A brief overview of the history of veterinary field services in South Africa

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The historical evolution of veterinary services in South Africa is closely linked to the colonial history of the past and the eventual political formation of the Union of South Africa in 1910, as well as the establishment of a fully democratic South Africa in 1994. The majority of the early pioneering veterinarians had close links to military activities and were originally mostly of British origin. The appointment of the first colonial chief veterinary officers occurred in the late 1800s. These appointments were dictated by the need to combat devastating animal diseases, such as rinderpest and African horse sickness, mainly because they affected draught oxen (used for travel) and horses (used in combat). Veterinary field services was established in 1962 as a separate functional entity within government services when M.C. Lambrechts became Director of Veterinary Services of South Africa. In the context of this article, veterinary field services refers to that sphere of veterinary service delivery conducted by government-appointed or seconded veterinarians applying disease control and prevention, as required by animal health legislation. Paging through the history of veterinary field services in South Africa confirms that the problems faced by the veterinary services of today were just as real during the times of our pioneers. The pioneers of veterinary services transformed unknown animal diseases into textbook descriptions still used today and also demonstrated the important link to, and use of, the observations made by farmers, as well as the need for continued basic and applied research on animal diseases. This article provided a brief overview of the evolution of veterinary field services and the important role played by pioneers over the last two centuries to make South Africa relatively free and safe from the most important trade-sensitive and economically important animal diseases.

Introduction

In accepting the task to provide a concise overview of the role of veterinary field services in South Africa, as one of the partners in the tripartite relationship with veterinary research and veterinary education, the author was challenged to distinguish between the roles played by the three partners and to specifically identify the credit that was due to the veterinary field services in the development of veterinary service delivery in South Africa. However, in the early colonial years of veterinary service delivery, there was no clear distinction between veterinary field services per se and performing veterinary research or even training. The veterinarians at that time were, out of necessity, forced to perform fieldwork, control animal disease outbreaks, assist with training and conduct research. It was only in the middle of the twentieth century that the respective contributions of the different role players became more clearly distinguishable, with the realisation over time that although structurally and possibly constitutionally separated, veterinarians in South Africa are all part of one veterinary community trying their best to serve the interests of the country. Veterinary services as one member of this family will be the focus of this article, whilst the contribution of veterinary diagnostics and veterinary education has been described in several other publications.

The early history and need for government veterinary services

Although the presence of most of the animal diseases known in South Africa today was already observed and experienced by the pioneers of European origin in the early eighteenth and nineteenth centuries, formal regional, provincial or national governmental structures were mostly absent and, consequently, so too were official veterinary interventions to cope with diseases of livestock (Gutsche 1979). These pioneers were, in general, very observant, identifying some animal diseases by common descriptive names, such as *perdeziekte* [African horse sickness], *brandziekte* [sheep scab], heartwater and *sponzziekte* [black quarter].

During the early 1870s, the individual colonial entities in the Cape and Orange River colonies, as well as in Port Natal (now KwaZulu–Natal) and the Zuid-Afrikaansche Republiek (formerly

Transvaal and now Gauteng, North West and Limpopo Provinces), identified the need for 'veterinary officers' under state control. The main need was for them to cope with animal diseases that were perceived by them to affect mainly working livestock – cattle used for trekking and horses used for trekking and transport. The diseases that were of major concern during the last quarter of the 1800s were rinderpest, African horse sickness, lamziekte [botulism], *rooiwater* [babesiosis], lung sickness and foot and mouth disease (Davies 2004). The need to ensure the health of these animals not only related to their use for farming and daily livelihood purposes but also to their role in the colonial wars (Davies 2004).

There were, however, only a very limited number of veterinarians available at the time and most of those prepared to render services on behalf of the state were foreigners attached to military units. When the second Anglo-Boer War started in 1899, 125 military and 240 civilian veterinarians came to South Africa with the British army (Department of Agriculture, Forestry and Fisheries [DAFF] 2013). After the end of the war in 1902, many of them remained in South Africa to form the core of the veterinary departments in the colonies (DAFF 2013). The most prominent veterinarians who were appointed before and just after the war were: W. Wiltshire (1874) in Port Natal, W.C. Branford (1876) in the Cape of Good Hope and D. Hutcheon (1880) in the Cape Colony. J. Soga (1889), a Xhosa-speaking South African from the Eastern Cape, returned to South Africa after studying in Edinburgh to also work with Hutcheon in the Cape Colony (University of Pretoria 2013). A. Theiler (1896) was appointed in the *Zuid-Afrikaansche Republiek*, O. Henning (1896) in the Orange Free State and S. Stockman (1903) in the Transvaal. H. Watkins-Pitchford – after whom the Allerton Regional Veterinary Laboratory in Pietermaritzburg was re-named in 1979 (Davies 2004) – succeeded W. Wiltshire in Port Natal in 1896, C.E. Gray succeeded Stockman in the Transvaal in 1904 and J.D. Borthwick succeeded Hutcheon in the Cape Colony in 1904.

There was often no clear distinction between 'field services' and research at that stage. Most of those early veterinarians were involved in both activities, accomplishing some remarkable achievements in the diagnosis and control of the diseases prevalent at that time. The 'field services' were very poorly manned and assisted by *brandziekte* inspectors for the control of sheep scab. These inspectors were the forerunners of the later stock inspectors and animal health technicians, as they are known today.

Some problems faced by 'field services' prior to South African unification in 1910

The problems facing the early veterinary field services contingent in carrying out their duties had a political and a cultural dimension. The political dimension was mainly because of the appointment of mostly foreign (British) nationals as colonial veterinarians. Taking into account the sensitivities between the British and many South Africans before, during and after the two Anglo-Boer wars, it could be expected that livestock farmers returning home after the wars would be very reluctant to make use of these services or to carry out the instructions of the government veterinarians of the time (Posthumus 1990). In addition to this, there was still a lack of supporting legislation to provide a legal mandate to government veterinarians, resulting in frustration and irritation amongst them for being unable to carry out their tasks satisfactorily. This, for example, resulted in the resignation of prominent and capable government veterinarians such as Wiltshire (Port Natal) and Branford (Cape Colony) (Davies 2004).

From a cultural point of view, farmers had their own 'tested' remedies for 'curing' the most common animal diseases, such as African horse sickness, rinderpest, *lamziekte* and babesiosis, and were very reluctant to accept advice for alternative treatments from these 'foreigners'. It was known that even President Paul Kruger (President of the *Zuid-Afrikaansche Republiek*) had his own household remedy to treat rinderpest: four inches of tobacco, a cup of flour, about 250 mL of paraffin and a bottle of water (Davies 2004). There was a strong resistance and even antagonism from farmers against disease control measures. Attempts to control sheep scab, babesiosis and East Coast fever, were mostly met by their blunt refusal or unwillingness to dip animals and to apply the strict movement control measures instituted by the colonial veterinarians to prevent their spread. The first dipping tank in South Africa was erected in 1902 at Baynesfield in Port Natal, but only put into use after fierce political arguments and heavy debate between government and the local farming community (Davies 2004).

The military and civilian importance of having healthy draught animals and saddle horses in the late nineteenth century is obvious, as motor transport was virtually unknown and trains were limited to a few major routes. Thus, lack of rapid, efficient transport to act without delay in the event of major disease outbreaks or animal health emergencies and travelling over long distances and difficult terrain further contributed to the frustration of the pioneer veterinarians in South Africa (Davies 2004). It was therefore not surprising that although there was obviously a definite need for veterinary service delivery and interventions resulting from the abundance of many diseases (since then eradicated or controlled), a career as a government field veterinarian did not attract many candidates. The example of the career path of C.E. Gray very well illustrates the dilemma faced by veterinary field services in the early 1890s. Gray, a British graduate, came to South Africa in 1895 but could not get an appointment as a veterinarian and worked as a telegrapher. He then went to Rhodesia (now Zimbabwe) to assist with rinderpest control and, after completion of the eradication campaign, again worked as a telegrapher in Rhodesia to eventually become the Postmaster of Rhodesia. In 1904,

he was fortunate to be appointed as Principal Veterinary Surgeon of the then Transvaal and, in 1911, became the Principle Veterinary Surgeon of South Africa after the unification of the country (Posthumus 1990).

Veterinary field services in the post-colonial period after 1910

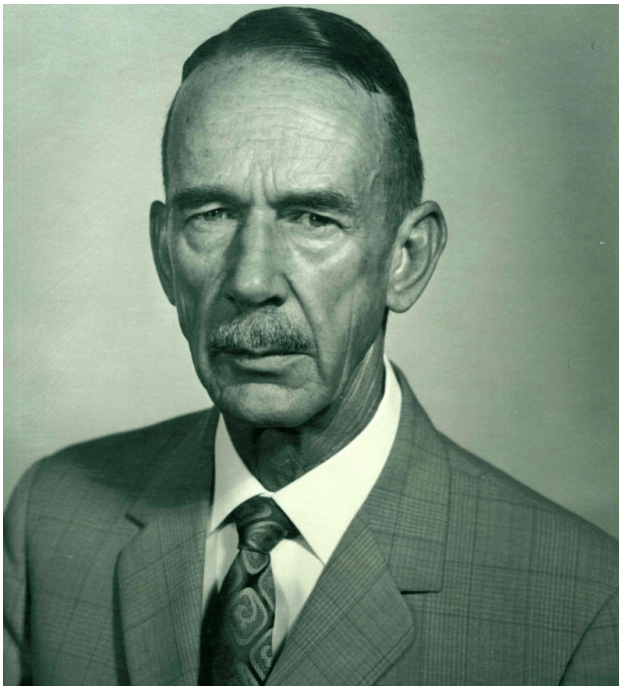
It was not until after the unification of South Africa in 1910 that the veterinary services organisations in the four provinces (previously the Cape Colony, Port Natal, Orange River Colony and the Transvaal) were united into the Veterinary Services of South Africa, with C.E. Gray, first as Acting Principal Veterinary Officer and then as Principal Veterinary Officer in 1911. J.D. Borthwick was appointed as his assistant in 1912 and succeeded Gray in 1921 (Gutsche 1979). Theiler was appointed as Director of Veterinary Research in 1911. Watkins-Pitchford also applied for the latter post but was unsuccessful, resigned, and left the country in 1912 (Davies 2004).

Policy differences and power struggles between leading veterinarians at the time resulted in a loose relationship between the research and field services components, with many cross-cutting grey areas and lacking a clear demarcation of mandates and responsibilities. Structural unity was obtained in 1927 when P.J. du Toit was appointed as Director of Veterinary Services and Animal Husbandry. He thereby became the first person to head both veterinary research, veterinary field services and, as Dean of the veterinary faculty established in 1920, veterinary education in South Africa (Verwoerd & Bigalke 2008).

The antagonism against government veterinary services during the early 1900s after the second Anglo-Boer War was still present in many rural areas in South Africa. This was, for example, especially notable in the north-western part of the country, where government was accused of not being able to find a solution for the enormous *lamziekte* mortalities in cattle. Although the riddle of *lamziekte* aetiology was finally solved in 1919 (Bigalke 2012), the poor relationship persisted. The Minister of Agriculture, General Kemp, and P.J. Du Toit realised that it was important not only to regain the trust and understanding of the farmers but also to inform them of the latest developments in agriculture, which included applied veterinary science. The so-called information train, of which one of the 14 carriages was allocated to veterinary services, was initiated, undertaking 22 tours over a period of three years across the country to, *inter alia*, promote the benefits of veterinary service delivery amongst livestock farmers.

Veterinary services in South Africa remained amalgamated until 1962, when M.C. Lambrechts (Figure 1) was appointed as the first Director of Veterinary Services as a separate functional entity. The then Director of Veterinary Services, B.C. Jansen, of the former amalgamated structure, was appointed as Chief of the Veterinary Research Institute in the same year and as Chief Director of Agriculture responsible for the disciplines of both veterinary research and veterinary services in 1968. Lambrechts, as the first Director of Veterinary Services, was a visionary, with ideals far ahead of his time to change the newly established Division into a functional and effective field service (J.M. Erasmus pers. comm., 16 December 2012). Initiatives taken by him are today still the cornerstones of veterinary field service delivery in South Africa. Some of the most notable initiatives were: the establishment of a strong supportive veterinary livestock inspection service, the establishment of a centralised veterinary service subdivided into seven veterinary regions with ultimate responsibility to and under control of the central veterinary headquarters in Pretoria, the establishment of an extensive regional veterinary laboratory system for the Division of Veterinary Services, the erection of a stock-proof fence of over 2500 km for foot and mouth disease control along the entire South African international border and the establishment of a subdivision for meat inspection services (J.M. Erasmus pers. comm., 16 December 2012).

His successors were P. Mansveldt and P.J. van der Merwe. Structural changes within the Department of Agriculture in 1984 resulted in the establishment of a Chief Directorate of Regulatory Services, with P.J. van der Merwe (Figure 2) as its first Chief Director and J.M. Erasmus as Director of Veterinary Services. Van der Merwe was succeeded in 1988 by J.M. Erasmus as Chief Director – with the former Directorate of Veterinary Services now divided into a Directorate of Animal Health, with A. Van Heerden as Director, and a Directorate of Meat Hygiene, with J. Coetzee as Director. Erasmus was succeeded in 1993 by J. Coetzee as Chief Director. Coetzee was succeeded respectively by G. Stevens and W. Löwe as Directors of Meat Hygiene.



Source: Photograph provided by the South African Directorate of Animal Health

FIGURE 1: Dr M.C. Lambrechts was the first field veterinarian to be appointed to the newly created post of Director of Veterinary Services in South Africa in 1962.

Van Heerden was succeeded in 1988 by P. Bosman as Director of Animal Health (G. Brückner, unpublished personal data, 2014).

After the election and constitutional change in South Africa in 1994, the veterinary field services were subjected to some drastic changes. The nine new provinces received a strong legislative mandate in terms of the new Constitution to manage their own veterinary services, with accountability to the national component mainly in respect of the control of animal diseases of national concern, such as foot and mouth disease, and import control. The national veterinary services retained the legislative mandate of national legislation for animal disease control, but, in practice, the constitutional provincialisation resulted in a play-off between the heads of veterinary services of the provinces and the national government, to the detriment of animal disease control in South Africa.

Although some name changes were again made after 1994, the structure in the national government remained more or less the same, with a Chief Directorate of Veterinary Services and Animal Improvement (with P. Bosman as Chief Director), a Directorate of Animal Health (E.M. Mogajane as Director) and a Directorate of Veterinary Public Health (G. Brückner as Director). After the retirement of P. Bosman as Chief Director in 1999, he was succeeded by E.M. Mogajane and the directorates of Animal Health and Veterinary Public Health were once again amalgamated into a Directorate of Veterinary Services, with G. Brückner as Director of Veterinary Services. He was succeeded in 2002 by J. van Wyk. E.M. Mogajane was succeeded by B. Modisane (Figure 3) as Chief Director: Veterinary Services and Animal Improvement (now Animal Production & Health), after which veterinary services was once again divided into directorates for Animal Health and Food Safety (former Directorate of Veterinary Public Health), with M. Maja as Director Animal Health (DAFF 2014; G. Brückner, unpublished personal data, 2014).

In spite of the many structural changes still taking place in the veterinary field services since it was separated from veterinary research to become a unique entity in 1962, the successors of M.C. Lambrechts managed to preserve his vision for an effective and service-orientated organisation. Although the foundations he laid remain untouched, they were shaken somewhat by changes after 1994 when the relationship between national and provincial veterinary field services became fragile, as outlined above. However, all in all, Lambrechts' ideals are clearly still honoured and are reflected in continual positive changes and adaptations in national legislation and service delivery. The veterinarians occupying managerial positions in veterinary field services have, over many years, also initiated changes in and amendments to the international standards of service delivery provided by the World Organisation for Animal Health in Paris, which acts as worldwide reference body for norms and standards in this discipline.

Veterinary field supportive services: Stock inspectors and animal health technicians

An overview of the history of South Africa's veterinary field services would be incomplete without paying tribute to the crucial supportive role played by para-veterinary personnel through the years, starting from the *brandziekte* inspectors in the 1800s, the dip inspectors, dipping tank assistants

Source: Photograph provided by the South African Directorate of Animal Health

FIGURE 2: Dr P.J. van der Merwe was appointed as the first Chief Director of Regulatory Services in 1985.

Source: Photograph provided by the South African Directorate of Animal Health.

FIGURE 3: The present Chief Director of Regulatory Services (a discipline now referred to as Animal Production & Health) is Dr B. Modisane.

and *smeeronderzoekers* [smear examiners] to the current day animal health technicians. The value of support staff in performing an effective veterinary field service was already realised in the days of Hutcheon, Wiltshire and Branford in the colonial era (Davies 2004). During the period 1950–1989, the number of para-veterinary personnel totalled more than 1000, with an average of nine to fifteen stock inspectors per state veterinary area. The system of state veterinary areas manned by state veterinarians and their support personnel was, in many ways, almost identical to the system applied in neighbouring countries such as Botswana, Swaziland and Zimbabwe (J.M. Erasmus pers. comm., 16 December 2012).

Stock inspectors and, later, animal health technicians were accountable to their local state veterinarians but were, overall, guided from the national authority by the Control, Stock Inspector in Pretoria. The Control Stock Inspector, in practice, acted almost as a regimental sergeant major and was, without exception, almost feared but also much respected by the stock inspectors. The most notable persons occupying this post through the years at headquarters in Pretoria were: Frans van der Merwe (appointed by M.C. Lambrechts in 1962 when he assumed the post of Director of Veterinary Services) and his successors Doorsie Kritzinger, Daan Nieuwenhuys and Giel Erasmus. Erasmus's post was upgraded to Deputy Director (Technical Services) in 1994. This post was unfortunately abandoned after Giel Erasmus retired in 1996 – mostly because similar posts were created in the respective provinces and it was reasoned that an overall controlling post for para-veterinary personnel was no longer necessary within the national structure (G. Brückner, unpublished personal data, 2014).

There are many untold stories of the utmost loyalty displayed by para-veterinary personnel to fulfil their function as the 'eyes and ears' of their supervising state veterinarians. A classic example is that of stock inspector Piet Botha, who was responsible for inspecting and dipping sheep for sheep scab in the Swartberg Mountains in the Prince Albert district of the Klein Karoo region during the 1940s. To execute his task, he had to cross the mountains by foot over two to three days in all weather conditions to reach the Gamkaskloof Valley where some sheep were kept. The path he had to follow was so strenuous that he referred to it as 'the hell', a name that is still used by the local community when referring to the Gamkaskloof region (Van Tonder & Van Hörsten 1998).

A team of stock inspectors was selected to undertake the massive task of fulfilling M.C. Lambrechts' vision to establish a secure veterinary stock-proof fence of more than 2500 km along the international borders of South Africa (Figure 4). The main objective was to prevent the introduction of foot and mouth disease and it was therefore also referred to by farmers as the '*bek-en-klouheining*'. The fence was completed in 1964 – less than two years after starting, with the erection of the fence on the South Africa–Namibia border and ending at Kosi Bay on the east coast of Natal. A statue to honour this major achievement was erected on the South Africa–Zimbabwe border in 1964.

Source: Photograph provided by the South African Directorate of Animal Health.

FIGURE 4: Stock-proof boundary fence of over 2500 km for foot and mouth disease control along the entire South African international border, which was completed in 1964.

During the 1990s, it was realised that a more secure career pathway needed to be established for the then stock inspectorate. Approval was obtained from the Public Service Commission to introduce a post-matriculation technical course for the new animal health technician career structure created in veterinary field services. Most of the existing stock inspectors successfully completed a three-year diploma course and were subsequently promoted to animal health technicians. In 1995, the occupational class of 'stock inspector' was officially deleted from the books of government. A monument to commemorate the work achieved by stock inspectors to promote veterinary field service delivery in South Africa was inaugurated by J.M. Erasmus in Pretoria in 1994 (G. Brückner, unpublished personal data, 2014).

Conclusion

The immense role played by veterinary field services in South Africa to ensure credibility for export of animals and animal products from South Africa in the international veterinary world cannot be fully described or receive the deserved recognition in this overview article. Many events still need to be communicated about the contributions by and achievements of veterinarians and para-veterinary personnel, since the early colonial years to date, to deliver veterinary field services to the most remote corners of this country. Whilst history recognises with admiration and appreciation the methods employed to rid the country of animal diseases, such as rinderpest, lung sickness (contagious bovine pleuropneumonia), hog cholera, scrapie and East Coast fever, the human involvement in and sacrifices made for these achievements remain mostly unrecorded. It is to those who did the job and did it well that this overview is dedicated. It is hoped that this brief overview will someday be complemented by a more detailed description of the role played by the men and women involved in veterinary field services, together with their research colleagues, to safeguard the country from the most important and often devastating animal diseases.

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Competing interests

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