Catching data on laboratory submission forms – efforts to get a complete dataset.

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INTRODUCTION

The Veterinary Laboratories Agency has a network of Regional Laboratories and Surveillance Centres which provide a diagnostic facility to veterinary practitioners across England and Wales. All diagnostic samples are received with a submission form.

The data provided on the laboratory submission form is used in epidemiological analysis of disease presentations, including surveillance outputs to inform animal health policy makers and other stakeholders.
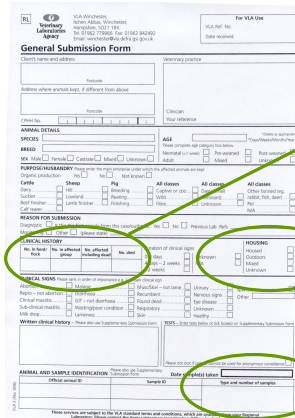
Separate submission forms are used for General (cattle, small ruminant, pig and misc. & exotic species) and Avian submissions.

This poster presents observations on the completeness of data recorded in a subset of pig submissions (received Jan-June 2007) and the efforts undertaken to improve the provision of data on the submission form.

CATCHING THE DATA

What might affect completion rates?

Individual behaviour? Form design? Regional factors? Some submissions are better completed than others.

Responses in some fields are more likely to be missing than others

Is this simple population data really not known?

Juxtaposition? These fields are fairly poorly completed. Is it this because they are on the side? Or is the information requested difficult to recall?

How well are different fields completed?

Regional Laboratory	No. of Porcine diagnostic submissions	Number of live affected[1] recorded %	Herd size recorded %	Housing[2] recorded %	Date collected recorded %	≥ one clinical sign[2] recorded %	Age category[2] recorded %
A	145	48.3	53.8	77.0	83.5	77.2	93.1
B	145	52.4	55.9	71.7	78.6	93.8	97.2
C	61	41.0	59.0	85.2	85.3	98.4	96.7
D	54	44.4	44.4	68.5	63.0	92.6	87.0
E	35	54.3	51.4	62.9	80.0	88.6	85.7
F	34	73.5	67.7	70.6	61.8	91.2	91.2
G	24	62.5	54.2	87.5	79.2	95.8	95.8
H	18	61.1	55.6	64.7	66.7	88.9	94.4
I	14	64.3	71.4	57.1	64.3	92.9	71.4
J	14	71.4	71.4	85.7	64.3	100.0	100.0
K	10	70.0	50.0	90.0	90.0	80.0	80.0
L	7	28.6	71.4	57.1	42.9	28.6	71.4
M	5	60.0	40.0	60.0	100.0	100.0	100.0
N	3	66.7	66.7	33.3	0.0	100.0	100.0
O	3	100.0	66.7	66.7	100.0	100.0	100.0
P	2	0.0	0.0	100.0	0.0	100.0	0.0
Q	1	100.0	100.0	100.0	100.0	0.0	100.0
ALL	575	52.5	55.7	73.9	76.5	88.5	92.5
p value for difference by RL	0.07	0.66	0.21	<0.001	<0.001	<0.001

[1] Zero interpreted as not missing   [2] Excludes not applicable

Is this reasonable?

There are no universally agreed definitions for response rates or even participation rates[1] but median participation rates reported in epidemiological studies in high impact journals range from 75%-85%[2]. The table above shows response rates for different fields on the VLA submission form. Missing data determines what can be described about submissions in general and can also considerably affect the ability to perform multivariable analysis necessary to understand differences over time and between regions since complete data is required for all explanatory fields in analyses.

1. Vandenbroucke et al, PLoS Med. 2007 Oct 16;4(10):e297   2. Morton et al Am J Epid. 2006 163: 197-203

EFFORTS TO IMPROVE DATA CAPTURE

Although it is a condition of laboratory use to provide the surveillance data, there is no active inducement or penalty to do so. We have taken action to encourage veterinary practitioners to fully complete the submission form.

• We have produced additional guidance notes

• We include an autotext reminder on reports where the surveillance data was considered inadequate.

• We have made the submission forms available for completion electronically.

• We are introducing audit reports. We have established agreed targets for completion rates.

• We are planning to make simple data reports more widely available to practitioners. The value of these reports will be maximised if there is a high proportion of complete data fields with each submission.

Please help us by completing the submission form!

Limited epidemiological data / clinical history was provided with this submission. This basic information assists in our interpretation of the results and in providing you with meaningful comment. It is also very important for national disease surveillance purposes and is the reason why our diagnostic services continue to be subsidised by Defra. Our submission forms and some surveillance outputs can be accessed and used direct from the VLA website.

SVEPM
26-28 March 2007
Liverpool, UK