Supplementary material

Supplementary Table 1. List of references that were retained (*n*=62) in the scoping review

Species (no. of studies)	References	Comments
Cattle (*n*=22)	(1-9, 10*, 11-22)	*one study including both cattle and pig
Pig (*n*=24)	(23-40, 41*, 42-46)	*one study including both pig and poultry
Poultry (*n*=14)	(47-60)	
Dog (*n*=2)	(61, 62)	

Supplementary Table 2. Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	2
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	NA
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	3-4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	3-4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	2-3
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Figure 1

Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	3-4
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	3-4
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Table 2, Supplementary Table 4
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	4-6
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Figure 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Table 1, and Supplementary Table 3
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Table 2 and Supplementary Table 4
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table 1, Figure 3
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Table 1, Supplementary Table 3, Figure 2-6 and Supplementary Figure 1
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	6-11
Limitations	20	Discuss the limitations of the scoping review process.	11

Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	12
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	12

Source: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 169:467–473. doi: 10.7326/M18

Supplementary Table 3. Study characteristics of the individual studies included in the review (*n*=62)

Species (no. of studies)	Author name (last), year	Country	Studied animal age	Study design	Study type	Bacteria tested	Sample	AMR analysis
Cattle (*n*=22)	Mir et al., 2018(1)	USA	Birth-12 months	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Pereira et al., 2018(2)	USA	Birth-6 weeks	Trial	Experimental	Microbiota	Fecal, individual	Microbiome taxa
	Maynou et al., 2017(3)	Spain	6 weeks and 1 year	Trial	Experimental	*E. coli*	Fecal, individual	Phenotypic
	Adler et al., 2017(4)	Israel	≤ 4 months, 5-10 months, 11-24 months, ≥ 25 months	Cross-sectional	Observational	*E. coli*	Fecal, individual	Phenotypic
	Ohta et al., 2017(5)	USA	Sampling days (0, 4, 8, 14, 20, 26)	Trial	Experimental	*Salmonella* spp.	Fecal, individual	Phenotypic
	Hutchinson et al., 2017(6)	USA	110 days-6 months	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Catry et al., 2016(7)	Belgium	Calves (4 and 23 weeks), beef cattle (6-24 months), dairy cattle	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic
	Pereira et al., 2015(8)	USA	3-5 months and 14-19 months	Cross-sectional	Observational	*E. coli*, *Salmonella* spp.	Fecal	Phenotypic
	Brunton et al., 2014(9)	UK	Birth-13 weeks	Trial	Experimental	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Mazurek et al., 2013(10)*	Poland	Cattle (beef and dairy); Pig (6 to 8 weeks)	Cross-Sectional	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Watson et al., 2012(11)	UK	Day1-day 161	Longitudinal	Observational	*E. coli*	Fresh floor fecal samples	Phenotypic, genotypic
	Alexander et al., 2011(12)	Canada	Beef cattle sampling days (1-175 days)	Trial	Experimental	AMR genes	Fecal, individual	Genotypic

	Sharma et al., 2008(13)	Canada	6.5 months-11 months	Trial	Experimental	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Berge et al., 2006(14)	USA	4 weeks	Trial	Experimental	*E. coli*	Rectal fecal samples, individual	Phenotypic
	Liebana et al., 2006(15)	UK	~ 1 months	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Hoyle et al., 2006(16)	UK	Calves (1-8 weeks); Cattle (≤30 months and ≥ 30 months)	Longitudinal	Observational	*E. coli*	Fecal, individual, and environmental	Phenotypic, genotypic
	Donaldson et al., 2006(17)	USA	2.5-19 weeks	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Berge et al., 2005(18)	USA	Birth-6 weeks	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic
	Hoyle et al., 2005(19)	UK	1-21 weeks	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Hoyle et al., 2004(20)	UK	Birth-21 weeks	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic
	Hoyle et al., 2004(21)	UK	1-8 months	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic
	Khachatryan et al., 2004(22)	USA	Pre-weaned calves	Cross-sectional	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
Pig (*n*=24)	Ciesinsk et al., 2018(23)	Germany	24 days (one day before weaning), 38 days (two weeks after weaning), 52 days (four weeks after weaning)	Trial	Experimental	*E. coli*	Fecal, individual	Phenotypic
	Randall et al., 2018(24)	UK	8 weeks, 17 weeks, 24 weeks, 20 months	Longitudinal	Observational	*E. coli and mcr-1 gene*	Fecal, individual	Phenotypic, genotypic
	Mollenkopf et al., 2018(25)	USA	Piglets to Finisher	Longitudinal	Observational	*Enterobacteriaceae/bla*$_{IMP-6}$	Fecal, Individual	Genotypic

Cameron-Veas et al., 2018(26)	Spain	Day 7, 9, 14 and 187	Longitudinal	Observational	*Salmonella* spp.	Fecal, individual	Phenotypic, genotypic
Lynch et al., 2018(27)	Ireland	Piglet	Longitudinal	Observational	*Salmonella* spp.	Fecal, individual	Phenotypic
Græsbøll et al., 2017(28)	Denmark	Nursery (4 to 7 weeks)	Randomized trial	Experimental	*E. coli*	Fecal, individual	Phenotypic
Dohmen et al., 2017(29)	The Netherlands	Birth, 6, 12, 18 months	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
Pruthvishree et al., 2017(30)	India	1 month, ~2-month, 2-3 month	Cross-sectional	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
Fernandes et al., 2016 (31)	Portugal	Piglet, weaner, finisher, sows	Longitudinal	Observational	*Salmonella* spp.	Fecal swab, individual	Phenotypic, genotypic
Cameron-Veas et al., 2016 (32)	Spain	Piglets (7-6 days) and finisher	Trial	Experimental	*E. coli*	Fecal swab, individual	Phenotypic
von Salviati et al., 2014 (33)	Germany	Fattening pig	Longitudinal	Observational	*E. coli*	Fecal, individual and pooled	Phenotypic, genotypic
Hansen et al., 2013 (34)	Denmark	Piglet, nursery, weaner, finisher, sows	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
Quintana-Hayashi et al., 2012 (35)	USA	Nursery, finisher, farrowing	Longitudinal	Observational	*Campylobacter* spp.	Fecal, individual	Phenotypic
Rosengren et al., 2008 (36)	Canada	Nursery, grower-finisher, and sows	Cross-sectional	Observational	*Salmonella* spp.	Fecal,	Phenotypic
Alali et al., 2008 (37)	USA	Farrow-finish	Longitudinal	Observational	*E. coli*	Composite fresh samples, pooled	Phenotypic
Kobashi, et al., 2008(38)	Japan	4-6 weeks	Trial	Experimental	*E. coli*	Fecal, individual	Phenotypic, genotypic
Dewulf et al., 2007 (39)	Belgium	Nursery, grower, finisher	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic

	Scott et al., 2005 (40)	USA	Farrow-finish	Longitudinal	Observational	*E. coli*	Composite fecal samples	Phenotypic
	Butaye et al., 1999 (41)	Belgium	Pig (piglet, grower/finisher, and sows); poultry (9 and 32 days)	Cross-sectional	Observational	*Entero-coccus* spp.	Fecal, individual	Phenotypic, genotypic
	Mathew et al., 1999(42)	USA	Production pigs (7-63 days) and sows	Longitudinal	Observational	*E. coli*	Fecal swab, individual	Phenotypic
	Moro et al., 1998(43)	USA	Grower, finisher, gilt,and sows	Cross-sectional	Observational	*E. coli*	Fecal, individual	Phenotypic
	Mathew et al., 1998(44)	USA	Piglets (7-63 days) and sows	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic
	Langlois et al., 1988(45)	USA	Weaner, grower, finisher, adults (11-24 months) and sows	Longitudinal	Observational	*E. coli*	Rectal swab, individual	Phenotypic
	Sogaard, 1973(46)	Denmark	Piglet, finisher, sows	Cross-sectional	Observational	*E. coli*	Rectal swab, individual	Phenotypic
Poultry (broiler, layer or turkey, *n*=14)	Baron et al., 2018(47)	France	2, 7 and 77 days	Longitudinal	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Hume andDunskey, 2017(48)	USA	Day 1-6 weeks (weekly samples)	Trial	Experimental	*Entero-coccus* spp.	Fecal, Cecum	Phenotypic
	Trung et al., 2017(49)	Vietnam	20 weeks, > 20 weeks	Cross-sectional	Observational	*E. coli*	Fecal, individual	Phenotypic, genotypic
	Laube et al., 2013(50)	Germany	1-35 days	Longitudinal	Observational	*E. coli*	Cloacal swab, Individual	Phenotypic, genotypic

	Schwaiger et al., 2013(51)	Germany	21 days and 35 days	Cross-sectional	Observational	*E. coli*	Fecal, floor	Phenotypic, genotypic
	Ozaki et al., 2011(52)	Japan	2 days-50 days	Longitudinal	Observational	*E. coli*	Fresh Dropping	Phenotypic
	da Costa et al., 2009(53)	Portugal	2-33 days	Trial	Experimental	*E. coli and Enterococcus* spp.	Cloacal swab, individual	Phenotypic
	Garcia-Migura et al., 2007(54)	UK	4 days-35 days	Longitudinal	Observational	*Enterococcus* spp.	Fecal, pooled	Phenotypic, genotypic
	Santos et al., 2007(55)	USA	3 weeks and 9 weeks	Cross-sectional	Observational	*Salmonella* spp.	Fecal and litter sample	Phenotypic
	Li et al., 2007(56)	USA	18-72 weeks	Cross-sectional	Observational	*Salmonella* spp.	Fecal, pooled	Phenotypic
	Welton et al., 1998(57)	USA	24 days-130 days	Longitudinal	Observational	*Enterococci* spp.	Cloacal, individual	Phenotypic
	Dubel et al., 1982(58)	USA	1-28 weeks	Cross-sectional	Observational	*E. coli*	Cloacal, individual	Phenotypic
	Nakamura et al., 1982(59)	Japan	5-360 days	Longitudinal	Observational	*E. coli*	Cloacal swab, individual	Phenotypic
	Hinton et al., 1982(60)	UK	1-100 days	Trial	Experimental	*E. coli*	Cloacal swabs, individual	Phenotypic
Dog (*n*=2)	Bang et al., 2017(61)	South Korea	3-6 weeks, 9-28 weeks, 2-6 years and ≥9 years	Cross-sectional	Observational	*Enterococcus* spp.	Fecal, individual	Phenotypic
	Siugzdaite et al., 2017(62)	Lithuania	≤1 year, 1-5 years, 6-10 years, ≥10 years	Cross-sectional	Observational	*Staphylococci* spp.	Fecal, individual	Phenotypic, genotypic

Supplementary Table 4. Quality assessment of the individual studies included in the review (*n*=62)

Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
Cattle (*n*=22)	Mir et al., 2018(1)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Pereira et al., 2018(2)	USA	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Yes
	Maynou et al., 2017(3)	Spain	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Yes
	Adler et al., 2017(4)	Israel	Yes	Yes	No	No	N/A	N/A	Yes	No	Yes
	Ohta et al., 2017(5)	USA	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Yes
	Hutchinson et al., 2017(6)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Catry et al., 2016(7)	Belgium	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Partial
	Pereira et al., 2015(8)	USA	Yes	Yes	Yes	Yes	N/A	N/A	Yes	No	Yes
	Brunton et al., 2014(9)	UK	Yes	Yes	Yes	N/A	Yes	Unclear	Yes	No	Yes
	Mazurek et al., 2013(10)*	Poland	Yes	Yes	No	Partial	N/A	N/A	Yes	Unclear	Partial
	Watson et al., 2012(11)	UK	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Alexander et al., 2011(12)	Canada	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Partial

Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
	Sharma et al., 2008(13)	Canada	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Partial
	Berge et al., 2006(14)	USA	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Yes
	Liebana et al., 2006(15)	UK	Yes	Yes	Yes	Partial	N/A	N/A	Yes	No	Partial
	Hoyle et al., 2006(16)	UK	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Donaldson et al., 2006(17)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Berge et al., 2005(18)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Hoyle et al., 2005(19)	UK	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Yes
	Hoyle et al., 2004(20)	UK	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Yes
	Hoyle et al., 2004(21)	UK	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Yes
	Khachatryan et al., 2004(22)	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
Pig (*n*=24)	Ciesinsk et al., 2018(23)	Germany	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Yes
	Randall et al., 2018(24)	UK	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Yes
	Mollenkopf et al., 2018(25)	USA	Yes	Yes	No	No	N/A	N/A	Yes	Uncl ear	Not Reported
	Cameron-Veas et al., 2018(26)	Spain	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Lynch et al., 2018(27)	Ireland	Yes	Yes	No	No	N/A	N/A	Yes	No	Yes

Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
	Græsbøll et al., 2017(28)	Denmark	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Yes
	Dohmen et al., 2017(29)	The Netherlands	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Pruthvishree et al., 2017(30)	India	Yes	Yes	Yes	No	N/A	N/A	Yes	No	Yes
	Fernandes et al., 2016(31)	Portugal	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Cameron-Veas et al., 2016(32)	Spain	Yes	Yes	No	N/A	Yes	Yes	Yes	No	Yes
	von Salviati et al., 2014(33)	Germany	Yes	Unclear	No	Partial	N/A	N/A	Yes	Unclear	Partial
	Hansen et al., 2013(34)	Denmark	Yes	Yes	No	No	N/A	N/A	Yes	No	Yes
	Quintana-Hayashi et al., 2012(35)	USA	Yes	Yes	Yes	Yes	N/A	N/A	Yes	No	Yes
	Rosengren et al., 2008(36)	Canada	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Yes
	Alali et al., 2008(37)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Kobashi, et al., 2008(38)	Japan	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Yes

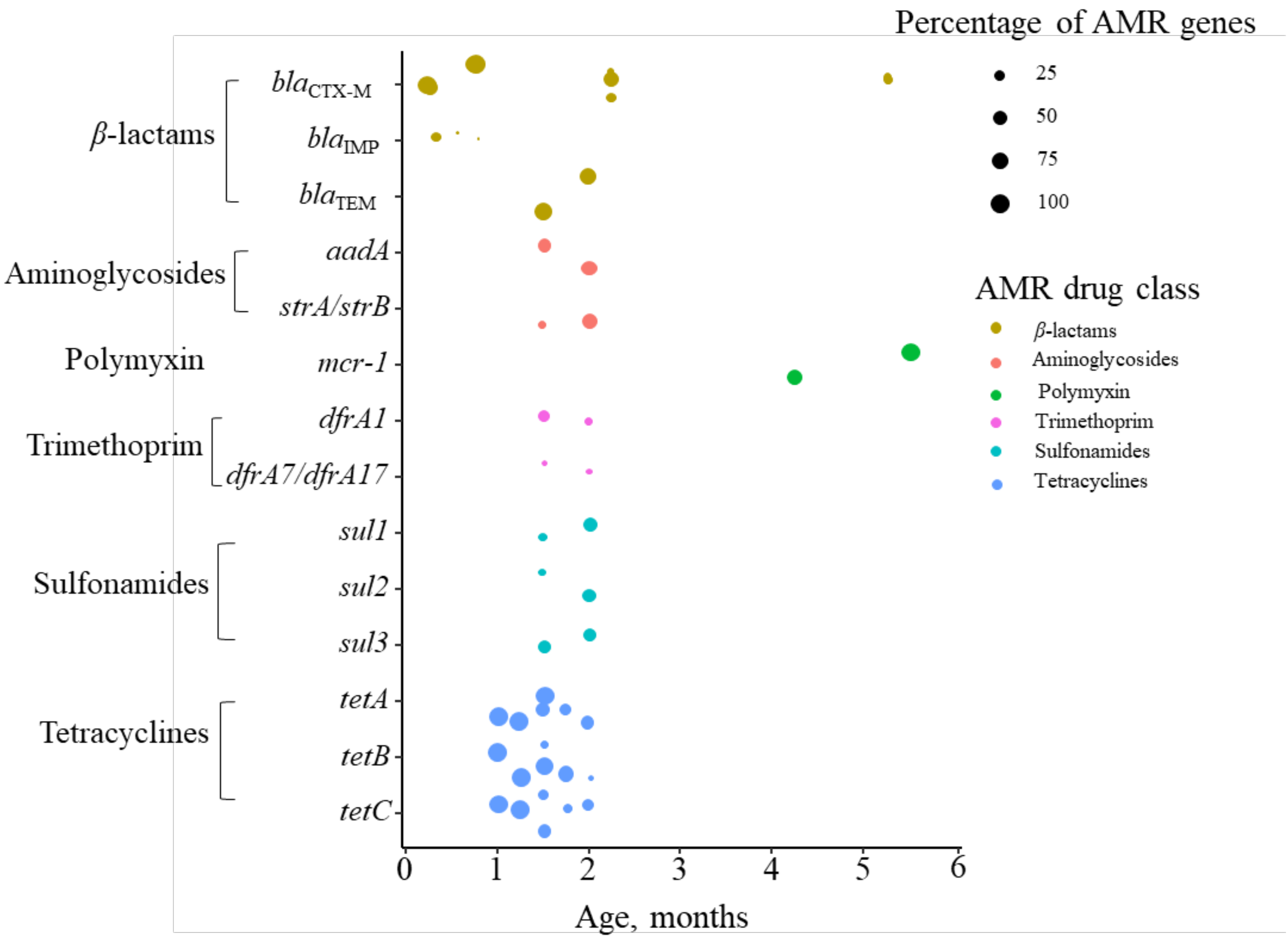
Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
	Dewulf et al., 2007(39)	Belgium	Yes	Yes	Yes	Yes	N/A	N/A	Yes	No	Yes
	Scott et al., 2005(40)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes
	Butaye et al., 1999(41)ǂ	Belgium	Yes	Yes	No	Partial	N/A	N/A	Yes	Unclear	Partial
	Mathew et al., 1999 (42)	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	Unclear	Partial
	Moro et al., 1998(43)	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Not Reported
	Mathew et al., 1998(44)	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	Unclear	Yes
	Langlois et al., 1988(45)	USA	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Partial
	Sogaard, 1973(46)	Denmark	Unclear	Unclear	No	No	N/A	N/A	Unclear	Unclear	Not Reported
Poultry (broiler, layer or turkey, *n*=14)	Baron et al., 2018(47)	France	Yes	Yes	No	No	N/A	N/A	Yes	Unclear	Not Reported
	Hume andDunskey, 2017(48)	USA	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Partial
	Trung et al., 2017(49)	Vietnam	Yes	Yes	No	Yes	N/A	N/A	Yes	No	Yes

Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
	Laube et al., 2013 (50) broiler	Germany	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Schwaiger et al., 2013(51)	Germany	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Ozaki et al., 2011(52) broiler	Japan	Yes	Yes	No	No	N/A	N/A	Yes	No	Yes
	da Costa et al., 2009(53) broiler	Portugal	Yes	Yes	No	N/A	Yes	Unclear	Yes	No	Yes
	Garcia-Migura et al., 2007(54) broiler	UK	Yes	Yes	No	No	N/A	N/A	Yes	No	Not Reported
	Santos et al., 2007(55) turkey	USA	Yes	Yes	No	No	N/A	N/A	Yes	Uncl ear	Partial
	Li et al., 2007(56) layer	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Welton et al., 1998(57) turkey	USA	Yes	Yes	No	Partial	N/A	N/A	Yes	No	Partial
	Dubel et al., 1982(58) turkey	USA	Yes	Yes	No	No	N/A	N/A	Yes	Uncl ear	Not Reported
	Nakamura et al., 1982(59) broiler and layer	Japan	Uncl ear	Uncle ar	No	No	N/A	N/A	Yes	Uncl ear	Not Reported

Species (no. of studies)	Author name (last), year	Country	1. Were the study objectives clearly stated?	2. Were the sampling methods clearly described?	3. Was the sample size calculated?	4. If the study was observational, were inclusion/exclusion criteria specified for subject selection?	5. If the study was experimental, were the groups (treatment and controls) specified?	5.1 Were sampling units randomly assigned to the treatment groups?	6. Were all procedures used in the study specified?	7. Is any bias present in the data collection?	8. Were potential biases and or confounders identified and adjusted or explained (outcome and analysis sections)?
	Hinton et al., 1982(60) poultry	UK	Yes	Yes	No	N/A	Unclear	Unclear	Yes	No	Not Reported
Dog (*n*=2)	Bang et al., 2017(61)	Korea	Yes	Yes	No	No	N/A	N/A	Yes	No	Yes
	Siugzdaite et al., 2017(62)	Lithuania	Yes	Yes	No	No	N/A	N/A	Yes	Unclear	Yes

Yes- quality criteria met; No- quality criteria not met; Partial- not entirely mentioned; Unclear- insufficient information to evaluate quality criteria; N/A- not applicable, *n*-number of studies

Supplementary Figure 1. The average percentages of antimicrobial resistance genes of individual classes in the resistome in fecal samples of production pigs by age (data from *n*=5 studies; the average in each study is plotted).



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