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Good governance of animal health systems and public-private partnerships: an Australian case study

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Summary
The animal health system in Australia has evolved over more than 100 years and includes innovative public-private partnership arrangements. The establishment in 1996 of Animal Health Australia (AHA), a not-for-profit company, was a crucial development which formalised arrangements for shared decision-making and funding across both government and industry stakeholders. However, Federal and State governments retain legislative authority for animal health control. Accordingly, all programmes must recognise that the public sector remains an executive arm of government, accountable for its actions. Hence, much effort has been invested in ensuring that the governance arrangements within AHA are lawful and transparent. The Emergency Animal Disease Response Agreement (EADRA) is a very good example of governance arrangements that are sustainably financed, widely available, provided efficiently, without waste or duplication, and in a manner that is transparent and free of fraud or corruption. The benefits of EADRA include certainty and greater transparency of funding; greater efficiency through increased probability of a rapid response to an occurrence of any of 65 diseases; and industry participation in the management and financing of such a response.

Keywords
Animal health – Animal Health Australia – Australia – Certainty – Cost-sharing agreement – Emergency animal disease – Funding – Governance – Partnership – Policy development – Public-private partnership.

Introduction

Australia's enviable animal health status is supported by a range of innovative and effective frameworks and policies. Public-private partnerships are an integral part of these frameworks and policies. This paper describes the organisation of Australia's animal health services and their evolution over more than 100 years to embrace public-private partnerships. Although a number of events encouraged greater use of formal public-private partnerships to deliver efficient animal health services, individual and institutional leadership also played a major role.

The public-private partnerships developed in Australia reflect the structure and priorities of Australia's animal industries. These structures and priorities are described because they influenced some significant decisions. It is important to note that the standard of animal health services in Australia today is a product of accumulated efforts over more than 100 years, and that existing arrangements are the result of considerable understanding gained by many people over many years.

Animal production and health in Australia – historical context

Animal production

Animal production has contributed significantly to the Australian economy since the late 1800s and led to important cattle and sheep industries by the middle of the 20th Century.

Partly as a result of Australia's relatively small human population, Australian animal production is strongly geared towards exports. About two-thirds of the country's agricultural commodities are exported. Australia is one of the world's largest beef exporters, the second-largest producer of sheep meat, and produces about one-third of the world's raw wool.

In recent years, the dairy industry has undergone major structural changes. Poultry and pig production and processing have consolidated and intensified, aquaculture has expanded significantly, and increased investment has occurred in other livestock industries (7).

Animal health

Animal health is a function of animal production and is crucial to the economic viability of Australian producers, processors and exporters, as well as to the nation as a whole (7).

Australia is a federation of the Commonwealth: six states and two territories. The actual Federation was formed in 1901 and brought about the creation of the Commonwealth of Australia (represented by the Australian government) and a division of responsibilities according to the Constitution (15). With respect to animal health, the Australian government is responsible for quarantine and international animal health, including disease reporting, export certification and trade negotiation. It also advises and coordinates national policy and, in some circumstances, provides financial assistance for national animal disease control programmes. State and Territory governments are responsible for disease control and eradication within their own boundaries. Consultative committees ensure coordination and work together to serve the overall interests of Australia. Additional links are provided by Animal Health Australia (AHA), a not-for-profit public company with membership comprising the Australian government, State and Territory governments, and the major national livestock industry councils (3). Importantly, governments have the final say on all matters relating to animal health, including legislation, policy, certification and international agreements, and the management of emergency preparedness and response activities (7).

Some of the essential institutional and governance instruments in Australia include a national legislative basis for action (provided primarily through the Quarantine Act 1908) and supporting State and Territory animal health legislation. The Standing Council on Primary Industries (SCoPI) meets formally twice a year to discuss, *inter alia*, animal health matters. A series of committees (including the Animal Health Committee, which comprises the Australian and State/Territory Chief Veterinary Officers) report to SCoPI (Fig. 1). Similar arrangements are in place for aquatic animal health (3, 6).

In contrast, at the time of federation in 1901, animal disease coordination arrangements were minimal and no formal public-private partnerships existed (15). A number of events since then have strongly encouraged more cooperation and collaboration, not only between governments – State and Australian – but also between government and industry stakeholders. A selection of these events is outlined below.

Exotic disease issues that influenced organisational arrangements

Before federation, a number of disease incidents influenced the development of Australia's animal health system. Historically, Australia was fortunate that, from the time of European settlement in 1788 until the early 20th Century, the importation of animals was limited by a long sea voyage. This long voyage ensured that many diseases with short incubation periods and no latent infection were not able to survive and become established (14). However, contagious bovine pleuropneumonia (CBPP) entered Australia in 1858. Veterinarians argued that the initially infected herds should be quarantined, but medical practitioners – who were more influential then – advised that CBPP was not infectious for cattle, and the government did not impose quarantine measures (13). Consequently, CBPP spread widely, became endemic and was not eradicated from Australia until 1973 (12). This episode remains a valuable and salutary lesson about the importance of taking decisive action early to avoid lengthy and expensive disease eradication campaigns.

The major endemic diseases that attracted the attention of animal health services between 1890 and 1950 included CBPP, anthrax, babesiosis, bovine tuberculosis (TB) and bovine brucellosis. The level of cooperation between different layers of government and industry stakeholders varied over this period. However, a number of disease incidents focused the thinking of Australian animal health authorities. In particular, the first outbreak of foot and mouth disease (FMD) in Canada in 1952 was of particular concern.

Following the FMD outbreak in Canada, a report from the Standing Committee on Agriculture (SCA) was considered by the 37th meeting of the Australian Agricultural Council. The Standing Committee report stressed that the danger to Australia was very real and that a special committee should be established to consider the legislative, financial and administrative arrangements 'necessary in any plan to eradicate FMD or similar disease should it occur in Australia' (5). A number of challenges were raised in dealing with these issues. The first was that existing legislation in each State was not considered adequate to control an outbreak. The second challenge was that of finance. How could any government possibly budget in advance for an outbreak of FMD? Yet it was clearly

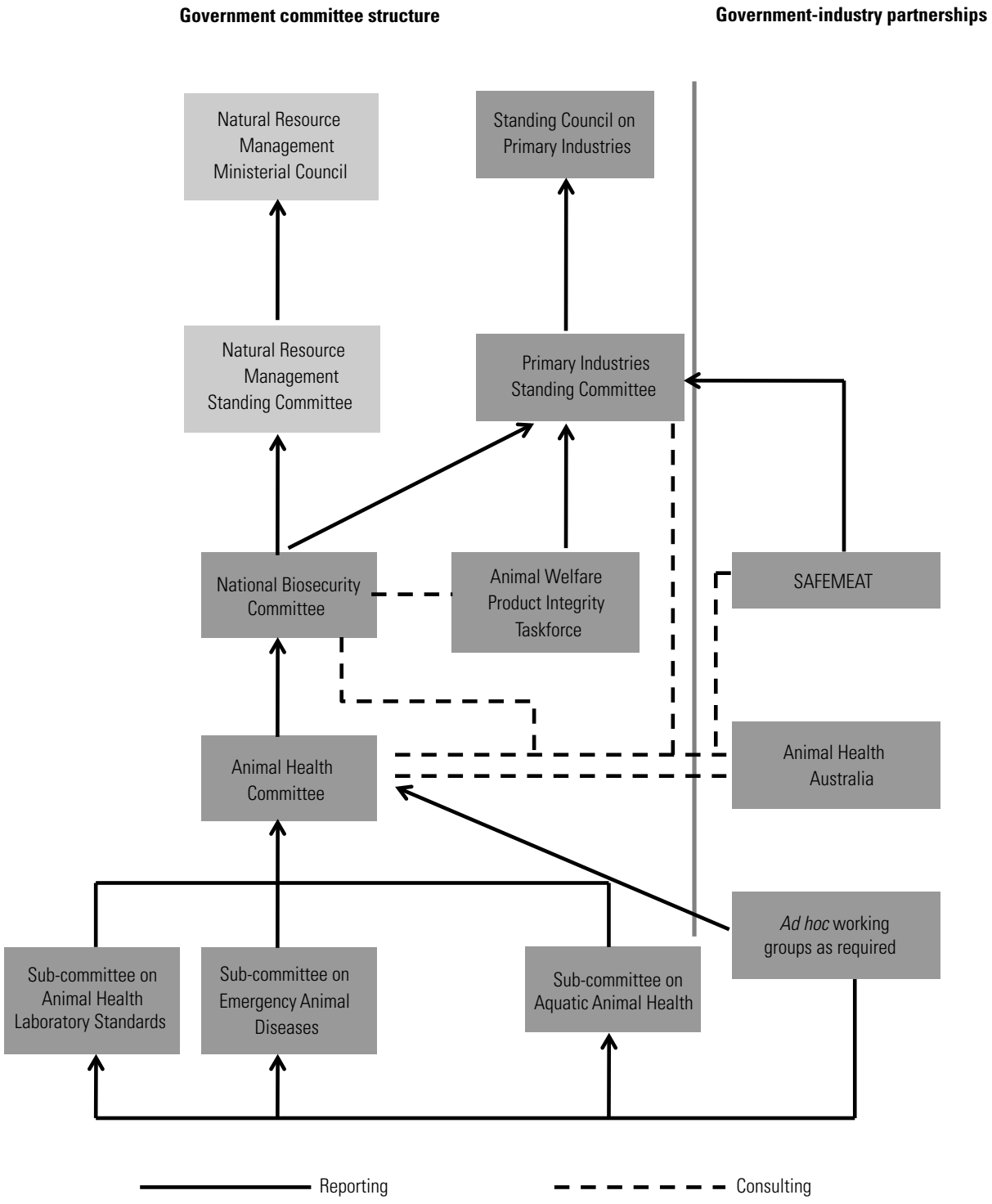

Fig. 1
Organisation of animal health management committees and organisations in Australia

recognised that, without readily available finance for undertaking eradication activities and promptly paying compensation, any eradication programme would be unworkable. Members of the SCA agreed that financial arrangements should be made before any outbreak to avoid delays in implementing an eradication policy. However, it took many years to overcome challenges to implementing this idea.

Over the next 30 years, a system evolved where it was agreed that the Australian government would pay half of the total control and eradication costs (including

compensation), provided that the States worked out a formula clearly stipulating how they would collectively pay for the other half. A number of reviews of this arrangement – which was now referred to as the cost-sharing agreement – were undertaken from 1967 to 1984. In 1985, the issue of recovering a portion of costs more directly from industry was considered and rejected as too difficult to implement at that time. A 1985 report continued to strongly endorse the overall agreement (which at that time covered 12 diseases) with costs shared between the Australian government and the States.

This original cost-sharing agreement was clearly, at that time, about arrangements between governments. The affected industries in a disease outbreak would obviously be primary beneficiaries of any eradication campaign, but were not directly involved in the arrangements for these 12 exotic diseases. However, during this period (1967–1985), some industries were directly financing endemic disease eradication activities.

Bovine brucellosis and tuberculosis eradication arrangements

The Brucellosis and Tuberculosis Eradication Campaign (BTEC) formally commenced in 1970. In its early stages, the programme was entirely planned, funded and implemented by the government (10). As the campaign progressed, the cattle industry became more involved in the planning, management and funding of the programme. By the 1980s, industry was contributing about half the programme costs and BTEC became a real example of a public-private partnership at work.

In 1984, a new BTEC Committee was created with direct representation of the cattle industry. Decisions about what costs should be borne by government and what responsibilities and costs the industry should shoulder involved considerable consultation and discussion. The disease-free status achieved for bovine brucellosis and bovine TB in 1989 and 1997 (respectively) reflected the willingness of industry and governments to work together to plan and co-fund an eradication programme costing some one billion Australian dollars (Aus$) over more than 30 years (10).

Residue management issues

Other challenges to the cattle industry, which further encouraged the evolution and development of improved government-industry relationships, were a number of detections of residues in meat that had been exported overseas (9, 11). A rapid response to these trade threats was required. Both industry and government recognised the need to work together to address these problems. The term 'public-private partnership' was uncommon then, but its practice was evolving. The Australian Chief Veterinary Officer at the time, Dr Gardner Murray, with the support of the Secretary of the then Commonwealth Department of Primary Industries and Energy, established the Residue Management Group (later to become SAFEMEAT). The Residue Management Group saw representatives from the highest level of industry and government meet to discuss residue policies and strategies and drive their implementation in key Australian jurisdictions. In a short period of time, refined residue management programmes were developed and an industry fund was set up that could be drawn upon, subject to agreed funding criteria. These arrangements meant that delays caused by discussions around funding the response could be avoided (personal communication, G. Murray).

Following the evolution of these arrangements, which were driven initially by the Office of the Australian Chief Veterinary Officer, both government and the animal industry sectors (not just the meat industry) could see the advantage of having a more formal set of arrangements where industry and government could work together to address future challenges. High-level discussions were initiated between government and industry to address issues such as roles, insurance/re-insurance options, accountabilities and more general governance options. After considerable effort by a range of government and animal industry leaders over a number of years, a not-for-profit company limited by guarantee was established (personal communication, G. Murray). This company (now known as Animal Health Australia) is a model which many other countries view with great interest.

Current public-private partnerships: Animal Health Australia as a case study

Veterinary Services are an important public good. Good governance in Veterinary Services, as defined in this issue of the *Scientific and Technical Review* of the World Organisation for Animal Health (OIE), describes those arrangements that are sustainably financed, universally available, provided efficiently without waste or duplication, and in a manner that is transparent and free of fraud or corruption. The OIE recognises that good governance of animal health systems also depends on close public-private partnerships between stakeholders along animal product supply chains. These partnerships include public-sector veterinarians, private veterinarians, producers, processors and distributors. Crucial domains of activity where public-private partnerships can assist in good governance include:

– animal health surveillance
– early detection and response to disease outbreaks
– eradication of animal diseases

– coordination and implementation of specific disease control programmes

– enforcement of veterinary legislation.

Government Veterinary Services obviously play a vital role in these domains, but it is not their responsibility alone. Hence, public-private partnerships can play an important part within the overall animal health system. The remainder of this paper will use AHA as a case study of successful public-private partnership that supports good governance and the financing of efficient animal health services.

Animal Health Australia is a not-for-profit public company taht was established in 1996 by the Australian government, the State and Territory governments and major national livestock industry organisations. The company was incorporated under Australian Corporations Law. The Board of Directors is skills based and independently selected. In 2011, 31 members of AHA were spread across the five membership categories, as shown in Box 1 (2).

Although there are five categories of membership, the service providers and associate members do not play the same role as the three original categories of membership; namely, the Australian government, the State and Territory governments and major national livestock industry organisations. These last three have equal status and are the primary funders of the company's activities *via* annual subscriptions. Shares within the last two categories are calculated using a formula based on the Gross Value of Production (GVP) of the industry, or the combined GVP of the livestock industries in a specific jurisdiction. A three-year rolling average of GVP is used to lessen fluctuations caused by the performances of individual livestock industries.

The total revenue for the 2010/2011 financial year was approximately Aus$ 13.2 million, which includes about Aus$ 6.2 million from industry levies. Animal Health Australia now manages more than 50 national programmes on behalf of its members, which improve animal and human health, biosecurity, market access, livestock welfare, productivity, and food safety and quality (www.animalhealthaustralia.com.au). The basis for funding these programmes varies, depending on whether the primary benefits are shared across all members or are more specific to a particular industry or set of industry stakeholders. The activities that collectively benefit all members are paid for from core funding, gained through prescribed levels of funding by all members. In the 2010/2011 financial year, funding

Box 1
The 31 members of Animal Health Australia spread across the five membership categories

Australian government
– Australian government Department of Agriculture, Fisheries and Forestry

States and Territories
– State of New South Wales
– State of Queensland
– State of South Australia
– State of Tasmania
– State of Victoria
– State of Western Australia
– Australian Capital Territory
– Northern Territory

Service providers
– Australian Veterinary Association
– Council of Veterinary Deans of Australia and New Zealand
– CSIRO - Australian Animal Health Laboratory

Associate members
– Australian Livestock Export Corporation (LiveCorp)
– Dairy Australia Limited
– National Aquaculture Council Inc.

Livestock industries
– Australian Alpaca Association Limited
– Australian Chicken Meat Federation Inc.
– Australian Dairy Farmers' Limited
– Australian Duck Meat Association Inc.
– Australian Egg Corporation Limited
– Australian Honey Bee Industry Council
– Australian Horse Industry Council
– Australian Lot Feeders' Association Inc.
– Australian Pork Limited
– Australian Racing Board
– Cattle Council of Australia Inc.
– Equestrian Australia Limited
– Goat Industry Council of Australia
– Harness Racing Australia
– Sheepmeat Council of Australia Inc.
– WoolProducers Australia

CSIRO: Commonwealth Scientific and Industrial Research Organisation

agreed by members for this purpose was about Aus$ 4 million. In contrast, other activities are funded by their primary beneficiaries and, in 2010/2011, about Aus$ 6.2 million was collected for this purpose. This principle of 'beneficiary pays' is applied very generally across activities within AHA.

The strategic priorities listed in AHA's strategic plan for 2010 to 2015 (2) are to:

– improve the national coordination and management of animal health

– secure adequate sustainable resources (funding, personnel, equipment, etc.) for national animal health

– strengthen emergency animal disease preparedness and response

– maintain and increase market access through effective partnerships for livestock welfare and production, and disease policy development and implementation

– improve national disease surveillance, to meet current and future needs

– explore new opportunities for the national animal health system and AHA

– identify and implement improved business systems for AHA

– strengthen AHA communications capability.

These priorities show how the public and private sectors (*via* AHA) are working towards the delivery of outcomes integral to the provision of efficient Veterinary Services. However, it should be emphasised that governments retain legislative authority for animal health control and the authority to decide how to maintain a standing Veterinary Services capacity, funded from within their respective State or Territory government budgets. This funding varies considerably, depending on the physical size of the State or Territory and the relative contribution of animal production to that State or Territory. In addition, the Australian government contributes to the overall capacity of an integrated, nationally coordinated animal health system. These factors directly influence the overall cost of both the necessary infrastructure and the human and financial resources to support a functioning, publicly funded Veterinary Service in Australia.

With respect to the public-private partnership concept, all programmes must recognise that the public sector remains an executive arm of government accountable for its actions. Thus, much effort has been invested in ensuring that the governance arrangements within AHA are lawful and transparent. These issues are clearly addressed in the Emergency Animal Disease Response Agreement (EADRA) (1), which has been operational since 2002.

Emergency Animal Disease Response Agreement

This paper has briefly outlined above the historical context supporting the evolution of strong public-private partnerships. The concept of cost-sharing between Australian and State and Territory governments to manage exotic diseases was first raised in the 1950s and eventually led to the 'Commonwealth–State Cost-Sharing Agreement (CSCSA)', which covered 12 diseases. These arrangements worked quite well, as demonstrated by the eradication of highly pathogenic avian influenza, due to subtype H7 viruses, on five occasions between 1976 and 1997.

The animal disease threat profile in Australia has continued to evolve, and in 1998 a report was commissioned by the Australian Animal Health Council (now AHA) to examine the options for funding emergency animal disease responses. This report was commissioned as a result of emerging concerns that, where pre-determined funding arrangements were not in place, the speed and effectiveness of the response were likely to be seriously impaired. Specifically, it was considered almost certain that, for diseases which were not one of the 12 covered by the CSCSA, considerable delays would occur while various government and livestock industry groups decided who should pay for response activities (8). The report did recognise that Australian animal industries were well served by the existing action plans for managing incursions of exotic animal diseases, many of which were detailed in AUSVETPLAN (4). However, except for the 12 diseases covered by the CSCSA, funding arrangements had not been agreed in advance for any other emergency disease outbreak. At the time, public expenditure principles were popular. These argued that efficiency and equity gains were achievable by having those who benefited from programmes actively contributing to their cost (i.e. the 'beneficiary pays' principle). The 1998 report by the Centre for International Economics (8) outlined a model for cost-sharing that underpins the current EADRA.

This Agreement details the funding and cost-sharing basis for all 65 diseases. Cost-sharing applies to salaries and wages, operating expenses, capital costs and compensation. Diseases have been categorised according to the level of public and private benefit. Category 1 diseases are those that predominantly seriously affect human health and/or the environment (through the depletion of native fauna) but may have only minimal direct consequences on the livestock industries (e.g. Japanese encephalitis, Nipah virus). Category 2 diseases are those that have the potential to cause major national socio-economic consequences through very serious international trade losses, national market disruptions and very severe production losses in the livestock industries involved (e.g. foot and mouth disease, Rift Valley fever). Category 3 diseases are those that have the potential to cause significant (but generally

moderate) national socio-economic consequences through international trade losses, market disruptions involving two or more States and severe production losses to affected industries, but have minimal or no effect on human health or the environment (e.g. African swine fever, African horse sickness). Finally, Category 4 diseases are those diseases that could be classified as mainly causing production losses. The principal beneficiaries of a successful emergency response to an outbreak of a Category 4 disease (e.g. Aujeszky's disease, porcine reproductive and respiratory syndrome) would be the affected livestock industry (1).

The proportion of funding contributed by government and industry stakeholders for each category of disease is listed in Table I. The Australian government contributes 50% of the overall government funding and the State and Territory governments together supply the other 50% of government funding.

The full text of EADRA is available on the AHA website (1). This is an agreement between the Australian government, State and Territory governments and livestock industries which was ratified on 20 March 2002. It explicitly details both how costs should be shared and how industry should be involved in the decision-making process. Governments and industry are kept well informed about the cost-sharing mechanism.

When there is an outbreak of an emergency disease, the State and Territory governments and the Australian government pay for the disease response. The Australian government initially underwrites the industry share of the costs and later the industry concerned must reimburse its share. The industry payment mechanism is usually *via* a levy. These levies are collected through a number of mechanisms, such as a levy on the trade of live animals and on the slaughtering of animals within the marketing chain.

To avoid too heavy a contribution for an emergency animal disease response, which could jeopardise the competitiveness of the animal sectors, the economic contribution of the parties is limited to a maximum of 1% of the sector's GVP (and 2% for FMD). Before a response can exceed the applicable GVP limit, the parties (governments and affected industries) must agree to continue the response and to pay the extra costs, according to the agreed portions described in EADRA. The formulae for cost-sharing for different diseases are complex but transparent. For example, for a Category 2 disease, such as FMD, Table 1 states that the government pays 80%. Half of this 80% – i.e. 40% – is paid by the Australian government and the other 40% is paid by the State and Territory governments, in proportion to the affected livestock populations and GVP of the affected industries. The remaining 20% is paid by the affected animal industries. In this case, the disease affects cattle, sheep and pigs and the costs are weighted across the industries to reflect the importance of the emergency animal disease for that industry (1).

Table I
Proportion of government and industry funding, according to disease category

Category of disease	Government funding	Industry funding
Category 1	100%	0%
Category 2	80%	20%
Category 3	50%	50%
Category 4	20%	80%

Benefits of EADRA include certainty and greater transparency of funding for known emergency animal disease threats; greater efficiency through the increased probability of a rapid response to any occurrence of one of 65 diseases; industry participation in the management and financing of the response; and the reduction of risk through the development of biosecurity arrangements by each industry. Government and industry formally work together in a framework that details the contribution of each stakeholder, based on the 'beneficiary pays' principle. This framework is more cost effective than a purely public funding response because the relevant industries are active participants in the prevention, preparedness and response to emergency animal diseases. This framework is sustainably financed, universally available, provides resources efficiently without waste or duplication, and in a manner that is transparent and free of fraud or corruption. It is a clear example of good governance.

The single biggest achievement of AHA has been the signing of EADRA in 2002. The amount of work required to negotiate an agreement between all parties – and then to have the agreement formally ratified – was immense. This remains a document that other countries continue to refer to as an example of good governance and of how to implement public-private partnership arrangements of the highest order.

Conclusion

This paper has outlined some of the crucial events that have shaped the evolution of public-private partnerships in the animal health sector in Australia. Up until the 1970s, exotic disease control planning and the management of endemic animal diseases relied very heavily on government funding. Although animal industries were clearly beneficiaries of disease control activities before the 1970s, there were no established mechanisms to allow a more equitable sharing of responsibilities and costs. Since then,

there has been considerable investment by both government and industry stakeholders in developing a robust public-private partnership model that improves both the effectiveness and the efficiency of animal health services in Australia.

These arrangements are not set in stone and continue to evolve. The role that animal industries and government play with respect to animal disease control in the future will reflect changing social expectations. Good governance – as epitomised by predictable, open and enlightened policy-making – will demand no less.

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Bonne gouvernance des systèmes de santé animale et partenariats public-privé : une étude de cas en Australie

P.F. Black

Résumé

En un siècle, le système de santé animale australien a considérablement évolué, notamment grâce à des dispositifs innovants de partenariats public-privé. La création, en 1996, de Animal Health Australia (AHA), une organisation à but non lucratif, a constitué une avancée déterminante qui a permis de systématiser des mécanismes communs de prise de décision et de financement entre les services gouvernementaux et les différents acteurs du secteur privé. Néanmoins, le pouvoir législatif dans le domaine de la lutte contre les maladies animales demeure une prérogative gouvernementale. En conséquence, les programmes doivent respecter le principe selon lequel le secteur public est le bras exécutif du gouvernement, auquel il est tenu de rendre compte de ses actes. De ce fait, de grands efforts ont été déployés pour s'assurer de la légalité et de la transparence des mécanismes de gouvernance mis en place au sein de l'AHA. L'Accord relatif à l'intervention zoosanitaire d'urgence (EADRA) est un excellent exemple de dispositif de gouvernance financé de manière durable et offrant des prestations efficaces et accessibles au plus grand nombre, sans déperdition ni duplication et dans une pratique transparente, honnête et intègre. Parmi les avantages de cet accord figurent l'existence d'un financement garanti et transparent, l'efficacité accrue grâce à une probabilité plus grande d'intervenir rapidement en cas d'apparition de l'une ou l'autre des 65 maladies couvertes par le dispositif, et la participation du secteur privé dans la gestion et le financement de ces interventions.

Mots-clés

Accord de cofinancement – Animal Health Australia – Australie – Certitude – Élaboration de politiques – Financement – Gouvernance – Maladie animale émergente – Partenariat – Partenariat public-privé – Santé animale.

Buen gobierno de los sistemas de sanidad animal y alianzas publicoprivadas: estudio del ejemplo australiano

P.F. Black

Resumen

El sistema australiano de sanidad animal, fruto de más de 100 años de evolución, da cabida ahora a novedosos dispositivos de colaboración publicoprivada. La creación en 1996 de una organización sin ánimo de lucro denominada *Animal Health Australia* (AHA) fue una etapa decisiva, que oficializó mecanismos de codecisión y cofinanciación entre instancias gubernamentales e interlocutores privados del ramo. Sin embargo, los gobiernos conservan la autoridad legislativa en materia de control zoosanitario, y en este sentido todos los programas deben partir del reconocimiento del sector público como brazo ejecutivo del gobierno, responsable de sus actuaciones. De ahí el gran esfuerzo que se ha dedicado a garantizar la total legalidad y transparencia de los mecanismos de gobierno dentro de AHA. El Acuerdo de respuesta zoosanitaria de emergencia (*Emergency Animal Disease Response Agreement*: EADRA) constituye un buen ejemplo de mecanismo de gobierno dotado de financiación a largo plazo, ampliamente disponible y ejecutado con eficacia (sin derroche ni redundancias), transparencia y sin la menor posibilidad de fraude o corrupción. Entre otras ventajas, el EADRA confiere certidumbre y mayor transparencia a la financiación, ofrece más eficacia (porque facilita una rápida respuesta a la aparición de 65 posibles enfermedades) y propicia la participación de la industria en la gestión y financiación de esas medidas de respuesta.

Palabras clave

Acuerdo de participación en los gastos – Alianza – Alianza publicoprivada – Animal Health Australia – Australia – Buen gobierno – Certidumbre – Emergencia zoosanitaria – Financiación – Formulación de políticas – Sanidad animal.

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