

Consequences of the NSW Government's policy on laboratory charges for livestock disease investigations

Executive Summary

The need for an “adequate” level of surveillance for livestock diseases is not debated as it is in the best interest of maintaining export markets, prohibiting disease threats from imports, reducing the production costs due to diseases and protecting human health.

Surveillance falls to the public sector to deliver because human self interest constrains producers voluntarily notifying disease events and in some cases programs to survey for disease need to be supported by regulation.

The level of surveillance needed is unknown because the characteristics of new diseases are yet to be defined. However, the NSW Farmers Association estimates from budgets and actual expenditure, that the NSW Government indicated an adequate level of surveillance in the financial year of 2003/04 was 4.2 laboratory investigations per month per RLPB.

The Government has failed to deliver this level of surveillance, achieving only an estimated 2.2 laboratory investigations per month from January 2004 to March 2005.

The success of the free testing offered by the district surveillance program in delivering investigations outweighs the fee for service programs of mortality investigations and notifiable endemic diseases.

The NSW Farmers Association argue that the NSW Government need to remodel their surveillance programs to mirror the free testing in the district surveillance program to overcome the many constraints to producers agreeing to a laboratory investigation.

Early detection of emerging disease is most effectively achieved by passive syndrome reporting by producers offered an incentive to report clinical cases.

To ensure the information gained from free testing has surveillance value and is for the public good the NSW Farmers Association proposes that:

- companion animal diagnostic diseases (excluding zoonotics) and health certifications be chargeable and
- **herd and flock disease investigations certified by a District Veterinarian be free of charge**

Introduction

In November 1999 the NSW Government introduced charges for laboratory veterinary diagnoses of livestock diseases in NSW.

There always had been charges for laboratory fees associated with certification for freedom from disease for shows and export purposes.

After an initial hostile reaction from both the veterinary profession and livestock producers the Department of Primary Industries (the 'Department') have now introduced five categories for fee reduction or waiver.

1. suspected exotic diseases with an alternative diagnosis if negative – full waiver
2. endemic notifiable diseases with charges for alternative diagnosis
3. mortality investigation for commercial livestock (excluding peri-nates) with a Government contribution of \$250 (and possibly more with Department approval) after producers pay the first \$100¹
4. district surveillance through the District Vet (DV) of \$2500 pa (overseen by the Department and with the possibility of limited additional funds from \$2500 allocated to the Senior Regional Animal Health Manager)²
5. targeted surveying for research or projects on particular diseases

NSW Farmers Association (the 'Association') believes that despite the piecemeal largess of the above five schemes, producers have shied away from having veterinary personnel submit samples at their expense and have to a large degree avoided even contacting veterinarians (private or government).

¹ Department contribution was \$140 prior to October 2006

² Changes to this funding arrangement are to be \$3000 to the DVs with yearly indexing to preserve value in real terms. Pers Comm DV Keith Hart, 14 February 2007. However funds allocated to SRAHMs is unknown at the time of writing. Pers Comm DV Keith Hart, 14 February 2007

Evidence for the need for financial incentives for laboratory testing

1. The Department's interpretation of the level of "adequate" surveillance in 2003 from the Public Accounts Committee 2006 report on Managing Animal and Plant Diseases

The Public Accounts Committee 2006 report on Managing Animal and Plant Diseases (the 'report') (page 41) confirms a sustained drop in laboratory samples (for plants and animals) submitted since the fee for service was introduced. The Government argues that this is due to removal of the private use testing from the figures and that their targeted surveillance program is providing sufficient information for surveillance needs (report pages 41, 42). The current levels of animal testing however do not meet those deemed necessary by the DPI targeted program in 2003.

Unfortunately, as outlined in the report by the Department (page 39), the required number of tests for surveillance needs is "difficult to judge" as there is "no minimum level of surveillance that will sensibly detect incursions of exotic or emerging disease". It also follows that the mix of passive and active surveillance will also be difficult to judge. However, the Association concludes that the Department estimated the "adequate" level in 2003 as nearly double than that which is occurring as outlined below and in Appendix 3 of this submission.

- The budget and expenditure on mortality investigations (table 5.1 report page 39) suggests that the budget for 2003/04 was not spent as the total expenditure the following year was reduced by over \$132,000 to \$37,427 and the 2005/06 budget was only \$50,000.
- If the average mortality investigation costs the Government \$140 (page 41) it follows that the Government anticipated 1214 investigations in 03/04 however in 04/05 it got only 267 then budgeted for 357 in 05/06.
- Evidence from table 5.1 report page 39 reveals a similar story for endemic notifiable and exotic diseases. Using table 5.3 page 45, it can be assumed that the average cost of notifiable endemic investigations and exotic disease investigations (which include emerging/difficult investigations as pursuit of a diagnosis will increase costs) is \$134 and \$373 respectively.

Appendix 3 of this submission shows that actual investigations in 04/05 would have been below that expected in 03/04 (using an estimated investigation cost). **The Government therefore is not reaching its original surveillance benchmarks in mortality, endemic notifiable and exotic investigations.**

A different story is inferred from the district surveillance information extrapolated in Appendix 3. The cost per investigation is again estimated from

table 5.4 page 45 of the report to be \$183. The district surveillance programs were commonly used to provide free testing for producers. Some areas are known to have overspent their budget and some RLPBs are known to have allocated their own funds to supplement the district surveillance program.

The success of the district surveillance program indicates that the demand for surveillance information is best generated locally. This hypothesis seems to be supported by comparing the total number of investigations generated by the rigid DPI funding regimes (448) with the more flexible approach available with the district surveillance program (899) from Jan 04 to Mar 05 (tables 5.3 and 5.4 report page 45). Even if the 267 mortality investigations estimated in Appendix 3 are added, the district surveillance program delivers more laboratory investigations.

It is acknowledged that the two regimes have different aims and the value to surveillance outcomes of the 899 tests has not been established, however the comparison is used to highlight the willingness of producers to participate in locally generated free surveillance. The Department is supposed to have anticipated this effect as table 5.1 report page 39, states that district and targeted surveillance is to “facilitate on-farm surveillance”.

The complete surveillance picture of combined rigid and flexible funding programs still suggests the Government is not reaching its own surveillance targets.

- If it is assumed that “investigations” mean submissions and not tests in tables 5.3 and 5.4 on page 45 of the report, total investigations between Jan 04 and Mar 05 are 1247 at an average cost per investigation of \$204.³ This indicates that investigations (which are assumed to include OJD, BJD and footrot programs and granuloma and TSE surveys) are being done at 1.73 per month across each of the 48 RLPBs.⁴
- Add to this the assumed calendar year mortality investigation number of 267 (see Appendix 3) which translate to 0.46 per RLPB per month⁵ to produce a total number of investigations per RLPB per month of 2.2.
- The assumed number of investigations budgeted for in 2003/04 table 5.1 report page 39 is a total of 2423 (if costed at \$204 per endemic notifiable, granuloma, footrot, exotic and district surveillance investigation and \$140 per mortality investigation).⁶ **This translates to 4.2 investigations per RLPB per month which is 90% higher than that being achieved in subsequent 12 month periods.**

³ \$204 as an average cost of an investigation is calculated by combining counts and costs from tables 5.3. and 5.4 on page 45 of Managing Animal and Plant Diseases, 2006, Public Accounts Committee. [http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007). This figure also concurs with anecdotal evidence from DVs on the average cost of their submissions.

⁴ $(448+899)\text{investigations}\div 15\text{months}\div 48\text{RLPBs} = 1.73$ investigations per month per RLPB

⁵ $267\text{investigations}\div 12\text{months}\div 48\text{RLPBs} = 0.46$ investigations per month per RLPB

⁶ $\{ [(\$50,000+\$12,500+\$34,121+\$150,000)\div \$204] + (\$170,000\div \$140) \}\text{investigations}\div 12\text{months}\div 48\text{RLPBs} = 4.2$ investigations per month per RLPB

Regardless of whether 4.2 investigations per month per RLPB is or isn't adequate for surveillance (report page 39) it seems that Departmental expert opinion deemed that the level of "adequate surveillance" in 2003 is significantly higher than what it has been able to achieve with the current suite of programs.

2. Success of district surveillance program an indicator of the need for producer incentives from the Public Accounts Committee 2006 report on Managing Animal and Plant Diseases

The under-spending of the notifiable endemic, exotic exclusion and mortality investigation in 2004/05 compared to the 2003/04 budget suggests that either:

- producers were not notifying the DV or their private vets about mortalities
- or after contact with their vet the producer refused to bear the part costs of the investigations given the cost could be open ended in pursuit of a diagnosis.

However, the success of the district surveillance programs suggests that producers do contact their DVs and local vets and that DVs and local vets are aware of and are willing to promote surveillance programs otherwise producers would not be given the opportunity to consent to the taking of samples at nil cost.

3. Anecdotal evidence from field and laboratory diagnosticians

Comments by DVs in relation to their own on farm investigations and those of private vets in their districts reflect a decline in submissions of 50% (Appendix 1). The reasons given are many (see below) but predominantly are the cost benefit to the individual producer of pursuing an investigation, ie his self interest.

Diagnostic submissions with surveillance value as determined by Government laboratory staff has declined by 50% since 1999 and at the February 8 and 9 2007 workshop on national training needs and mechanisms for Veterinary pathology, private NSW laboratory diagnosticians commented that the volume of pathology submissions related to livestock have decreased since 1999.

Surveillance value is from those tests that diagnose system symptoms or syndromes giving a regional profile to background levels of disease which serve as reference points for any changes in syndromic reporting alerting the Department to emerging diseases.

The Department describes their targeted testing program as part of their risk based approach to diseases.⁷ Stark et al⁸ state that “the design of risk-based surveillance systems requires prior epidemiological knowledge on eg. the difference in occurrence of disease between population strata or the influence of risk factors. This type of information cannot be generated by risk-based surveillance systems themselves, but needs to be obtained using traditional, quantitative epidemiological approaches”.

Therefore for emerging diseases, a risk-based approach is premature as there is insufficient information to enable a targeted approach. Passive surveillance systems such as proposed by the Association, which encourage the reporting of information on syndromes from clinical cases serve a particular purpose in very early identification of emerging diseases.⁹ All Australia’s recent disease outbreaks have been home grown emerging or re-emerging diseases (Menangle virus, Hendra, Australian Bat Lyssavirus, Porcine Myocarditis and a genetically variant Newcastle disease).¹⁰

DV Keith Hart’s reference to the identification of Menangle virus and Newcastle disease on page 42 of the report highlights the importance of incentives for passive surveillance to identifying “new” diseases.

The report (page 43) also states that the Department is proposing blind surveys to give a more stringent estimate of notifiable disease prevalence because it acknowledges that there may be producer resistance to testing.¹¹ The Department does not propose that blind surveys are appropriate to detect emerging disease.

⁷ Managing Animal and Plant Diseases, 2006, Public Accounts Committee, p 42.
[http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007)

⁸ Start KDC, Regula G, Hernandez J, Knopf L, Klemens F, Morris RS and Davies P, 2006, Concepts for risk-based surveillance in the field of veterinary medicine and veterinary public health: Review of current approaches, BioMed Central Health Services Research, 6:20. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1409776> (accessed 14 February 2007)

⁹ Lewis MD, Pavlin JA, Mansfield JL, O’Brian S, Boomsma LG, Elbert Y and Kelley PW, 2002, Disease outbreak detection system using syndromic data in the Greater Washington DC area. American Journal Preventive Medicine Vol 23 (3) pages 180-186
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VHT-46T9D7X-6&_coverDate=10%2F31%2F2002&_alid=460719887&_rdoc=1&_fmt=&_orig=search&_qd=1&_cdi=6075&_sort=d&_view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=1aff1835c45ae99986093ee71a30c471 (accessed 14 February 2007)

¹⁰ Pers Comm, Mike Nunn, Principal Scientist, Biosecurity Australia, 8 February 2007

¹¹ Managing Animal and Plant Diseases, 2006, Public Accounts Committee, p 43.
[http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007)

4. Causal link between financial incentive and surveillance levels – superfluous to the debate

Reasons given by DVs for producer behaviour which confound any argument for a causal link between the cost of laboratory diagnosis and the number of samples submitted are as follows:

- an ageing producer demographic who may guess the cause of the mortality
- fear of regulation/quarantine
- stock and station agents who now employ agricultural consultants who may offer their opinion as to the cause of disease
- declining profit margins due to the drought
- poor relationships with the DV or private vet and reluctance to spend money on a private vet
- less choice in livestock veterinary services with contraction of government vets and private rural vets (Appendix 2)¹²
- slow services from the public laboratory system – stock may already have been moved or stopped dying by the time a report is returned
- DV time being taken up by regulatory programs and paperwork diminishing the amount of time devoted to building a case for passive surveillance with ratepayers
- negative reinforcement when a diagnosis is not given as a reward after submitting a sample for notifiable endemic disease
- open ended costs to mortality investigations carries the risk that the diagnosis will have a lower value than the amount spent

These potential confounders are disincentives to submitting samples in addition to fee for laboratory service.

The Association argues that a causal link does not need to be established between free testing and successful surveillance in order to find a solution to declining laboratory investigations.

The Government has a choice of targeting each of these potential causes separately, choosing those it guesses has the most impact or overcoming them all by offering financial encouragement to participate in surveillance.

Table 1. below is a list of constraints to laboratory submissions and potential solutions passed to the Association by stakeholders. It shows firstly, the constraints could be solved in a piecemeal approach each with budget allocations of tens of thousands of dollars (excluding human resources).

Alternatively offering financial incentives to producers is an ubiquitous driver of behavioural change able to overcome all constraints while utilising existing levels of human resources in the RLPBs and Department.

¹² Presentation by Professor Richard Whittington, University of Sydney to District Veterinarians Association Conference 2006

Table 1. List of causes of producer disincentives and possible solutions

| Potential cause of declining producer involvement | Possible Solutions | Problems with delivering the solution |
|--|---|--|
| Knowledgeable ageing producer | Education campaign on value of surveillance re emerging diseases | Declining profit margins (including those due to drought) and reluctance to accept new ideas require extensive resources to overcome. |
| Fear of regulation/quarantine | Education campaign on economic impact of export market shut out | Requires a whole of industry approach which is difficult in the short term with the BJD risk based discussions and the persistence of an OJD Exclusion zone |
| Stock and station agents who now employ agricultural consultants who may offer their opinion as to the cause of death | Education campaign for agents on relevant legislation and value of surveillance. Partnerships with DVs or vets generating animal health/nutrition related “sales” | Coordination time of RLPBs, State Council or DPI. Commercial in confidence issues. Commercial competition will require exclusion of some agents from the partnership with other agents |
| Declining profit margins due to the drought | Additional drought relief programs | State budget pool |
| Poor relationships with the DV or private vet and reluctance to spend money on a private vet | Victorian program of paying the private vet to take samples from cases in the public good gives producers an alternate to the DV | State budget pool |
| Declining number of rural vets | Reinvest in Departmental staff and support the rural oriented course at Charles Sturt University | State budget pool. Delay of years until first vet graduation. |
| Slow services from the public laboratory system – stock may already have been moved or stopped dying by the time a report is returned | Increase resourcing for government vet labs | State budget pool. Lack of qualified pathologist means a 2-3 year delay while training occurs. |
| DV time being taken up by regulatory programs and paperwork diminishing the amount of time devoted to building a case for passive surveillance with ratepayers | More RLPBs employing additional DVs (rural vet shortage may delay this) | RLPB budget issue constrained by drought. |
| No reward of diagnoses despite “notifying” the vet of a potential notifiable disease. | Alternate rewards given which recognise the public spirit of a producer contributing to local surveillance – eg awards, commendations, give-aways, profile in local publications. | RLPB or corporate sponsorship for give- aways. Publicity may not be wanted if presence of disease is perceived as being a “poor farmer”. |
| Open ended costs to mortality investigations risk comparatively little value of the diagnosis | More information provided to producers on value of investigations | The value of the livestock concerned is the main comparison used by producers |

Consequences of reduced submissions from livestock producers for laboratory diagnosis

1. The Association's greatest concern is that identification of an endemic, emerging or exotic disease will be delayed allowing spread.

The 2001 UK FMD outbreak showed the consequences of delayed identification in the pig finishing unit in Northumberland which provided 4 to 6 weeks opportunity for spread. This was cited as one factor in contributing to the size and geographic spread of the outbreak.¹³ The consequences of trying to halt its spread later rather than immediately ran into the many billions of pounds sterling and coincidentally resulted in the relevant Minister losing his job.

2. Overseas countries are increasingly scrutinising our domestic surveillance system with audits of pathology laboratories, processing plants and the NLIS system.^{14,15} Such challenges require Australia to prove freedom from certain diseases (production and food safety related) in order to export our product or conversely to keep foreign imports out.

It should be noted that both Victoria and QLD do not charge for livestock related laboratory samples and in fact welcome them as a legitimate method of assembling data on disease prevalence. Victoria also provides up to \$400 for private vets to investigate disease syndromes in the public good if requested by the livestock producer¹⁶.

It may arise that NSW becomes disadvantaged compared to its neighbouring states in some future export opportunity.

3. The OIE states that 60% of human pathogens are zoonotic and 75% of emerging diseases are zoonotic¹⁷, therefore there is a need to improve surveillance systems generally for the early detection of emerging disease. Appendix 1 by the District Veterinarians Association points out that the only zoonotic diseases covered by the Department's program are those that are notifiable.
4. Another implication with relevance to the human population arises with antibiotic sensitivity samples most commonly from dairy cows. The public would prefer that changes in antibiotic resistances are tracked in milk rather than in human bodies in hospitals. Historically data from this animal source has led to important decisions by human health professionals.

¹³ Foot and Mouth Disease 2001: Lessons to be learned inquiry, 2002, p 2-3
http://archive.cabinetoffice.gov.uk/fmd/fmd_report/report/index.htm (accessed 12 February 2007)

¹⁴ Pers Comm, David Palmer, MLA, 8 February 2007

¹⁵ Pers Comm, Mark Williamson, Gribbles Pathology, 8 February 2007

¹⁶ Pers Comm, Russell Graydon, Statewide leader, Veterinary Pathology, Victorian Primary Industries Research and Malcolm Lancaster, Veterinary Pathologist, Animal Health Sciences Groups, Victorian Government Laboratory, 9 February 2007

¹⁷ http://www.2006worldmeatcongress.com.au/presentations/Thiermann_Alex.pdf (accessed 14 February 2007)

The solution

The Association believes that the policy of charging for laboratory fees, albeit with piecemeal exceptions, has created a confusing picture for livestock producers and veterinarians.

The piecemeal exceptions are swept aside by producers in much the same way as if Woolworths offered a “money back guarantee” which had a raft of exclusions. Customers would just go to Coles. However, farmers have no alternative to laboratory fees so the result is just to “shoot, shovel and shut-up” to the detriment of both the farmer and NSW livestock industries in general.

The Association is proposing that certification and companion animal submissions remain chargeable but samples from both private and government vets be totally free as long as they are certified by the local DV as being for flock or herd diagnoses.

This population approach to surveillance is undoubtedly in the public good.

It has been understood for decades that the ultimate decision as to whether to process all submitted samples in the one investigation lies with the diagnostic pathologist at the laboratory. This will continue to ensure prudent use of resources.

The cost

The Association is not in a position to calculate the cost of the above proposed charges to Government. However, it must be pointed out that the Government already spends a great deal of money and resources with the provision of the five current surveillance categories (\$337,000 was budgeted in 2005/06 for endemic notifiable diseases, granuloma survey, footrot strategic plan, exotic notifiable diseases, mortality investigations, arbovirus monitoring and district surveillance).¹⁸

The cost of Association's proposal could replace rather than be in addition to the estimated \$280,000¹⁹ for endemic notifiable diseases, exotic notifiable disease, mortality investigations and district surveillance programs.

The Government should be mindful of the public good of adequate disease surveillance both from a human health and a trade point of view. NSW has an

¹⁸ Managing Animal and Plant Diseases, 2006, Public Accounts Committee, p 39.
[http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007)

¹⁹ The 2006/07 budget figure was expected to be the same as 2005/06. Managing Animal and Plant Diseases, 2006, Public Accounts Committee, p 40.
[http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007)

obligation to deliver its share of “effective surveillance” for the national good under the Animal Health Performance Standards goal being “relevant information is available in a timely fashion for assessing and managing risks in relation to trade in livestock and products, public health and animal production efficiency”.²⁰

The present system is simply just not working satisfactorily by even the Government’s expectations in 2003.

²⁰ Animal Health Australia (2005) National Animal Health Performance Standards (Version 3). Animal Health Australia, Canberra.
http://www.animalhealthaustralia.com.au/fms/Animal%20Health%20Australia/NAHPS/nahps_v3_0206.pdf (accessed 14 February 2007)

Appendix 1

Animal Health, Global Veterinary Defence and Rural Lands Protection Boards

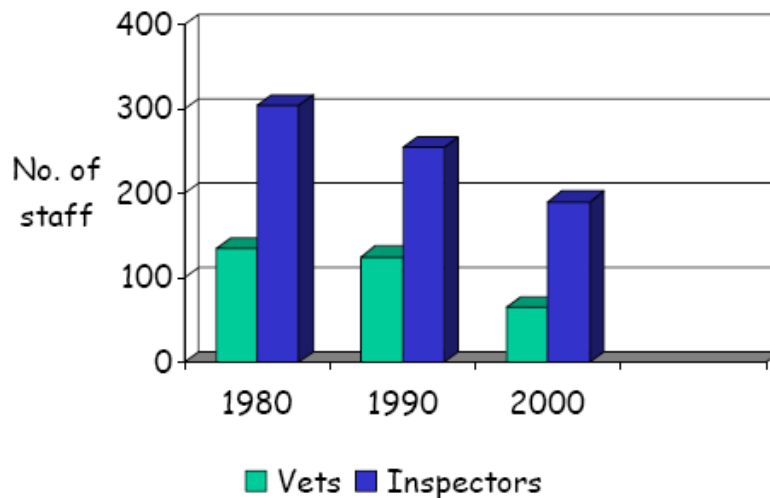
presented by
Professor Richard Whittington

Faculty of Veterinary Science



The University of Sydney

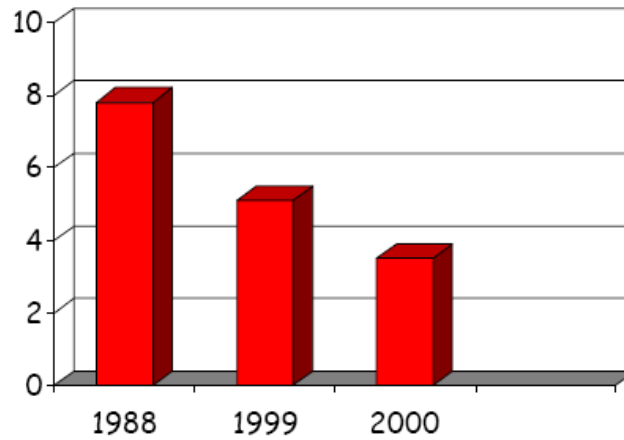
NSW government animal health officers



Source: Sendt (2002)

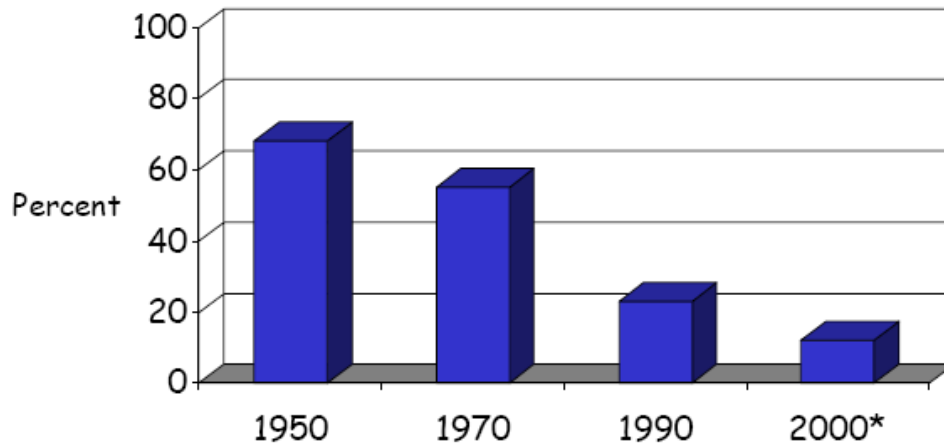
NSW animal health lab submissions

(scaled data x 10E5)



Source: Sendt (2002)

Livestock case load of new graduate vets in Australia



* Data for 2000 are for graduates of 10 years standing
Source: Heath TJ (2005) Australian Veterinary Journal 83:746-750

Big implications for RLPB system

- Greater reliance on RLPBs
- Greater expectations of District Vets
- Increased workload for District Vets
- Greater complexity of work
- Increased requirement for training
- Need for communication, networking

Appendix 3

Estimation of numbers of investigations (budgeted and actual) from the Public Accounts Committee 2006 report, Managing Animal and Plant Diseases

| Program | Assumed investigation cost | Estimated 2003/04 budgeted number of investigations | Estimated 2004/05 actual number of investigations |
|--|----------------------------|---|---|
| Mortality | \$140 ²¹ | 1214 ²² | 267 ²³ |
| Endemic notifiable (incl Johne's and footrot)* | \$134 ²⁴ | 373 ²⁵ | 306 ²⁶ |
| Exotic (incl national granuloma survey) | \$373 ²⁷ | 125 ²⁸ | 85 ²⁹ |
| District surveillance | \$183 ³⁰ | 820 ³¹ | 1058 ³² |

* There is a discrepancy between table 5.1 and table 5.3. Table 5.1 states that endemic notifiable expenditure for Jul 04 to Jun 05 including Johne's Disease totalled \$11,495 however in table 5.3 endemic notifiable expenditure from Jan 04 to Mar 05 totalled \$43,691. This difference of \$32,196 based on a financial year versus one and a quarter calendar years is difficult to explain.

²¹ Managing Animal and Plant Diseases, 2006, Public Accounts Committee, p 41.

[http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/\\$FILE/Final%20Report%2023%20November%202006.pdf](http://www.parliament.nsw.gov.au/prod/PARLMENT/Committee.nsf/0/8ca01fd5a8f7f9bfca25722f0012ec7b/$FILE/Final%20Report%2023%20November%202006.pdf) (accessed 12 February 2007)

²² $\$170,000 \div \$140 = 1214$ from table 5.1 page 39

²³ $\$37,427 \div \$140 = 267$ from table 5.1 page 39

²⁴ $\$43,691 \div 325 = \134 from table 5.3 page 45

²⁵ $\$50,000 \div \$134 = 373$ from table 5.1 page 39

²⁶ $(\$11,495 + \$29,521) \div \$134 = 306$ from table 5.1 page 39

²⁷ $(\$25,292 + \$20,601) \div (42 + 81) = \373 from table 5.3 page 45

²⁸ $(\$12,500 + \$34,121) \div \$373 = 125$ from table 5.1 page 39

²⁹ $(\$13,661 + \$17,930) \div \$373 = 85$ from table 5.1 page 39

³⁰ $\$165,057 \div 899 = \183 from table 5.3 page 45

³¹ $\$150,000 \div \$183 = 820$ from table 5.1 page 39

³² $\$193,702 \div \$183 = 1058$ from table 5.1 page 39