

Chapter 8

Alternative Approaches

ToR 7.

Examine the scope for alternative policy or organisational approaches to achieving these objectives on a more efficient and/or effective basis.

8.1 Introduction

This chapter draws on the material presented in the preceding chapters and on the results of the benchmarking exercise carried out in the preparation of this report, identifying a number of areas in which efficiency or effectiveness might be improved by adopting alternative organisational and policy approaches to the Programme.

8.2 Enhanced disease control for high-risk herds

Research findings underpin the Department's risk-based approach to the resolution and containment of infection (for example, More & Good). For instance, it has been found that the hazard of a future breakdown episode increases with the severity of the herd breakdown (Olea-Popelka et al., 2004) and that the risk of infection at animal level increases with time spent in infected high-risk ('H') herd (Clegg et al.). The location of the herd is also a critical risk factor for disease; the risk of a herd breakdown and the hazard of a future breakdown have been shown to be positively associated with local herd prevalence and with a history of previous tuberculosis in the herd¹ (Griffin, 1996; O'Sullivan; Olea-Popelka et al., 2004). An effective programme for the control and eradication of disease will contain measures aimed at containing the disease within the source herd and preventing its spread to other herds. In recognition of the additional risk posed by high-risk breakdown herds, such herds are currently required to undergo two consecutive clear TB tests, the first conducted a minimum of 60 days and the second a minimum of four months after the removal of the last reactor. A further test is carried out six months after the clearance test to verify the disease status of the herd. Similarly, the Department's interim wildlife strategy, which attempts to differentially deploy available resources in those areas where they are likely to have greatest effect, is based on a risk-based approach to resolving and containing infection [4.4].

Given the existence of the range of risk factors for bovine tuberculosis, alluded to above, the aim of the remainder of this section is to put forward proposals for alternative approaches, the common objective of which is to enhance the resolution and containment of infection in high-risk herds. The general principle guiding the adoption of any of the measures proposed below is that they should be necessary to ensure the

appropriate level of disease control, cost-effective, practicable and proportionate to the scale of the problem.

8.2.1 Pre-movement testing

Background

Prior to April 1996, cattle moving from farms to other destinations (with the exception of slaughterhouses) were required to undergo a compulsory pre-movement test if they had not been subjected to a tuberculin test in the previous 60 days. From that date onward, however, the undertaking of a pre-movement test ceased to be compulsory, provided that the animals concerned originate from a non-restricted herd and have passed a tuberculin herd test in the previous 12 months. The decision to cease mandatory pre-movement testing at that time was based on epidemiological evidence that this measure is not cost-effective when applied in an undifferentiated manner, resulting in low rates of detection of reactors relative to the large volume of pre-movement testing. This low 'reactor yield' (reactors as a percentage of animals tested) is attributable *inter alia* to the existence of a comprehensive annual programme of surveillance testing and the uneven distribution of bovine disease across the national territory.

A recent study of the benefit-cost of pre-movement testing (Clegg et al.) was based on an examination of over 6,000 herds newly restricted in the 12 months from 1st April 2003 and almost 4,000 herds derestricted in the 12 months from 1st October 2001. The study showed that between 6% and 7% of herd infections can be attributed to the recent purchase of an infected animal. This finding is in line with the results of research carried out in the pre-1996 period (for example, O'Keeffe and O'Driscoll), indicating that the risk of herd breakdowns arising from this source has not been affected by the policy change in relation to pre-movement testing and that the cost-effectiveness of the programme would not be improved by the reintroduction of nationwide pre-movement testing in respect of all cattle movements.

The study undertaken by Clegg et al. found that the application of pre-movement testing to animals moving out of a group of almost 4,000 herds derestricted between October 2001 and September 2002 would have prevented 15.9 herd restrictions per 10,000 animals tested or 3.3 herd restrictions per 100 herds tested. These yields are considerably higher than those associated with either the post-derestriction check test or the annual

surveillance test. The study provided evidence that the selective application of pre-movement testing to certain subsets of herds and animals could increase the ‘reactor yield’ and hence the cost-effectiveness of the measure. It was found that, during the period following de-restriction, infection risk amongst animals is increased *inter alia* by the length of time spent in the source herd, and by the severity of the breakdown in that herd. Thus, for example, restricting the measure to severe restrictions resulted in the animal and herd yield increasing to 23.2/10,000 animal tests and 5.8/100 herds tested, respectively². Similarly, the animal and herd yields for animals moving 42 days or more following the derestriction test were found to be considerably higher than that for movements within 42 days³.

The cost of outbreaks arising from the movement of infected cattle out of herds is borne by the farmer who buys the animal and who bears the losses associated with the restriction, net of any income received through the various compensatory mechanisms. They are also borne by the Department, which generally pays for any testing arising as a consequence of the identification of disease. The economic consequences arising from the loss of ability to trade may be significant, depending on the timing of the episode and the trading pattern of the destination herd. Aside from any directly measurable economic losses, the purchaser of the infected animal and, in some cases, those herds contiguous to the destination herd, are subject to the inconvenience of carrying out herd tests that might have been avoided if the infection had been confined to the source herd.

Possible policy options

(1) Application of whole-herd pre-movement test to high-risk herds

This option consists of enhancing the current testing regime with a limited programme of targeted testing aimed at identifying infected animals and preventing their movement from high-risk (‘H’ classified) herds. These are herds in which there is evidence that infection is spreading within the herd and are defined, in the BTEP, as being those herds in which two or more animals fail the standard interpretation of the SICCT, or where infection is evidenced by the detection of lesions post-mortem. One possibility would be that high-risk herds would be allowed to trade on the open market only in the 42-day period following the preceding herd test for a period of 18 months from de-restriction while they remain high-risk. Cattle moving directly to slaughter or calves under 6 months of age would be exempt. As discussed above, the expected ‘reactor yield’ is

greater if 42 days or more have elapsed since the derestriction test than it is in the preceding period, and 42 days is also the minimum allowable inter-test interval. The implementation of the measure can be regarded as being technically feasible in that the tools required to facilitate its operation – a system of risk classification and a separate movement control system (AIM) – are already available to the Department.

This policy option would apply only to that subset of high-risk herds that is otherwise free to trade. On 10th June 2006, 4,806 herds out of a total of 123,534 herds were categorised as high-risk. Based on available data, approximately 3,000 of these high-risk herds would be expected to have trading status and thus be subject to pre-movement controls under the proposed arrangement. Generalising from the results of the study by Clegg et al., it can be assumed that approximately one-third of these herds will not sell cattle over 6 weeks of age on the open market. Further, taking account of the likelihood that farmers would adjust the pattern of their disposals in light of any changes to the regulations, it is probably not unreasonable to suggest that something of the order of 50% of the remaining 2,000 herdowners would move their cattle in the 42-day exempted period. On this basis, out of the target population of almost 5,000 herds, some 1,000 (0.8% of all herds) would be expected to subject to pre-movement testing in any twelve month period.

(2) Application of pre-movement testing to animals moving from high-risk herds

This option is similar to the first, except that only those animals actually moving out of the high-risk herd, rather than the whole herd, would be subject to pre-movement testing. The ‘reactor yield’ will be greater if only ‘moving’ animals are tested, rather than the whole herd, because herd infection prevalence in Ireland is higher than within-herd infection prevalence (Higgins et al.). On the other hand, the percentage of restrictions that could potentially be prevented under this more limited option is likely to be significantly lower than that applying if pre-movement testing is applied on a whole-herd basis (Clegg et al.). This is because the probability of detecting an infected animal is greater when the test is applied to the whole herd, rather than to just those animals that are moving out of it, and because individual animals in the early stages of infection may not react positively to the test.

The number of animals likely to be subject to the proposed measure can be approximated based on the findings of the study conducted by Clegg et al. Of the 3,947 derestricted herds examined in that study, comprising a total population of 402,456 animals at the point at which trading status was restored, 56,688 moved out into new herds in the period between the derestriction test and the subsequent herd test in the herds of origin. Of these, 24,590 moved in the exempted 42-day ‘window’, leaving a total of 32,098 that would be subject to pre-movement testing under the measure proposed. Generalising from the results of the study to the population of high-risk herds with trading status, it would thus be expected that, for every 1,000 such herds, 8,132 animal movements would be subject to pre-movement testing⁴. However, as is the case for option (1), changes in farmers’ patterns of disposal in response to any changes in the testing regime could further reduce the population of animals subject to the measure.

(3) Application of pre-movement testing to other subsets of the population

The third option would be to apply pre-movement testing to a subset of the target herds or target animals identified in Options (1) and (2) above. The following possibilities could be considered:

- In recognition of the finding that the risk of future breakdowns is related to the number of standard reactors disclosed in a tuberculosis episode (Olea Popelka et al., 2004), the application of pre-movement controls could be confined to a subset of high-risk herds, based on the number of standard reactors disclosed in the disease episode.
- In view of the finding that the sensitivity of the SICCT as a part-herd test is lower than that when performed as a whole-herd test, a requirement could be introduced that interferon-gamma assay be carried out in conjunction with part-herd pre-movement tests.
- Having regard to the finding that the length of time spent in the source herd (usually equivalent to age) is a significant risk factor for infection (Clegg et al.), a requirement could be introduced that non-moving animals over a certain age be tested in conjunction with those undergoing part-herd pre-movement testing. Alternatively, animals below a certain age, in addition to calves under 6 weeks

(which would be exempted in any case) could be exempted from the requirement to undergo either full-herd or part-herd pre-movement testing.

Proposal

The findings of the study by Clegg et al. raise the possibility that the selective introduction of additional movement controls in respect of high-risk herds could have beneficial effects for farmers, the Department and the Exchequer. It would therefore seem appropriate for the Department to consider the introduction of one of the various options presented above with a view to enhancing disease control measures in a cost-effective manner.

8.2.2 Enhanced movement restrictions for certain contiguous herds

Background and rationale

The risk of disclosure of a reactor on a contiguous herd test is approximately 3 times that of the general risk for surveillance ('round') tests [6.3.4]. A study, carried out by the Department in 2005, focusing on 121 high-risk breakdowns examined the pattern of movement from the 651 herds contiguous to these index herds. 351 of these herds were found to have moved a total of 3,742 animals subsequent to being notified by the Department of a disease outbreak in the contiguous index herd. Of this cohort of animals, 38 were subsequently identified as reactor in the herds to which they had moved, a further 10 were identified as inconclusive reactors, and one was found to have lesions of tuberculosis on routine slaughter without having been tested subsequent to movement.

Currently, herdowners are notified by the Department, in all cases, of the occurrence of disease on the neighbouring farm, but are not prevented from selling cattle even when the herd adjoining them is undergoing a high-risk breakdown. Under present circumstances, therefore, the rational response of individuals finding themselves in that situation is to sell any cattle that they would wish to dispose of in the normal course of events in advance of the impending herd test, thereby reducing the negative consequences for themselves in the event that reactors are disclosed in their own herd.

Scope

The number of high-risk breakdowns in 2005 was 1,974, to each of which, on average, 5 herds were contiguous, creating a potential target population of some 10,000 herds, some of which will require more than one contiguous test during the course of the year. The actual number of affected herds is likely to be considerably lower than this because the clustered nature of disease means that a significant number of the target cohort may already be restricted, or may be contiguous to more than one index herd. In 2006, for example, 8,008 contiguous herd tests were carried out on 6,794 individual herds, and a total of 493 of these tests disclosed reactors.

Proposal

Herds that are deemed to be contiguous to infective fragments of a high-risk breakdown in an index herd should be informed of this fact as soon as possible (preferably within one week) following the disclosure of disease. At the same time, movement of cattle out of these contiguous herds should be temporarily restricted pending establishment, through the application of a tuberculin test, of the disease status of these 'high-risk' contiguous herds. Trading status would be immediately restored once the herd reacted negatively to the test. The measure would not result in any additional Exchequer expenditure as these contiguous herds would be subject to testing in any event under current arrangements. Furthermore, the technology necessary to implement the measure are already available. Procedures for the identification and appropriate treatment of contiguous herds have already been developed and the ability to ensure the immediate and effective withdrawal of trading status is currently being delivered as part of the nationwide deployment of the AIM system [4.7.2]. The principal beneficiaries of the proposed measure would be those farmers purchasing cattle from herds contiguous to high-risk breakdowns.

8.2.4 Targeted approach to chronically infected herds

The Department is in the early stages of planning a pilot programme across four DVO areas that will proactively target chronically infected herds with a view to developing strategies to resolve the underlying causes of infection. Herds that break down repeatedly, although relatively few in number, have a significant impact on disease at the aggregate, national level. The intention is to examine the full range of disease resolution

measures available within the programme with a view to understanding why these do not appear to be effective in resolving infection for this cohort of herds.

Proposal

The objective of the pilot is to ascertain if the risk of re-infection for repeat breakdown herds can be reduced, using generally available resources, to that of the average for the country as a whole. The lessons learned from the pilot phase of this programme, following a period of analysis, should be adopted across all DVO areas in order to promote best practice for the management of chronically infected herds.

8.3 Use of lay testers

The potential to replace the present system, in which TB tests are performed exclusively by veterinary practitioners, with one in which some, or all, of the test programme is performed by non-veterinarians (lay testers) has previously been referred to, albeit peripherally, in the context of blood-based testing [5.7.5]. There, it was observed that the future development of a blood-based test of equivalent (or improved) accuracy to the intradermal test could create the potential for TB testing to be performed by personnel other than veterinary surgeons. However, it is apparent from the benchmarking exercise carried out for this review that the performance of TB testing by non-veterinarians is not necessarily contingent on the development of a blood-based test. In Great Britain, for example, the Animal Health Agency (previously the State Veterinary Service) has carried out a pilot study on 'lay' TB testing (Defra, 2008). This section of the report will examine the results of this pilot and of a recent review of TB testing arrangements in Northern Ireland and will comment on the practicability of introducing lay testing in this jurisdiction.

8.3.1 Lay TB testing pilot in Great Britain

The Lay TB Testing pilot in Great Britain, which ran from May 2005 until June 2006, was undertaken by eleven Animal Health Divisional Offices (similar to DVOs) and involved a total of thirty-three trainees, all of whom are employees of the Animal Health (AH) agency⁵. The legal basis for the measure was provided by the Veterinary Surgery (Testing for Tuberculosis in Bovines) Order 2005, which provided for non-veterinarian

employees of AH to be trained and authorised to administer the comparative intradermal test for bovine TB, where this was defined as including the preparation of the site for injection, injection of tuberculin, measurement and recording of the results, but excluding the interpretation of those results. Because tuberculin testing of bovines constitutes an act of veterinary surgery, as defined in section 27 of the Veterinary Surgeons Act 1966, it was also necessary for the Minister to introduce an Exemption Order under the Act, permitting the performance of a minor treatment, test or operation by persons other than veterinary surgeons.

The TB testing training, which was undertaken in addition to the trainees' existing duties, involved attendance at a two-day training course, the undertaking of a written assessment and field training under the supervision of an AH veterinary inspector. Upon satisfactory completion of the training, which involved the testing of a minimum of five hundred animals in at least ten different herds and the measurement of at least thirty reactors and thirty inconclusive reactors, trainees were recommended for certification as Lay TB Tester by their veterinary supervisors. Both the veterinary inspectors delivering the training and the herdowners in whose herds the training was undertaken were generally satisfied with the trainees' animal handling skills and the manner in which the test was performed.

The veterinary profession in Great Britain raised a number of concerns relating to the principle of introducing lay TB testing, as well as other legal and practical considerations. In order to address some of these concerns, the government undertook to run a pilot programme, using the technical staff of Animal Health in England and Wales, before considering whether the procedure could be extended to other non-veterinarians. Prior to commencing the pilot, the Department for Environment, Food and Rural Affairs (Defra) sought advice from the EU Commission on using lay testers and consulted the Royal College of Veterinary Surgeons and the British Veterinary Association on their response. Both these bodies were invited to send observers to the training and were consulted on the results of the pilot.

The current situation is that a number of the trained AH employees are continuing to operate as approved lay testers. The interpretation of test results or the performance of a clinical examination (where this is deemed necessary) is, in all cases, carried out by a

veterinarian, rather than by the lay operative. Defra is currently in the process of considering whether to extend lay testing to other non-veterinarians. No timetable for any such extension of the pilot has yet been established, however, and any initiative in this regard would necessarily be preceded by a process of public consultation (ibid.).

8.3.2 Review of testing arrangements in Northern Ireland

A review, commissioned by the Department of Agriculture and Rural Development (DARD) in Northern Ireland, examined the arrangements governing tuberculin testing carried out by PVPs from a value for money perspective with a view to examining alternatives to the current arrangements for the allocation and management of TB testing (DARD, 2006). During the consultative phase of the report, the various stakeholder groupings, which included PVPs, were asked for their views on the possible future delivery of the TB testing contract by lay testers. A summary of these responses is listed below:

- TB testing may offer the only opportunity for a vet to get on a farm. This visit can be used as a platform to inspect the general health of animals e.g. bio-surveillance. From an animal health and welfare perspective it is not optimal to replace professional veterinary practitioners with lay testers in the process of TB testing;
- A decision to move TB testing from PVPs would have serious detrimental impacts on the wider rural economy - given that lay testing option would remove significant revenue from veterinary practices in Northern Ireland. While the income would remain in NI as lay testers would complete the work, the view is that that removal of TB testing from small rural practices could have a detrimental impact on the rural economy;
- The accessibility of vets to farmers would be reduced as the number of veterinary practices in operation (particularly in rural areas) is likely to reduce;
- The current TB testing regime should not be compromised and, given the level of judgment involved and the need for clinical examination where reactors are identified, it may not be appropriate to have lay testers for TB;

- There would be an immense level of training and administration involved with the introduction of lay TB testers and this is likely to be very expensive; and
- The introduction of lay testers to complete TB testing would result in a reduction in the number of large animal veterinarians with subsequent loss of skills and large animal veterinary expertise. This could result in significant risks and vulnerability for Northern Ireland in the event of a disease outbreak.

The report recommended that the existing arrangements – delivery of the TB testing programme exclusively by veterinarians – be continued, with some modifications to ensure greater clarity in the relationship between DARD and PVPs. Specifically, the recommendation was that all of the benefits which PVPs identify as arising from the current arrangements (disease surveillance, welfare reporting, etc.) should be specified in contractual form; that the scope of supervision should be extended to include all aspects of the TB testing arrangements (including the timeliness of reporting); and that a clear and transparent framework for monitoring and supervision should be established, including the introduction of performance indicators and financial penalties to incentivise compliance.

8.3.3 Legal considerations

Veterinary practice in Ireland is regulated by the Veterinary Practice Act, 2005, Section 53 of which defines the practice of veterinary medicine as including *inter alia*, the ‘diagnosis of disease, injury, pain, deformity, defect or state of health’ in relation to an animal. Similar issues would arise in Ireland in relation to the introduction of lay TB testing as have been encountered in Great Britain in that, while the act of measuring and recording skin reactions is unlikely to fall within the meaning of ‘disease diagnosis’, the interpretation of those readings and the undertaking of a clinical examination may both constitute acts of veterinary practice, within the meaning of the Act. Unlike the Veterinary Practice Act in Great Britain, the Irish equivalent does not provide for exemptions to be made for certain activities, falling within the definition of ‘veterinary practice’, to be undertaken by non-veterinarians. Accordingly, any decision to permit lay persons to test would necessitate an amendment to the Act.

The precise nature of the relationship between the person undertaking the tuberculin test and the Competent Authority (the Department) may present difficulties in relation to the certification of test results. In particular, it would appear to be the case that, under the terms of EU legislation governing the certification of exports, staff carrying out such certification would be required to be under the effective control of the Competent Authority (as is currently the case in Great Britain). Furthermore, compliance with the principles of veterinary certification generally precludes veterinary surgeons from issuing certificates in respect of matters outside of their immediate knowledge, except on the basis of supporting certification issued by another veterinarian. Certification may, however, be provided on the basis of guidelines from the competent authority, which establish *inter alia* the nature of the evidence required to ensure the veracity of any statements made therein. Veterinary surgeons who fail to comply with both the legislation covering their activities and the code of professional conduct governing the profession may be subject to sanctions, up to and including erasure from the Veterinary Register.

8.3.4 Economic considerations

The British government's decision to undertake the lay testing pilot seems to have been driven, in large part, by the need to ensure that sufficient resources are available to carry out TB testing of bovine animals; economic considerations seem to have played a much lesser role. In Ireland, by contrast, constraints in the supply of veterinary resources do not appear to be such as to impair the delivery of the national TB testing programme and economic arguments will likely have greater weight in the discussion regarding the use of lay testing in this country. While the performance of a full economic analysis of lay testing is beyond the scope of this review, it is nonetheless appropriate to introduce some of the economic considerations that would inevitably arise if such an initiative were to be given serious consideration.

Such economic benefits as may accrue from the application of the measure would seem to rest on the ability of lay testers, whether state employees or otherwise, to deliver TB testing at a cost lower than that currently obtaining in relation to veterinarian-delivered testing. There are a number of reasons to believe that the magnitude of any such savings would be limited:

- In the first place, the unit cost to the Exchequer of the intradermal tests paid for by the Department has been shown in this report to be relatively low – €3.64 per animal test – and below that pertaining in those countries against which the BTEP was benchmarked [5.7].
- Secondly, and in contrast to the situation pertaining in Great Britain, the fact that the majority of the costs associated with tuberculin testing are already borne by farmers limits the magnitude of any further savings to the Exchequer.
- Thirdly, if the alternative to the provision of tuberculin testing by veterinarians is its provision by lay testers employed by the Department, as is the case in the British pilot study, then this would involve a reduction in the level of private sector participation in the delivery of the Programme. Under present arrangements the price of the majority of TB testing undertaken in the Programme results from the interaction of private sector groupings – farmers and individual veterinarians – and tends to be lower than for those tests paid for by the Department. In effect, the introduction of lay testing could result in an increase in the number of staff employed by the Department and, accordingly, in the transfer of some of the cost of testing from the farming sector to the Exchequer.
- Fourthly, the performance of tuberculin testing by non-veterinarians would result in the loss of certain of the synergies, arising from the provision of on-farm veterinary advice by veterinarians, previously identified in Chapter 2 [2.4.2]. Similar concerns were raised in the recent review of TB testing arrangements carried out in Northern Ireland [8.3.2].
- Finally, the cost to the Department of mitigating ‘adverse selection’ and ‘moral hazard’ [3.3.2] in relation to the performance of TB testing by non-veterinarians may be higher than it is in the case of veterinarians. This is because veterinarians, unlike lay testers, are bound not only by the terms of their contract with the Department and by legislation, but also by a code of professional conduct. Furthermore, veterinarians face penalties over and above those applying to lay testers, arising from their membership of a professional association empowered

to impose sanctions up to and including erasure from the Veterinary Register. The greater incentive, in the case of veterinarians, to comply with the terms and conditions of the contract governing TB testing can be seen as reducing the cost of enforcement of the TB testing contract relative to that which would apply in the case of non-veterinarians.

Proposal

While the potential economic benefits of delivering some, or all, of the programme of intradermal testing through the use of lay testers may not be great, the Department should nonetheless be prepared for the possibility that the supply of veterinary resources willing to undertake such work may diminish over time. Consequently, it would seem prudent for the Department to clearly establish the legal position and the opinion of the Veterinary Council of Ireland in relation to the use of non-veterinarians in the performance of intradermal tuberculin testing. The active monitoring of developments in other jurisdictions would similarly form part of this process of contingency planning.

8.4 Reactor Collection Service

Background and rationale

The Reactor Collection Service (RCS) was introduced by ERAD in order to secure the removal of reactors from farms and to minimise the spread of disease arising from the un-coordinated collection of reactors. This service was established at a time when serious concerns existed as to the integrity of the system of delivery of reactors to slaughter premises. Since that time, the introduction of the OFMVS, on the one hand, and of improved tagging and traceability systems on the other, have reduced both the motivation and opportunity for fraud, respectively. However, as discussed in Chapters 5 [5.10] and 6 [6.6], significant justification exists for the retention of the service on the grounds of both efficiency and effectiveness.

The existence of strong arguments for the retention of the RCS does not imply that the cost-effectiveness with which the service is delivered cannot be improved. As currently operated, the RCS requires the input of a technical officer of the Department (TAO), who liaises with herdowners, the receiving slaughter premises and the haulier, drawing up an official and binding schedule (ER 54) of reactor animals to be removed from the

farm to the designated meat plant. On the day on which the reactors are collected, the TAO accompanies the haulier to each reactor herd to supervise the collection of reactors.

It is in relation to the field component of the TAO's work that potential savings may arise. In the equivalent service in Northern Ireland, DARD technical staff carry out similar office-based duties to their counterparts in the BTEP, but are not usually present on farm to supervise collection, except in those rare circumstances in which farmers are unwilling or unable to co-operate with the collection of reactor animals. Within this jurisdiction, reactor collection in Counties Cork and Meath has operated on a similar basis to that in Northern Ireland, i.e. without the presence of a technical officer on farm, except in exceptional circumstances, or to carry out occasional random inspections of the haulier. The experience in these counties and in Northern Ireland has been that reactor collection, which is generally carried out by experienced hauliers, can be performed equally effectively without the need for a Department official to be present on farm in all circumstances.

Proposal

An alternative, but equally effective, procedure to that currently operating would be to devolve responsibility for the on-farm aspects of the Reactor Collection Service to approved hauliers. Involvement by the Department's technical staff in these aspects of the Service would be confined to assisting hauliers in the limited number of cases in which the collection of reactors presents particular complications, and to the performance of random, unannounced inspections on a small percentage of reactor collections. Hauliers would continue, as they are at present, to be bound by the terms of their contractual arrangement with the Department in relation to the collection of reactor animals, which specifies that failure on the part of the haulier to comply with the terms of this contract may result in its termination.

Costs and benefits

The proposal does not involve any additional Exchequer expenditure.

Based on the monthly returns made by technical staff, the field component of reactor collection currently accounts for 2.6% of time for the TAO and SAO grades. Given that the total cost of staff at these grades based in DVOs was ca. €5.8m in 2006, the upper

limit for savings arising from the adoption of this measure can be calculated at ca. €150,000. Actual savings will fall short of this amount depending on the rate at which random inspections are carried out and on the frequency with which individual problematic cases require on-farm attendance by Department staff. Savings resulting from reduced expenditure on Travel and Subsistence in respect of reactor collection duties would also be expected to accrue, but have not been taken into account here.

8.5 Field visits

On-farm visits play an important role in meeting client expectations and are critical to the efficient and effective operation of the BTEP. They are carried out in order to discharge a wide variety of functions, ranging from the provision of professional advice to farmers affected by TB, to the investigation of the cause of disease, or the serving of statutory notices. However, their time-intensive nature means that they have a disproportionate impact on staff costs, particularly in relation to travel and subsistence charges. It is, therefore, incumbent on the Department to ensure that the rationale underpinning field activities and the work practices associated with their delivery are subject to continual review. Key to this process is the principle that farm visits should be undertaken only when a remote intervention could not achieve the same objective equally effectively. For example, the process of identifying contiguous herds has been greatly facilitated by the advent of new computer technology, in particular ‘HerdFinder’. Apart from improving cost-effectiveness, the rationalisation of on-farm interventions by staff can contribute to improving client perceptions of the value provided to them when Department staff visit their farms.

The impending national deployment of the AIM system [4.7.2] will, in the very near future, provide the Department with the capability of electronically restricting the movement of animals and provides the basis for the eventual replacement of animal passports by an entirely electronic movement control and monitoring system. These developments create the potential to replace many of the present field-based activities with equally effective remote interventions. For example, it should be possible to replace the hand delivery by Department staff of restriction notices with a largely automated system in which legally binding restriction notices are served by post while the herd’s

trading status is simultaneously withdrawn on the AIM system. Similar practices are standard in Northern Ireland, and a pilot project involving the postal restriction of herds in this jurisdiction is currently underway in Nenagh and Roscommon DVOs.

Proposal

The very wide remit of this present review does not permit the undertaking of the kind of detailed analysis of work practices that would be required to provide an authoritative account of the effectiveness of the field deployment of staff in the BTEP. Ongoing reviews of staff resources are, however, periodically carried out by the Department and it is to be expected that these will identify changes to work practices and staff deployment that will improve the cost-effectiveness of the BTEP.

8.6 Collection of Bovine Disease Levies

Background and rationale

Over the period 1996-2006 an estimated notional⁶ amount of €125m was collected for the purpose of mitigating the Exchequer cost of compensation for TB reactors [5.4.1]. These levies are collected by ERAD Division from slaughter plants, creameries, abattoirs and export points. Separately, meat inspection fees in respect of the meat inspection of cattle, pigs, sheep, poultry and horses are taken up from slaughter plants by a Central Fees Unit located in Portlaoise and by Dairying Division in respect of inspections at creameries. It is apparent that significant overlap exists between the work of ERAD Division and the Central Fees Unit/Dairying Division in that the three Sections collect fees/levies in respect of the same cattle slaughtered at export meat plants and in respect of milk deliveries to creameries.

Proposal

Scope exists for the achievement of efficiency, both for the Department and for the meat industry, from the transfer of responsibility for the collection of disease levies to the Central Fees Unit and Dairying Division. This would result in a small staff saving in ERAD Division and, overall, in the Department.

8.7 Key Findings

- Recent research has identified a number of risk factors at both animal and herd level that could, potentially, be mitigated by adopting certain measures, over and above those already in place, aimed at enhancing the containment of infection in high-risk herds. A number of policy options, including various modalities of pre-movement test and enhanced movement restrictions for certain contiguous herds, can be identified.
- The undifferentiated application of pre-movement testing is not cost-effective under the conditions prevailing in Ireland. However, the selective introduction of additional movement controls in respect of high-risk herds could have beneficial effects for farmers, the Department and the Exchequer.
- The introduction of improved procedures for managing herds contiguous to infective breakdowns provides an opportunity to improve on current disease containment measures in a cost-effective manner.
- A pilot project, currently being undertaken by the Department across four DVO areas, can potentially enhance the management of chronically infected herds and the dissemination of best practice.
- The Animal Health agency in Great Britain is conducting a pilot project aimed at evaluating the potential for non-veterinarians to carry out tuberculin testing under the TB eradication programme in that jurisdiction. Separately, the possibility of utilising non-veterinarians to perform TB testing has been examined in the context of a recent review of the TB testing programme in Northern Ireland.
- The undertaking of TB testing by non-veterinarians in Ireland would appear to require an amendment to the Veterinary Practice Act, 2005. In addition, the possibility that veterinarians might provide certification based on the results of procedures carried out by lay testers, would require examination by the Veterinary Council of Ireland.

- The economic benefits of using non-veterinarians to deliver some, or all, of the TB testing programme in Ireland would seem to be limited for a number of reasons, including the already relatively low unit cost of intradermal testing in this jurisdiction. Furthermore, the supply of private veterinary resources in this country would currently appear to be sufficient to meet the demand for tuberculin testing under the BTEP.
- The retention of the Reactor Collection Service is justifiable on grounds of efficiency and effectiveness, but its cost-effectiveness could be improved by reducing direct involvement by Department staff in the delivery of the service at farm level.
- On-farm visits by Department staff are an essential component of an efficient and effective disease eradication programme, but they are costly. The rationalisation of such interventions provides an opportunity to improve both cost-effectiveness and client perceptions of the Programme.
- An overlap exists between ERAD Division, Central Fees Unit and Dairying Division in relation to the collection of disease levies and inspection fees from the meat industry and the creameries.

8.8 Conclusions

- Opportunities exist to further enhance the containment of disease in high-risk herds by the adoption of certain additional programme measures and by the dissemination of best practice in relation to such herds.
- While the economic benefits of utilising non-veterinarians to deliver some, or all, of the TB testing programme would appear to be limited, and while veterinary resources would currently seem to be sufficient to meet the demands for intradermal testing, it may, nonetheless, be prudent for the Department to clearly establish the legal position relating to the use of lay testers in this jurisdiction and to actively monitor international developments in this regard.
- Ensuring that field interventions by Department staff are carried out in a cost-effective manner is key to enhancing the overall efficiency of the Programme.

8.9 Recommendations

Recommendation 12

Having regard to recent research findings, the Department should consider implementing one of the policy options outlined in this report aimed at enhancing disease control measures in respect of high-risk herds.

Recommendation 13

The Department should consider implementing improved protocols for the management of herds contiguous to infective breakdowns.

Recommendation 14

The Department should clearly establish the legal position and the opinion of the Veterinary Council of Ireland in relation to the use of lay testers and should actively monitor international developments in this regard.

Recommendation 15

The Department should scale back involvement by technical staff in the on-farm aspects of the Reactor Collection Service, limiting such involvement to particularly problematic cases and the undertaking of quality control inspections on a small percentage of reactor collections.

Recommendation 16

The Department should keep the rationale for field activities undertaken as part of the BTEP under constant review and should ensure that work practices are sufficiently flexible to ensure that this component of the Programme is delivered in a cost-effective manner. It should ensure, in particular, that the full potential of existing and emerging technology is exploited in order to minimise the need for on-farm interventions.

Recommendation 17

Overlap in the responsibility for the collection of disease levies/inspection fees between different Divisions in the Department should be removed by the transfer of responsibility for the collection of the disease levies to the Central Fees Unit and Dairying Division.

NOTES

¹ The positive association between the number of cattle in the herd and the risk of disease has also been consistently identified in research (for example, O’Keeffe, 1993).

² The more restrictive definition of ‘severe breakdowns’ adopted by Clegg et al. (>6 reactors) than that currently used to designate ‘high-risk’ herds means that the animal yield calculated by these authors is likely to overestimate the yields achievable under the proposed measure.

³ 18.4 reactors animals/10,000 animals tested and 2.7 reactor herds/100 herds tested in the post-42 day period as compared to 13.4 reactors animals/10,000 animals tested and 1.9 reactor herds/100 herds tested within the 42-day period.

⁴ Based on the ratio, determined in the study, of 32,098 ‘non-exempted’ animal movements from a population of 3,947 herds.

⁵ Animal Health is a government executive agency responsible for delivering agreed services in public health and animal health and welfare within Great Britain.

⁶ As explained in Appendices A and D, the figures for Bovine Disease Levies used in this report have been apportioned from the aggregate figure on the basis of the relative numbers of TB and brucellosis reactors.