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Animal Health Ireland: providing national leadership and coordination of non-regulatory animal health issues in Ireland

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Summary
Livestock production plays an important role in the Irish economy. Regulatory animal health issues are the responsibility of government, but until recently there has been no national coordination of non-regulatory animal health issues. This gap has recently been filled with the establishment of Animal Health Ireland (AHI), a not-for-profit, partnership-based organisation providing national leadership and coordination of non-regulatory animal health issues in Ireland. Animal Health Ireland provides benefits to livestock producers and processors by providing the knowledge, education and coordination required to establish effective control strategies, both on-farm and nationally. This paper presents a brief overview of the context for AHI, and of its establishment and initial activities. Non-regulatory animal health issues have been prioritised. A series of work programmes (each focusing on a high-priority issue) have been established. Partnership is critical to success, both for AHI as an organisation and for effective farm-level transfer of knowledge. This model for national leadership and coordination of non-regulatory animal health issues may be of relevance elsewhere.

Keywords
Animal health – Coordination – Ireland – Non-regulatory animal health – Partnership – Private good – Public good.

Introduction

Regulatory and non-regulatory animal health issues have the potential to adversely affect on-farm profitability, international trade in livestock and livestock products, and public health. Regulatory issues are the responsibility of the Irish Department of Agriculture, Food and the Marine (DAFM). Until recently, there has been no national coordination of non-regulatory animal health issues, including those with a biosecurity risk (such as Johne's disease and infectious bovine rhinotracheitis [IBR]) and those generally without (such as milk quality and fertility). This gap has recently been filled with the establishment of Animal Health Ireland (AHI), a not-for-profit, partnership-based organisation providing national leadership and coordination of non-regulatory animal health issues in Ireland. This paper presents a brief overview of the context for AHI, and of its establishment and initial activities.

Cattle production in Ireland

Background

Throughout much of the 20th Century, agriculture, and particularly livestock production, played a central role in the Irish economy. Agriculture only ceased being the primary economic sector in the late 1960s, with the expansion of other industries and exports (10). In 1973, there were very substantial changes to all aspects of Irish farming, following the accession of Ireland to the European Economic Community (EEC, which preceded the European Union, EU). These changes have primarily been driven by the common agricultural policy (CAP) of the EEC/EU, a system of evolving agricultural policies, including subsidies (8). In 1992, CAP market supports were replaced by direct support to farmers, in response to growing commodity surpluses and the need to comply with international agreements on trade of agricultural products, particularly the Uruguay round of the GATT (General Agreement on Tariffs and Trade) negotiations (8). In 2003, there was further CAP reform, with financial support no longer being linked to the production of particular products.

In recent decades, there have been improvements in grassland management and animal genetics, and developments in milking technology, leading to improvements in milk quality. The suckler beef herd has expanded two-fold, with up to 5,000 producers achieving good levels of animal production. However, challenges remain. In the dairy industry, the quota on milk production and the highly seasonal production of milk have imposed major limitations on the development of a sustainable and competitive agri-food industry (9). In the beef industry, the development of an automatic system for the grading of carcasses has not yet been supplemented by a payment system with a focus on consumer quality. Advances have been limited by demographics and related structural constraints, including the increasing need for farmers to find off-farm employment.

Technical animal health support to the livestock industry

Introduction

Those involved in veterinary education have had to respond to the above-mentioned changes in order to meet the critical demands and needs of the agricultural and broader communities. Future success will require a critical mass of veterinarians with specialist skills, knowledge and training to effectively participate in preventive medicine at the herd level. There is an increasing need to develop innovative, integrated disease-management systems, to draw on the latest advances in research and to engage social science methodologies to evaluate sociological and psychological barriers to farmer implementation. Given this context, it is instructive to reflect on the national and international historical background for these changes.

Veterinary education and curricular change

The Royal Veterinary College of Ireland was established in Dublin in 1900. Throughout the 20th Century, veterinary practice in Ireland, with the significant exception of its involvement with notifiable diseases (brucellosis, tuberculosis, warble fly infestation, bovine spongiform encephalopathy [BSE]), revolved around clinical care for individual animals in small herds – a 'fire-brigade' service to attend acutely sick cows or those with calving difficulties. Veterinary education reflected this situation with an emphasis on individual animal medicine and surgery. Government involvement was limited to disease eradication. The first evidence of a change towards a greater awareness of clinical and subclinical disease at the herd level was seen in the late 1970s. The proportion of the nation's herd consisting of 30 cows or more increased from 21% in 1972 to over 36% in 1975. Coincidently, a Department of Preventive Veterinary Medicine was created in the Faculty of Veterinary Medicine, University College Dublin (UCD), and publications pertaining to herd health began to appear in the veterinary literature in Ireland (16, 17).

In 1979, the Irish Veterinary Association proposed a pilot scheme to implement herd health on dairy farms. However, there was neither significant engagement from the dairy industry nor any concerted attempt towards training the veterinary profession in the area of herd health management. It is also widely accepted that the involvement of the veterinary profession in the bovine tuberculosis eradication scheme did not facilitate opportunities to strategically explore alternative ideas, such as the development and marketing of preventive medicine programmes at herd level.

Curricular change and the development of the University College Dublin Herd Health Group

There was significant curricular change within UCD's Faculty of Veterinary Medicine between 1998 and 2001, driven by the reality of the 'information explosion', and informed by a desire to increase emphasis on 'deep-learning' by introducing material such as problem-based learning (PBL) (7). The PBL programme developed problem-solving skills, interpretive, self-education and communication skills as well as the ability to work in a team (29). Significantly, these skills are essential components of herd health management (15).

During this period of curricular change, herd health electives in dairy cow nutrition and calf health were introduced, and there was enhanced exposure to field

epidemiology as part of the herd health rotation in the final year of the Bachelor of Veterinary Medicine degree programme (6). There was also increased involvement of small groups of final year students, who were able to work on complex disease problems at herd level in an on-farm learning environment. In 2001, a Herd Health Group was established and significant moves began towards developing a more coherent approach to herd health, particularly in the area of mastitis control (2, 4, 25). The introduction of a modularised programme in 2006 also saw the creation of a module in herd health and population medicine in the fourth year programme. Significantly, from a herd health context, the period of curricular reform saw increased cooperation and integration between the Department of Large Animal Clinical Studies and the Department of Animal Husbandry and Production.

European Union policy drivers and the European College of Bovine Health Management

The backdrop of EU policy drivers is also significant in the context of the need to move towards herd health implementation, both nationally and internationally. Animal health policy in the EU emphasises a preventive approach to animal disease, and the European Commission White Paper on Food Safety underlines the importance of integrating animal health and welfare with food policy (11).

The European College of Bovine Health Management (ECBHM), with its emphasis on herd health, was created in 2003. The ECBHM is a veterinary specialty organisation approved by the European Board of Veterinary Specialisation. Diplomates of the College have a thorough grounding in all aspects of the delivery of bovine healthcare; they are specialists in the delivery of herd health and production management and have acted as key players in the AHI initiative. Furthermore, young specialists in bovine health management delivering herd health consultancy will be a critical component of the sustainability of the European dairy industry (5).

Cattle health in Ireland

National disease control programmes

The Department of Agriculture has traditionally been responsible for national animal health services in Ireland. It is the 'competent authority' for relevant EU policy, covering a range of areas including international trade, field operations, notifiable animal diseases and public health (19). Government also funds a network of veterinary laboratories throughout Ireland, providing support to diagnostic and regulatory activities. The Department of Agriculture, Food and the Marine manages several national disease control programmes, including those for bovine tuberculosis (21), bovine brucellosis (31) and BSE (32). These programmes represent a very substantial government commitment to animal health in Ireland over many years.

With few exceptions, there is no government coordination of non-regulatory animal health issues in Ireland. In many countries, these issues have been tackled by industry, often with considerable success. In Ireland, however, this has not happened. Prior to the establishment of AHI, the Irish livestock industries had only limited involvement in the national coordination of animal health issues. Notable exceptions include a national Aujeszky's disease control and eradication programme and enhanced salmonellosis control through the Egg Quality Assurance Scheme, which are each coordinated by government, but in collaboration with the pig and poultry industries, respectively (19).

An assessment of progress

With respect to regulatory animal health issues (those issues for which government has taken responsibility), generally very good progress has been made. Bovine brucellosis was recently eradicated from Ireland, but remains prevalent in Northern Ireland (33). There has also been excellent progress in the control of BSE (32). The control of bovine tuberculosis has proven more problematic, and there has been a very considerable research effort to identify constraints to eradication and associated solutions (21). With respect to non-regulatory animal health issues, however, little progress has thus far been made. As yet, there has been no coordinated national action to control diseases with a biosecurity risk, including bovine viral diarrhoea (BVD), IBR or Johne's disease (18). Infectious bovine rhinotracheitis is present on the majority of Irish cattle farms (23) and estimated herd prevalence of Johne's disease is 21.4% (31.5% in dairy herds, 17.9% in beef herds) (12). Although there has been coordination of some diseases/conditions that do not generally pose a biosecurity risk, specifically mastitis and fertility, these issues remain problematic (20). In a recent Delphi study of experts and farmers, milk quality and fertility were each identified as among the most important animal health issues facing Irish livestock farmers, in terms of costs to farms and agribusiness (22).

Problems around collective action in non-regulatory animal health

A central problem in the handling of non-regulatory animal health in Ireland has been the concept of

responsibility. Governments have been the main policy actor in the management of regulatory animal health, but there is as yet no agreement about who is (or should be) the main policy actor in non-regulatory health. Furthermore, given current roles and responsibilities, farmers and other stakeholders in the agri-food sector have assumed, 'by default', that government should also take the lead and financial responsibility in non-regulatory health issues. In this section, drawing from the literatures of economics, political science, and political philosophy, the authors briefly outline some social science concepts pertinent to understanding the barriers encountered when seeking to coordinate the actions of stakeholders to advance the management of non-regulatory health.

Regulatory animal health is a public good, i.e. a good that is considered non-excludable and non-rivalrous. An outbreak of bovine brucellosis has potentially negative consequences for a range of individuals and organisations, including, but not limited to, farmers (24), but the benefits from brucellosis control are available to all; therefore regulatory animal health is non-excludable. Equally, a sound policy on managing regulatory animal health is of roughly equivalent benefit to all (the benefits that accrue to farmers do not reduce those remaining available to other stakeholders), and so a collective policy in this area is non-rivalrous (see 30 for a full account of these terms). Non-regulatory animal health is less readily classifiable as a public good when considering the criteria of non-excludability and non-rivalry. This is because the health, welfare and livelihood of the general public is (much) less threatened than that of farmers.

Any agency seeking to generate a consensus and shared responsibility around a good which is disputably public has to overcome the problem of a tendency for some to contribute less than they extract from such collective action. In economics, this is termed the 'free rider' problem, whereby an individual benefits from a good (in this case, a sound and effective national non-regulatory animal health policy) without contributing their share of the costs.

Stakeholders tend to defer to habit in their thinking about who needs to take responsibility for each and all aspects of the collective endeavour. This is a key pitfall when seeking to build a model of collective action to tackle non-regulatory animal health issues. To date, the initiator and paymaster of efforts to improve Irish agriculture has invariably been the government. Therefore, it is plausible that others will continue to expect the government to make the first move and to bear the costs of the collective action (see 13 for an 'institutional' account of how habit and precedent may serve as a bind in people's expectations and behaviour with respect to public policy).

Animal Health Ireland

The establishment of Animal Health Ireland

Animal Health Ireland was established in late 2008, following discussions between DAFM and a number of non-governmental stakeholders, including the major dairy processing companies, the farm representative organisations and a number of service-providing organisations. At the official launch of AHI in January 2009, the Minister for Agriculture, Fisheries and Food (since renamed the Minister for Agriculture, Food and the Marine) stated that the initiative reflected a genuine commitment by all stakeholder organisations to work together to address a range of animal health and related issues so as to enhance the quality of Irish farm and processor outputs and improve animal health.

AHI is an industry-led, not-for-profit partnership between livestock producers, processors, animal health advisors and government, with a remit encompassing diseases and conditions of livestock that are endemic in Ireland but which are not currently subject to regulation. For the foreseeable future, AHI's focus will relate to cattle. The organisation's values, vision, mission statement and goals are presented elsewhere (1); briefly, AHI benefits livestock producers and processors by providing the knowledge, education and coordination required to establish effective control of non-regulated diseases of livestock. As an independent, science-driven organisation, AHI operates by the principle that Irish livestock farmers and the associated industry should have access to international best practice in herd health, and, to this end, is committed to ensuring that the advice it provides is, wherever possible, subjected to international peer review. The legal structure of AHI is that of a company limited by guarantee and not having a share capital. It was incorporated as such under the Irish Companies Acts (1963–2006) on 11 May 2009. The precise relationship between AHI and each individual stakeholder organisation is governed by a series of memoranda of understanding, which establish the nature of the services provided to stakeholders by AHI, the extent and duration of the stakeholders' financial contribution to AHI and the timing of any associated payments.

The organisation comprises three entities:

– *the stakeholder organisations* provide the financial and other resources necessary to allow AHI to function effectively. The number of stakeholder organisations currently stands at twenty-four. Stakeholders are consulted by the Board in relation to matters of strategic importance and, together with the Board, are responsible for setting AHI's strategic direction;

– *the Board* (with seven Directors) is responsible for the development of policy options for consideration jointly

with the stakeholders, and for the good management and governance of the Company. The Directors are not directly representative of the individual stakeholder organisations, but rather are chosen on the basis of their competencies and experience in a variety of fields relevant to the business of AHI, including beef and dairy livestock production, processing and marketing, animal health services and their delivery, major export markets for livestock and their products, and agricultural policy development;

– *management,* currently consisting of four employees (chief executive, company secretary/administrator, programme manager [milk quality], programme manager [biosecure diseases]), is responsible for assisting the Board in preparing policy options and implementing adopted policies. The use of external expertise allows AHI access to the requisite technical resources without incurring the cost of directly employing expert staff.

Since the inception of AHI, each stakeholder has established its maximum financial contribution to AHI. In determining these amounts, account was taken of the size of the organisation and of the nature of the business in which it is engaged. In the case of the largest single contributor (DAFM), the commitment is for a maximum of €500,000 per annum for a period of five years, subject to the receipt of a matching contribution by non-government sources, and to the provisions made in the annual estimates of public expenditure. As a not-for-profit company, AHI operates on the principle that the financial contribution from stakeholders in any given year should be set to match forecast expenditure.

Initial activities

One of AHI's first tasks was to identify and prioritise the cattle health challenges facing livestock farmers and the agri-industry in Ireland. As described elsewhere (22), a policy Delphi study with national experts and a survey of farmers were each conducted to prioritise diseases and conditions based on cost (to farmers, to agribusiness), impact (on farmers and their animals), international perception and impediment to market access. The top seven disease priorities included both infectious agents (IBR, BVD, Johne's disease) and multifactorial conditions (infertility, udder health, lameness and diseases of young calves).

Work programmes have been developed for each of the above-mentioned priority areas, as well as for parasitism and biosecurity. At the core of each work programme is a Technical Working Group (TWG), or group of experts in the relevant fields. In keeping with the principle of maintaining standards of scientific excellence, the outputs of the working groups are subjected to peer review and, where possible, will be published in international peer reviewed journals (22). Although the specific details of their work will vary, a series of generic tasks are common to all TWGs, including:

– development of detailed factual resources

– development of tools to aid the control of the disease at farm level

– development of policy options, where appropriate, for disease control and/or eradication

– identification of areas for future research.

Partnership

At the organisational level

Partnership, characterised by mutual cooperation and responsibility in working towards a specified goal, provides the conceptual basis for the creation and continued existence of AHI. Goal-setting, the assignment of responsibility, and cooperative endeavour (between farming organisations, between farmers and their service providers) are all key to continuing success. Partnership in the pursuit of common policy objectives is a well-understood concept in Ireland; farmer representative organisations have been involved in formal social partnership arrangements since their inception in Ireland in 1987 (26).

At the farm level

A broad range of social and psychological factors, including farmer motivations, attitudes and perceptions (14, 34, 35), combine to influence the effective transfer of knowledge (27, 28). Partnerships aimed at achieving effective knowledge transfer at the farm level must take these social factors into account. In Ireland, results from a pilot mastitis control project that ran from 2008 to 2010 (the €uromilk project, unpublished) reflect a farm-based emphasis on treatment rather than prevention. In these situations, relationships between farmers and their veterinarian/advisors are often adversely affected by issues of trust, transfer of knowledge and farmer compliance. €uromilk facilitated partnerships through:

– *regular team meetings, monitoring and review*, which allow professionals to gain insight into individual farms over a period of time while validating information and advice for farmers, removing the perceived separation between farm life and the professional standpoint, and encouraging greater compliance;

– *open discussion and forward planning*, which encourage farmers to identify barriers to compliance, and allow the tailoring of control programmes to fit individual farm scenarios;

– *professionals coming together*, which results in networking and transfer of knowledge.

Results support the need for a partnership-based culture underpinned by (*i*) education on the need for collaborative partnerships, (*ii*) support structures that promote training around facilitation and effective communication, (*iii*) sufficient resources that enable a partnership approach to be implemented, and (*iv*) the development of a knowledge base around consistent and evidenced-based information.

Competitiveness

Competitiveness is a measure of the ability of enterprises (either individually or as the aggregate enterprise base in Ireland) to compete in the marketplace. The National Competitiveness Council in Ireland has identified three essential conditions for sustainable growth, each of which has been considered during the development of the AHI work programmes, including:

– *a supportive business environment*: AHI promotes collaboration and deliberative decision-making by all stakeholders, creating the conditions to enhance the animal health status of the national herd, without significantly increasing the regulatory burden on the industry;

– *appropriate knowledge infrastructure*: AHI operates on the principle that Irish livestock farmers and the associated industry should have access to international best practice in herd health. The work programmes are each informed by evidence gathered through a process involving Irish experts and user groups, targeted primary research (particularly in the fields of social sciences and production economics) and international benchmarking and peer review;

– *appropriate physical infrastructure*: AHI is committed to developing scientifically robust and user-friendly physical resources (including information leaflets, a website and disease-management software) that condense the knowledge generated during the course of its work.

Conclusions

AHI represents a substantial departure from traditional approaches to the coordination of animal health issues in Ireland. For the first time, farmers and related livestock sectors, including the agri-food industry, have the opportunity to shape their own future with respect to non-regulatory animal health issues (18). A comprehensive work programme has been established and initial progress has been rapid. The recent 2020 Food Harvest report (3) offers a sustainable vision of the future of Irish agriculture. Specifically, it contains the target of a 50% increase in milk production by 2020. It is clear that any increase of this nature would be impossible unless underpinned by optimal implementation of herd health, one of the key goals of AHI. This paper outlines a model for national leadership and coordination of non-regulatory animal health issues which may be of relevance elsewhere.

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Animal Health Ireland : coordonner au niveau national et assurer la direction des activités relatives aux aspects non réglementés de la santé animale en Irlande

S.J. More, M.L. Doherty, J.O'Flaherty, L. Downey, K. McKenzie & C. Devitt

Résumé

La production animale joue un rôle important dans l'économie irlandaise. Le gouvernement est responsable des aspects réglementés de la santé animale, mais jusqu'à une période récente, les aspects non réglementés ne faisaient l'objet d'aucune coordination au niveau national. Il a été récemment remédié à cette lacune grâce à l'établissement d'Animal Health Ireland (AHI), une organisation à but non lucratif basée sur le partenariat qui a pour but de coordonner et d'assurer la direction des activités au niveau national concernant les aspects non réglementés de la santé animale en Irlande. Animal Health

Ireland apporte des avantages aux éleveurs et aux transformateurs de produits d'origine animale en fournissant les connaissances, la formation et la coordination nécessaires pour mettre en place des stratégies de lutte efficaces aussi bien au niveau des exploitations qu'à l'échelle nationale. Les auteurs présentent brièvement le contexte de la création de l'AHI ainsi que ses premières activités. Les questions non réglementées de santé animale ont été classées par ordre de priorité. Plusieurs programmes d'activités ont été mis en place, chacun d'eux axé sur une question hautement prioritaire. Le partenariat est une condition majeure du succès, aussi bien de l'AHI en tant qu'organisation que du transfert des connaissances aux exploitations. Cette approche en vue de coordonner et d'assurer au niveau national la conduite des activités relatives aux aspects non réglementés de la santé animale pourrait être utilisée comme modèle et appliquée dans d'autres régions du monde.

Mots-clés
Bien privé – Bien public – Coordination – Irlande – Partenariat – Santé animale – Santé animale non réglementée.

Animal Health Ireland: dirección y coordinación nacionales de los temas zoosanitarios no reglamentados en Irlanda

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Resumen
La producción ganadera desempeña una importante función en la economía irlandesa. Aunque los temas zoosanitarios sujetos a reglamentación son responsabilidad del Gobierno, hasta hace poco no existía ninguna forma de coordinación a escala nacional de los aspectos que no revisten carácter reglamentario. Este vacío ha quedado cubierto en fechas recientes con la creación de Animal Health Ireland (AHI: sanidad animal Irlanda), organización sin ánimo de lucro que funciona en régimen de colaboración y se ocupa de dirigir y coordinar todas las cuestiones zoosanitarias que escapan al ámbito reglamentario en Irlanda. Los productores y transformadores de productos de origen animal se benefician de Animal Health Ireland, que les proporciona los conocimientos, la formación y la coordinación indispensables para instituir, tanto en las explotaciones como a escala nacional, estrategias eficaces de control zoosanitario. Los autores exponen brevemente el contexto de la creación de AHI, así como sus primeras actividades. Tras definir un orden de prioridades entre las cuestiones zoosanitarias no reglamentadas, se ha establecido una serie de programas de trabajo, centrado cada uno de ellos en un tema prioritario. Las relaciones de colaboración son esenciales para el éxito de AHI como organización y para que se opere una eficaz transferencia de conocimientos a las explotaciones. Es posible que este modelo de dirección y coordinación a escala nacional de los temas zoosanitarios no reglamentados resulte de interés en otras latitudes.

Palabras clave
Colaboración – Coordinación – Interés privado – Interés público – Irlanda – Sanidad animal – Temas zoosanitarios no reglamentados.

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