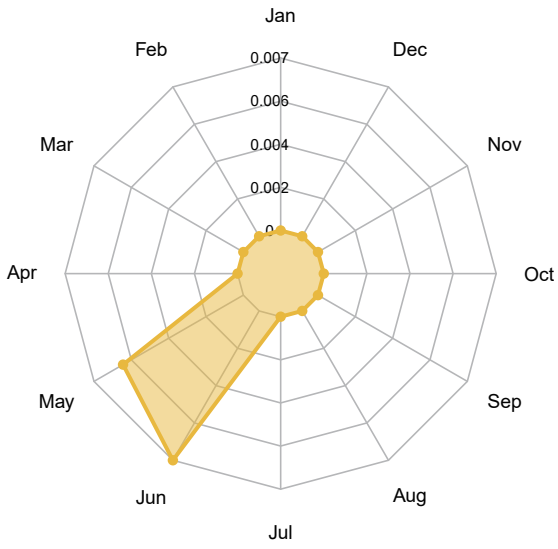
**Intestinal infections due to Yersinia enterocolitica**



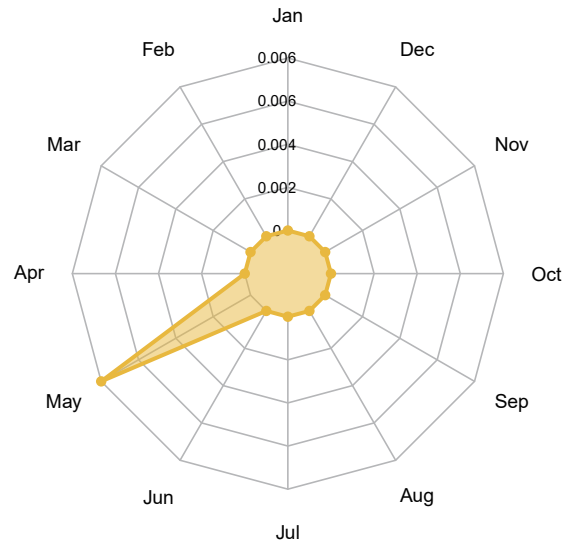
**Foodborne Clostridium perfringens intoxication**



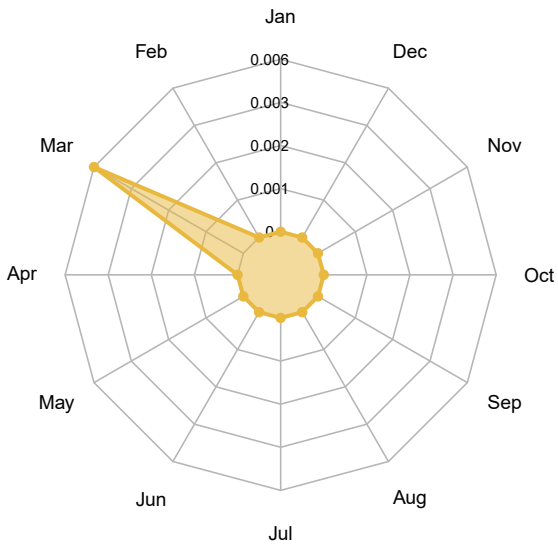
**Giardiasis**



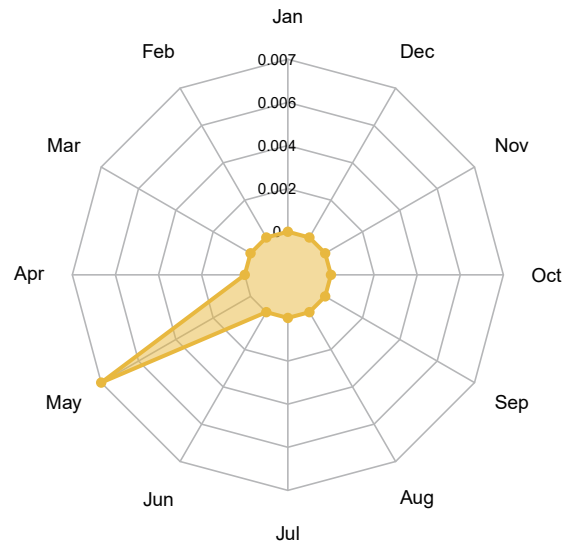
**Foodborne staphylococcal intoxication**



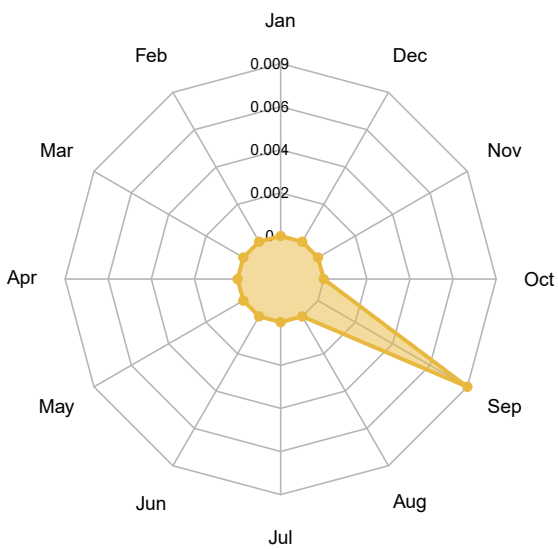
**Dipylidiasis**



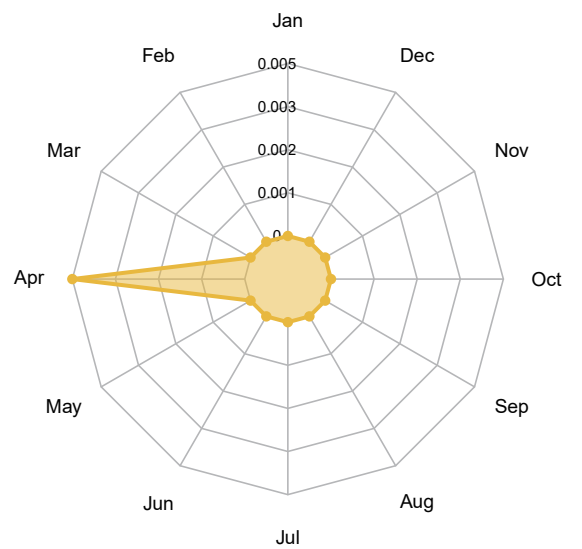
**Cystoisosporiasis**



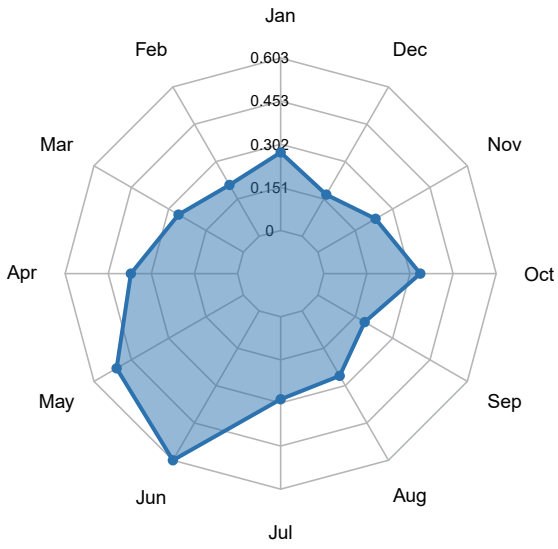
**Fascioliasis**



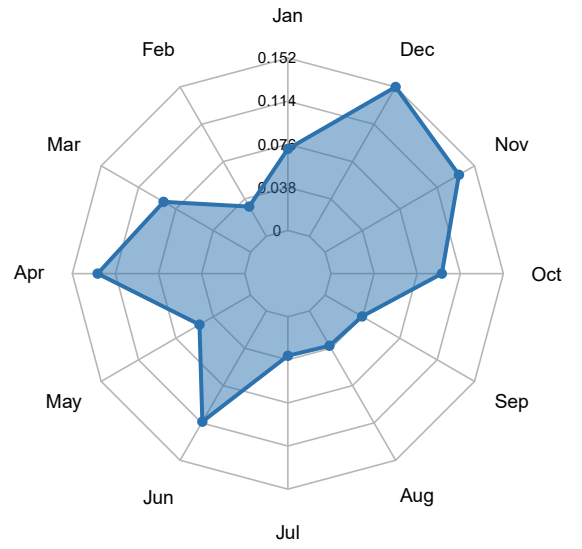
**Syngamosis**



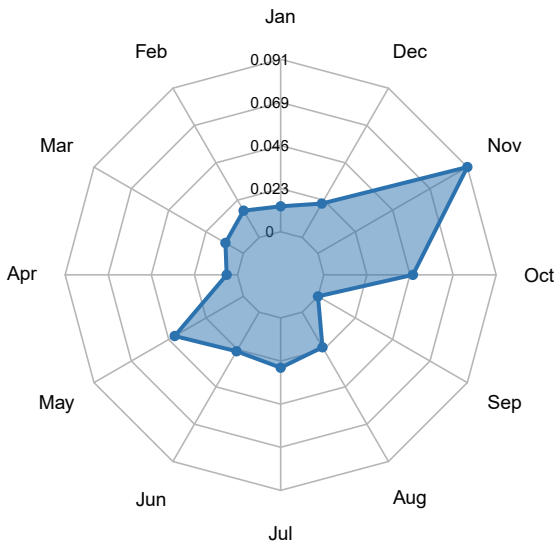
**Brucellosis**



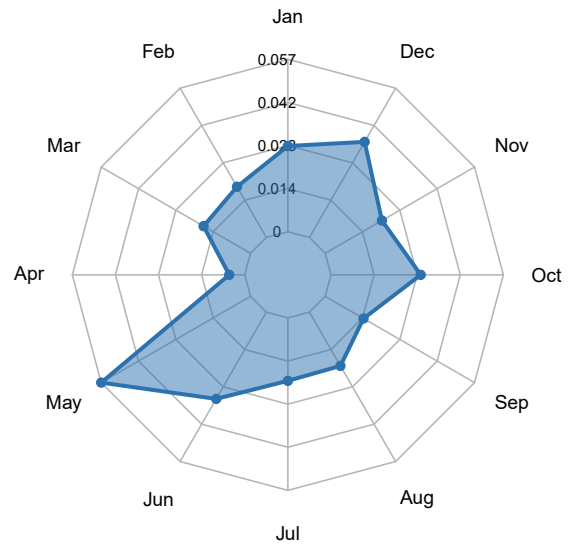
**Hemorrhagic fever**



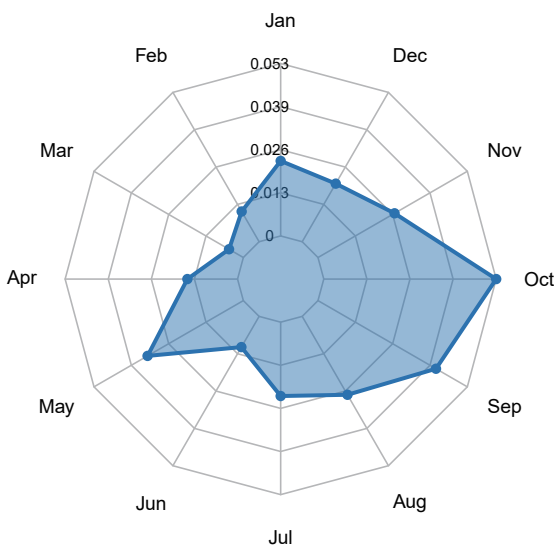
**Typhus fever**



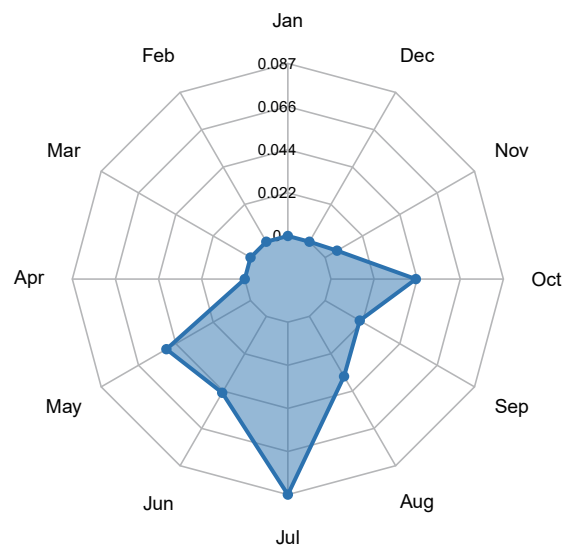
**Orf**



**Erysipeloid**

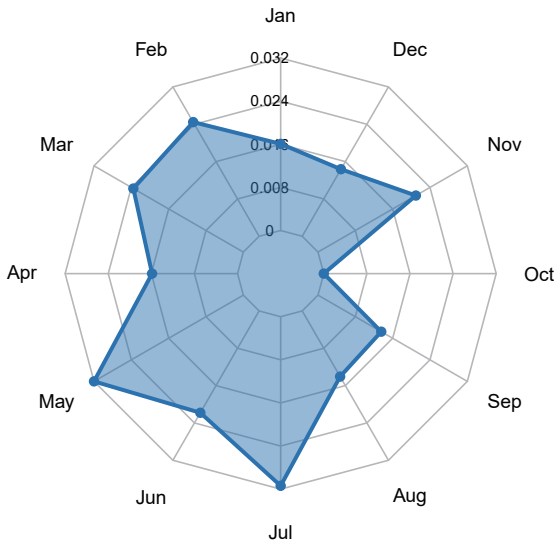


**Severe fever with thrombocytopenia syndrome**

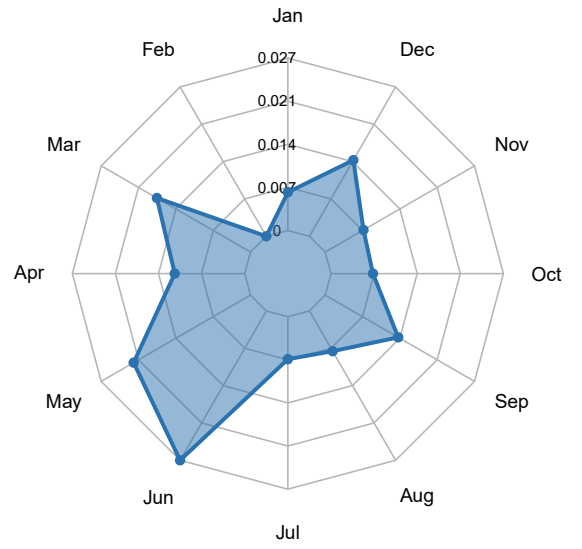




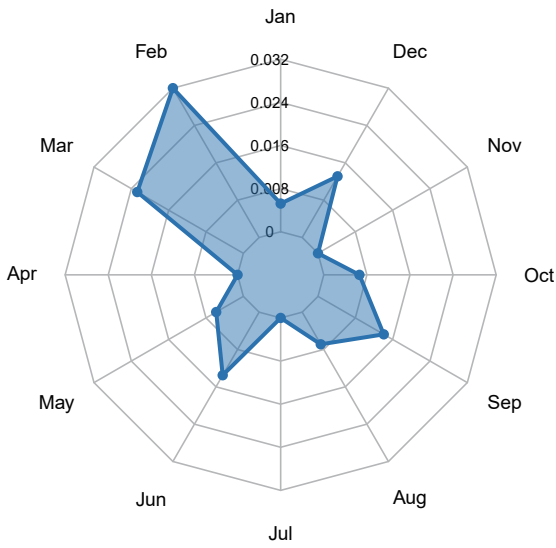
**Malaria**



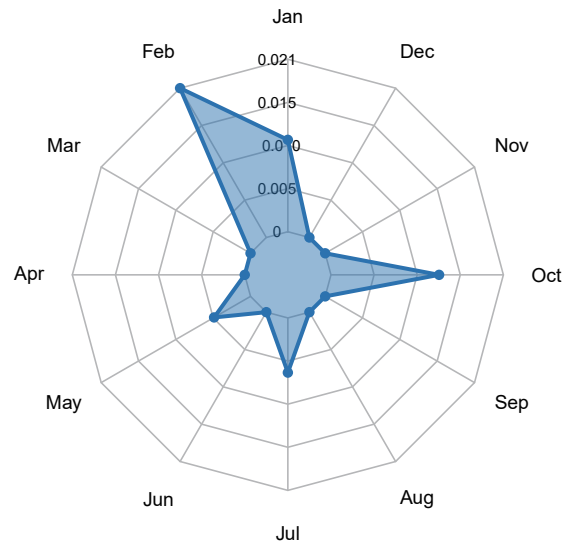
**Spotted fever**



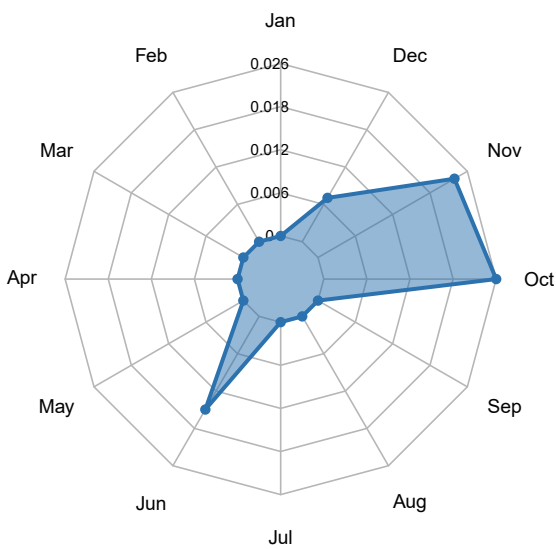
**Tularemia**



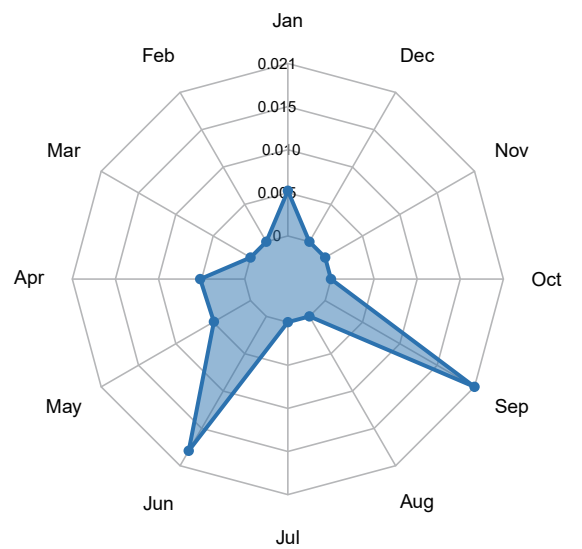
**Leptospirosis**



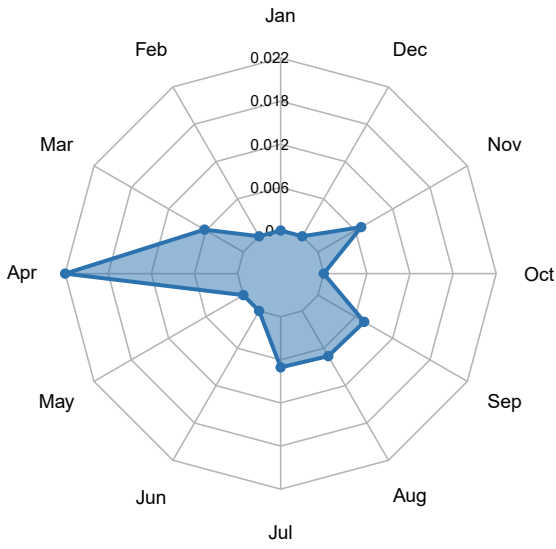
**Epidemic encephalitis B**



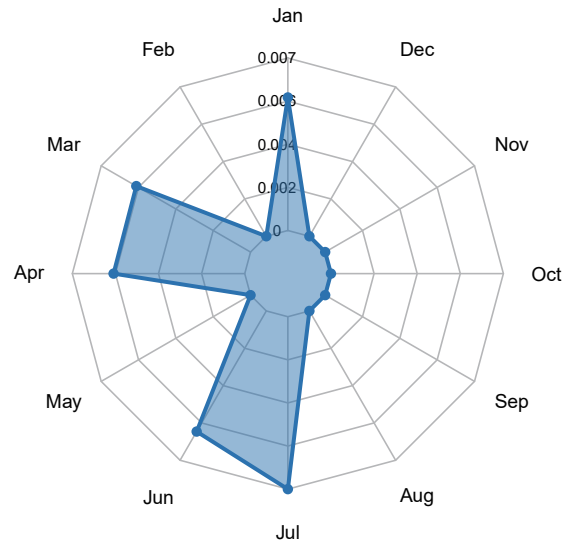
**Extraintestinal yersiniosis**



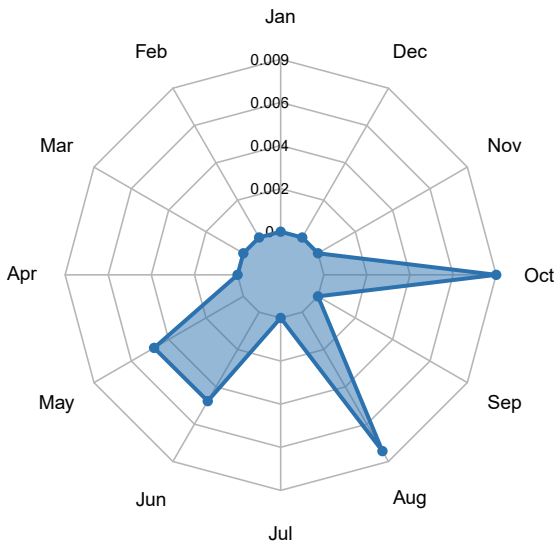
**Glanders**



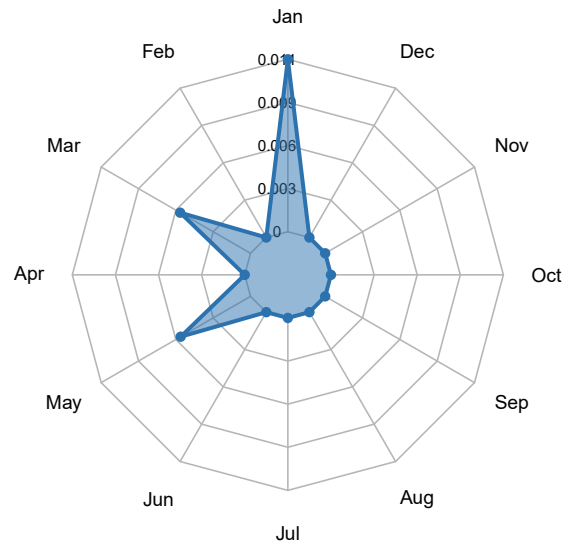
**Cat-scratch disease**



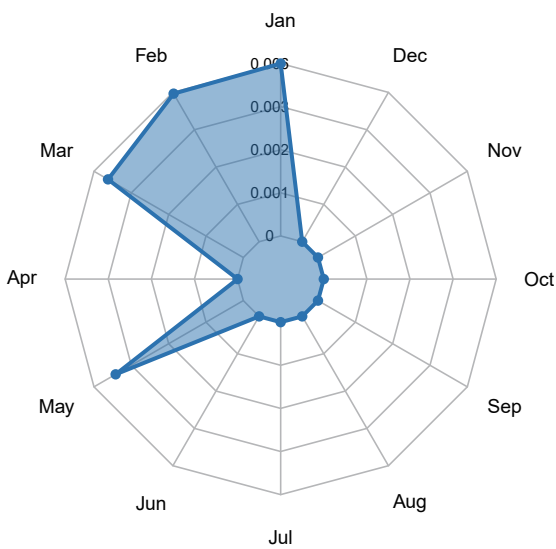
**Relapsing fever**



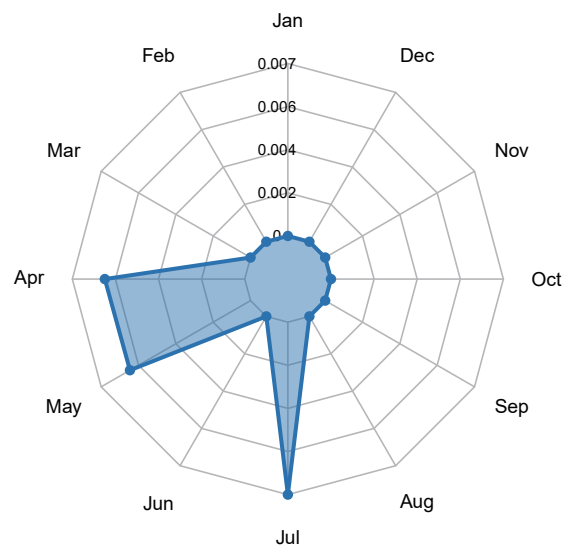
**Monkeypox**



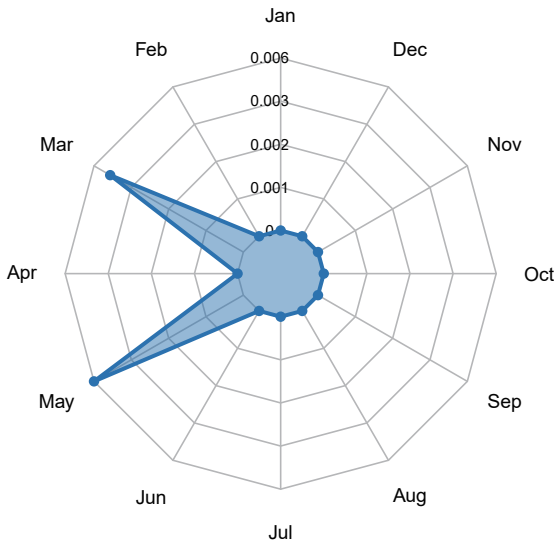
**Q fever**



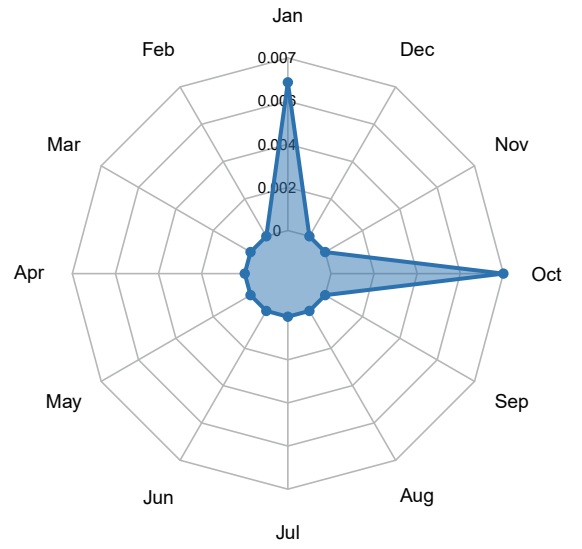
**Yellow fever**



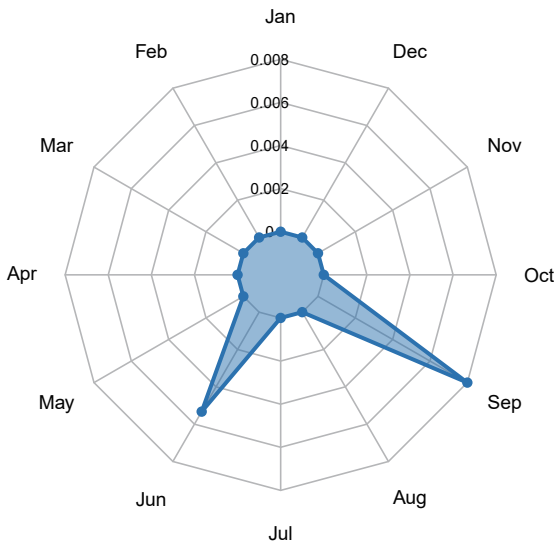
**Eastern equine encephalitis**



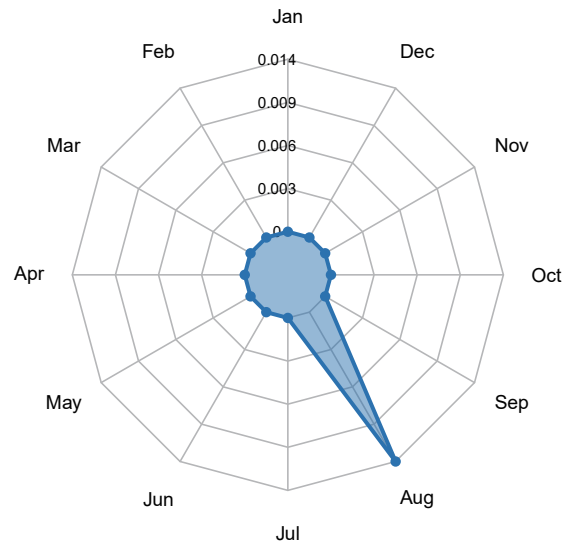
**Melioidosis**



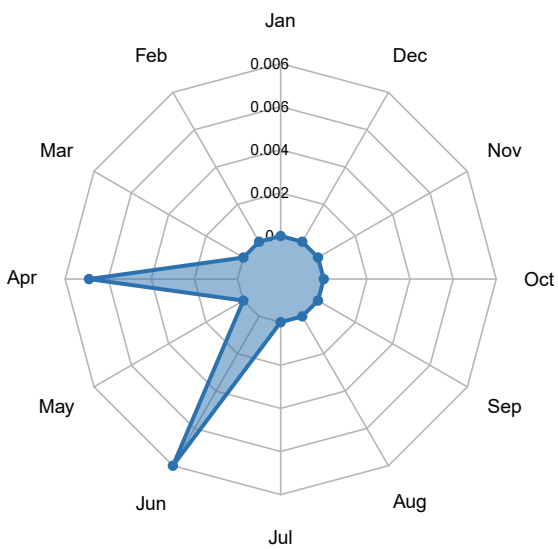
**African trypanosomiasis**



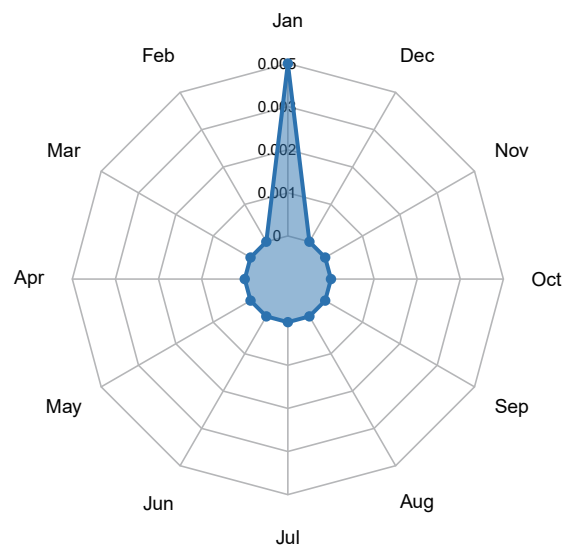
**Visceral leishmaniasis**



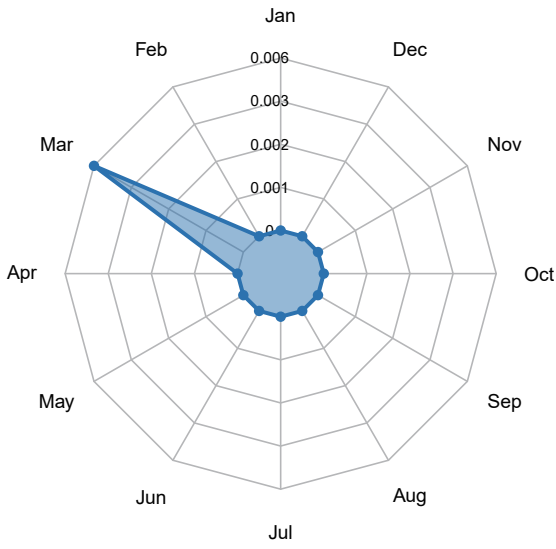
**Dengue**



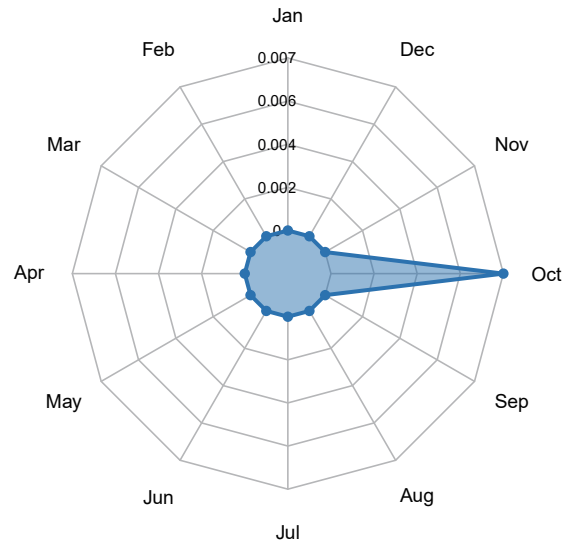
**Bartonellosis**



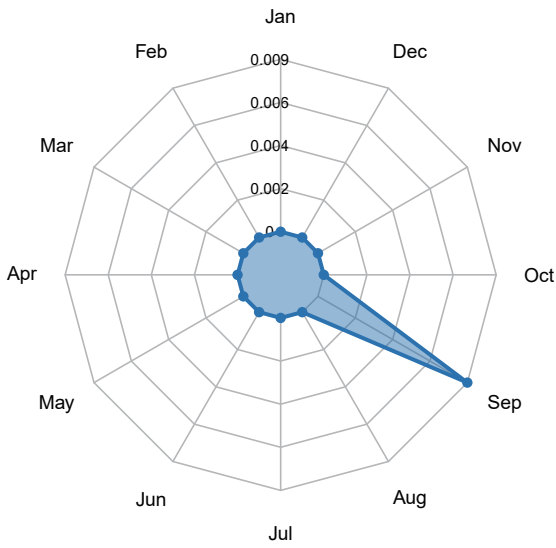
**Crimean-Congo haemorrhagic fever**



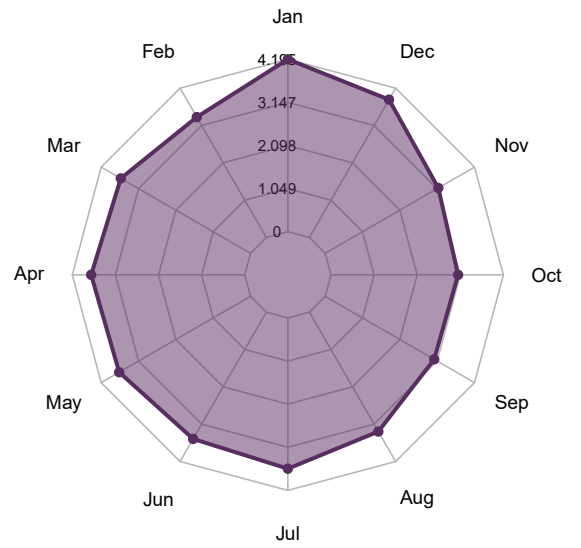
**Rickettsialpox**



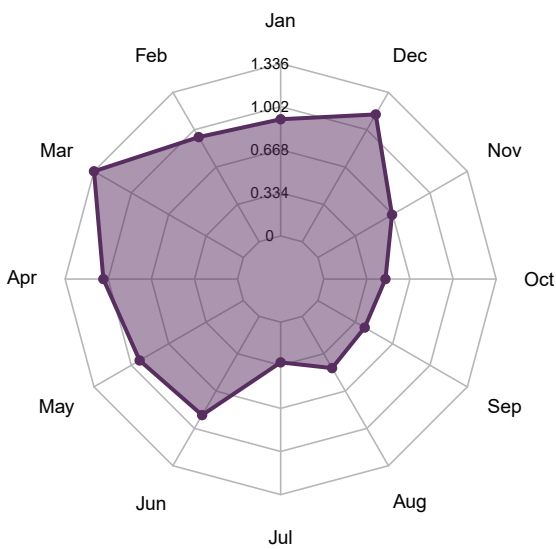
**Lyme borreliosis**



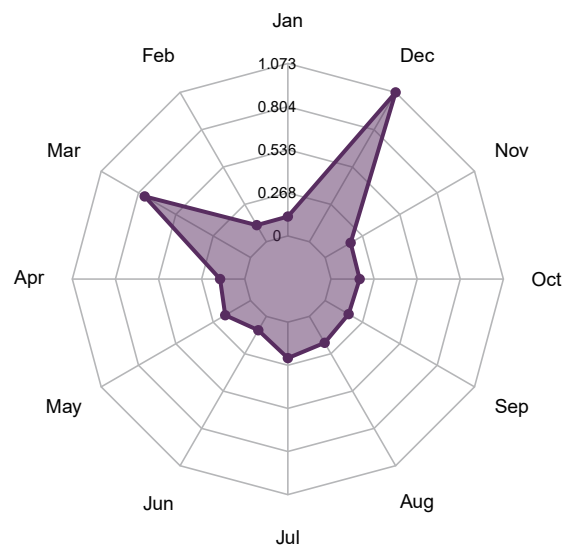
**Hepatitis B**



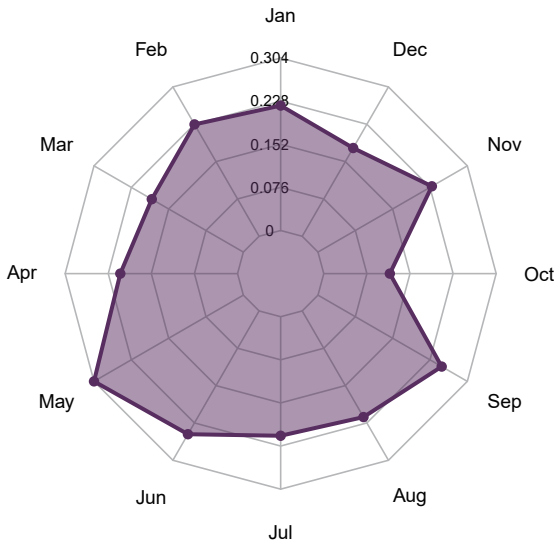
**Syphilis**



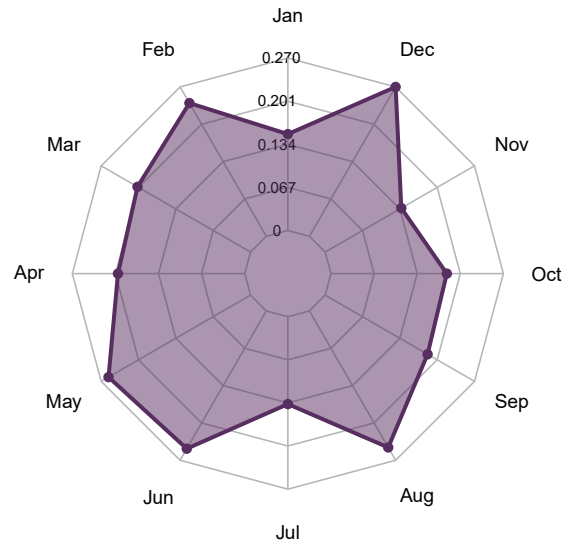
**Hepatitis C**



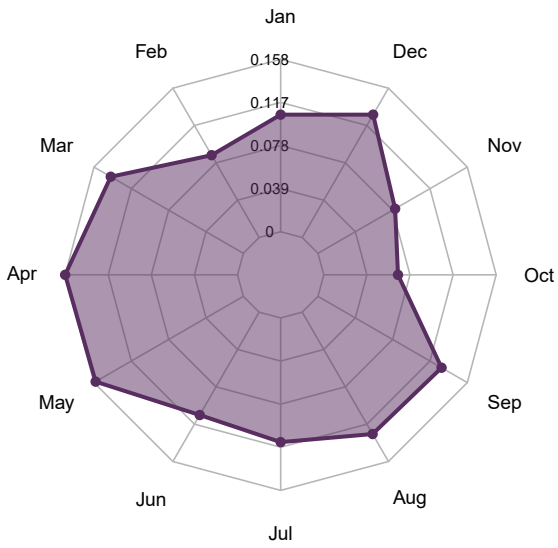
**Gonorrhea**



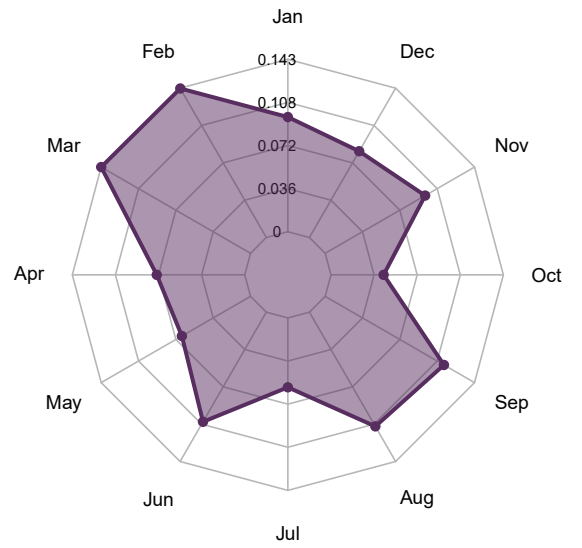
**Trichomoniasis**



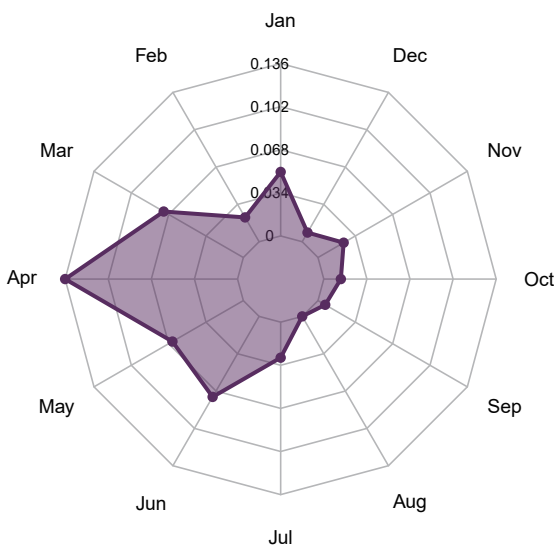
**Anogenital warts**



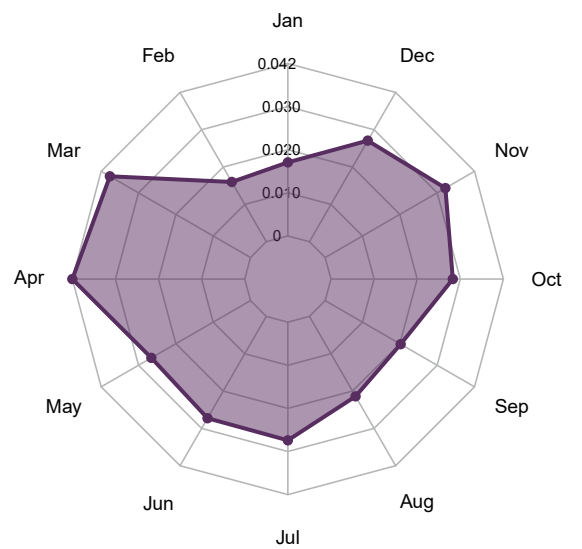
**Cytomegaloviral disease**



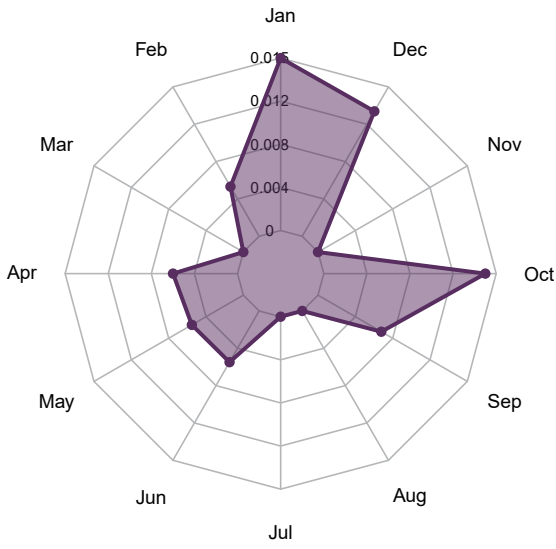
**HIV infection**



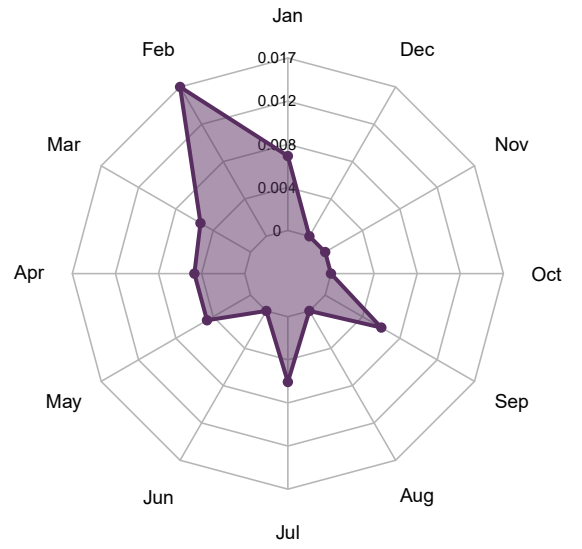
**Anogenital herpes simplex infection**



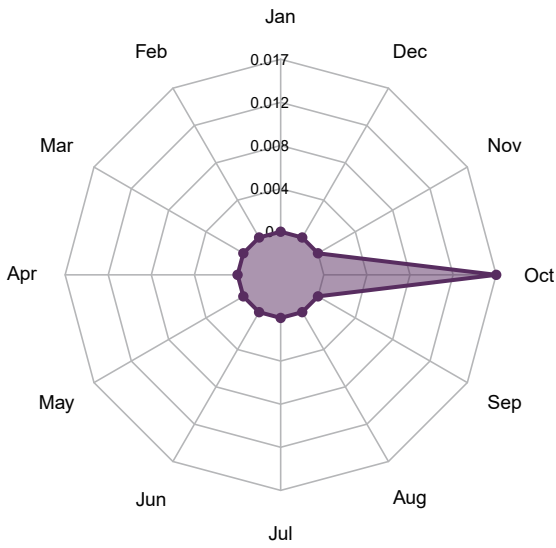
**Granuloma inguinale**



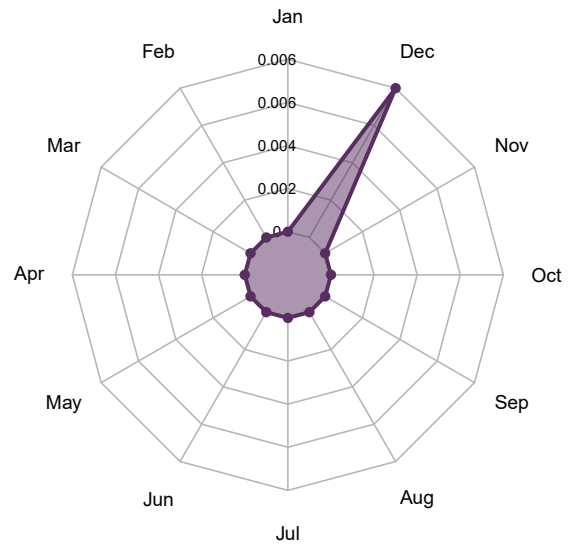
**Hepatitis D**



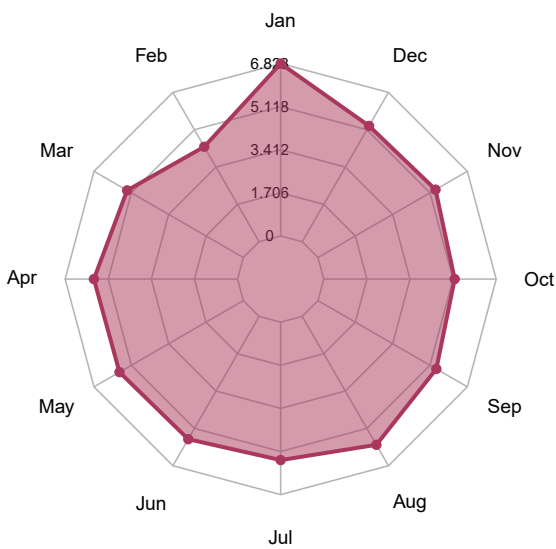
**Chancroid**



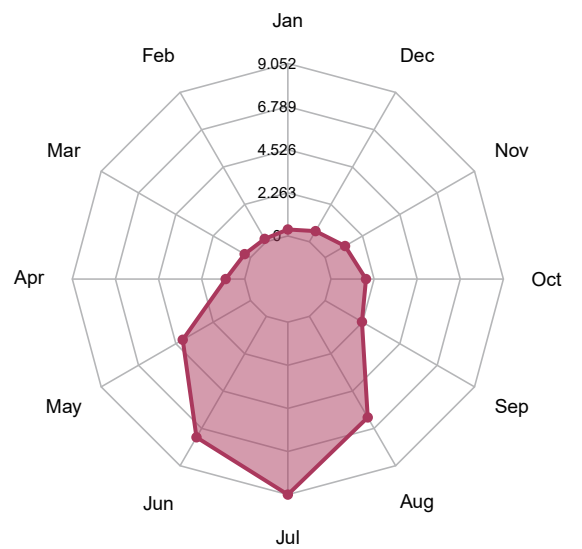
**Warts of lips or oral cavity**



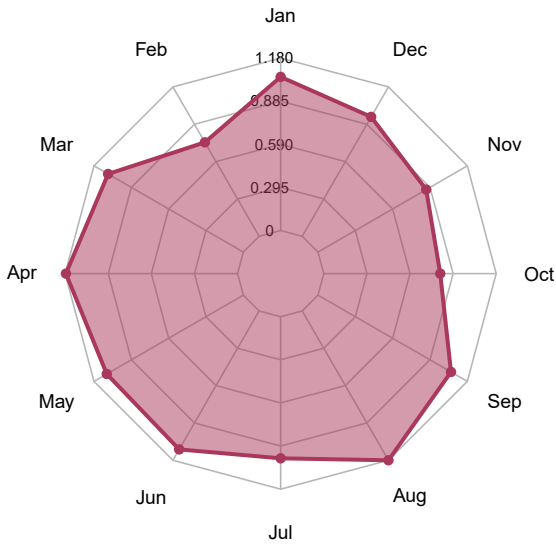
**Zoster**



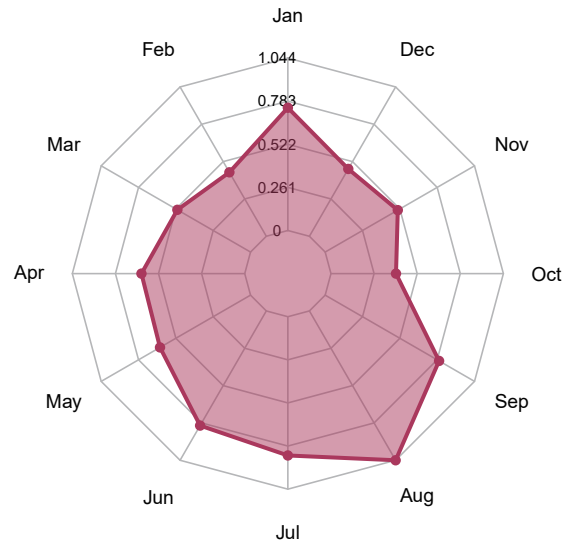
**Hand, foot, and mouth disease**



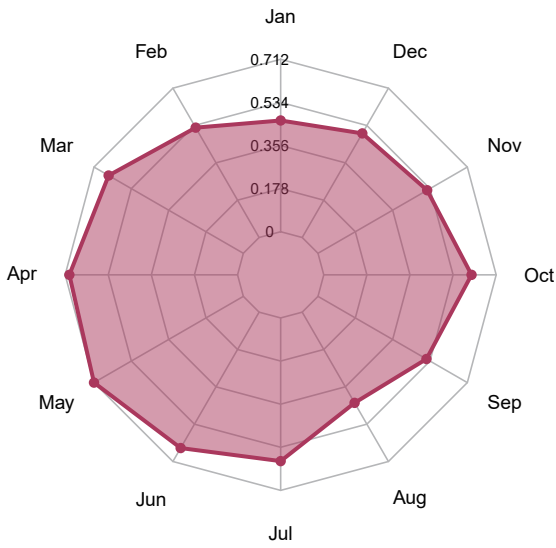
**Viral conjunctivitis**



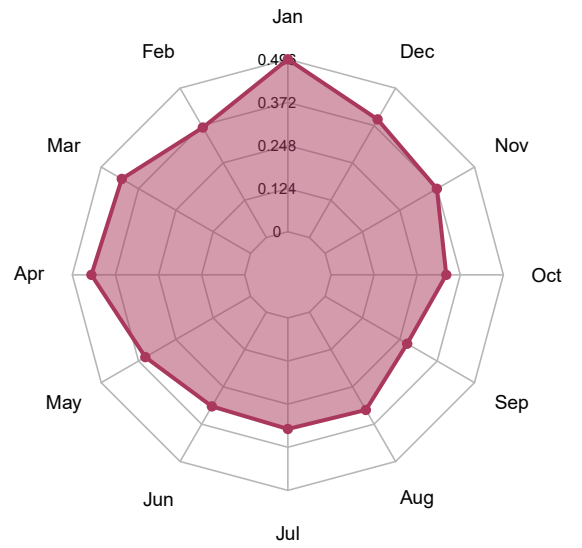
**Trachoma**



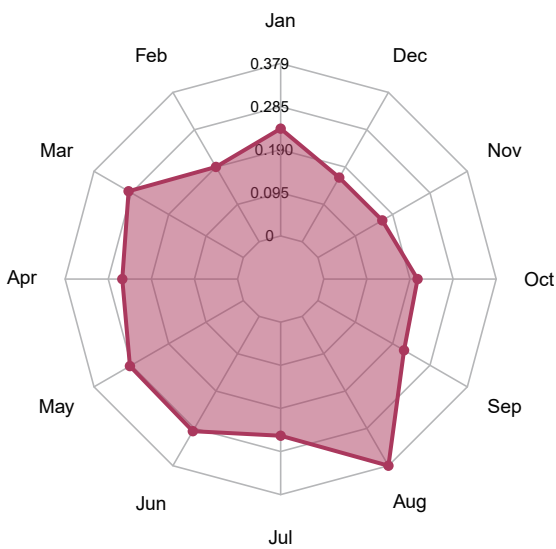
**Common warts**



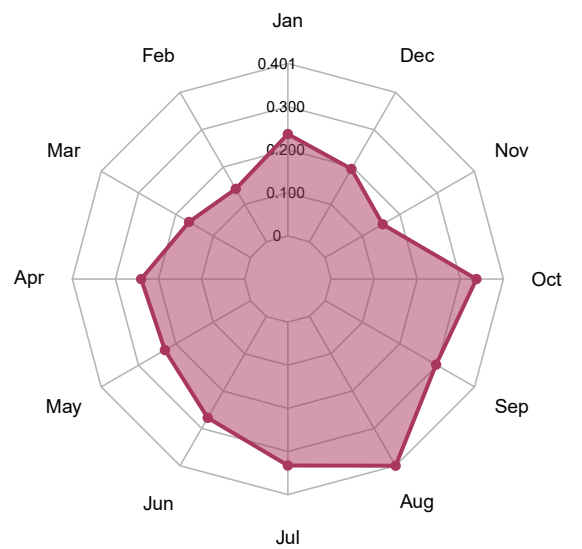
**Herpes simplex infections**



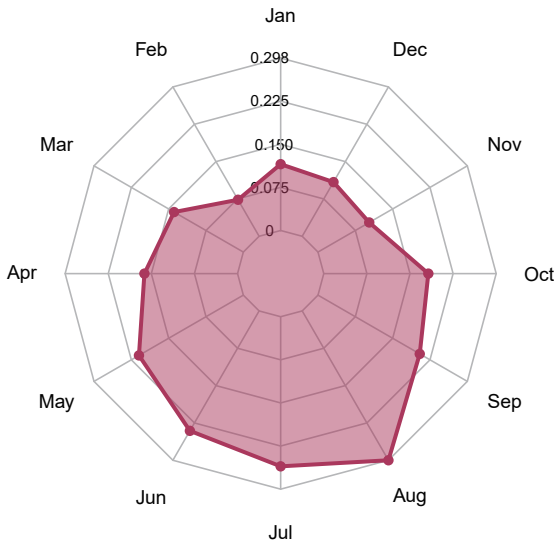
**Plane warts**



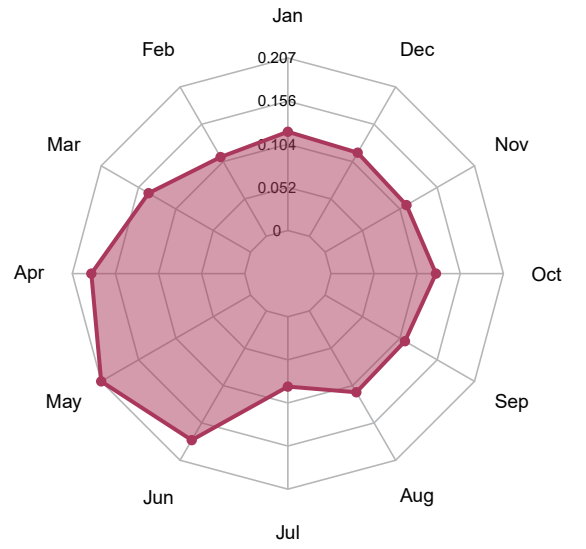
**Impetigo**



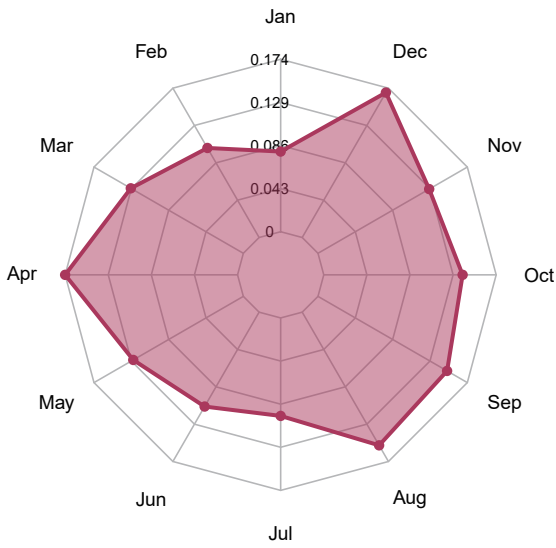
**Non-dermatophyte superficial dermatomycoses**



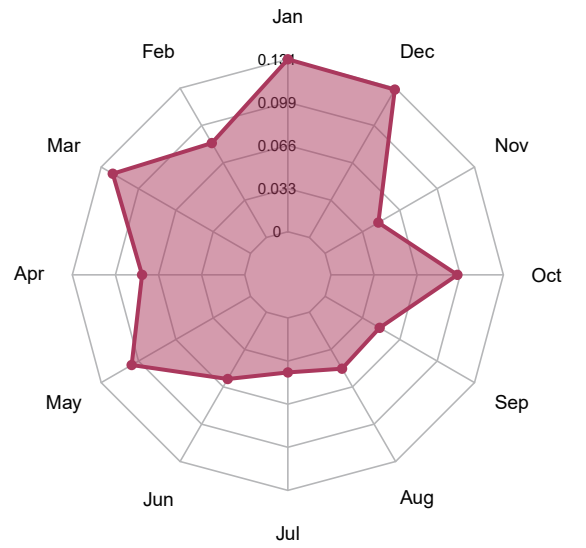
**Molluscum contagiosum**



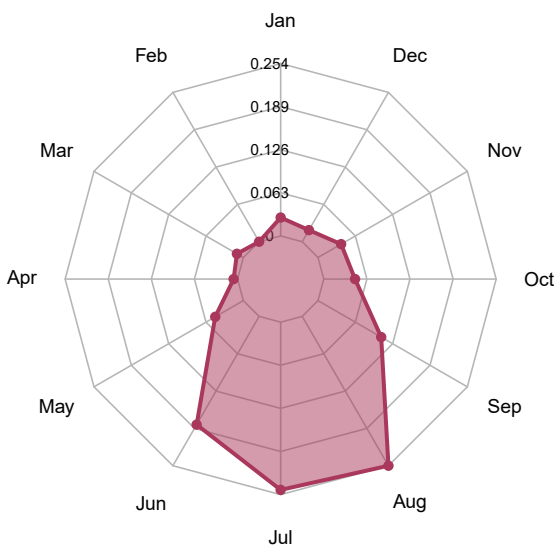
**Infectious mononucleosis**



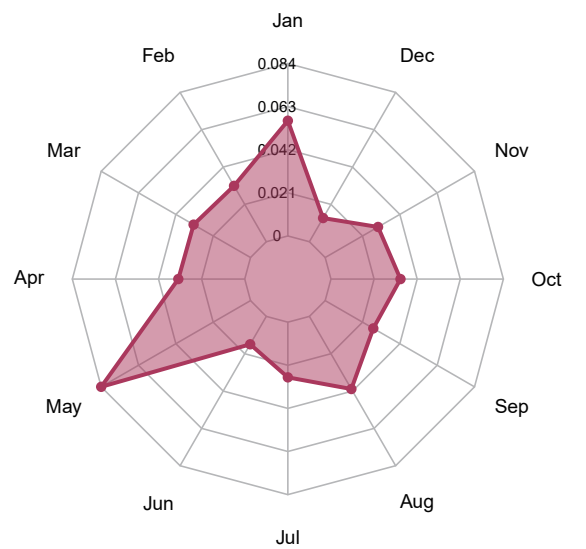
**Scabies**



**Picornavirus infections presenting in the skin or mucous membranes**

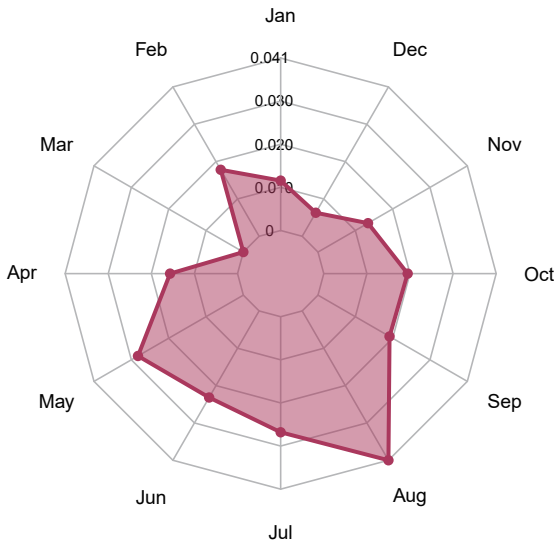


**Myiasis**

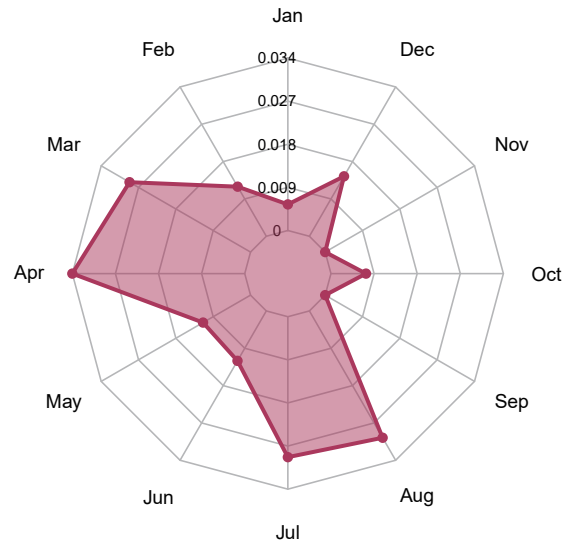




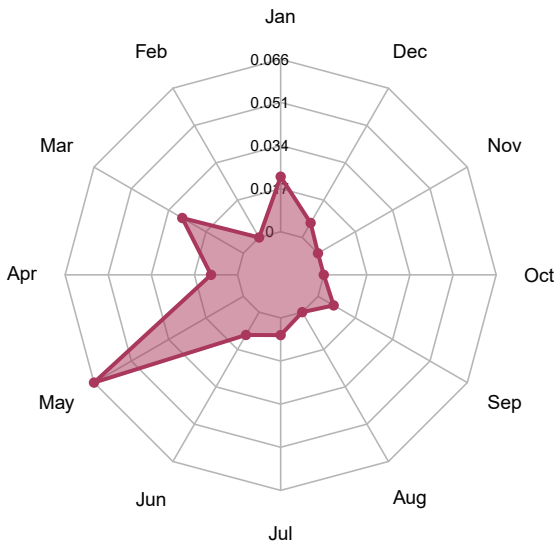
**Tetanus**



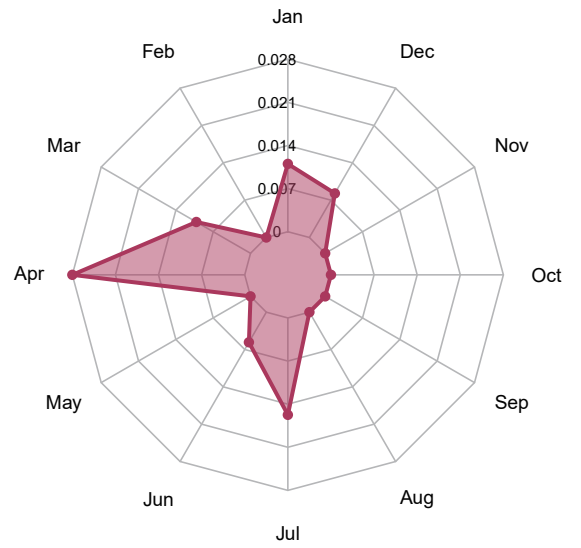
**Rabies**



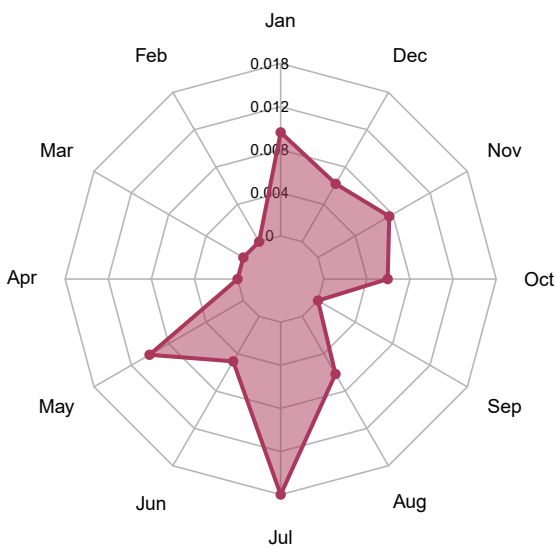
**Yaws**



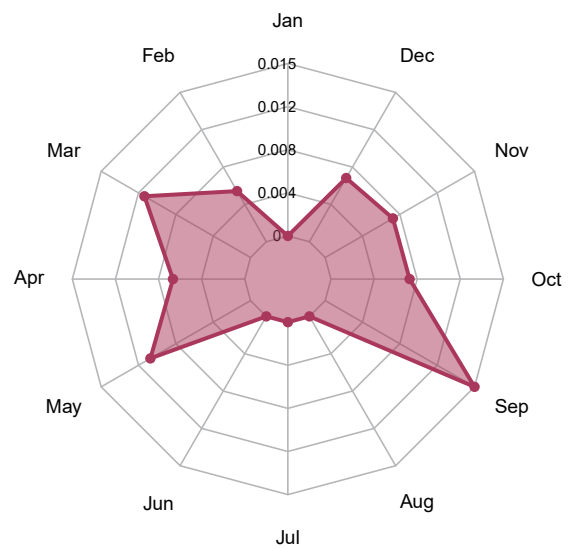
**Acute hemorrhagic conjunctivitis**



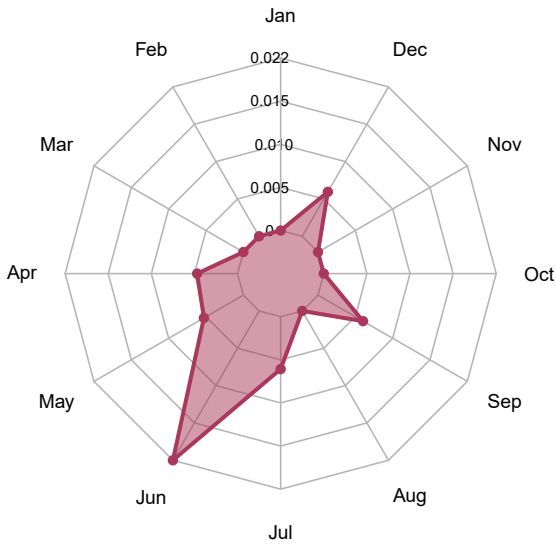
**Eumycetoma**



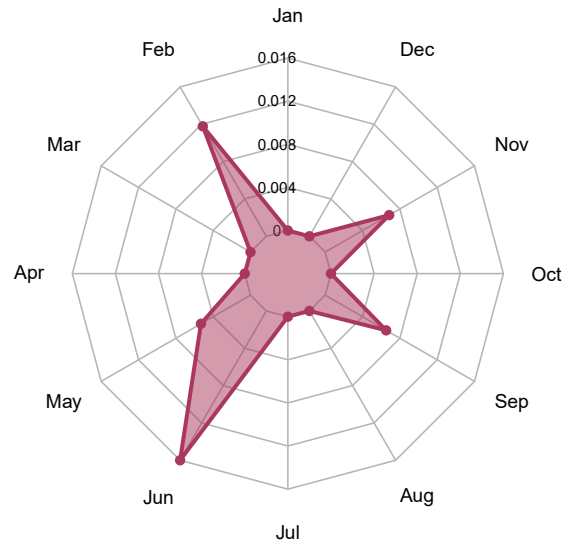
**Infestation by mites**



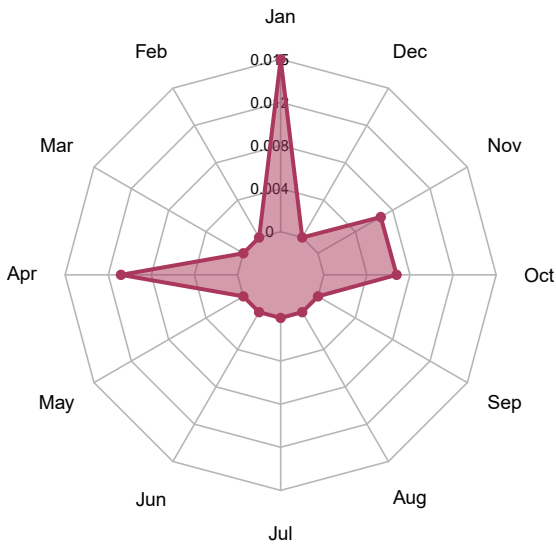
**Infantile papular acrodermatitis**



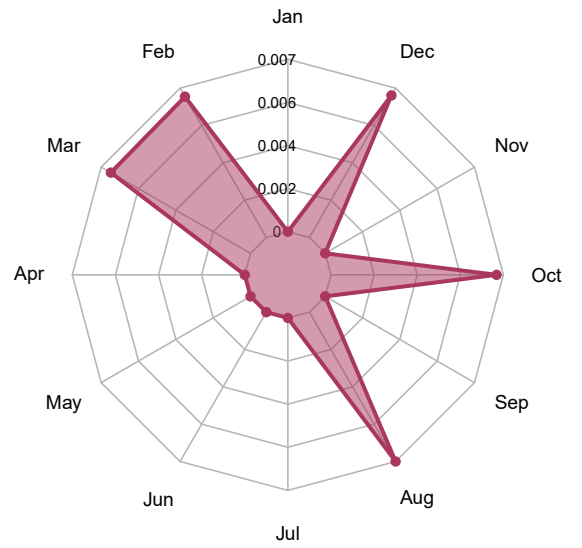
**Echinococcosis**



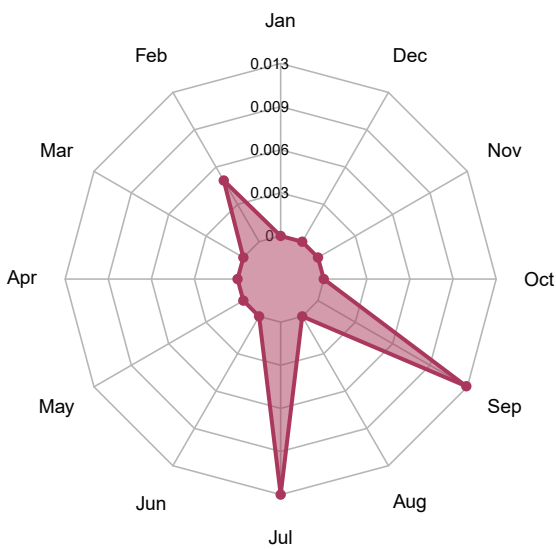
**Sporotrichosis**



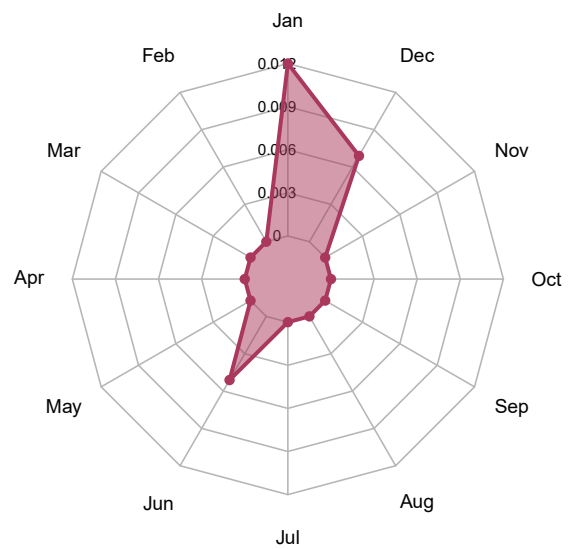
**Strongyloidiasis**

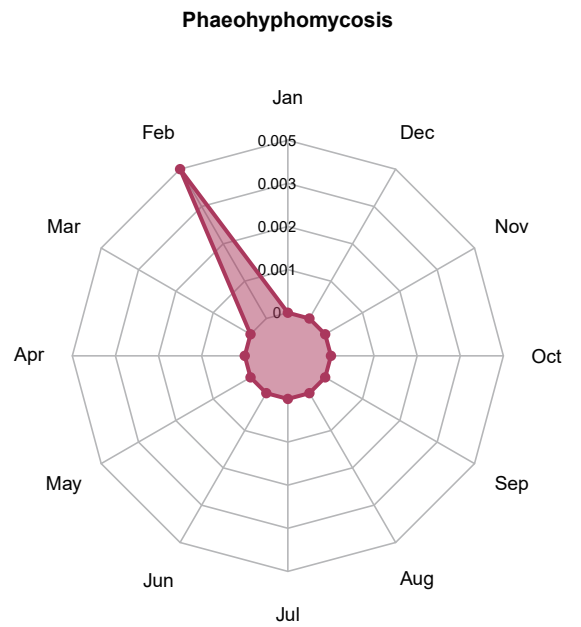
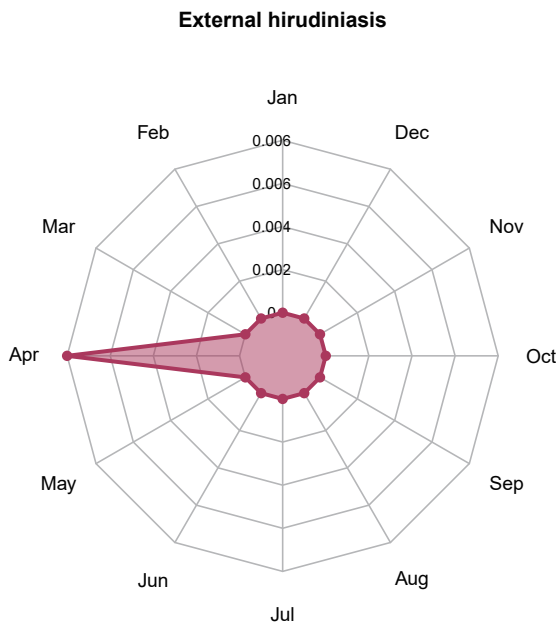
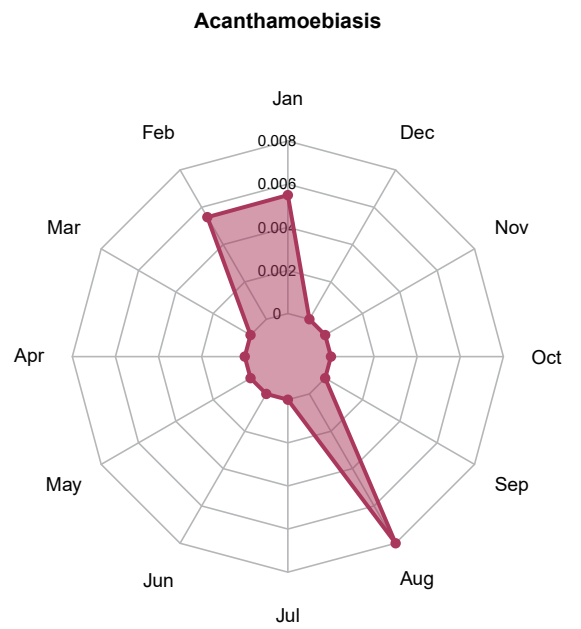
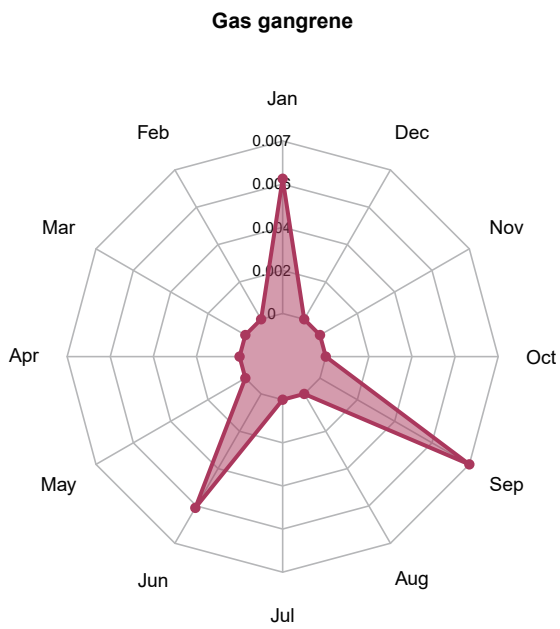


**Obstetrical tetanus**

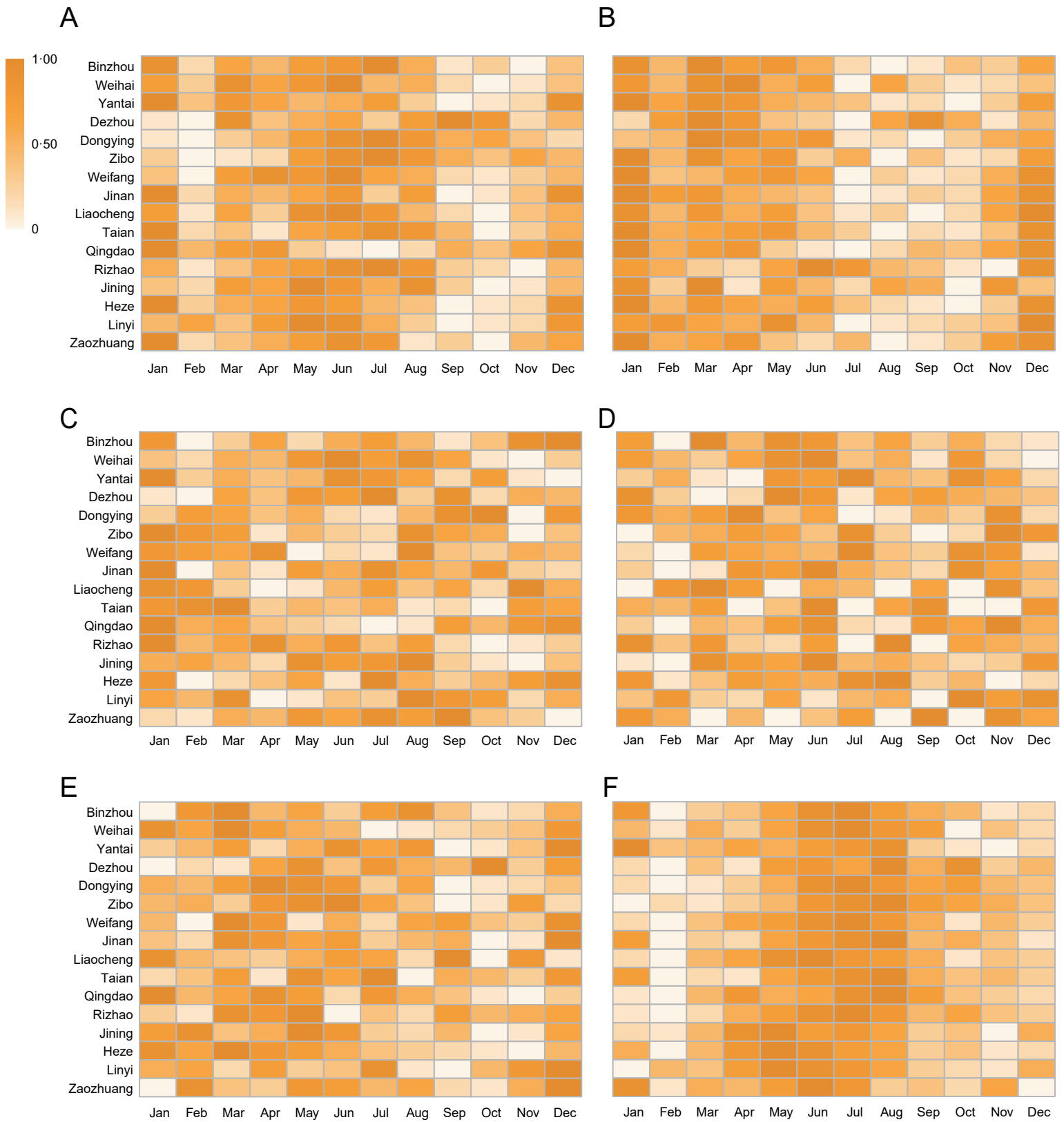


**Hookworm diseases**

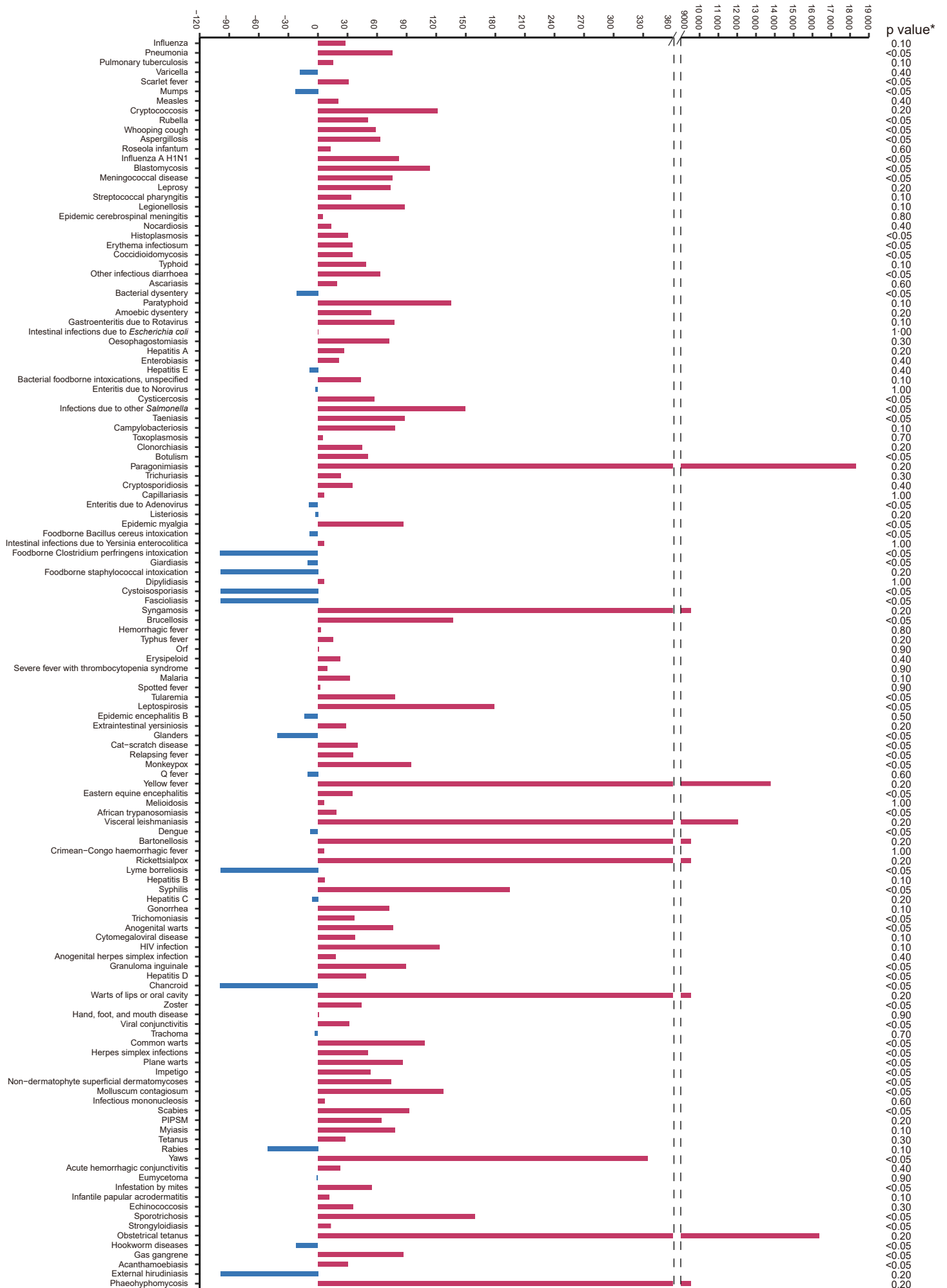




**Figure S4: Seasonal distribution of 130 infectious diseases in Shandong province, China, 2013-2017**  
 HIV=human immunodeficiency virus, PIPSM=picornavirus infections presenting in the skin or mucous membranes.

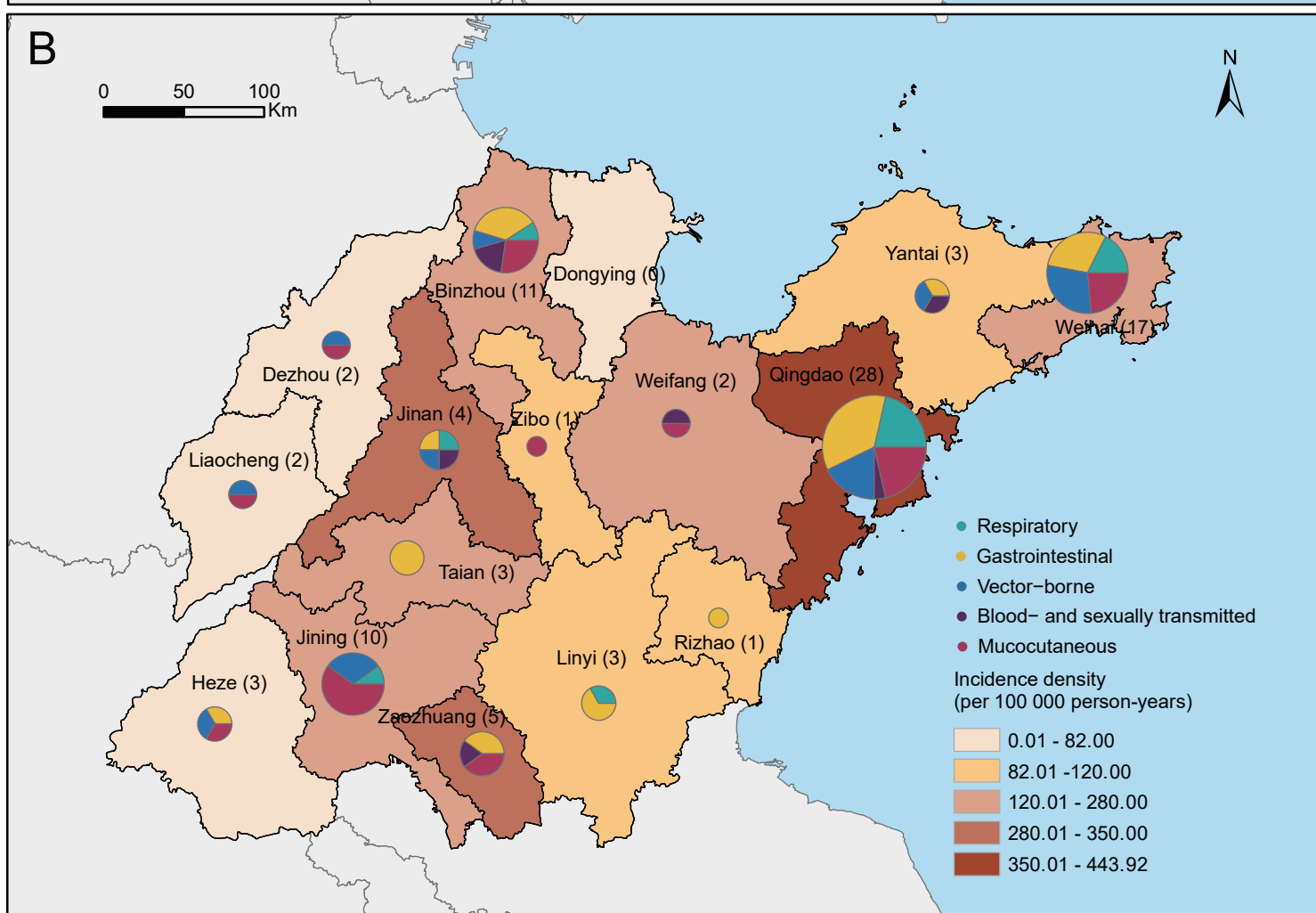
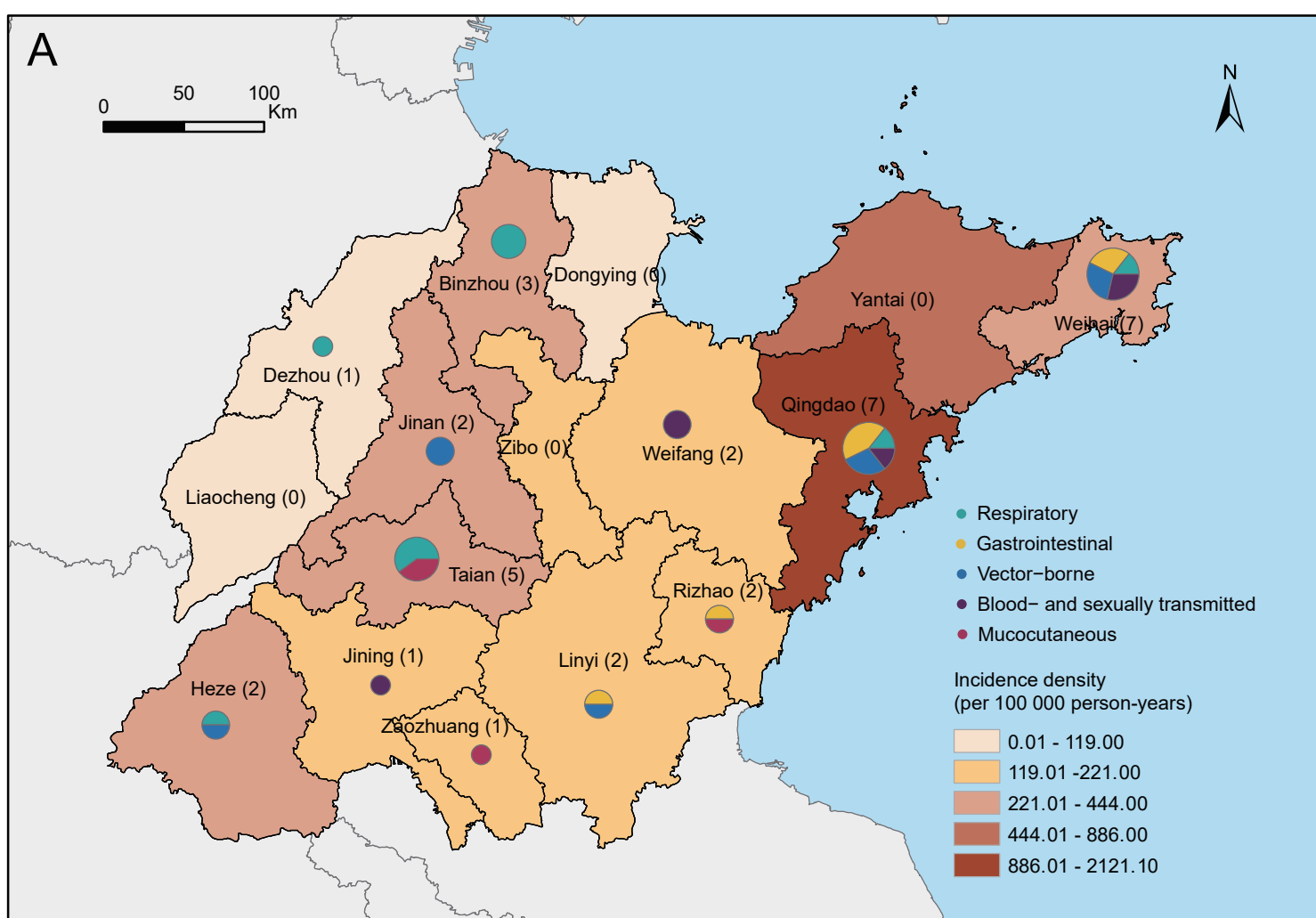


**Figure S5: Seasonal distribution of the five categories of infectious diseases in 16 prefecture-level cities of Shandong province, China**  
**(A) Total infections. (B) Respiratory infections. (C) Gastrointestinal infections. (D) Vector-borne infections. (E) Blood- and sexually transmitted infections. (F) Mucocutaneous infections.**



**Figure S6: Annual percentage change in the incidence density of 130 infectious diseases.**

HIV=human immunodeficiency virus, PIPSM=Picornavirus infections presenting in the skin or mucous membranes.



**Figure S7: Geographical distribution of 35 notifiable infectious diseases and 95 non-notifiable infectious diseases in Shandong province, China**

(A) Notifiable infectious disease, and (B) non-notifiable infectious disease. The circle represents cities where the infectious diseases with the highest incidence density distributed, with the circle size and numbers in parentheses indicating the disease number.