

Can the National Equine Database provide accurate data for equine disease surveillance and epidemiological research?

AIMS

- Assess the extent of missing and obsolete data on the National Equine Database (NED).
- Evaluate the extent of spatial separation between horse and owner.
- Apply these data to developing a national distribution of horses in Britain.

METHODS

- Obsolete data were calculated using a survey of 11,000 horse owners using data from seven Passport Issuing Organisations (PIO).
- Missing data were estimated using Local Authority Trading Standards records for horse passport inspections, using a Freedom of Information Request from all authorities in Great Britain.
- Spatial separation was calculated from the Euclidean distance between postcodes for horse and owner locations.

RESULTS

MISSING DATA

- In the period 2005-2010, 17,048 individual passports were checked by 64 Local Authorities.
- Of these, 1,558 (9.1%; 8.7%-9.5%) were non-compliant.
- 963 (5.6%; 5.3%-6.0%) classified as inaccurate.
- 595 (3.5%; 3.2%-3.8%) classified as missing.

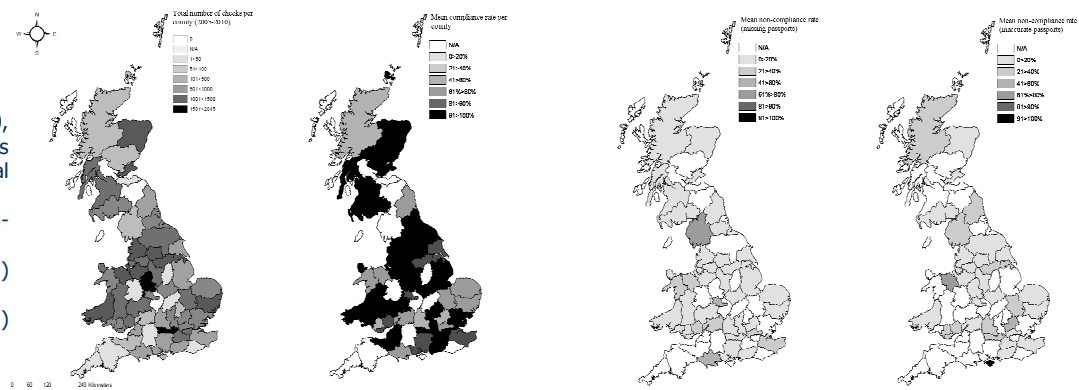


Figure 1: Spatial differences in a) the total number of passports checked, b) the % compliant, c) % missing and d) % inaccurate passports in each county in Great Britain collated from Local Authority inspections.

OBSOLETE DATA

- Of the 1400 questionnaires returned, 380 passports (27.1%; 25.2%-29.9%) were obsolete.

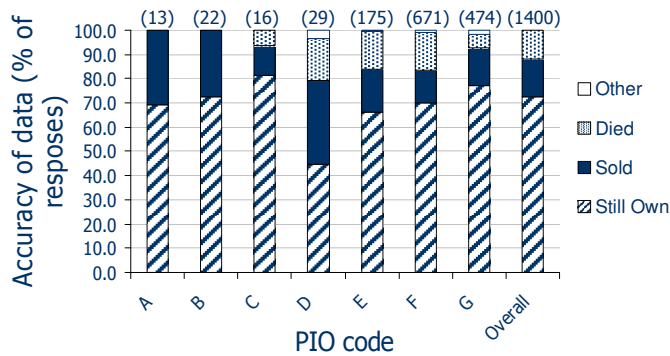


Figure 2: Variation in data accuracy between PIOs, with numbers of returned questionnaires listed above each bar in brackets and A-D being breed societies and E-G being ID-only PIOs.

SPATIAL SEPARATION

- 53% (49.9%-56.1%) of owners kept their horses at their home address.
- 92% (90.3%-93.7%) of horses resided within 10 km of their owners.

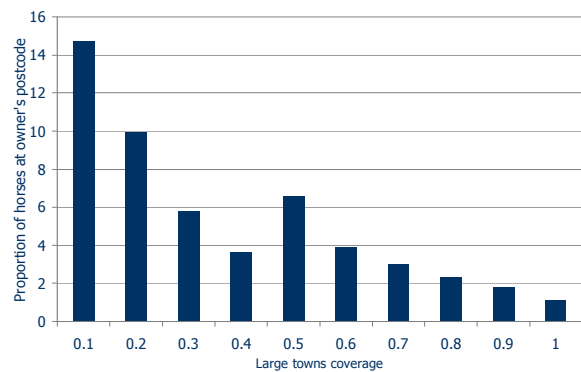


Figure 3: Proportion of horses located at owners' postcodes vs. built-up coverage. Each bar represents the proportion of horses located at the same postcode of the owners sharing the same average value of built-up coverage.

CONCLUSIONS

- Although missing and obsolete data act to cancel each other out to some extent, they would affect NED's efficiency to rapidly locate horses and owners in the event of a major disease outbreak.
- Taking these data into account, the horse population of Great Britain was calculated at 1.10 million, within 95% confidence limits of 1.08 million-1.13 million horses.

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