Appendix 16. Scoring instructions for Animal HCP ABR Awareness Scale v1

NOTE: the scoring code below is written for SPSS.

QUESTIONNAIRE ITEMS:

1. Antibiotic resistance is when a microorganism becomes resistant to antibiotics
2. Some microorganisms can mutate and therefore become resistant to antibiotics
3. Some microorganisms can transfer resistance by exchanging genetic material
4. Antibiotic resistance can develop if antibiotics are given when they are not indicated, for example, when an animal has a viral infection
5. Antibiotic resistance can develop if courses of antibiotic treatment are interrupted, for example, stopping and starting administering a course of antibiotics halfway through
6. Antibiotic resistance can develop if antibiotics are given to animals in lower than recommended doses
7. Antibiotic resistance can develop if antibiotics are used to treat bacterial colonisation rather than bacterial infection
8. Antibiotic resistance can develop if antibiotics are used as a 'just in case measure' for any animal having a routine procedure
9. Antibiotic resistance can develop if broad-spectrum antibiotics are used when a narrow-spectrum antibiotic would resolve the infection
10. Antibiotic resistance can develop if antibiotics are used in livestock feed to promote animal growth
11. Antibiotic resistance can develop if human antibiotics are used to treat infections in animals
12. Antibiotic resistance can develop if antibiotics are present in human sewerage
13. Antibiotic resistance can develop if antibiotics are discarded into the environment
14. Resistant infections can spread from veterinary care facilities including clinics and pharmacies
15. Resistant infections can spread from pets within residential areas
16. Resistant infections can spread from livestock farms
17. Resistant infections can spread through waste water
18. Strict hand hygiene before and after contact with animals can help prevent the spread of antibiotic resistance
19. Isolation of infected animals can help prevent the spread of antibiotic resistance
20. Appropriate environmental cleaning/biosecurity measures can help prevent the spread of antibiotic resistance between animals
21. Wearing personal protective equipment such as gloves, masks and aprons can help prevent the spread of antibiotic resistance between animals
22. I recognise that an animal has a resistant infection when the animal remains unresponsive to a number of different antibiotics
23. I recognise that an animal has a resistant infection by sending them for culture and sensitivity testing at a laboratory

Response scale: Totally agree / Agree / Disagree / Totally disagree

SCORING INSTRUCTIONS

AMR Awareness scale for Animal Health Care

ASSUMPTIONS:
Only to be run on the **Spanish, Thai and Vietnamese** language versions.
Only to be run on complete data; cases with missing data need to be excluded from the data set.

The items should have been administered in the exact order and wording provided above.
For each question, data must be entered as follows:

Totally agree = 3
Agree = 2
Disagree = 1
Totally disagree = 0

Scores generated using this code are NOT valid for comparisons between individual people. It can only be interpreted and used for group level comparisons.

The scale is NOT valid for comparisons between countries. It can only be used for comparisons within countries.

INSTRUCTIONS:
There are 4 coding steps to generate the scores. The code should be run exactly as written below and in the order specified below.

For each step there is an explanation followed by the code.

The variable at the end called T_logit_AMRA23A is the final scores.

SPSS-CODE (please copy all of the following into your syntax file):

```
**************************************************************************************
* ASSUMPTIONS:
* Only to be run on the Spanish, Thai and Vietnamese language versions.
* Only to be run on complete data; cases with missing data need to be excluded from the data set.
*
* The items should have been administered in the exact order and wording provided above.
* For each question, data must be entered as follows:
*
*           Totally agree = 3
*           Agree = 2
*           Disagree = 1
*           Totally disagree = 0
*
* Scores generated using this code are NOT valid for comparisons between individual people.
* It can only be interpreted and used for group level comparisons.
* The scale is NOT valid for comparisons between countries.
```

```
* It can only be used for comparisons within countries.
*******************************************************************************

*******************************************************************************
* STEP 1.  Copy original data to new variables
*******************************************************************************

RECODE Q1 TO Q23 (ELSE = COPY) INTO item1 TO item23.
FORMATS item1 TO item23 (F1.0).
EXECUTE.

*******************************************************************************
* STEP 2.  Re-score response categories for items 1, 2, 5, 6 and 16
* (based on the Rasch model)
*******************************************************************************

RECODE item1 item2 item5 item6 item16
 (3=2) (2=1) (1=0) (0=0).
EXECUTE.

*******************************************************************************
* STEP 3.  Compute sum across the 23 items
* 23 valid answers required
* Theoretical range of raw scores: 0 – 64
* Ordinal scale
*******************************************************************************

COMPUTE Raw_AMRA23A = Sum.23(item1 TO item23).
FORMATS Raw_AMRA23A (F2.0).
EXECUTE.

*******************************************************************
* STEP 4.  Convert raw scores to transformed logits scale
* Theoretical range: 0 – 100
* Interval scale
*******************************************************************

DO IF (Raw_AMRA23A = 0).
  COMPUTE T_logit_AMRA23A = 0.00.
ELSE IF (Raw_AMRA23A = 1).
  COMPUTE T_logit_AMRA23A = 11.56.
ELSE IF (Raw_AMRA23A = 2).
  COMPUTE T_logit_AMRA23A = 16.48.
ELSE IF (Raw_AMRA23A = 3).
  COMPUTE T_logit_AMRA23A = 19.78.
ELSE IF (Raw_AMRA23A = 4).
  COMPUTE T_logit_AMRA23A = 22.30.
ELSE IF (Raw_AMRA23A = 5).
  COMPUTE T_logit_AMRA23A = 24.36.
ELSE IF (Raw_AMRA23A = 6).
  COMPUTE T_logit_AMRA23A = 26.12.
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ELSE IF (Raw_AMRA23A = 7).
  COMPUTE T_logit_AMRA23A = 27.65.
ELSE IF (Raw_AMRA23A = 8).
  COMPUTE T_logit_AMRA23A = 29.02.
ELSE IF (Raw_AMRA23A = 9).
  COMPUTE T_logit_AMRA23A = 30.27.
ELSE IF (Raw_AMRA23A = 10).
  COMPUTE T_logit_AMRA23A = 31.42.
ELSE IF (Raw_AMRA23A = 11).
  COMPUTE T_logit_AMRA23A = 32.48.
ELSE IF (Raw_AMRA23A = 12).
  COMPUTE T_logit_AMRA23A = 33.50.
ELSE IF (Raw_AMRA23A = 13).
  COMPUTE T_logit_AMRA23A = 34.44.
ELSE IF (Raw_AMRA23A = 14).
  COMPUTE T_logit_AMRA23A = 35.35.
ELSE IF (Raw_AMRA23A = 15).
  COMPUTE T_logit_AMRA23A = 36.22.
ELSE IF (Raw_AMRA23A = 16).
  COMPUTE T_logit_AMRA23A = 37.07.
ELSE IF (Raw_AMRA23A = 17).
  COMPUTE T_logit_AMRA23A = 37.88.
ELSE IF (Raw_AMRA23A = 18).
  COMPUTE T_logit_AMRA23A = 38.67.
ELSE IF (Raw_AMRA23A = 19).
  COMPUTE T_logit_AMRA23A = 39.45.
ELSE IF (Raw_AMRA23A = 20).
  COMPUTE T_logit_AMRA23A = 40.20.
ELSE IF (Raw_AMRA23A = 21).
  COMPUTE T_logit_AMRA23A = 40.95.
ELSE IF (Raw_AMRA23A = 22).
  COMPUTE T_logit_AMRA23A = 41.68.
ELSE IF (Raw_AMRA23A = 23).
  COMPUTE T_logit_AMRA23A = 42.42.
ELSE IF (Raw_AMRA23A = 24).
  COMPUTE T_logit_AMRA23A = 43.14.
ELSE IF (Raw_AMRA23A = 25).
  COMPUTE T_logit_AMRA23A = 43.85.
ELSE IF (Raw_AMRA23A = 26).
  COMPUTE T_logit_AMRA23A = 44.57.
ELSE IF (Raw_AMRA23A = 27).
  COMPUTE T_logit_AMRA23A = 45.29.
ELSE IF (Raw_AMRA23A = 28).
  COMPUTE T_logit_AMRA23A = 46.00.
ELSE IF (Raw_AMRA23A = 29).
  COMPUTE T_logit_AMRA23A = 46.72.
ELSE IF (Raw_AMRA23A = 30).
  COMPUTE T_logit_AMRA23A = 47.44.
ELSE IF (Raw_AMRA23A = 31).
  COMPUTE T_logit_AMRA23A = 48.16.
ELSE IF (Raw_AMRA23A = 32).
  COMPUTE T_logit_AMRA23A = 48.90.
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ELSE IF (Raw_AMRA23A = 33).
  COMPUTE T_logit_AMRA23A = 49.64.
ELSE IF (Raw_AMRA23A = 34).
  COMPUTE T_logit_AMRA23A = 50.40.
ELSE IF (Raw_AMRA23A = 35).
  COMPUTE T_logit_AMRA23A = 51.16.
ELSE IF (Raw_AMRA23A = 36).
  COMPUTE T_logit_AMRA23A = 51.94.
ELSE IF (Raw_AMRA23A = 37).
  COMPUTE T_logit_AMRA23A = 52.73.
ELSE IF (Raw_AMRA23A = 38).
  COMPUTE T_logit_AMRA23A = 53.54.
ELSE IF (Raw_AMRA23A = 39).
  COMPUTE T_logit_AMRA23A = 54.36.
ELSE IF (Raw_AMRA23A = 40).
  COMPUTE T_logit_AMRA23A = 55.19.
ELSE IF (Raw_AMRA23A = 41).
  COMPUTE T_logit_AMRA23A = 56.06.
ELSE IF (Raw_AMRA23A = 42).
  COMPUTE T_logit_AMRA23A = 56.94.
ELSE IF (Raw_AMRA23A = 43).
  COMPUTE T_logit_AMRA23A = 57.84.
ELSE IF (Raw_AMRA23A = 44).
  COMPUTE T_logit_AMRA23A = 58.77.
ELSE IF (Raw_AMRA23A = 45).
  COMPUTE T_logit_AMRA23A = 59.71.
ELSE IF (Raw_AMRA23A = 46).
  COMPUTE T_logit_AMRA23A = 60.70.
ELSE IF (Raw_AMRA23A = 47).
  COMPUTE T_logit_AMRA23A = 61.71.
ELSE IF (Raw_AMRA23A = 48).
  COMPUTE T_logit_AMRA23A = 62.75.
ELSE IF (Raw_AMRA23A = 49).
  COMPUTE T_logit_AMRA23A = 63.82.
ELSE IF (Raw_AMRA23A = 50).
  COMPUTE T_logit_AMRA23A = 64.94.
ELSE IF (Raw_AMRA23A = 51).
  COMPUTE T_logit_AMRA23A = 66.11.
ELSE IF (Raw_AMRA23A = 52).
  COMPUTE T_logit_AMRA23A = 67.32.
ELSE IF (Raw_AMRA23A = 53).
  COMPUTE T_logit_AMRA23A = 68.60.
ELSE IF (Raw_AMRA23A = 54).
  COMPUTE T_logit_AMRA23A = 69.95.
ELSE IF (Raw_AMRA23A = 55).
  COMPUTE T_logit_AMRA23A = 71.38.
ELSE IF (Raw_AMRA23A = 56).
  COMPUTE T_logit_AMRA23A = 72.92.
ELSE IF (Raw_AMRA23A = 57).
  COMPUTE T_logit_AMRA23A = 74.58.
ELSE IF (Raw_AMRA23A = 58).
  COMPUTE T_logit_AMRA23A = 76.41.
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ELSE IF (Raw_AMRA23A = 59).
  COMPUTE T_logit_AMRA23A = 78.46.
ELSE IF (Raw_AMRA23A = 60).
  COMPUTE T_logit_AMRA23A = 80.82.
ELSE IF (Raw_AMRA23A = 61).
  COMPUTE T_logit_AMRA23A = 83.65.
ELSE IF (Raw_AMRA23A = 62).
  COMPUTE T_logit_AMRA23A = 87.25.
ELSE IF (Raw_AMRA23A = 63).
  COMPUTE T_logit_AMRA23A = 92.47.
ELSE IF (Raw_AMRA23A = 64).
  COMPUTE T_logit_AMRA23A = 100.00.
END IF.
EXECUTE.
```