

## SUPPLEMENTARY MATERIALS

**Table S1. Percentage of different antibiotic prescriptions for disease treatment**

Antibiotics group	Proportion of antibiotic prescriptions for the treatment of diseases (%)									
	Cuta	Otol	Ent	Resp	Urin	Repr	Oral	Opht	Onco	Othe
Cephalosporins	41.9	29.3	4.5	1.9	2.0	1.1	1.4	5.6	2.0	10.0
$\beta$ -lactam(ase) inhibitors	20.7	8.9	19.8	8.4	10.3	1.5	3.1	5.7	1.8	19.2
Fluroquinolones	23.5	25.1	5.1	3.3	4.8	0.9	1.1	29.0	1.3	5.5
Aminoglycosides	17.7	7.7	1.7	1.0	0.5	0.1	0.2	68.7	1.0	1.2
Tetracyclines	7.3	2.7	4.0	36.3	2.9	0.5	7.4	15.2	1.5	21.7
Penicillins	11.7	3.9	25.7	11.5	8.1	0.6	7.5	8.8	1.2	20.6
Imidazoles	4.4	1.8	60.6	2.93	4.7	1.4	6.3	2.3	2.0	13.2
Pseudomonic acid	78.3	5.8	1.0	0.7	2.0	0.7	0.3	1.0	3.7	6.2
Sulfonamides	4.5	2.8	66.7	1.6	14.1	0.6	0.2	0.8	1.2	7.2
Lincosamides	5.9	3.7	4.4	32.8	4.0	0	11.1	8.1	6.2	23.5
Macrolids	5.0	3.7	19.9	19.9	2.0	0	2.02	12.8	1.0	33.4
Polymixins	6.1	84.0	3.4	0.7	0	0	0.7	4.1	0	0.7
Amphenicols	4.5	1.1	2.2	4.5	3.4	0	1.1	77.5	1.1	4.5
Nitrofurantoin	0	0	0	0	100	0	0	0	0	0
Carbapenems	0	0	0	50	0	0	0	0	0	50
Others	43.8	6.9	0	0	1.7	1.7	0	35.0	0	10.4
Unknown	17.2	29.0	6.8	3.5	4.2	4.3	12.0	12.3	4.3	6.1

The percentages in the table represent the proportion of antibiotic prescriptions for specific diseases within each antibiotic group. The numerator of each percentage is the number of prescriptions for a particular disease treated with a specific antibiotic group. The denominator is the total number of prescriptions within that antibiotic group.

Cuta, cutaneous disease; Otol, otological infection; Ent, enteric infection; Resp, respiratory infection; Urin, urinary tract infection; Repr, reproductive disorder; Oral, oral infection; Opht, ophthalmic infection; Onco, oncology; Othe, others.

**Table S2. Proportion of different antibiotic prescriptions for preventive purposes**

Antibiotics group	Proportion of antibiotic prescription for preventive purposes (%)		
	Castration/spaying	Orthopedics	Others
Cephalosporins	54.2	36.1	9.7
$\beta$ -lactam/ $\beta$ - lactamase inhibitor	31.0	48.3	20.7
Fluroquinolones	68.3	19.5	12.2
Aminoglycosides	40	60	0
Tetracyclines	35.7	42.9	21.4
Penicillins	73.7	22	4.3
Imidazoles	54.5	27.3	18.2
Pseudomonic acid	9.1	90.9	0
Sulfonamides	28.6	71.4	0
Lincosamides	5.4	76.4	18.2
Macrolids	66.7	33.3	0
Polymixins	0	100	0
Unknown	57.9	22.7	19.4

The percentages in the table represent the proportion of antibiotic prescriptions for preventive purposes within each antibiotic group. The numerator is the number of prescriptions for a specific preventive purpose within each antibiotic group, while the denominator is the total number of prescriptions within that antibiotic group.

**Table S3. Antibiotic prescription proportions for various diseases in canine and feline patients**

Diseases	Canine (%)	Feline (%)	Total (%)
Cutaneous disease	25.6	15.7	24
Otological infection	19.7	5.2	17.5
Enteric infection	14	17.4	14.5
Respiratory infection	11.8	15.3	12.3
Urinary tract infection	6.3	12.5	7.2
Reproductive disorder	3.8	9.4	4.7
Oral infection	3.5	6.8	4
Ophthalmic infection	1.6	0.4	1.4
Oncology	2.2	1.2	2
Other infectious diseases	11.5	16.1	12.3

**Table S4. Proportion of antibiotic prescriptions by gender for dogs & cats**

Year	Dog				Cat			
	Neutered male (%)	Neutered female (%)	Male (%)	Female (%)	Neutered male (%)	Neutered female (%)	Male (%)	Female (%)
2018	39.2	31.1	10.3	19.2	40.4	28.9	14.5	14.3
2019	41.9	32.9	8.2	16.8	43.3	31.9	11.8	11.5
2020	43.7	34.8	7.4	13.9	46.5	32.4	9.5	9.8

**Table S5. Antibiotic prescription proportion based on age level of dogs & cats**

Year	Dog				Cat			
	0–1 y (%)	2–6 y (%)	7–10 y (%)	11 y+ (%)	0–1 y (%)	2–8 y (%)	9–13 y (%)	14 y+ (%)
2018	12.7	35.6	24.2	27.4	30.1	60.2	7.8	1.9
2019	14.6	38	23.6	23.7	32.1	57	8.4	2.5
2020	16.5	34.8	25.4	23.4	34.5	50.2	10.5	4.7