

**RURAL VETERINARY PRACTICE IN WESTERN AUSTRALIA
1964 to 2007**

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by

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I declare that this thesis is my own work and that it has not been submitted for a degree at any University.

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ABSTRACT

Concern for the plight of rural veterinary practice in Australia existed throughout the 20th century. During the 1970s, the profession highlighted the problems faced by rural practitioners and in 2003, the Frawley Review examined current rural veterinary services. However, neither influenced the course of rural practice in Australia.

The present thesis examined the status of rural practice in Western Australia from the 1960s to the present day. It did this by investigating the historical changes in agriculture during this period and their effect on rural practice. The practice at Katanning, in rural Western Australia, was used as a case study – a study of the changes and adaptations made by that practice to remain viable.

In 2006, surveys of both rural practitioners and government veterinary officers were conducted to obtain information of the veterinary services being provided to rural Western Australia. In addition, oral history interviews with a number of respondents to the surveys were carried out.

Rapid expansion of Western Australian agriculture took place during the 1960s and was matched by growth in rural veterinary services. A government subsidy scheme recruited a number of veterinarians to the state. A Preventive Medicine/Animal Production service with sheep was established at Katanning in 1967. The reasons for developing such a service, its promotion, the results achieved and its subsequent failure are documented in the thesis.

The 1970s was a troubled decade for agriculture and for those servicing it. The collapse of the beef-cattle boom was accompanied by a 20% reduction in veterinary staff in rural practice Australia-wide and a number of changes were implemented at Katanning to meet these circumstances.

The 1980s saw a reduction in the economic significance of agriculture in Western Australia. At the same time, students from the Veterinary School at Murdoch University began graduating and, for the first time in the profession's history, an overproduction of veterinarians existed.

The 1990s was a period of relative stability, but was accompanied by major changes for the profession and rural practice. Many practices adopted merchandising and the sale of pet foods to supplement dwindling income. Previously, a male dominated profession, during this decade, it rapidly changed to one dominated by female graduates. Accompanying this gender change there was an increase in the demand for part-time work, whereas previously the profession had been predominantly a full-time vocation.

The present decade opened with a questioning of the direction being taken by the profession and its undergraduate education. The current study revealed that the government veterinary services in Western Australia have contracted in size and scope, whilst at the same time, most rural practitioners attend companion animals at the expense of economic livestock. As a result, veterinary services to economic livestock have reduced and are likely to continue to do so and suggestions are made to counter this trend.

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COMMUNICATIONS

Some of the work reported in this thesis has been communicated in the following papers, reports and seminar proceedings:

Maxwell, JAL (1969). *Eperythrozoon ovis* infection in Western Australia. *Australian Veterinary Journal* 45:436

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CHAPTER 1. INTRODUCTION.

“It is inevitable in the development of all professions, organizations, and institutions that they pass through periods or phases when they are subjected to altered circumstances – ‘The Winds of Change’ – to which they must conform.” (Seddon 1961)

This statement relating to the difficulties establishing the University of Queensland Veterinary School exemplifies the position of rural practice in Australia.

1.1 Recent History of Rural Veterinary Practice.

An examination of the recent history of the veterinary profession in Australia reveals that rural veterinary practice has had a difficult time. While there have been periods of stability, these have been more than matched by periods of financial hardship during which the survival of rural practice was in question. There are a number of reasons for this and they are examined in the thesis.

Concern both for the future of animal health in Australia’s livestock industries and the provision of veterinary services to these industries has been present for the last 30 years (Sier, Batey *et al* 1971; Gannon 1975; Rose 2000; 2001). The recent advent of outbreaks of exotic diseases in different parts of the world heightened awareness that these diseases could establish here, dramatically impacting Australia’s international trade and this has led to a closer scrutiny of the status of livestock animal health and associated veterinary services (Frawley 2003).

Currently, three factors co-exist; an increased likelihood that exotic livestock disease(s) could enter this country, a decreased capacity of government veterinary services, both state and federal and rural practice which is struggling to attract and keep staff (Frawley

2003). Taken together, this does not augur well for the future of Australia's livestock industries.

1.2 The Frawley Review 2003.

In 2002, the Commonwealth Government appointed a committee to review the status of rural veterinary services in Australia. The report of this committee – The Review of Rural Veterinary Services – was tabled in January 2003 and accepted by the Commonwealth Government in 2004 (Frawley 2003; Anon. 2004).

The report focused on the health of economic livestock, such as sheep, beef and dairy cattle, pigs and poultry. In this context, it could be argued that the *raison d'être* for the veterinary profession in rural Australia is to service these animals.

The most significant finding of the Review was the discovery of an increasing demand for the monitoring of the health of animals of Australia's livestock industries coupled with a decreasing ability to meet that demand.

The Executive Summary of the Review, also known as the Frawley Review, stated,

E.1 This Review was commissioned to address Australia's future animal health needs and the roles, availability and capabilities of rural veterinarians to meet those needs.

E.2 The Review has reached three broad conclusions.

E.3 First, Australia's animal health needs are being met on a day-to-day basis but Australia's animal health system will need to be enhanced to meet more stringent requirements for international trade in the future. The immediate priorities are the establishment of an Australian Veterinary Reserve (AVR) and the strengthening of surveillance.

E.4 Second, there is no current crisis in the availability of veterinarians.

However, rural veterinarians have to contend with rising costs, a reluctance of producers to utilize their services, long hours, limited social opportunities and schooling for their families. These factors all impact on the willingness of veterinarians to live in rural areas, create local shortages and can lead to a chronic shortage of production animal veterinarians.

E.5 Third, the Review finds that the opportunity for the long lasting solution is offered by policies that will build up demand for veterinary services rather than policies which might artificially induce supply.

E. 6 Most issues cannot be successfully addressed by any one sector. There is a need for all involved in rural veterinary services to make changes to their current approaches – governments, producers, veterinary practitioners and Veterinary Schools. (Frawley 2003)

The Review provided a relatively accurate assessment of the current situation regarding veterinary services in rural Australia. However, its recommendations provided no direct or immediate assistance to rural veterinary practice or addressed the issue of demand as enunciated in E.5. The thesis will address these issues and make recommendations based on an examination of the position of rural practice in Western Australia.

The Review Committee sought opinion from the major participants in Australia's livestock industries, however, the organizations and personnel from whom submissions were received or were consulted did not accurately reflect the veterinary participants. For example, only 6% of the veterinary submissions received by the Review Committee were from Western Australia, yet 10.4% of Australia's veterinarians reside there. When the

Review Committee visited Western Australia, only 20 veterinarians were consulted; six were Government employees (30%), although they represent only 7% of the state's veterinarians; five were university employees (25%), although they represent only 7% of the state's veterinarians; and 8 were from private practice (40%), even though they represent 82% of the state's veterinarians (Frawley 2003).

Little is to be gained by criticising the methods or substance of the Review, however, it raised a number of questions that are central to the matter of provision of a rural veterinary service:

- Is the stark picture outlined in the Frawley Review a new phenomenon or has rural veterinary practice always been a financially challenging task?
- Is the Australian farming sector capable and prepared to pay for a rural veterinary service? That is, do Australia's livestock industries support rural veterinary practice?
- Does the Australian veterinary profession provide an effective rural veterinary service?
- Do the universities produce veterinary graduates capable of servicing Australia's economic livestock?
- Is the Preventive Medicine/ Animal Production approach (Herd & Flock Health Service) the answer to the servicing of economic livestock?
- Does government have a role to play in the maintenance of rural veterinary practice in Australia?

1.3 The Craven Review 2004.

Although the Frawley Review examined veterinary education, it recommended,

E.26...a separate review by accreditation and professional regulatory bodies of the overall scope of veterinary education and registration requirements in Australia...

A Review of Veterinary Science Education and Registration Requirements was undertaken by the Australasian Veterinary Boards Council Inc. and published in December 2004. This Review examined veterinary education in Australia, entry requirements, course contents, post-graduate training and continual professional development and established that the “*key issue to be addressed*” was the development of systems that improve “*the ‘transition to practice’ of new graduates from Australian veterinary schools*” (Craven 2004).

This Review of veterinary education in Australia raised further questions:

- After five years of training why are new veterinary graduates lacking competence in basic livestock handling and treatment skills?
- With the present emphasis of veterinary education on companion animal medicine, are undergraduates receiving adequate training for production animal practice?
- Are the Australian veterinary schools training their students to be effective in the major area of employment, namely practice?

For the purposes of the thesis, these questions were condensed to four research questions:

1. Is rural veterinary practice a hazardous financial undertaking?
2. Does rural practice provide an effective veterinary service to farmers and does the farming community utilize rural practice?
3. What is wrong with veterinary education?

4. Does the government have a role in supporting rural practice?

These questions constitute the reason for and subject of this research project.

1.4 The Thesis.

After graduating as a veterinary surgeon from the University of Sydney, the author moved to Western Australia and worked in a number of rural practices before commencing practice at Katanning in 1966. He has been actively engaged in rural veterinary practice to Katanning and the surrounding districts via the Katanning Regional Veterinary Hospital and this 40 year experience has shaped the perspective of his examination of private veterinary service in rural Western Australia.

Two research projects were undertaken in 2006 to secure information on rural practice in Western Australia. Firstly, a survey of current rural veterinary practitioners was conducted, and for purposes of comparison, a survey of current state government veterinary officers. Secondly, a number of respondents to the surveys participated in oral history interviews. Three chapters are devoted to the research project and the results compared with current literature, particularly that of Professor Heath of the University of Queensland (Heath 1998; 2002a, b and c; 2005; Heath and Niethe 2001).

Prior to examining the development of rural veterinary services in Western Australia from 1960, the history of the veterinary profession and its services from its beginnings in the 18th century to the modern era was explored.

The current forty-year period was scrutinized by partitioning into decades, namely, the 1960s, 1970s, 1980s, 1990s and the present decade and this was done by examining the changing circumstances of the Katanning practice during this period and inserting, where appropriate, opinions of oral history interviewees.

The two types of veterinary service provided in rural practice – the Therapeutic approach and the Preventive Medicine /Animal Production approach – were examined.

The dramatic increase in the size of the profession in Western Australia, since the establishment of Australia's fourth Veterinary School at Murdoch University in Perth was also explored, as was the shift in the gender of graduating veterinarians during that time from a male dominated profession in the 1960 to 1980 era to a female dominated one today.

This study provides information on the status of current rural veterinary services and its practitioners in Western Australia and these results will have implications for the future. It is timely given the present watershed in Australia's livestock enterprises as detailed by the Frawley Review. Finally, the author provides possible solutions to the problems facing both the Australian livestock industries and the veterinary services designed to protect those industries.

1.5 Veterinary service.

The employment of a veterinary surgeon in clinical practice is for the express purpose of securing an animal health service. The veterinary surgeon is presented with an animal health problem and attempts to define the problem (diagnosis) and manage it (treatment) by medical, surgical or other means. In private practice, veterinary surgeons are engaged in a service profession; the veterinarian must appreciate the needs of clients and meet those needs in an ethical, efficient, economic and professional manner. By their education, the veterinary surgeon is trained in the science of the management of animal health and disease and by the legal necessity of registration, the veterinary surgeon can provide these services for a fee.

Rural practice involves the provision of veterinary services to two types of clients; those seeking attention for companion animals (dogs, cats and horses) and those seeking attention for production animals (sheep, goats, cattle, pigs, poultry and other species, for example deer). The former, require a service that differs in no way from urban practice, so it is the provision of a service to production animals that distinguishes rural practice.

In rural veterinary practice, the major limiting factor regarding companion animals is the size of the local population of companion animal owners and their willingness to pay for veterinary service. The major limiting factor regarding production animals is the utilization of the service by the owners of such animals, which is directly related to cost of service as these animal species are managed for economic purposes.

An examination of the relationship between the farming community and the local veterinary service is thus an examination of the extent to which these two groups, the provider and the consumer of the veterinary service, interact. The essential questions are does the rural veterinary practice provide a service for production animals and does the farming community utilize this service.

The provider of veterinary services to rural Australia is the State Registered Veterinary Surgeon, who lives in a country town or regional centre and is employed either by government or in private practice. At present the farming community has access to both government and private veterinary services, whereas the companion animal client is obliged to engage the private practice. An examination of the state of rural veterinary service in Western Australia must focus on the status of both the consumer and provider of rural veterinary services and this is consistent with the argument advanced in the Frawley Review.

As a provider of a service to the farming community of Western Australia since 1964, the author has gained an insight into the attitudes of the farming community to the provision of a private veterinary service. Farmers are as diverse as any group in Australian society and the difficulty of attributing generalities to them is recognized. However, they could rightly claim the title of the quintessential adept of “do-it-yourself”. On the farm, whenever anything needs fixing, they attempt to do it themselves and this includes veterinary problems (White 1963). Many farmers believe that the use of a “vet” is not warranted, whilst others do acknowledge a need, but, because of cost, do all they can to avoid or minimise employing their services.

The farming community in Western Australia, as well as the rest of Australia, has undergone social, political and economic changes in the last quarter of the 20th century and these have meant corresponding change for those servicing them and this is explored in the thesis. In addition, demographic changes have occurred in which some centres have grown to resemble urban centres (for example, Kalgoorlie, Geraldton, Bunbury and Albany), whereas others have remained the same or decreased in size. Veterinary practices in the former have developed into predominantly urban practices, whereas the latter have had to develop the small animal component of the practice (Heath 2005).

1.6 Definitions.

For the purpose of this thesis the following definitions will be used:

Companion animal – domestic animal species kept for pleasure and companionship, not for their productive potential. By and large these animal species occupy an emotional or sentimental place in an owner’s affection. In some few instances these animals, such as dogs, cats and horses, can serve an economic role, but essentially they are kept for their

value as a companion. Horses once occupied a role in transport, but that role ceased early in the twentieth century; there are exceptions, for example on stations in the pastoral regions. Some are kept for economic gain such as breeding, but the role they play in today's society is the giving of pleasure, such as a pony for the daughter, or as entertainment, such as horse racing.

Government veterinary officer – a registered veterinary surgeon employed by and serving the purposes of government, usually State Government, and exclusively servicing livestock. The government veterinary surgeon may or may not deal directly with the animal-owner and because employed by government, their livelihood is not directly impacted by market forces affecting the animals for which they provide a veterinary service.

Preventive Medicine / Animal Production Service – a veterinary service provided to owners of production animals that aims to prevent disease problems affecting animal production and at the same time promote productivity of these animals. This service is usually provided by a veterinarian employed as a consultant in contrast to the therapeutic veterinary surgeon. Flock or Herd Health services, Planned Animal-Health and Production Programs and Population Health veterinary services are alternative names for the provision of this type of service (Radostits and Blood 1985c).

Production animal – domestic animal species, such as sheep, cattle, pigs and poultry, kept for economic gain by the production of a saleable product such as meat, hide, fibre or eggs; also known as economic animal, livestock and farm animal.

Registered veterinary surgeon – a veterinary graduate from an accredited University, who has registered with the State Veterinary Surgeons' Board. By registering the veterinary

surgeon can practice or be employed within that state. Only a registered veterinary surgeon is entitled to charge for their services.

Rural veterinary practice – a private veterinary practice situated in a rural area servicing both companion animals and economic livestock. The private veterinarian is employed by the animal-owning public and because of this direct relationship of responsibility to the animal-owner their livelihood is subject to market forces impacting on the animal(s) serviced. Mixed animal practice and large animal practice are alternative terms used to describe this type of veterinary service.

Teaching and research veterinarian – a veterinarian employed by and serving the purposes of a university or private business. The teaching and research veterinary surgeon may or may not deal directly with the animal-owner and because employed by university or industry their livelihood is not directly subject to the impact of market forces on the animals for which their services are employed.

Therapeutic veterinary service – a veterinary service that attends to the needs of individually sick animals, large or small, companion or economic, through the provision of medical or surgical means; also known as the traditional veterinary service or veterinary medicine service.

Urban veterinary practice – describes the type of service provided in the suburbs of a city or large regional centre. Small animal practice and companion animal practice are alternative names given to this type of practice.

1.7 Abbreviation(s).

The following abbreviations are used in the thesis:

AGM	- Annual General Meeting.
AVA	- Australian Veterinary Association.
AVJ	- Australian Veterinary Journal.
ACVSc	- Australian College of Veterinary Scientists.
BVSc	- Bachelor of Veterinary Science.
CSIR	- Council Scientific and Industrial Research.
CSIRO	- Council Scientific and Industrial Research Organisation.
DVM	- Doctor of Veterinary Medicine.
FRCVS	- Fellow of the Royal College of Veterinary Surgeons.
GMVC	- Graduate of the Melbourne Veterinary College.
MRCVS	- Member of the Royal College of Veterinary Surgeons.
PM/ AP	- Preventive Medicine/ Animal Production Service.
RCVS	- Royal College of Veterinary Surgeons.
WA	- Western Australia

CHAPTER 2. AUSTRALIAN VETERINARY HISTORY TO 1960.

2.1 Introduction.

Veterinarians, interested in the history of their profession, have attempted to chronicle the development of veterinary medicine. Records are sparse, much is speculative with authors reflecting their perspective. For example, Smithcors (1958) listed seven epochs; “*Ancient Civilization, Roman and Byzantine Period, Middle Ages, Sixteenth Century, Seventeenth Century, Eighteenth Century, and Early Nineteenth Century.*” on traditional historical lines.

Schwabe (1984a) proposed five phases in the evolution of the science of animal disease management; “*Local actions (until 1st C. AD), Military (1st C. AD-1762), Veterinary sanitary police (1762-1884), Campaigns or mass action (1884-1960), Surveillance and selective actions (1960-)*” emphasising the focus of veterinary attention and action.

On the other hand, Karasszon (1988) postulated five eras. “*The Era of Intuitive, Naïve-Empiric and Superstitious-Magic Animal Healing; The Era of Rational-Empiric Animal Healing; The Metaphysical Era of Veterinary Medicine; The Rise of Scientific Reasoning; The Era of the Dominance of the Aetiological Concept and Mind.*” depicting the changes in knowledge through the ages.

The consensus is that the veterinary profession had its origins with the establishment of university courses to train students in the science of veterinary medicine and this took place in the 18th century (Smithcors 1958; Armistead 1976; Schwabe 1984b; Karasszon 1988; Dunlop and Williams 1996).

“Veterinary” and “Veterinarian”, the terms used by those engaged in the care and health of animals, are derived from “Veterinarius” and “veterinus pertaining to cattle” (Anon.

1973; Parsonson 2005a). The term was expanded to include all domestic species and in 1762 was used in naming the first veterinary college established at Lyon in France (Smithcors 1958; Karasszon 1988).

Initially the compound terms “Veterinary Medicine” and “Veterinary Physician” were applied to the study and exercise of a veterinary education. In 1796, the Standing Committee of General Officers of the British Army established the title “Veterinary Surgeon” for trained veterinary personnel (Smith 1927; Fisher 1994a; Parsonson 2005a). This latter term became the common designation for veterinarians, especially those in clinical practice and is the term used in the various state Acts for the registration of qualified veterinarians in Australia.

In the first half of the twentieth century, 50% to 90% of veterinarians graduating from Australia’s veterinary schools were employed in Government service, but later this trend reversed with the majority being employed in private practice (Anon. 1925c; 1950; Gunn 1959; Heath 1996a; Heath and Niethe 2001).

Half to two-thirds of Australian graduates initially entered rural mixed practice, however within 5 to 10 years more than half left in favour of urban practice (Wales 1975; Heath 1996b; 1998; 2002a and b). Today, most graduates of the veterinary schools in Australia gravitate to urban practice to service small animals (Frawley 2003; Heath 1996b; 2002a and b; Heath, Western *et al* 1993; Heath and Niethe 2001).

This has not always been the case, for in earlier times veterinary surgeons largely confined their talents to the treatment of horses; the first university veterinary school established was specifically for the treatment of horses (Gunn 1927; Schwabe 1984b; Dunlop and Williams 1996).

2.2 Colonial Veterinary History.

“At the foundation of the colony there was no need for legislation to deal with the health of animals, because the livestock population was but 7 horses, 7 cattle, 29 sheep, 19 goats, 74 pigs and some rabbits and poultry...In 1802 the return of Public Livestock (owned by the Government) was 439 cattle, 898 calves, 101 oxen and 1,064 sheep. In addition 478 cattle, 256 horses and 7,585 sheep were privately owned.” (Hindmarsh 1967)

In a study of the livestock industries and the veterinary profession in Australia to 1850, it was observed that from the time of the First Fleet; *“the establishment of cattle in New South Wales was a prime objective for the British authorities. The priority given cattle arose from the assumption...that their introduction would provide a ready source of food at minimal cost in the new land...By 1820 cattle had amply fulfilled the original expectations”* (Fisher 1994a)

Although livestock were part of the initial cargo, veterinary workers did not arrive with the First or Second Fleets. Often men were employed to perform veterinary tasks because they had developed a skill with handling horses or cattle. Farriers were *“Employed in Shoeing and Physicing Govt. Horses, Cattle, etc.”* and by 1822 there were 14 farriers *“possessing veterinary skills of a sort, as horse-doctors, cow-leechers and the like.”* and the success of these introduced domestic species was attributed to a favourable climate, ample feed supply and freedom from disease (Fisher 1994a).

The early history of the veterinary profession in Australia is poorly documented and confusing because both qualified and unqualified personnel operated at the same time (Robertson 1936a and b; Anon. 1961; Fisher 1993a and b; 1994a).

From details in Convict Indents three horse-doctors, a cow-doctor and two ‘veterinary surgeons’ were identified. Leigh Halstead Dornville and Owen Owens had received life sentences for horse-stealing and arrived in the colony in 1829. Dornville, received a conditional pardon, dropped his surname (a common practice among convicts) and established himself as ‘veterinary surgeon and castrator’ at Singleton in 1838. Owens did not practice his vocation and had his ticket-of-leave cancelled when convicted of larceny (Fisher 1993a).

In the first Australian Colonial Directory of 1832, C. Evans of King Street, Sydney was recorded as a veterinary surgeon. In the 1833 directory, Evans was joined by George Kennett, Isaac Turnbull in 1834 and Robert Corwood in 1835. By 1844, all the previous listed individuals were no longer to be found, but four new names appeared in Sydney describing themselves as ‘veterinary surgeons’, namely, Joseph Armstrong, Joseph Cameron, Robert Melville, and John Stewart; Armstrong and Stewart were graduates of the London college. Ten years later, these four were no longer in practice; the 1855 directory recorded three veterinary surgeons, one qualified, William Clements and two unqualified, Andrew Gribben and Thomas Turner (Fisher 1993a; 1994a).

In the nineteenth century, veterinary surgeons were not perceived as competent or concerned to deal with the diseases of livestock other than horses and they were known colloquially as “horse doctors” (Fisher 1993a and b). Sheep diseases were not their business and no demand for veterinary surgeons resulted from the prevalence of sheep scab or footrot in the early colony (Fisher 1994a). The one specific veterinary skill in demand in the colony was farriery and by 1835, Sydney had become the centre of a coaching network using some 400 horses. Despite the increase in stock numbers during

this period there was no increase in veterinary practices and Fisher concluded, “*Three features of the practices established in the 1830s and afterwards stand out. First, they were generally shortlived...Second, they were urbanized ...Third, they were almost always combined with another enterprise. These were not the characteristics of a successful specialization.*” (Fisher 1994a)

The first qualified veterinarian to establish a practice in Australia is reported to be John Stewart (Taylor and Mylrea 1992; Fisher 1994a; Mylrea 1994). Stewart qualified at Edinburgh in 1827, practiced in Glasgow in 1831, and was elected Professor of Veterinary Surgery at the Andersonian University of Glasgow. He came to Australia for health reasons and in 1844 established a practice in Pitt Street, Sydney, which comprised a farriery and a livery stable as well as a surgery. In 1845, he reported that his health was much improved, but his practice was not and by 1852, he had retired from veterinary practice (Smith 1976; Fisher 1994a). For comparative purposes, in 1847 there were 15 veterinary graduates in the United States (Armistead 1976; Kingrey 1976).

In addition to his practice, Stewart acted as an adviser to the Government on veterinary matters, became a landowner and a member of the Legislative Assembly. He wrote articles in the “*Veterinarian*” journal, and Smith (1976) extolled Stewart’s book “*Advice to Purchasers of Horses*” published initially in 1831. In spite of Stewart’s talent and expertise, he did not escape the economic difficulties of private veterinary practice.

Fisher (1994a) attributed the failure of veterinary practice in the nineteenth century to the manner in which livestock management developed from the 1840s, “*As livestock values fell and convict labour disappeared a pattern of stock management emerged which has persisted ever since ... High numbers and low values meant that pastoralists were willing*

to accept (even substantial) stock losses at the margin, especially in the face of an erratic climate. They also sought to minimize unit costs in production and especially to economise on labour. Large pastoralists had used convict veterinary workers when they were assigned to them. They were not willing to pay for the service of private specialists.”

Many came to the Australian colonies from Great Britain with the discovery of gold in 1851 and the population rose from 405,000 in 1851 to 1,168,000 in 1861. But not everyone made their fortune from gold and in 1860 and 1861 bills were enacted in each colony which enabled prospective small farmers to select up to 640 acres of pastoral land. This legislation resulted from practical consideration, as gold became more difficult to find, thousands of people were forced to look elsewhere for employment and settlement on the land appeared a good solution to the unemployment problem (Peel 1973).

Colonial stock branches, later known as stock departments, were formed in New South Wales and Victoria, in response to the increasing incidence of stock diseases; they became the precursors of Departments of Agriculture. Because of the perception that veterinary surgeons were competent only to treat horses, laymen were appointed to the position of Chief Inspector of Stock; Alexander Bruce in New South Wales and Edward Curr in Victoria. Neither man held a high opinion of the value of a qualified veterinary surgeon (Hindmarsh 1971; Fisher 1995). In this period veterinary surgeons played a minor role in disease control and regulation; they never had a direct role in policy formulation or implementation (Stewart 1913; Fisher 1995).

In New South Wales, John Pottie MRCVS was employed, part-time, to provide diagnostic advice when disease was suspected in imported animals. The first full-time

veterinary surgeon appointed to the Stock Branch of the NSW colony in 1883 was Arthur Willows, MRCVS, who was replaced within a year by Edward Stanley, FRCVS who continued in the post from 1884 to 1892. In 1892 he became Chief Veterinary Inspector at the Board of Health and by the end of the century there were more veterinarians working under Stanley at the Board of Health than in the stock branch in New South Wales (Fisher 1995).

The situation was similar in the other colonies, for during the 1880s, the services of Thomas Chalwin MRCVS were called upon in South Australia, as was Archibald Park, MRCVS in Tasmania, but he was not employed by the Tasmanian Stock Branch. Graham Mitchell, MRCVS was appointed as veterinary consultant to the Stock Branch in Victoria in 1881, but resigned because of differences between himself and the lay Chief Inspector of Stock for Victoria, Edward Curr, who denounced "*the worthlessness of professional knowledge*" (Stewart 1913; Fisher 1995).

The first conference of Chief Inspectors of Stock was held in Sydney in 1886 with delegates from each colony, except WA. This meeting became the forerunner to the regular meetings of senior government veterinarians of the, soon to be formed, Australian States (Beardwood 1972).

The WA colony struggled for its first 60 years achieving a settler population of only 44,000 with 2.5 million sheep and 131,000 cattle, but during the 1890s there were dramatic changes. As was the case in Victoria in 1851 and New South Wales in 1855, the WA colony was granted responsible self government and a constitution by the British parliament in 1890 (Hindmarsh 1967; Burvill 1979a). John Forrest became the first

premier, and gold was found in the state in the 1880s and 1890s and these finds resulted in a trebling of the population to 138,000 in 1896 (Burvill 1979a).

As a result, the government saw the need for action to be taken to encourage farming within the Colony and The Homestead Act, 1893 and Land Act, 1898 were enacted to allow new settlement. The Agricultural Bank was established in 1894 to make advances to settlers with limited capital. The Bureau of Agriculture was established in 1894 to regulate rural industries and their produce; it became the Department of Agriculture in 1898 (Burvill 1979a).

2.3 Three veterinary pioneers.

During the nineteenth century 103 qualified veterinary surgeons are reported to have practiced in Australia; eight arrived in the 1850s, 28 in the 1860s, 12 in the 1870s, 26 in the 1880s and 19 in the 1890s (Mylrea 1994). Although little is documented for the majority of these veterinarians, there are details concerning three of their number, namely, G. Mitchell, W.T. Kendall and J.D. Stewart.

Graham Mitchell graduated from the Edinburgh Veterinary College in 1854 and migrated to Australia in 1870, taking a part-time position as pound-keeper at Kalkallo whilst conducting a veterinary practice in Melbourne. In 1872 he became the Honorary Veterinary Surgeon to the National Agricultural Society of Victoria, through which he initiated attempts to establish legal recognition for qualified veterinarians and call for the establishment of university training of veterinarians in Australia. Mitchell was responsible for diagnosing Foot-and-Mouth disease in Victoria in 1872 and recommended immediate slaughter of the affected herds. He also introduced the practice of inoculation of cattle against pleuropneumonia. Mitchell wrote an article in 1872, in

which he asserted that Cumberland Disease was Anthrax, and he assisted the medical profession in Australia develop a local vaccinia vaccine. He died in 1890, but he ably demonstrated that a veterinary surgeon was competent to deal with diseases of cattle (Fisher 1984; Hughes and Milne 1992; Mylrea 1994).

William Tyson Kendall was born in England in 1851 and graduated from the Royal Veterinary College, London in 1873. He practiced for six years before deciding to migrate to New Zealand. During a stay over in Melbourne, prior to traveling on to New Zealand, he sought advice from the four qualified veterinarians then in practice in Melbourne, was persuaded to “try his luck” and with £15 capital, commenced practice (Anon.1936c; Albiston 1951; Taylor 1992).

Kendall saw the necessity to, “*overcome the ignorance and prejudice of stock owners and the general public as to the aim and scope of veterinary science, and to educate men for the veterinary profession who had been reared in the country, and were already acquainted with the special conditions.*” (Albiston 1951)

To further this aim, Kendall joined with Graham Mitchell to form the first association of veterinarians in Australian – the Australasian Veterinary Medical Association – consisting of some 12 to 14 qualified veterinary surgeons. In 1882, the association published the first veterinary journal in Australia, the Australasian Veterinary Journal (Albiston 1951; Hughes and Milne 1992; Taylor 1992; Arundel 1995).

Mitchell and Kendall lobbied for the establishment of an Australian Veterinary School, so that students wishing to pursue a career in veterinary science could train in Australia and not be obliged to go overseas. They were also adamant that legislation was necessary

for the legal recognition of graduates (Albiston 1951; Hughes and Milne 1992; Taylor 1992; Arundel 1995).

Numerous attempts were made to establish a veterinary school in Victoria, but each time the project was frustrated. Kendall declared, “*receiving no help from the government in regard to providing a suitable site, or funds to erect the necessary buildings, as well as lack of interest in the matter displayed by my colleagues, I determined to try what I would do single-handed.*” (Albiston 1951)

In 1886, at the age of 55, and at his own expense, Kendall founded the first veterinary school in Australia, the Melbourne Veterinary College, which operated in conjunction with his practice at Fitzroy.

The College began in 1888 with six students. The course was of four-year duration – the first four-year course in any English-speaking country – and operated for 20 years producing 61 graduates, who were entitled to use the letters G.M.V.C. (Albiston 1951; Taylor 1992; Arundel 1995). Australia’s first woman veterinary surgeon, Miss B.B. Reid graduated from the college in 1906 (Pullar 1958).

To protect the interest of his students upon graduation, Kendall sought the enactment of a Veterinary Surgeons’ Bill that would endorse veterinary science as a legally recognized profession, setting up standards for its members. He was instrumental in drafting the Victorian Veterinary Surgeons Act, which was based on the existing Veterinary Surgeons Act in England. The Act was passed in 1887 (Albiston 1851; Taylor 1992; Arundel 1995).

His achievements were summarized in the 11th Kendall Oration, “*Kendall saw that to nurture a veterinary profession capable of serving the colony’s livestock industries four*

things were needed, and he played a vital role in establishing all four. First was a veterinary college, which he established and which accepted its first students in 1888. The second was legislation in the form of the Veterinary Surgeons Act 1887, Victoria, to identify qualified veterinary surgeons and to regulate the practice of the profession. The third was a professional association, the Australasian Veterinary Medical Association, which existed from 1881 until about 1890. The fourth was a professional journal, so Kendall and Graham Mitchell produced the Australasian Veterinary Journal, which was produced monthly, but it survived only one year.” (Sutherland 1994).

James Douglas Stewart was born in Australia in 1869 and received his veterinary training at the Royal Dick Veterinary College, Edinburgh graduating in 1893. He was admitted to membership of the Royal College of Veterinary Surgeons in that year, returned to Australia and for a short time was in private practice. He joined the Department of Agriculture as a Veterinary Officer in 1896 and went on to become the Chief Inspector of Stock for the State of New South Wales.

He taught classes in veterinary care at the Sydney Technical College from 1895, until appointed to the newly established Chair of Veterinary Science in 1909 at the University of Sydney Veterinary School, a position he occupied until his retirement in 1939 (Anon. 1925a; 1935b; Stewart 1951; Hindmarsh 1960; L.B. 1959).

Professor Stewart died in 1955 (Anon. 1935b; Mylrea 1994; Fisher 1995) and Professor R.M.C. Gunn paid this tribute, *“for the adoption of a curriculum which was very much more scientific than those in most of the veterinary training centres of those days...it was only due to the persistence and drive of Professor Stewart that the school survived the lean period between 1914 and 1928.”* (Gunn 1959)

2.4 The Era of Veterinary Education.

Livestock arrived with the First Fleet in 1788 and the livestock industry was the force underlying the growth and prosperity of Australia in the nineteenth century, yet it took 100 years to recognize that the services of locally trained veterinary surgeons was needed (Hindmarsh 1960; Fisher 1995).

At the beginning of the 20th century the various state governments actively promoted agriculture through their respective Departments of Agriculture with advisory services, rural education and bounty schemes. The need for trained people to work in the various Departments of Agriculture led to the establishment of Chairs of Agriculture at the University of Sydney, 1910, University of Melbourne, 1911 and University of Western Australia, 1914 (Peel 1973; Burvill 1979b).

The major event for the veterinary profession in Australia, after Federation, was the establishment of veterinary schools at the University of Melbourne and University of Sydney in 1909 and 1910 respectively. Prior to this, Australians wishing to become a veterinary surgeon had to go to England, to gain qualifications (Mylrea 1994).

2.5 University of Melbourne Veterinary School, 1909 – 1929; 1964 to the present.

The Royal Commission on Technical Education in Victoria of 1890 stated that a comprehensive scheme of veterinary education was needed in Victoria. By this time the Veterinary Board of Victoria had moved to make the Melbourne Veterinary College a public rather than a private concern and in 1907, the Minister agreed to the establishment of a Faculty of Veterinary Science at the University of Melbourne (Clements 1976).

The school was founded for the purpose of educating veterinarians, investigating unknown or partially known diseases of animals, with a view to their treatment or

prevention, and assisting the veterinary officers of the Department of Agriculture by means of the laboratory diagnosis of disease in animals (Anon. 1925c).

Dr J.A. Gilruth, Chief Veterinarian with the Department of Agriculture, New Zealand, was invited to occupy the Chair in Veterinary Science, and teaching commenced in 1909. Gilruth resigned in 1912 to become Administrator of the Northern Territory and his successor, Professor H.W. Woodruff occupied the chair until teaching in Veterinary Science at the University of Melbourne ceased in 1929 (Anon. 1929; Albiston 1951). The demise of this veterinary school was not an isolated event; in North America, 11 veterinary schools closed in the five years following World War I, and by 1927, the number of new graduates had fallen to 122 (Armistead 1976; Kingrey 1976).

During the 20 year life of the school, 101 persons graduated, but by 1925 there were only ten students, and in 1928 there were only two students. The reasons given for the decline in student numbers and closure of the University of Melbourne School was that many assumed that the horse, popularly considered to be the main source of income of the veterinary surgeon, would very shortly be replaced by the automobile, and parents were reluctant to place their children in a profession which appeared to be on the decline, if not moribund. Also during this period, veterinary practice in Victoria, especially in the country districts, was far from lucrative, and one practitioner after another left their practice to take a salaried position in government (Albiston 1951).

In the 1950s efforts were made to re-open this school and Professor D.C. Blood was invited to become the Dean of the school in 1962. Thirty-five years after its doors closed, the University of Melbourne began taking student for training in veterinary science again (Blood 1964; Montgomery and Hughes 1985).

2.6 University of Sydney Veterinary School, 1910 to the present.

In December 1906, the David Berry Hospital Act, which provided a sum of money for the erection and maintenance of a hospital at Berry and for the encouragement of knowledge in agriculture and veterinary science, was passed by the NSW Parliament.

In 1909, J.D. Stewart, MRCVS was invited to occupy the Chair of Veterinary Science and subsequently other staff were appointed; Dr S. Dodd (Pathology and Bacteriology), Mr. R.M.C. Gunn (Anatomy and Surgery) and Mr. I. Clunies Ross (Parasitology). The curriculum was planned on the lines of the Royal Veterinary College in London (Anon. 1925a; 1935b).

On 4 August 1914, Great Britain declared war on Germany and the Australian Government supported the British declaration by offering troops for service. War led to the almost complete interruption in the progress of the schools, as most who graduated in 1914 applied for commissions, as did the few remaining graduates throughout the war years; 41 veterinarians served in the Australian Army Veterinary Corps during World War I along with 36 veterinary graduates from the Universities of Melbourne and Sydney who enlisted immediately on graduation (Parsonson 2005b).

The cessation of war did not lead to a rapid restoration in student numbers, and by 1919 there were only 13 students enrolled in the course. It was thought that this was due, not only to the effects of the war, but also to a lack of understanding of the wide field of usefulness which awaited the qualified veterinarian. In addition there was the lack of legislation controlling the profession in New South Wales, and it wasn't until 1923/24 that an Act for the registration of veterinary surgeons was passed by Parliament, some 37

years after similar legislation was passed in Victoria (Anon. 1925a; 1935b; Stewart 1951).

An editorial in the AVJ stated, *“There has been a regrettable tendency in some veterinary circles in Australia to regard the day of the practitioner, if not definitely over, as at least declining to a wintry eve of doubt and depression. It is admitted that a small number may continue to find employment in connection with racing stables and that a slightly larger number may be required for canine and feline work, but beyond this little future is seen for the practitioner.”* (Anon.1932a)

In a special issue of the AVJ, commemorating the Silver Jubilee of the University of Sydney Veterinary School, it was reported that 86 students had graduated in the 25 year life of the school; 68 (79%) went into government or teaching positions, 11 (13%) into private practice and seven (8%) had gone back on the land and concluded, *“Private practice, having passed through the doldrums of a long period of disfavour, owing to the belief that the extension of Government services preclude the possibility of a private practitioner finding remunerative employment, has recently been recognized as being far from outworn.”* (Anon.1935b)

One rural practitioner sarcastically commented, *“...private practice is a most over-rated hobby, there being plenty of hard work but little financial return.”* (Dowling 1934), whilst another reported, *“The role of country practitioner has not, up to the present time, had much appeal to Australian veterinarians. In fact, it is doubtful if there are more than a dozen qualified men well established in this field in the Commonwealth.”* (Barker 1936)

2.7 University of Queensland Veterinary School, 1936 – 1942; 1951 to the present.

In 1936, the University of Queensland established a veterinary course and appointed Dr H.R. Seddon, Professor of Veterinary Science. The Veterinary Surgeons Bill was passed in November of that same year with Dr Seddon Chairman of the Board.

With the outbreak of World War II, students and staff began to join the forces. The School was taken over by the US Army in 1942 and subsequently occupied by the Department of Agriculture and Stock, so the school was forced to close and it was not until 1951 that it was re-established. Eleven students of this early period graduated, some completing their course in Sydney (Anon 1936a; Albiston 1951; Seddon 1951; 1961; Francis 1963).

2.8 The veterinary profession in Western Australia.

Veterinary service in WA began in 1895, when H.H. Burns, GMVC established a practice in Perth. He was followed by E.A. LeSouef, GMVC and R.E. Weir, MRCVS (Underwood 1979).

A bill for the Registration of Veterinary Surgeons in WA was assented to on the 31st December 1911 (Act No. 51 of 1911), “*An Act to regulate the Practice of Veterinary Surgery, and for other relative purposes.*” The Act was modeled on the Victorian Veterinary Act of 1887.

The inaugural meeting of the Veterinary Board was held on the 21st May 1912 and consisted of three veterinary surgeons, the Chief Inspector of Stock for Western Australia (R.E. Weir), the Curator of the Zoological Gardens (E.A. LeSouef), a practitioner (John Robson) and two laymen (Ward 1958).

During the first 10 years of the Boards' existence only nine veterinary surgeons were registered and as a result an Act to amend the original Act was assented to on the 22nd December 1923 (Act No. 46 of 1923), "*An Act to amend the Veterinary Surgeons Act, 1911*". This Act was the Veterinary Surgeons Act Amendment Act and was to be read in conjunction with the original Act. The purpose of the Act was to issue permits to unregistered veterinary surgeons on condition that the unregistered person operated in an area not already serviced by a registered veterinarian.

During the period 1912-1952, 23 veterinary surgeons were registered (Table 2.1).

Table 2.1

Numbers and positions held by 23 veterinary surgeons registered with the Veterinary Surgeons Board of WA from 1912 to 1952.

Position	1910s	1920s	1930s	1940s
Government	3	0	2	3
Practice	4	1	3	3
Industry	0	0	0	3
Zoo	1	0	0	0
Total	8	1	5	9

WA government veterinarians were not required to register and although 23 were employed by the Department of Agriculture during the period from 1912 to 1950, only 11 were listed in the register (Clark 2007). Dr H.W. Bennetts, employed by the Department in 1925, did not register with the Board until 1962.

In 1923 there was an outbreak of Rinderpest in cattle in Perth (Robertson 1923) and it was not until many years later that credit was given to a permit holder for its detection (Throssell 1980).

The Australian Veterinary Association was formed in 1921 and began publishing *The Australian Veterinary Journal* in 1925 (Pearson 1983). From time to time the journal documented the membership of the AVA; at that time most Australian veterinarians were members of the Association, so the lists gave a reasonable estimate of the numbers and locations of qualified veterinary surgeons. For example, the first list, which appeared in 1925, recorded a total membership in Australia of 123; eight of whom (6.5%) were resident in WA.

Between 1925 and 1929 four lists were published with total membership rising from 123 to 164. At the same time the WA membership rose from 8 to 14 members (Anon. 1925b; 1926; 1928; 1929a).

In WA, the application of superphosphate and the sowing of subterranean clover were causing a revolution in agricultural productivity. Superphosphate was found beneficial when used on wheat farms in South Australia, but its use spread to pasture application when it was found to increase pasture growth. Subterranean clover use was widespread; initially introduced accidentally, it became established in WA and its great significance was that it could grow in the winter rainfall areas receiving 500 mm or less annual rainfall. The “sub and super” revolution had begun especially on wheat/sheep farms (Burvill 1979c).

The Depression of the 1930s affected all Australian farmers. Those already encumbered with debt were in serious difficulties and those on marginal farms were forced to abandon them. The trend towards sheep grazing on wheat farms became more marked during the 1930s as farmers sought to diversify. By 1936, 76% of Australian wheat farms were

carrying sheep and 30 % of all sheep in Australia were located on wheat farms (Burvill 1979c; Halse 1979).

Although the number of veterinarians in Australia, documented in the membership lists of the 1930s rose to 193, in WA the number remained at 14 (Anon. 1932b; 1933; 1935a; 1936b; 1938). Two WA veterinarians ventured into rural practice during this decade; one, a British graduate, came to WA to take up a position with the Department of Agriculture in 1928 and decided to try his luck in rural practice in 1932. However, by 1937 he was back working for the government (Ohman 1932; Shilkin 1966). The other rural practitioner was not a member of the AVA (Ward 1958).

World War II changed the marketing situation for agricultural commodities. Agreements were made to supply Great Britain with wool, dairy produce and meat at fixed prices. The Australian Government established price targets for rural products and control over commodity prices to control resources and prevent inflation. Serious labour shortages occurred due to the war effort and sheep grazing replaced labour intensive forms of farm production. The entry of the United States of America into the war increased the demand on local rural produce when over a million Americans were stationed in Australia. At the end of the war there was an Australia wide drought which devastated the wheat crop and millions of sheep died; the total population of 125 million sheep in 1943 fell to 96 million in 1946 (Peel 1973).

During the 1940s there was a steady growth in veterinary numbers, which increased after the war with returned servicemen undertaking veterinary training. Veterinary numbers increased by 40% from 236 in 1940 to 330 in 1949. This increase was not reflected in WA, where numbers dropped from 14 in 1938 to 11 by 1944 increasing to 16 in 1949.

Almost all veterinary surgeons recorded in this decade went into government employment (Anon. 1940; 1942; 1944; 1949).

Nine veterinary surgeons registered with the Board during the 1940s; three joined the Department of Agriculture, three went into private practice in Perth and three took industry positions. During the course of the decade two of the new government employees went into private practice in Perth and one private practitioner joined the government.

For the first time in WA, three veterinary surgeons took up full-time positions in rural companies; one working for South West Dairy Farmers Co-op, one employed by Goldsbrough Mort and Co. and the other working for Westralian Farmers Co-operative Ltd. This new avenue of employment was short-lived, as all three positions disappeared early in the 1950s (Ward 1958). During his tenure with Goldbrough Mort, H.T. Carroll published the book "*Diseases of Sheep in Western Australia and South Australia*" (Carroll 1949).

In 1943, the Commonwealth government appointed a Rural Reconstruction Commission to investigate agriculture in Australia and make recommendations for the post-war period. Settlement commissions were established in each state and the errors of the past with schemes for close settlement were avoided. In addition good seasons and high prices ensured a degree of success during the immediate post-war period (Peel 1973).

With the outbreak of the Korean War in 1950, there was a sudden demand for wool by the United States of America for military clothing and a boom occurred in 1951 when the average price of wool rose from 15 pence per pound to 144 pence per pound. At the same

time the beef industry prospered following a meat agreement with Britain in 1952 (Peel 1973).

The last list of members of the AVA appeared in 1950; 377 veterinary surgeons were listed for the whole of Australia with 16 (4.3%) present in WA (Anon. 1950).

From 1949, an annual register of veterinary surgeons appeared in the *WA Government Gazette*, and the increase in numbers and percentages of veterinary surgeons in WA during the 1950s is shown (Table 2.2).

Table 2.2

Numbers and percentages of registered veterinary surgeons in WA, 1950 and 1960
(McKenzie Clark 1950; Toop 1960).

Classification	1950		1960		Increase	
	n	%	n	%	n	%
Government	2	14%	5	23%	3	150%
Perth practice	8	57%	11	50%	3	38%
Rural practice	1	7%	6	27%	5	500%
Industry	3	22%	0		-3	-100%
Total	14		22		8	57%

2.9 Veterinary research from 1920 to 1960.

The development of the Australian agricultural industries from the middle of the twentieth century owed much to the progress of scientific research and technical development from the late 1920s onwards.

It was not until research laboratories had been established after World War 1 that investigations of livestock diseases in Australia began and most of our present knowledge of the aetiology of these diseases dates back to this period (Bennetts 1925; Cole 1973).

Research started at this time, although hampered by the depression and Second World War, was pursued even if at times the resources were slender. The main institutions conducting agricultural research were the state Departments of Agriculture, the Agricultural and Veterinary faculties of the various Universities, and the Council for Scientific and Industrial Research established by the Commonwealth Government in 1926 (Bull 1951; Peel 1973; Gordon 1983).

Much of the work of the Department of Agriculture was regulatory and advisory and in some instances these two roles led to conflict, with livestock owners reluctant to call government veterinarians because of fear of their regulatory powers. Although it has been stated that these conflicts were resolved by the development of specialized extension services (Peel 1973), instances of conflict still occur, as in the recent experience with Ovine Johne's Disease (Rose 2001).

In the early years the universities were limited in their research effort due to a shortage of funds and their main contribution lay in producing the first generation of locally trained agricultural scientists (Peel 1973). For example, G. K. Baron Hay, an agricultural graduate of the University of Western Australia became the first Agricultural Advisor for the Department of Agriculture in 1922 (Burvill 1979b), and H.W. Bennetts, a veterinary graduate of the University of Melbourne was appointed the first Veterinary Pathologist to the Department of Agriculture in 1925 (Anon. 1925d; M.R.G. 1971).

The perception of the animal owning public was that the veterinary surgeons' expertise lay in the treatment of diseases of horses only. Although some veterinarians had demonstrated skill with other species in the nineteenth century, it was not until the era of veterinary research from 1920 to 1960 that this perception was finally put to rest. The

results of this research laid the foundation for the development of rural veterinary practice in Australia. This “golden age” of veterinary research into the major livestock diseases came with a burst during a 40 year period and was carried out by a relative small group of veterinary scientists (Bull 1951; Cole 1973).

The following overview of sheep disease research in Australia, up to 1960, illustrates the incredibly fertile period of veterinary research of livestock.

Blowfly-strike of sheep, which became a problem in the early twentieth century, was one of the first diseases to be investigated. Blowfly-strike became widespread and apart from drought has been reported to be the most costly problem faced by the sheep industry of Australia (Bennetts 1925; Cole 1973). CSIR made the investigation of blowfly-strike one of its major activities and the Joint Blowfly Control Committee was appointed in 1931 (Bull 1951). A relationship between predisposition to breech fly strike and conformation of the breech region was demonstrated and a layman, J.H.W. Mules, developed a surgical procedure for prevention of the condition and later a more radical procedure (Modified Mules’ Operation) was developed (Bull 1951).

Sheep ked and lice were common economic problems in wool production and investigation of these disorders took place during this era (Graham and Taylor 1941). A new parasite of the skin of sheep, Itch Mite, was also discovered (Carter 1941).

A Braxy-like disease, observed initially in Western Australia in 1915, and known locally as “Beverley disease”, was demonstrated to be due to the toxin of *Clostridium welchii/perfringens* type D, a normal inhabitant of the gastrointestinal tract of sheep (Bennetts 1926; 1930; 1931; 1932c; 1933; Bennetts and Oxeer 1932). Other Clostridial diseases were investigated during this period; “Black disease” of sheep in association with damage

caused by liver fluke and “Big-head” in young rams (Bull 1951). Botulism was found in a number of animal species, with the condition in sheep due to ingestion of rabbit carcasses (Bennetts 1928; Bull 1951).

Other infectious diseases of sheep were also studied; for example, Contagious Foot-rot (Beveridge 1941), Foot abscess (Gregory 1939), Arthritis in lambs (Seddon and Carne 1927; 1931; Anon. 1936a), “Scabby Mouth” (Seddon and Belchner 1929), Caseous Lymphadenitis or “Cheesy Gland” (Bull and Dickinson 1933) and “Mycotic Dermatitis” (Seddon 1927-28; Bull 1929).

Diseases due to the presence of internal parasites have been an ever present problem to the Australian sheep industry. Improved pastures led to increased stocking rates and sheep were able to tolerate heavier worm burdens without affecting productivity, however, clinical disease became manifest when pastures were poor or overstocking occurred (Bull 1951; Cole 1973). Initially, interest was focused on liver fluke and Hydatid disease (Clunies Ross 1929; Clunies Ross and McKay 1929). But it was soon realised that parasitic gastro-enteritis was more widespread than fluke disease and investigation focused on various helminth species. Considerable advancement of knowledge on the parasites affecting sheep took place and was summarized (Clunies Ross and Gordon 1936) and later updated (Gordon 1950).

During the development of the sheep industry in Australia, large numbers of sheep had been lost from the effects of poisonous substances in plants. In colonial times, with sheep under natural grazing conditions, the poisonous nature of some of the native plants being ingested had to be learnt by experience (Bull 1951). Each state Department of Agriculture produced reports describing poisonous plants (Bennetts 1935; Hurst 1942; Gardiner and

Bennetts 1956). Later some plants introduced for use in sown pastures proved toxic to stock; the danger of sorghum under some conditions has been recognized, and perennial ryegrass and *Phalaris tuberosa* have been associated with staggers in sheep, whilst the grazing of green oat crops has produced nitrite poisoning (Bull 1951).

In 1941, an infertility syndrome was reported in ewes grazing pastures dominated by the Dwalganup strain of subterranean clover in WA. It occurred suddenly and reached its peak in 1943 with some flocks experiencing lambing percentages as low as 8% (Bull 1951; Cole 1973). The condition was investigated and its aetiology determined (Bennetts, Underwood *et al* 1946).

It was discovered that copper was essential to the metabolism of livestock; a disease of lambs characterized by ataxia with myelin degeneration and named “enzootic ataxia” was described and the disease was found to be due to a copper deficiency of the ewe and lamb (Bennetts 1932a and b; 1937; Bennetts and Chapman 1937). At about the same time cobalt was also found to be an essential trace element; a condition named “Enzootic marasmus” of both cattle and sheep was discovered in WA and found to be due to cobalt deficiency (Filmer 1933; Filmer and Underwood 1934; Underwood and Filmer 1935).

Later a disease designated “Coast Disease” in South Australia was found to be due to deficiencies of both copper and cobalt (Marston, Lee *et al* 1948). A disease referred to as “Yellows” or “Toxaemic jaundice” came under intense scrutiny and was found to be due to copper poisoning, but only under certain pasture conditions (Albiston, Bull *et al* 1949; Bull, Albiston *et al* 1956).

As the depression years receded, research in animal production was revived and by 1938 research in fertility problems in sheep, inheritance of coloured wool fibres and

inheritance of wrinkles in Merino sheep were being pursued (Peel 1973). Extensive research was conducted during this period into factors depressing sheep reproduction and the growth of weaners. This research indicated a shift from disease *per se* to productivity and here the emphasis was placed on physiological studies. Information on the breeding performance and reproductive wastage in flocks of sheep were investigated (Kelley 1939; Morley 1948; Watson 1957). The occurrence of oestrus in Merino ewes was defined (Underwood, Shier *et al* 1944; Watson 1952; 1957). The stimulatory effect on the ewe of the presence of the ram at the beginning of the breeding season was recorded (Underwood, Shier *et al* 1944; Sinclair 1950; Schinckel 1954). There was an attempt to estimate embryonic loss (Morley 1954) and perinatal lamb mortality was investigated (Morley 1954; Moule 1954; Alexander, McCance *et al* 1955; Alexander, Peterson *et al* 1959). The fertility of the ram was also investigated as well as factors influencing ram fertility (Gunn 1942; Moule 1950; Sapsford 1951).

Another area of concern was the failure of weaners to grow which was given the name of “weaner unthriftiness” or “weaner illthrift” which was thought due to nutritional factors not infectious disease, trace element deficiencies or internal parasites (Bennetts 1958; Engel 1958; Mulhearn 1958).

In 1949 the CSIR became the CSIRO under the Science and Industry Research Act, and a veterinarian, Dr I. Clunies Ross, was chosen to lead the organization (L.B. 1959).

2.10 Philosophy of the profession: Science versus Art.

The provision of care of animals by humans is likely to be as ancient as their domestication. There are accounts of the care of animals in ancient manuscripts including the Massoretic text of the Old Testament of the Bible and the Babylonian Hammurabi

Code (Tucker 1956; Smithcors 1958; Karasszon 1988; Kendall 1988; Dunlop and Williams 1996; Fisher 2002).

The intervening history of veterinary care and its development, until relatively recent times, are largely unknown (Smithcors 1958; Karasszon 1988; Dunlop and Williams 1996).

In Western Europe, during the “Middle Ages” the care of livestock was in the hands of stockmen (shepherds) and craftsmen (apprenticed farriers); farriery being recognised in England from as early as the fourteenth century (Smithcors 1958; Karasszon 1988; Fisher 2002).

The renaissance of veterinary care began in the eighteenth century with the establishment of the “Veterinary Profession” by the official recognition of graduates of the European Veterinary Schools between 1762 and 1821. From this time animal care was to become the province of scientific knowledge and its application; the Age of Science had arrived to displace empiricism, magic, omens and the supernatural (Schwabe 1984b; Karasszon 1988; Kendall 1988; Dunlop and Williams 1996; Fisher 2002). Although it is acknowledged that the farrier was the predecessor of the veterinary surgeon (Smith 1927), in the process of this transition, science was portrayed as all things good and empiricism and the farrier-apprentice condemned.

In his treatise tracing the development of the London Veterinary College, Pugh (1962) equated farriers with quacks. Similarly, the Foundation Professor of the London Veterinary College, stated, “*the conduct of our cattle, so essentially connected with the prosperity of the country, is pertinaciously restricted to those who are the most remarkably unqualified to undertake the charge...the shoer of a horse...It does, however,*

no where appear, that absurdity ever arose to such an height, as to consider the care of the human health to be the proper office of the shoemaker: there was indeed a time, when much was confided to the barber, and at that period medicine in the same state in which we see the veterinary art at this day;” (St. Bel 1790).

Quotes abound in the literature of the time condemning farriery, however, a recent article calls for the re-assessment of the part played by the farrier-apprentice (Lane 1993).

The tactic used was to denigrate the historical providers of animal care, the farrier-apprentice, horse doctor, blood letter, gelder and cow leech, by portraying them as quacks, charlatans, empiricists, mountebanks, magicians and witch doctors as opposed to the scientifically trained university graduate. The term “scientist” then, as today, commanded respect and a certain amount of awe.

2.11 One Medicine.

The development of university teaching of veterinary science followed closely the development of university teaching of human medicine and in many ways ran parallel to it. In a number of instances the teaching of veterinary science was conducted by qualified human medical personnel, for example, Hunter and Coleman at London Veterinary College and Abilgaard in Denmark (Smithcors 1958; Karasszon 1988).

In England, as early as 1790, the parallel between human and veterinary medicine had been established, *“The veterinary art is a practical application of sure and scientific principles to the preservation of health in domestic animals, and to the cure of their diseases, in the same manner as the art of medicine applies them to the health and preservation of man; and the science on which this art is grounded...comprises the natural history, anatomy, physiology, and pathology,”* (Penn 1790).

The North American Veterinary Schools owe their development to the training at London and Edinburgh and thus reflected their human medical influence, as the following testifies, *“The University of Pennsylvania Veterinary School was established in 1884. Because Philadelphia had a major human medical center, the veterinary school was blessed with a faculty including a number of human physicians. This may have developed a strong liaison extending to the present time and may have influenced the development of the veterinary specialties along the human format. The fact that Pathology was the first recognized specialty, emphasizes the evolution along the ‘One Medicine’ concept.”* (Fox 1994)

This led to an initial emphasis on Veterinary Medicine with the veterinarian being seen as the “man-of-medicine” in the animal world. The definitive text on “One Medicine” quotes Rudolph Virchow, *“Between animal and human medicine there is no dividing line – nor should there be. The object is different but the experience obtained constitutes the basis for all medicine.”* (Schwabe 1984a)

In Australia veterinary education was guided and directed by men qualified in British institutions, such as Kendall, Gilruth, Woodruff and Stewart. They pioneered veterinary education in Australia based on the British model, so that the early Australian graduates were scientifically trained on the human medical-model with emphasis on anatomy, pathology, microbiology, parasitology, medicine and surgery. Those entering practice did so as therapeutic physicians and surgeons, whilst those entering research became pathologists, bacteriologists or parasitologists, representing the first specialists within the profession.

The first two veterinary schools in Australia began by emphasizing their commitment to “science”. The degree conferred being a Bachelor of Veterinary Science and the first Chairs established, being the Chair of Veterinary Science. It was nearly 50 years later that this Chair at Sydney University was replaced by Chairs in Veterinary Medicine and Veterinary Surgery (Gunn 1959).

The curriculum at both schools was “scientific”. The direction of the school at the University of Melbourne being determined by Gilruth and his successor, Woodruff, both pathologists, whilst Stewart at Sydney was first a clinician before becoming Chief Inspector of Stock and Government Veterinary Surgeon (Sutherland 1994). Professor Gunn in his farewell speech made it very clear what the tenor of the Sydney school was, *“The first occupant of the Chair was the late Emeritus Professor Stewart. To him this State and Australia as a whole is indebted for the adoption of a curriculum which was very much more scientific than those in most of the veterinary training centres of those days... the courses in the Faculty have become more and more scientific and comprehensive as the years have passed.”* (Gunn 1959)

2.12 Consumers of Veterinary Services.

The demand for veterinary services in the late eighteenth century came from agriculture, transport and the military and of these agriculture was probably of least significance, with military requirements, especially in time of war, playing the major role for the veterinary surgeon. Similarly, horse transport was vital and provided a demand for veterinary services (Fisher 1994b).

The initial demand for graduates of Australia's first two veterinary schools was to serve in World War I and the work undertaken concerned the treatment of cavalry horses (Anon. 1925a and c; 1935; Albiston 1951; Fethers 1980; Parsonson 2005b).

Horses were perceived to be the main, if not the only, animal that veterinary surgeons attended and with the demise of the horse as transportation, the career of veterinary surgeon was seen to be self-limiting. It has been proposed that this perception of the veterinarian led to the demise of the Melbourne Veterinary School and seriously challenged the continued existence of the Sydney School.

In support of the government initiative to promote a viable farming enterprise each of the Colonial and State Governments established Departments of Agriculture to disseminate agricultural information, including veterinary information, to the emerging farming community. Apart from isolated attempts by private veterinarians in rural practices, which invariably failed, the first serious attempt to provide a veterinary service to Australian agriculture was via government veterinary officers.

Government dominated the provision of veterinary service to rural Australia and this persisted until the 1950s. Consequently, the farming community looked to government to supply information on soil, pastures, crops and livestock at no direct cost to themselves; they have thus developed a free-for-service not a fee-for-service mental attitude.

When veterinarians ventured into rural practice, they found that they were faced with unfair competition with the government veterinary services; unfair in that they charged a fee for their services and the government did not (Cole 1958).

In parallel with the eagerness of government to provide a free service to the agricultural community, the Australian farming community developed an inflated view of its own

importance and in class-conscious Australia, the farming sector took on the role of landed gentry, *ipso facto* Australia's aristocracy, expecting to be the recipient of due deference. They were entitled to service free of charge because of the great debt the country owed them as producers of our food as well as export income.

2.13 Providers of Veterinary Services.

Government veterinary services in WA began in the 1920s and until the late 1950s were the major supplier of veterinary service to rural WA; the government veterinarians at no time offered a service to urban areas or to companion animals. Their duty was to service productive animals; they provided a valuable service, they were well organized, centrally controlled and coordinated.

When individual private practitioners ventured into rural practice to service production animals and compete with the government service they were unorganized, isolated and without a significant voice in discussions with government over the respective roles.

The first rural practitioners in WA were located in the south-west and provided a service to dairy farmers during the 1950s. They assumed the role of provider of a service to individually sick cattle whilst the government veterinarians investigated herd problems such as mastitis and infertility issues. Individual animal health problems became the province of the private veterinary surgeon, whilst herd health problems became the concern of the government. Whether this arrangement was arrived at by mutual agreement or by government decree is not clear (Lewis, Wilkinson *et al* 1979; Swan 1979).

2.14 The two veterinary approaches.

During the 1940s emphasis began to shift from the purely therapeutic approach to embrace a wider role for the veterinary surgeon (Franklin 1956). Research of animal husbandry and productivity began to interest veterinarians who sought knowledge of animal physiology and production and how to promote it. A concept of preventing disease and promoting production began to evolve and the Preventive Medicine/ Animal Production Approach started to attract the interest of veterinarians and appointments in animal husbandry were made (L.B. 1959; Ewer 1962; Dowling 1963).

In 1952, Professor J. Francis was appointed to the Chair of Preventive Medicine at the Veterinary Faculty of the University of Queensland (Francis 1963).

In 1947, Dr J.F. Filmer delivered the Presidential Address to the NZ Veterinary Association, *“It is, however, becoming increasingly obvious that the conditions of private practice impose very real limitations on the usefulness of a veterinarian... I know of no private practitioner who derives any considerable proportion of his income from fees received for advice concerning maintenance of health or the increase in productivity... The successful practice of animal production requires the prevention of disease to eliminate wastage... But even that is not enough. Economic animal production generally depends on the artificial stimulation of some animal function, such as reproduction, lactation or growth. Copious and sustained lactation, regular and prolonged egg laying, very rapid growth, and the production of heavy fleeces of fine wool are not normal expressions of health. They may even endanger health in some environments.”* (Filmer 1947)

A display of prophetic insight of the future of the livestock industries and rural veterinary practice of both Australia and New Zealand.

Nothing has changed, for during the last 40 years of the twentieth century, few, if any, rural practitioners derived significant income from advice and the agricultural quest has been for maximum not optimum productivity.

CHAPTER 3. “TO BEGIN AT THE BEGINNING ” (Dylan Thomas – *Under Milk Wood*, 1954): The 1960s.

3.1 Introduction.

After working in rural practices in South Australia and Victoria, the author came to WA in 1964, a time of rapid agricultural expansion and growth in rural practice within the state. This chapter charts these changes and utilizes the opinions of oral history interviewees to provide an insight into their initial experiences as veterinarians. The historical development of the rural practice at Katanning is used, in this chapter, as well as latter ones, as an example of the changes and adaptations that are made to meet the altering circumstances of the time.

3.2 What was it like starting in rural service in WA?

The reasons for becoming a veterinary surgeon varied among the interviewees.

Four came from a farming background, with one stating, *“I am one of those poor old people who always wanted to do it [veterinary science]. I grew up on a dairy farm and that was where it started...I actually seriously looked into career options in the UK and it was a career where you can earn well and not be in an office.”* (Erickson 2006)

One declared, *“I chose veterinary science because it was one of the better scholarships available; it was either agricultural science or veterinary science and veterinary science won out because it had the attraction of being able to go to Queensland.”* (Moir 2006)

Another, when told that the family farm was to be sold, was advised, *“Why don’t you become a vet? It sounded all right to me, so that’s what happened.”* (Micke 2006)

The fourth became a stock inspector in the Northern Territory, where he was encouraged to become a veterinarian (Nye’Chart 2006).

Two became veterinarians in rebellion against city life. One stated, *“I hated city life...I had no idea what a veterinarian was, I had never seen a veterinarian. I had never been to a veterinarian...I just loved country life and I wanted to embrace it.”* (Vass 2006)

Whilst the other said, *“In my final year at school, I suddenly thought, I don’t want to work in a factory, in an office, in a city. I just don’t like that life-style, so I made the decision at the age of 18 and thought what alternatives are there that would allow me to work wherever I want to and that would allow me to be my own boss, and have a degree of autonomy. I lined up agricultural science, geology, marine science, botany and veterinary science, and of those, veterinary science sort of appealed to me.”* (Bell 2006)

Others were unsure about their future, *“I applied for cadetships in agriculture, veterinary science and forestry.”* (Mayberry 2006). *“It was a toss up between veterinary science and agricultural science.”* (Morrell 2006) *“I was undecided between marine biology studies, veterinary science or doing medicine.”* (Brighton 2006)

Three admitted being influenced to become veterinarians by their fathers, but only one had a relative who was a veterinarian (Batey 2006).

Although embarking on a veterinary career, all interviewees remembered the daunting prospect of entering rural veterinary service.

“It [transition into professional life] was a shock, because I was sent to the Esperance office of the Department of Agriculture and suffered from isolation...There I became involved in TB testing and Brucella bleeding of cattle and I found that this routine work did not satisfy my desire to exercise skills that had been taught.” (Mayberry 2006)

“I found the transition to veterinary work very difficult because of my lack of confidence, lack of knowledge and lack of practicality, but I was helped immensely by the government mentoring system.” (Moir 2006)

“I was actually scared to work as a vet when I graduated as I didn’t have a lot of confidence...But then I went through a period where I became thoroughly disenchanted with the whole veterinary scene.” (Morrell 2006)

“I handled the transition pretty well, because I was working under Bryon Micke at Moora and he taught me a lot.” (Hunt 2006)

“I went into a dairy practice in Bega on the south coast of NSW. I was employed to carry out the routine government work of the practice. The principals said, ‘you don’t know much, the farmer’s don’t know you and they are going to have to trust you.’ I thought that this was fine and this expedited the transition into practice smoothly. Without the farmer having incurred a cost, I was on the farm and he could form an opinion of me on how I handled his cattle.” (Vass 2006)

“I was lucky, I went into a 12 vet dairy practice, so it was very easy to make sure there was always someone to back me up...I was not formally mentored, but the transition to practice for me was smooth.” (Erickson 2006)

“I went straight from Murdoch to Mount Barker in partnership with Rob Graham.” (Nye’Chart 2006)

3.3 Western Australia in the 1960s.

In 1960, a new Veterinary Surgeons Act came into existence in WA; The Veterinary Surgeons Act 1960 (Act No. 64 of 1960). This Act was assented to on 2 December 1960, 49 years after the first legislation was enacted and it is still in effect, 47 years later.

Between 1959 and 1969 land clearing in WA increased from 9.7 million ha to 13.8 million ha; sheep numbers increased from 16 million to 33 million; cattle increased from 1 million to 1.5 million; and wheat from 1.6 million tonnes to 3 million tonnes. In 1950-51, when wool averaged 144d/lb, the wool clip from 11 million sheep brought £59 million – about 10 times the value during the war. At the same time the wheat harvest averaged 0.4 tons/ac and its free-on-board value was £32.5 million. The cereal and sheep belt experienced a welcome prosperity and farmers took up more land and began an expansion program which continued until 1968. In 1968, WA was second only to NSW in sheep and wheat production (Burvill 1979c).

This expansion in farming, concentrated in the winter rainfall region, provided a stimulus to the provision of veterinary services (Table 3.1)

Table 3.1

Numbers of registered veterinary surgeons in WA during the decade 1960 - 1970 and their classification (Toop 1960; Proctor 1970).

Classification	1960		1970		Increase	
	n	%	n	%	n	%
Government	5	23%	40	33%	35	700%
Perth practice	11	50%	35	29%	24	218%
Rural practice	6	27%	30	24%	24	400%
Out-of-state	0		13	11%	13	
Other	0		4	3%	4	
Total	22		122		100	455%

In response to this rapid increase in agricultural activity, two significant developments occurred, namely, the formation of Farm Management Clubs and the Government

Subsidy Scheme to promote the establishment of veterinary practices in rural regions of WA.

In 1958, the first farm management club was formed at Brunswick in WA. In such clubs a group of 40 to 50 farmers agreed to be legally bound to employ a professional advisor to help members improve net income. Within 10 years, 40 such clubs were established (Burvill 1979c; Falconer 1990).

Subsidization of a veterinary practice was initially tried in WA in 1938 by the Sussex Veterinary Society at Busselton. Four hundred farmers agreed to pay £2 per year to engage a veterinary surgeon on an annual salary of £800. Dr B. Stein, DVM, a Polish graduate was engaged, however, after eight months he withdrew from the scheme and later established a practice in Perth (Shilkin 1970).

In 1953, farmers in the Waroona and Coolup districts sponsored a subsidized service conducted by Mr K. Proctor, BVSc. then practicing in Pinjarra; the scheme guaranteed an income of £1,100 per annum. In 1954, the Albany Zone Council of the Farmer's Union expressed interest in the formation of a veterinary scheme and Mr J. Cosgrove, BVSc. was appointed to the position, but the practice failed and after 12 months Mr Cosgrove left WA (Shilkin 1970).

In 1961, the Stock Owners Association proposed that the State Government subsidize veterinary practices in rural areas on a pound-for-pound basis with local authorities and amend the Local Government Act.

Legislation was enacted late in 1962 and the Katanning and Districts Veterinary Club selected Mr P.V. Merewether, BVSc to commence practice in January 1963 for a guaranteed annual income of £3,000 (Anon 1962a).

Thereafter, subsidized practices were established at Boyup Brook, Northam, Narrogin, Manjimup, Bridgetown, Dalwallinu, Dowerin, Wyalkatchem, Koorda and Trayning (Shilkin 1970).

Financial aspects of the scheme were controlled by the Department of Agriculture and the State Government's contribution was \$1,771 in 1964, \$2,237 in 1965 and \$1,640 in 1966; the veterinary officer in charge of the scheme commented, "... *there is little doubt that the subsidy scheme played a significant role in the establishment of private practitioner services in many country areas,*" (Shilkin 1970)

The subsidy scheme did bring veterinary surgeons to rural areas of WA. However, many of the towns that secured the services of a veterinary practice quickly lost them. Shires utilized the subsidy scheme with little knowledge of the requirements of a viable practice and many of the locations were totally unsuitable. Of the 11 towns listed above only three have a practice today.

During this time there was a growing demand for veterinarians to use the title "Doctor". Some registered veterinarians had degrees which entitled them to use this title (e.g. DVM), whereas, those with bachelor degrees were not allowed its use. This issue was resolved in 1969, when the profession adopted the title, but not without rancour from some members of the profession.

At the height of this debate, a veterinarian was de-registered by the Veterinary Surgeons' Board on the grounds of unprofessional conduct. This was the first time this action had been taken since the Act came into existence in 1911. The veterinarian, a DVM, commenced practice in Perth in 1963 and five years later faced charges of cruelty. The proceedings of the Board were emblazoned across the front page of the Daily News, the

afternoon newspaper in Perth at that time (Anon.1968). To investigate the charge, the Board employed the services of a private enquiry agent, who interviewed five former employees and based on their uncorroborated evidence, concluded that the charges had been proved. There was conjecture at the time that this was related to the dispute between those who could use the designation Doctor and those who could not.

3.4 Katanning.

In 1883, Anthony Hordern, a Sydney businessman visited the colony of WA to promote a scheme to build a railway from Beverley to the port of Albany. The West Australian Land Company was formed in 1886 to build the line and to operate the service. The rail line was financed by the operation of a land-grant, whereby for every mile of railway constructed, 12,000 acres would be granted. The total length of the line was 243 miles and the cost of construction was £1,550 per mile. A requirement was that the line be constructed from both ends at the same time, and on 14 February 1889, the last spike was driven where the north and south sections of the line met, just north of the proposed town-site of Katanning. Katanning was declared a town of the colony of WA in 1898 (Bignell 1981).

Katanning developed rapidly during the next half century to become the centre of the Great Southern Agricultural Region. By 1960 in WA there were 21,832 rural holdings with a workforce of 30,580; 12% of the State's population lived on rural holdings. There were 16.4 million sheep, 800 thousand cattle and 40 thousand horses in the State and 16% of the sheep, 2% of the cattle and 4% of the horses were located in the Katanning region (Little 1959-60; 1962).

John Francis Filmer was born in Victoria in 1895, but lived most of his early life at Beverley in WA. He obtained a scholarship to study Veterinary Science at Melbourne University from where he graduated in 1916. He served with the Royal Army Veterinary Corp during World War I in France, Belgium and Salonika and on his return established a practice at Katanning in 1919 (Anon. 1919; Whitten 1979; Parsonson 2005a).

On 21 March 1921, Filmer became the ninth veterinary surgeon to register in WA (Register, WA Veterinary Surgeons Board).

As a result of the Rinderpest outbreak at Fremantle in 1923, Filmer's services were requisitioned by the Stock Department and by 1925 he had taken a position with the Department of Agriculture in Perth (Anon. 1923; Whitten 1979).

Filmer established a reputation as a researcher, particularly in the field of trace element deficiencies; he obtained a DVSc from the University of Melbourne in 1938 for his thesis on Enzootic Marasmus. He moved to Victoria as a Veterinary Research Officer and in 1938 became Director of the Division of Animal Research, Department of Agriculture, New Zealand where he worked until retiring in 1960 (Whitten 1979).

Although it is likely that private practitioners located in Perth were called upon to attend to livestock in rural areas adjacent to Perth, the establishment, by Filmer, of a practice at Katanning, appears to be the first WA rural practice operated by a qualified veterinary surgeon.

When Filmer left Katanning the veterinary role was filled by a series of unqualified men who demonstrated veterinary skills (M. Kemble, personal communication). This situation prevailed until the late 1950s, when interest in acquiring the services of a qualified veterinary surgeon was aroused.

3.5 Katanning and Districts Veterinary Club.

The Katanning Zone Council of the Farmer's Union of WA held a number of meetings during the late 1950s and early 1960s, resulting in the formation of the Katanning and Districts Veterinary Club on 12 July 1962, with a membership of 125 farmers (Anon. 1962a and b).

Peter Merewether was born in 1919, entered the Veterinary Faculty at the University of Sydney in 1938, joined the Navy in 1941, where he saw active service in the Philippines and Coral Sea. On his discharge he returned to the University of Sydney, graduating in 1950 and establishing a practice at Bowral in rural New South Wales. He believed there was a need for veterinarians in WA and in 1963 he moved there (R.I.T. 1973).

The Katanning and Districts Veterinary Club was called upon to pay part of the guarantee at the first annual meeting of the club, but thereafter members did not have to subsidise the practice (Anon. 1963). However, at the 1965 AGM, he advised the club that he would be leaving.

In March 1966, the author assumed responsibilities for the conduct of the veterinary club and problems were immediately encountered. The promised rental house was not available, the building that housed the clinic had been demolished and there was no nursing staff; the club which had enthusiastically and energetically sponsored the establishment of a veterinarian in Katanning in 1961, failed completely to honour its commitments to the second veterinarian.

The number of cases and income received by the practice in June 1966, three months after the author arrived in Katanning, are recorded (Table 3.2). Thirty-seven per cent of

the case load was with large animals and 63% was with small animals; 54% of the income came from large animal work and 47% came from small animals.

Table 3.2

The quantity and value of veterinary work performed by the author for the Katanning and Districts Veterinary Club in June 1966.

Animal species attended	Number of cases	Income earned
Sheep	20	\$187.80
Cattle	21	\$320.79
Horse	24	\$158.20
Small animals	111	\$597.43
Total	176	\$1264.22

Ram testing was popular at the time and the author travelled throughout the district testing rams; setting up a microscope in the shearing shed and using a rectal electro-ejaculator to collect semen samples which were examined microscopically to assess fertility. Within a few years this fad had run its course and thereafter ram testing was confined to suspect rams only. However, the procedure allowed the author to meet a large number of wool growers.

Within twelve months the author had paid off the club's debt and terminated the club. He established his own practice and employed an assistant, a new graduate from the University of Sydney. The practice operated as a farm-visit practice for economic animals with small animals attended in rented premises in Katanning on Fridays. This reflected the shopping pattern in existence at the time as Friday was "town-day".

Initially, prescriptions were written to be dispensed by one of the three chemists in Katanning. In country towns, the local chemist acquired the mantle of health advisor for

both human and veterinary cases. They didn't charge for advice, but it was freely given to ensure the sale of a medication. This practice still exists in many country towns today.

Unfortunately, if the chemist did not have the prescribed product, they substituted another and when this happened, the problem of ineffectiveness of the medication did not reflect on the chemist, but on the practice; clients didn't blame the chemist when the therapy failed, they blame the prescribing veterinarian. This matter was raised with the chemists, however, it was dismissed with the assertion that the alternative worked just as well. As all three chemists persisted with this fraud, the practice began carrying and dispensing medications.

The major events on the social calendar were the annual Merino Stud Ram Sale and the Katanning Agricultural Show. At the time, the ram sale was the second largest in Australia, and all the major Merino breeders in Australia were present, especially the South Australian medium wool studs such as Collinsville.

The two veterinarians travelled great distances to attend cases. The area covered by the practice extended 100 miles to the north and west, 70 miles south, and in the east the next practice was located in South Australia. Travelling charges were the main source of farmer complaint of veterinary fees; for any call further than 30 miles, travel costs became the major cost, usually about 60% of the bill. Resentment was often expressed, as the farmer did not appreciate that the veterinarian was engaged for the total time it took to travel to and from the farm.

There were a number of Thoroughbred race meetings each year and during the season trotting meetings were held each Saturday evening. The only girl's boarding school outside of Perth, Kobeelya Church of England Girl's School, was located at Katanning

and the great advantage of this school was that the students could have their horses at the school. Fifty or so pleasure horses and ponies were in residence at any one time.

A veterinary clinic was established in rented rooms and small animals were seen there. However, almost daily a utility would arrive with a dead sheep for post mortem. So not to cause offense, the vehicle would be driven around the back of the office and the autopsy performed out of the public view. This arrangement led the Shire to insist that the clinic be relocated and in 1968 the author built a veterinary clinic. This was the second purpose-built veterinary clinic in rural WA; the first was built in Albany.

The clinic was originally designed to cater for the small animal work, with post mortem facilities at the rear of the building. No sooner had it been constructed, than large animals owners requested facilities for their animals and holding yards with a crush for cattle and an equine crush were installed.

The first assistant left for England and the practice employed another new graduate, this time from the University of Queensland. Another change took place at this time with the employment of a male nursing assistant; to the best of my knowledge, the first to be employed in a rural practice in WA. The man was a good stockman and an experienced horse handler and during his employment the author found his assistance invaluable, not only at the hospital, but also on farm calls where he would prepare the equipment freeing the author to discuss with the client the nature of the problem and again when the job was completed, he would clean the equipment and repack the vehicle. In this manner a comprehensive on-farm service was provided. By contrast, the service provided today on the farm is essentially first-aid with serious conditions brought to the hospital.

The provision of large animal holding facilities provided another benefit; whereas, farm calls often involved arriving on the farm late in the course of a disease, the benefit to be derived from having yards at the clinic was that the client brought the animal to the veterinarian's attention earlier in the course of the disease and this meant an improved success rate. Not only was it cheaper, there was no mileage charge, the results were better and this led to an efficient use of veterinary time (Kingrey 1976).

In 1969, the practice employed an older, experienced British veterinary surgeon who had decided to start a new life in Australia. Whereas, the two new graduates initially employed were enthusiastic and hard working, as were all new graduates in the 1960s, they lacked many of the necessary basic practical skills. However, the British graduate was very accomplished; he could deal with problems in any species, he demonstrated empathy for the client and sympathy for the patient in performing the most important task in rural veterinary practice "problem solving". But he admitted that, in his Yorkshire practice, he never travelled more than seven miles and that he was not prepared to travel large distances in any practice he established. When his contract expired, he established an urban practice and a competent mixed animal practitioner was lost to rural practice. When he left the practice secured the services of another English graduate who stayed for two years and proved to be the most competent the author employed. On his return to England, he established a dairy practice in Somerset; however, when the author visited him in 1996, he stated that the practice was now exclusively small animals.

The equine crush proved very helpful for examinations, drenching and standing surgical procedures, such as suturing lacerations, flank laparotomies, roaring operation, recto-vaginal breeding tears, however, procedures requiring general anaesthesia were

performed on a lawn at the back of the clinic and the author recognized the need for a dedicated equine operating theatre.

In this era, income from rural veterinary practice was derived from professional fees, drug charges and a fee for travel (Blood 1985a). All clients received an account for work conducted on their animals and statements were mailed out each month. There was little bad debt, although some clients took many months to settle. The conduct of the business of practice was not taught; there was no undergraduate instruction on business management and the veterinarian acquired this skill working for others and by making mistakes in the conduct of his own practice. Some acquired the skill of owning and operating a veterinary business, others did not and failed (Blood 1985a).

3.6 Rural Recession 1969/1970.

As the decade drew to a close dramatic changes took place in Australian agriculture. By 1968, world and Australian wheat stocks exceeded demand and in 1969 wheat-delivery quotas were introduced throughout Australia and these operated until 1974.

Wheat production dropped in WA from 3 million tonnes in 1968 to 2 million tonnes in 1972. In addition, the year 1969 saw a major drought, ranking in severity to 1914 and 1940, so that government assistance with drought-relief loans was required. Wool prices slumped adding to the depression caused by lower wheat prices and the drought; the average price for greasy wool of 100-135c/kg in the 1960s fell to 75c/kg (Burvill 1979c).

CHAPTER 4. PREVENTIVE MEDICINE/ANIMAL PRODUCTION SERVICE: PUTTING THEORY INTO PRACTICE.

4.1 Introduction.

This chapter details the establishment of a sheep consultancy practice in WA; the reason for its establishment, how it was promoted, the results achieved and its subsequent failure.

Although veterinary research conducted into sheep health and production from 1920 to 1960 meant that veterinary surgeons could claim proficiency with sheep, this did not translate into a ready acceptance of private veterinary practice by sheep breeders and wool growers.

At the AGM of the AVA in 1958, the operation of rural practice in sheep districts was scrutinized. One veterinary surgeon, who practiced at Young, NSW explained his position, *“I would say that it is impossible to make a living as a practitioner in a sheep district... The sheep work of my area forms less than 10% of my total work... The main sheep work involved is routine, such as mulesing, a small amount of inoculation, and some diagnostic work...I would say that the future in regard to practice in sheep areas is to say the least precarious. I have discussed this problem with four other practitioners similarly placed to myself and the trend is the same in their areas.”*(Cole 1958)

The *“practice of quacks”* and the *“present Government-Practitioner set up”* were blamed for this parlous state and this veterinarian proposed nationalization of the profession. This was not the first time that a nationalized veterinary service had been canvassed in Australia (Fethers 1933; Dowling 1934; Anon. 1941).

A second practitioner from Skipton in Victoria stated, *“Probably the first rule in practice in a sheep district should be to place little reliance on sheep work... the greatest obstacle is the inertia of farmers in regard to sheep and their tendency to regard sheep losses as inevitable, while quite often at the same time regarding themselves as self-taught experts on all sheep diseases...Another difficulty is that sheep work tends to be self-limiting. Having once diagnosed a disease... and advised the client... the veterinarian has worked himself out of a job.”* (Taylor 1958)

This veterinarian allocated blame to both the attitude of the sheep farmer and to the limitations of the service provided.

The third veterinarian reported his experience during the formative years of practice at Glen Innes in NSW from 1951-1954. *“The root cause lay, not in the fundamental nature of private practice but in the system of remuneration commonly used, namely, the fee-for-visit system. This financial system, which has proved quite satisfactory for work with individual sick animals, appeared to be unsatisfactory for practice in livestock production.”* (Osborne 1958)

As a result Osborne adopted an annual contract for the servicing of sheep clients, but he recognized limitations to its utilisation, *“The industry must be stable and prosperous. The livestock owner must be well educated, intelligent and progressive in his outlook. The veterinary profession must know enough about the animals concerned to render useful service.”* (Osborne 1958)

There is no way to determine if this approach had a future, because the author accepted a position with the University of Queensland’s Veterinary School in 1955, where he

became one of the first to promote the PM/AP approach (Osborne 1960; 1961a and b; 1963; 1966; 1967).

In 1966, a seminal article on the application of the whole-farm approach appeared (Johnstone 1966). Ian Johnstone had considerable research experience in the field of parasitology, becoming officer-in-charge of the Pastoral Research Laboratory (CSIRO) at Armidale, NSW. After working in the district for many years, he undertook private consultancy work with sheep and beef producers before accepting a position with the School of Wool and Pastoral Science at the University of NSW in 1962 (Southcott 2005).

Johnstone (1966) stated, “...*very few veterinarians have developed an interest in the whole flock or herd concept, or in the individual property as an economic unit. Very few indeed have developed this approach as a major component of professional practice.*”

He demonstrated what could be achieved by the application of the PM/AP service citing the changes produced on a single property in the Northern Tablelands of NSW.

By the 1960s, those veterinary surgeons offering the traditional veterinary service in rural practice were in despair at the prospects of servicing sheep. On the other hand, a few were proposing the PM/AP service as an alternative. Although there was theoretical support for this approach, there was little evidence that this system was more effective than the traditional approach.

4.2 The author’s exposure to the PM/AP approach.

During undergraduate studies at the University of Sydney, the author was exposed to the principles of the PM/AP approach. In 1959, the Chair of Veterinary Medicine was established at Sydney University and David McFarlane was appointed to the position (Anon. 1959; Gunn 1959; Haughey 1985). McFarlane, who had worked in New Zealand

since 1947, established positions in the Department of Veterinary Medicine which were filled with others from New Zealand. These men, K.G. Haughey, Lecturer in Sheep Diseases, W.J. Hartley, Senior Lecturer in Preventive Veterinary Medicine, and T.J. McClure, Lecturer in Cattle Disease, incorporated PM/AP principles into their lectures (Anon. 1959; Haughey 1985).

Whilst working in rural practice, the author was confronted with the limitations of the traditional therapeutic approach when dealing with flock and herd problems. The epithet “fire-brigade” applied to the traditional service, was appropriate because the farming client would contact the veterinarian after realizing they had an animal health problem. The veterinarian would rush to the farm, the problem would be attended to and the veterinarian would rush off to the next emergency much like the firemen rushing from fire to fire responding to an alarm. As the veterinarian was often called when it was too late to render useful help, the term acquired a derogatory flavour (Blood 1964).

4.3 The PM/AP Service established at Katanning, 1967-1971.

The writings of Osborne and Johnstone and the teachings of McFarlane and his colleagues prompted the author to try to establish a sheep consultancy service at Katanning.

From the time of arrival, the PM/AP approach was promoted as a means of servicing health and production problems of economic livestock; on the day the author arrived in Katanning, he spoke to a meeting of the Zone Council of the West Australian Farmers Union on this type of veterinary service. The author raised the matter with sheep and beef producers when visiting their farms; there was polite interest, however, very few were interested enough to employ the service.

At that time there were five Farm Management Advisory Services operating in the region and the author sought an opportunity to speak to these groups as they were considered to represent the most progressive farmers in the district.

In August 1966, the author addressed a meeting of the Kojonup Farm Management & Advisory Service (Inc.) and was asked what would be the charge of such a service to them as a group and a further meeting was arranged to discuss this possibility. The author calculated that to service this group of farmers (43 members) it would be necessary to allocate 25% of his total work-time to the task and the practice would require the services of a veterinary assistant. At the next meeting it was outlined how the service could be conducted for an annual fee of \$4,500; this figure was chosen because it represented the annual salary of a veterinary assistant. At the final meeting held in October 1966, 39 members signed up for the veterinary service.

A survey of all members was undertaken to define the nature and extent of their health and production problems. The initial survey of members of the veterinary service was conducted with a questionnaire designed to gather information regarding the owner, the property, the sheep enterprise, disease conditions encountered and finally what each client perceived as the major health and production problems. Interviews were conducted over a four-month period and the results reported at a meeting of the group in March 1967.

The survey revealed that the major problems were: (1) Reproductive Failure and Wastage. Thirty-three members (85%) stated that reproduction was the major problem limiting their productivity. Of the remaining six, three operated all-wethers flocks and three stated that the current lamb marking percentage of 50% to 80% was satisfactory.

The goal became to define the part played by ewe fecundity, ewe fertility and ewe and lamb mortality in producing the low lamb marking percentage.

(2) Weaner Unthriftiness. Twenty-eight members (72%) stated that weaner unthriftiness was a major problem, whilst others considered that they had this problem under control. Some stated that the problem was limited to condition loss whilst others stated that this was accompanied by scouring and deaths. Trials were to be conducted testing present recommendations related to trace element administration, worm control and vaccine use and all trials were to involve measuring body weight of weaners.

(3) Control of Internal Parasites. This was recognized as a problem by every member of the service; all realized that internal parasites were a problem with young sheep, whilst some considered that they were a problem with older sheep as well. There was general confusion within the group as to the use of anthelmintics to control worm burdens and this confusion mirrored that within the veterinary profession. The goal of the investigation was to determine when the parasite was a problem, how they affected productivity and how best to control the problem in a cost-effective manner.

4.4 Results achieved using the PM/AP approach.

This type of research, classified as “observational” was considered useful when examining problems that exist under field conditions (Moule 1965). On-farm investigations of the nature undertaken by the author were designed to define the nature of problem, assess the extent to which problems affect productivity and determine remedies that may be economically applied to resolve them. The following results were derived from members of the service and from other contract clients.

(1) Reproductive Failure and Wastage.

This was the major concern of the service and occupied the bulk of research time.

In an address to the 1966 Biennial Conference of the Australian Society of Animal Production, the President stated, *“understanding of reproductive performance in sheep in the field...is only likely to be achieved when the nature and variation of reproductive function in the field situation is defined...There is scarcely a situation in the field that is adequately defined for this purpose.”* (Watson 1966)

It was with this in mind that the series of on-farm observational research was instituted, with the objective of determining the “vital statistics” of breeding flocks of sheep in the area under study.

Low reproductive rates had been a feature of the Australian sheep industry and careful field investigations were necessary to define and assess the relative importance of the many causal factors. In the period 1926 to 1940, relative to the number of ewes joined, the mean proportion of lambs marked increased from 57% to 64% (Moule 1965; Watson 1966).

Existing management procedures

A number of husbandry practices were in place when the author began and it was necessary to establish the efficacy of these procedures.

(1). Ram percentage – In the survey, the question of the percentage of rams used was raised and the answer was 2% or more; that is, for every 100 ewes to be mated two or more rams were used. Nearly half the membership was using 3% or more and those using less than 3% were aiming to increase to this figure. Most stated that they were doing this because the WA Department of Agriculture recommended that they do so. Trials

conducted by the author on members' properties, using mating harnesses (Radford, Watson *et al* 1960) demonstrated that when using 1% to 2% of rams, 95% of ewes were mated within 3 to 4 weeks of joining and concluded that 1% to 2% was sufficient.

(2). Length of joining period – Members joined rams with ewes for variable periods from 6 to 12 weeks. They mated once yearly and as a result of research conducted by CSIRO at Kojonup, members were encouraged to mate for a late Winter/ Spring lamb (Lloyd Davies 1962). Trials conducted using rams with mating harnesses indicated that within seven days, approximately 40% of ewes had been mated, within 14 days approximately 70% had been mated, within 21 days, approximately 90% had been mated, and within 28 days, more than 95% had been mated. So it was recommended that a mating period of 4 weeks was adequate for spring lambing flocks.

(3). Time of mating – Originally, members mated ewes so they would lamb in Autumn, however, as described above, they had moved to a late Winter/ Spring lambing schedule. The consensus was that the change had not increased lambing percentage. All ewes were weighed two months prior to mating and again when joined for mating to determine if this was a factor. The average bodyweight of ewes a month before a November mating and when mated was 85 lbs (39.7 kg) increasing to 95 lbs (43.2 kg), an increase of 10 lb (4.6 kg). Comparable figures for a March mating were 117 Lbs (53.2 kg) to 108 Lbs (49.1 kg), a loss of 9 Lbs (4 kg). Mating for an Autumn lambing had the ewe at high body weight and gaining weight, whereas, mating for a late Winter/ Spring lambing had the ewe at a high bodyweight and losing weight.

(4). Bodyweight at first mating – Reproductive performance of maiden ewes under 70 lbs (31.5 kg) bodyweight at mating was compared with that of maiden ewes over 70 lbs. It

was demonstrated that the lighter maiden ewes had a higher non-pregnancy rate, lost more newborn lambs and consequently reared fewer lambs.

Definition of problems of reproduction.

The major barrier to increased productivity in sheep enterprises in WA was the shortage of sheep resulting from reproductive failure and wastage in commercial flocks. Failure was seen in both the failure of ewes to produce sufficient offspring to increase selection pressure (fecundity) and failure of ewes to produce offspring (infertility). Wastage was seen in both the loss of breeding ewes and in the large number of lamb deaths that were recorded (Croker 1968).

Various parameters were used to define the levels of reproductive efficiency achieved by a breeding mob of sheep: Lamb marking percentage – the number of lambs marked (castrated, tail docked and ear marked) expressed as a percentage of the number of ewes joined with the rams for mating; Fecundity – the ratio of lambs born per 100 ewes lambing; Fertility – the number of ewes giving birth expressed as a percentage of the number of ewes joined with rams for mating; Ewe Losses – the number of ewes not present at lamb marking expressed as a percentage of the number of ewes joined with rams for mating; Peri-natal lamb mortality – the death of lambs occurring at or about birth.

Ewe fecundity, fertility and losses.

During the conduct of intensive lambing systems, where the total number of ewes lambing and the number of lambs produced could be accurately recorded, data were collected to identify ewe fecundity, fertility and losses.

From 1967 until 1971, 10 maiden and 10 mature flocks were monitored for fecundity with every ewe examined throughout the conduct of Pen-lambing and other intensive lambing systems and results of fecundity for the two groups of flocks are presented (Tables 4.1 and 4.2) (Beggs and Campion 1966; Wilson and Moule 1968)

Table 4.1

Fecundity of Maiden Merino Ewes in 10 Flocks.

Flock/ Year	Number of ewes lambing	Number of lambs born	Ratio of lambs born to ewes lambing
1/ 1967	217	224	1.03
2/ 1968	108	108	1.00
3/ 1969	136	137	1.01
4/ 1969	98	99	1.01
5/ 1969	132	132	1.00
6/ 1969	81	83	1.02
7/ 1970	194	194	1.00
8/ 1970	231	241	1.04
9/ 1971	551	568	1.03
10/ 1971	205	208	1.01

In 10 flocks of maiden Merino ewes a total of 1953 ewes gave birth to 1994 lambs with a ratio of 1.02 lambs born per ewe lambing. In 10 flocks of mature-age Merino ewes a total of 1032 ewes gave birth to 1121 lambs with a ratio of 1.09 lambs born per ewe (Table 4.2).

Table 4.2

Fecundity of Mature-age Merino Ewes in 10 flocks.

Flock/ Year	Number of ewes lambing	Number of lambs born	Ratio of lambs born to ewes lambing
1/ 1969	109	111	1.02
2/ 1969	42	45	1.07
3/ 1970	124	135	1.09
4/ 1970	104	110	1.06
5/ 1970	151	175	1.16
6/ 1970	17	21	1.24
7/ 1971	185	193	1.04
8/ 1971	124	131	1.06
9/ 1971	104	115	1.11
10/1971	72	85	1.18

From 1967 until 1971, 22 maiden Merino flocks and 12 mature-age Merino flocks were examined for ewe fertility and losses; all ewes had numbered ear tags for identification and each ewe was examined at lamb marking by the “wet” and “dry” method (Dunn 1963). The percentage of ewes lambing in the maiden Merino flocks ranged from 69% to 97.5% with ewe losses ranging from 2% to 6.8%. In the mature-aged Merino flocks the percentage of ewes lambing ranged from 40.1% to 89.4% with ewe losses ranging from 2.15 to 11.9% (Table 4.3 and 4.4).

Table 4.3

Ewe Fertility in 22 Flocks of Maiden Merino Ewes.

Flock/ Year	Ewes mated	Ewes lambing	Ewes not lambing	Ewes missing
1 /1967	244	221	8	15
2 /1968	524	423	75	26
3 /1967	466	328	124	14
4 /1967	942	724	162	56
5 /1968	126	108	15	3
6 /1968	445	367	60	18
7 /1968	630	536	63	31
8 /1968	475	393	62	20
9 /1969	183	145	28	10
10 /1969	138	108	25	5
11 /1969	147	134	9	4
12 /1969	346	309	20	17
13 /1969	100	82	16	2
14 /1970	264	233	13	18
15 /1970	259	200	49	10
16 /1970	565	551	7	7
17 /1970	280	243	31	6
18 /1971	352	287	47	18
19 /1971	339	283	42	14
20 /1971	263	219	33	11
21 /1971	267	205	54	8
22 /1971	890	614	223	53

Table 4.4

Ewe Fertility in 12 Flocks of Mature Merino Ewes.

Flock/ Year	Ewes mated	Ewes Lambing	Ewes not lambing	Ewes Missing
1/ 1969	128	110	12	6
2/ 1969	47	42	4	1
3/ 1970	149	127	13	9
4/ 1970	175	126	45	4
5/ 1970	135	109	22	4
6/ 1970	395	169	179	47
7/ 1970	47	20	23	4
8/ 1971	110	82	23	5
9/ 1971	227	185	24	18
10/ 1971	161	124	31	6
11/ 1971	121	104	14	3
12/ 1971	87	72	11	4

Lamb losses.

During the Spring-lambing in 1966, dead lambs in 10 flocks were collected daily to assess the extent of lamb mortality. The results of this preliminary study indicated that lamb mortality was a significant contributor to reproductive wastage with an average 23% of lambs born dying. Note, that these figures are likely to be underestimated as some dead lambs may have been missed or removed by scavengers. The live and dead lambs recovered during the daily retrieval of dead lambs from 10 flocks of spring-lambing flocks were recorded (Table 4.5).

Table 4.5

Number and percentage of Dead lambs from 10 Spring-Lambing flocks 1966.

Flocks	Total lambs	Live	Dead	% dead
1	223	175	48	21.5
2	224	167	57	25.5
3	132	76	56	42.5
4	515	426	89	17.5
5	210	164	46	22.0
6	123	96	27	22.0
7	117	82	35	30.0
8	125	102	23	18.5
9	173	135	38	22.0
10	161	119	42	26.0
Total	2003	1542	461	23.0

The range of lamb deaths was 17% to 42% and when the data was pooled, 461 of 2003 lambs born did not survive (23%).

During 1967, 1968 and 1969, 68 flocks, on 13 properties, were involved in an intensive lamb mortality investigation using the McFarlane autopsy technique (McFarlane 1965).

During the Spring-lambing period of 1967, lambs from 27 flocks on nine properties were autopsied. Each day, for the entire lambing period, dead lambs from one flock of maiden ewes and two flocks of mature-age ewes were collected and placed in bags which carried identification. Four properties acted as depots and lambs from the neighbouring farms were taken to the depot daily. Each depot was visited daily and all lambs were weighed, sexed, autopsied and placed in one of 21 time-of-death classes after the manner of McFarlane and the finding recorded on tape; a total of 1029 lambs were examined.

Table 4.6

Time-of-death classes of all lambs autopsied from 1967-1969.

Time-of-death class *	Number	%
APD1	79	4.2
APD2	216	11.6
PD1	38	2.0
PD2	38	2.0
PD3	42	2.2
PD4	92	5.0
PD5	25	1.3
PD6	22	1.2
PD7	255	13.6
PPD1	1	0.0
PPD2	31	1.7
PPD3	53	2.8
PPD4	51	2.8
PPD5	27	1.4
PPD6	332	17.8
PPD7	70	3.7
PPD8	315	16.9
PPD9	51	2.8
PPD10	44	2.3
PPD11	51	2.8
PPD12	36	1.9

* APD = ante-parturient deaths; PD = parturient deaths; PPD = post-parturient deaths.

In the autumn of 1968, lambs from 15 flocks on one property were handled in a similar manner to those above and 198 lambs were examined. In the spring of 1968, 353 lambs from 11 flocks on three properties were similarly examined and in the autumn of 1969, 289 lambs from 12 flocks on one property were also examined. The data from each

comparison, that is, between different aged flocks on the same property during a lambing, between different properties during the same lambing period and between different lambing times complied with the χ^2 test for homogeneity and were pooled and the results are presented (Table 4.6).

Of the 1869 lambs dying in these flocks, 295 (16%) died before birth, 512 (27%) died during birth and 1062 (57%) died after birth. Of the 295 deaths before birth, 79 (27%) died a long-time before birth (APD1) whilst 216 (73%) died shortly before birth (APD2). Of the 512 deaths during birth, 257 (50%) occurred as a result of a difficult birth (PD1-6), whereas 255 (50%) occurred during a normal or non-stressful birth (PD7).

Of the 1062 deaths occurring after birth, 59 (6%) were considered low-viable lambs in that they failed to breath or walk (PPD1, 2 and 5); 700 (66%) were viable but failed to feed (PPD3, 6 and 8); 172 (16%) failed to utilize the milk ingested (PPD4, 7 and 9); and 131 (12%) died even though they had fed and digested milk (PPD10, 11 and 12).

Three articles on perinatal lamb mortality in sheep were present in the Australian veterinary literature at the time. In NSW, 8000 lambs had been autopsied during 1961 to 1963, using the McFarlane protocol (Hughes, Hartley *et al* 1964). In WA, 4305 lambs had been autopsied in a survey from 1963 to 1965 (Dennis 1965) and 733 lambs that died on a Department of Agriculture field station were autopsied in 1964 (Crocker 1968). There were differences in sheep breeds, numbers and methods of collections between these studies and at Kojonup.

The object of the study was to define the extent of the problem of lamb mortality on member's farms and the autopsy protocol allowed an examination of the potential viability of lambs dying under current lambing conditions. The lamb deaths recorded in

the paddock were divided into those dead lambs that were potentially viable under intensive lambing conditions and those non-viable under any lambing system. The non-viable lambs were those in classes APD, both 1 and 2 (ante-parturient deaths), PD7 (parturient death early in a birth of short duration) and PPD1 (immediate post-parturient death in which the lamb did not breath). The balance was considered potentially viable. All dystocia deaths were potentially viable if effective assistance was given early enough and if measures are taken to keep the ewe and lamb together and feeding, all post-parturient deaths due to starvation and exposure are potentially viable if fed and sheltered.

Results from this work were presented at a seminar “Sheep Fertility. Recent Research and its Application in WA” conducted by The Institute of Agriculture, University of Western Australia (Maxwell 1974), and in a CSIRO publication entitled “Research Problems in Western Australian Sheep Fertility” (Nairn, Arnold *et al* 1974).

Model of reproductive efficiency.

Table 4.7

The Results of a Five-year Investigation in Reproductive Performance of Merino Sheep on Farms in South Western Australia.

Parameter:	Mean percentage:	Percentage Range:
Ewe Fecundity	1.04%	1.00% to 1.23%
Ewe Infertility	20.5%	9.5% to 60.0%
Ewe Losses	4.2%	0.0% to 12.1%
Lamb Losses	23.2%	17.3% to 42.4%

The following model summarised the data:

For every 100 ewes entering the breeding flock:

- 72 ewes became pregnant
- 24 ewes did not lamb
- 4 ewes were missing

The 72 pregnant ewes produced a total of 75 lambs:

- 58 of these lambs lived
- 17 lambs died

Each of the four components set constraints on the reproductive performance. Firstly, fecundity was low with 104 lambs born for 100 ewes lambing. Secondly, ewe infertility was high with nearly one in every five ewes not producing a lamb. Thirdly, one in twenty five ewes mated were not present at lambing. Finally, lamb mortality was high with one in every four or five lambs born dying. Together these factors combined to produce the low lamb marking percentage of 58%.

This data was presented at the III World Conference in Animal Production in Melbourne (Maxwell 1973a and b) and documented in a CSIRO report of “Reproductive Efficiency of Sheep in WA” (Nairn, Arnold et al 1974).

Results of other reproductive investigations.

During the conduct of these investigations other aspects of reproduction were also examined. Working in the region where “Clover Disease” was discovered, it was inevitable that the author would be confronted with the effects of this disease (Bennetts, Underwood *et al* 1946). In the Winter/ Spring lambing of 1969, dystocia occurred in outbreak proportions in four flocks of Merino ewes on three properties. Dystocia ranged from 12% to 30% of ewes lambing and the results of this study were reported (Maxwell 1970).

In 1966, CSIRO scientists (Morley, Axelsen *et al* 1966) reported temporary infertility in ewes grazing oestrogenic subterranean clover and during investigations at Kojonup, the author observed this phenomenon. With the advent of isoflavone analysis of clover leaves by the Institute of Agriculture, University of Western Australia, the author was able to document the occurrence of temporary infertility of ewes grazing pastures in which high mean levels of formononetin, the isoflavone considered responsible for oestrogenicity, were recorded (Maxwell 1979c).

The trace element Selenium had been shown to be of value in certain regions of WA to control weaner illthrift (Gardiner 1962) and there was the suggestion that Selenium may influence ewe fertility (Godwin, Kuchel *et al* 1970) and this was examined. Selenium in 50mg doses was administered to ewes, and although well tolerated, ewe fertility was not improved (Maxwell 1972).

In 1966 a product (Synchromate; GD Searle)) was made available to sheep breeders in WA for the synchronization of oestrus in their ewes. While working with this product, the author observed a variation in the anatomy of the ewe's vagina and this was investigated and the results published (Maxwell 1977).

(2) Weaner Illthrift.

In 1958, articles appeared of the problem of sheep referred to as Weaner Unthriftiness or Illthrift (Bennetts 1958; Engel 1958; Mulhearn 1958). The condition was "*characterized by a failure of weaner sheep to thrive at a time when all other classes of sheep appear to be in satisfactory health and bodily condition...The critical age is approximately 5-13 months...there is gradual loss of bodily condition, some diarrhoea and mortality...Wool*

production is reduced and fibre is weakened. The post-mortem picture of severe cases is one of emaciation with no gross lesions." (Mulhern 1958)

The consensus was that undernutrition was involved causing the lamb's failure to reach a satisfactory weaning weight and failure of weaners to maintain bodyweight on dry mature pasture. In WA, the role played by the internal parasite *Chabertia ovina* had also been raised (Anon. 1958). Dietary supplementation with concentrates, linseed meal, mown herbage, or summer crops were effective in preventing and controlling the unthriftiness. In addition to undernutrition *per se*, internal parasites, trace mineral deficiencies and idiopathic causes were implicated (Bennetts 1958; Cole 1962; 1973).

As the condition was of concern to members of the Kojonup service, examination of its occurrence, impact, causes and control were undertaken. Trace mineral deficiencies of sheep had been known to occur within this region since the 1930s and had to a large degree been elucidated; copper, molybdenum, cobalt deficiencies and selenium responsive conditions had been identified (Underwood 1966a, b and c).

Lambs were weighed at weaning and throughout the first summer when the condition was usually manifest. In 1967, the average weaning weight of autumn-born weaners was 40 lbs (18 kg), whilst in 1968, it was 55 lbs (25 kg). In a number of spring-born weaners weights between 30 lbs (13.5 kg) and 40 lbs (18 kg) were recorded (Maxwell, 1968 unpublished result).

When weaners were weighed at monthly intervals from December to April – the period of grazing mature, dry feed – bodyweight losses were recorded. For example, on one spring-born property 85% of weaners lost, on average, 4 lbs (1.8 kg); on another 100%

had lost 13 lbs (6 kg); whereas, one autumn-born property recorded 85% loosing 6 lbs (3 kg) in the same time period (Maxwell, 1969 unpublished results).

Whilst investigating this problem in 1968, a condition was observed on five properties; lambs were reported to be weak and lethargic and the owner commented that the recently mulesed tails, instead of being pink, were white. Although *Eperythrozoon ovis* had not been identified in WA, eperythrozoonosis was diagnosed and supporting laboratory evidence was sought by submitting blood smears from affected lambs. Samples submitted to the Institute of Medical and Veterinary Science in Adelaide proved positive and the finding of this organism in WA was reported (Maxwell 1969).

(3) Internal Parasite Control.

In Australia, the approach adopted for the control of internal parasites in sheep was the use of anthelmintics. Based on studies of the life cycle of various species of internal parasites, systems of strategic and tactical worm drenching were developed and the measure of the success of drenching was the efficiency with which the faecal worm egg count was reduced or eliminated (Pullar 1953; Gordon 1958; 1968).

This approach was developed by veterinary parasitologists, whose concern was the parasite and how to control it, in contrast to the consultant, whose interest was the host and its productivity. The approach adopted in the service was to measure the impact, if any, of internal parasites on the productivity of sheep, and explore management procedures that provide a financial benefit to the enterprise. Reduction in faecal worm egg count was not the goal of these investigations, rather the cost-benefit of the management measure. If a financial production benefit accrued from a procedure, such as drenching, then it could be recommended, but if there was no financial benefit or if the

procedure led to a financial cost that could not be justified, it was not recommended. The issue of cost-benefit analysis of drenching had been debated (Darvill 1979; Maxwell 1979b).

In 1963, a new anthelmintic, Thiabendazole was introduced into Australia and it revolutionized worm control, because it was much more efficient than the previous products (Hebden 1961). Other anthelmintics were introduced and this took place during the period of the operation of the PM/AP service (Forsyth 1966; Arundel 1967).

Thiabendazole, Merck Sharp & Dome (Thiabendazole) administered orally, Nilverm, ICI (Tetramisole) in both oral and injectable forms, Banminth, Pfizer (Pyrantel tartrate) in oral and injectable forms, Wormolas (Phenothiazine) edible sheep block, were included in a variety of trials.

Weaner drenching trials.

Thiabendazole, Tetramisole and Pyrantel administered monthly, bi-monthly and as a single weaning dose were compared. These trials commenced in 1968 and were designed to measure life-time productivity; body weight gain, wool production, wool quality, maintenance of bodyweight and fertility.

In a spring-born lambing group, using 6 groups of 50 weaners in each group, Thiabendazole and Pyrantel were compared. The average weight gain during the first summer by Thiabendazole treated weaners drenched monthly, bi-monthly or at weaning time only was 8, 5 and 5 lb (3.6 and 2.3kg), whereas, for those treated with Pyrantel gained 1.5, 3 and 3 lb (0.7 and 1.4kg).

In an autumn-born lambing group, using 9 groups of 50 weaners, Thiabendazole, Tetramisole and Pyrantel were compared using the above drenching procedures during

the first summer. Tetramisole-treated weaners gained on average 15, 15 and 14 lb (6.8 and 6.3kg); Thiabendazole-treated weaners gained on average 13, 11 and 11 lb (5.9 and 5.0kg); and Pyrantel-treated weaners gained on average 12, 10 and 11 lb (5.4, 4.5 and 5.0kg). As the trials were terminated in 1970, the lifetime data was not collected (Maxwell, 1969 unpublished results).

A block containing phenothiazine was trialed on the theory that a daily dose of phenothiazine could minimize the effect of internal parasites (Anon. 1958). The blocks were to be consumed over a 35 days period, however, in each trial the blocks were consumed within 14 days, so the trials were abandoned (Maxwell, 1968 unpublished results).

Ewe drenching trials.

As a result of epidemiological studies, strategic drenching programs had been developed, for example in WA (Gardiner and Butler 1964) and one recommendation was to drench the ewe before lambing, *“to reduce the contamination of the pasture and so reduce the infection in the lamb... There is very little evidence to justify this treatment. Little work has been done to compare the growth rate of lambs from ewes treated or not treated before lambing...”* (Arundel 1969)

Trials were conducted in 1968 and 1969 to examine this recommendation. A factorial design of four ewe treatments, two lamb treatments and two genders was used in a field trial on a member's farm. Ewes were mated in December/January and four weeks before lambing divided into 4 groups of ewes and 2 groups received a pre-lambing drench. At lamb marking in July 1968, ewes in 2 groups – one that had received the pre-lambing drench and one that did not – received a post-lambing drench and half the lambs received

a drench and half did not. All lambs were weighed at weaning in November 1968 and the results examined by analysis of variance, modified for unequal subclass numbers. Three similar trials, but of a simpler design, were conducted on spring-lambing properties in the same year.

The lambs of treated ewes achieved higher weaning weights than the lambs from untreated controls, however, these differences, of the order of 0.7 lb to 3.5 lb (0.3 to 1.6kg), did not achieved statistical significance. The lambs treated at marking were on average 2.2 lb (1.0kg) heavier than untreated controls, and this difference was not significant. Although drenching ewes before lambing to prevent the peri-parturient rise in egg production seemed a rational control measure, it did not influence weaning weight in a cost-effective manner and was not recommended (Maxwell, 1969, unpublished results).

4.5 Communicating results to Members of the Service.

After completing the survey questionnaire and determining the major problems of the group, the author allocated time between the various aspects of the service, viz., research, investigation of individual problems as they arose, reports, newsletters, field days and meetings.

Every two months a newsletter was produced which contained information on sheep health and production problems seen within the last two months, problems likely to be seen in the next two months, progress of the major research investigation and a topic of current interest, for example, vaccinations, new drenching materials or techniques, cost of therapies, etc.

When dealing with a specific problem of interest to the whole group, special single issue reports were circulated. Field days were held on member's properties, when it was

considered desirable to demonstrate an issue of significance to the group, for example, to detail progress on an investigation or to demonstrate techniques or results of a trial work. The reports and field days were part of the desire to communicate with all members of the group, not just those on which research work was being conducted. Not all members were in a position to assist in trials and to avoid the appearance of neglect the reports, newsletters, field days and meeting were designed to overcome this objection. At the annual general meetings of the service, a review of the year was presented.

4.6 Failure of the PM/AP Service.

The Kojonup Farm Management Advisory Service did not renew the contract when it fell due in 1970. The 1968/69 wheat crash, drought and a dramatic drop in wool prices contributed to their decision and by 1973, this Farm Management Service, as well as the other four in the region, collapsed and the era of farm management services in the region ended. Individual private clients also began to withdraw from the service and by 1973/74, the PM/AP service ceased.

Why did the PM/AP service fail? Was the theory wrong? Did the service fail because it did not fulfill expectations? Was the service provider at fault? Did the farmers fail to value the service? Did conditions existing at the time mediate against its success?

Clinical practice is essentially problem solving. The traditional therapeutic service manages problems of individual animals by either medical or surgical means after diagnosis of the problem. Similarly, the PM/AP service aims to solve health and production problems of the flock or herd by manipulation of the husbandry and production procedures after diagnosis of the problem. In either case the client determines whether to proceed with the recommendations or not. The theory of PM/AP is similar to

that of the traditional approach and is equally valid as an approach and the author concluded that the theory of PM/AP wasn't the reason for its failure.

Did the service fail to deliver what it set out to do? In the Annual report to the service in 1969, the author summarised the work carried out and results achieved. All matters raised at the initial meetings in 1966 had been addressed and the major problems of the group had been elucidated and control measures recommended. The major issues – as assessed by members themselves – had been thoroughly explored during the three years with some projects completed whilst others were pending. However, all were being dealt with as outlined, so the answer to the question, “Did the service fail to deliver?” was No, in fact, it was a resounding success. This was not the reason for the services' rejection.

Was the author the problem? It is quite possible that the author contributed to the failure of the scheme. There was no other service operating at the time, so it was not possible to compare the performance of the service provider. However, this does not explain why the PM/AP project failed when at the same time the traditional service did not.

What about the consumer of the service? The author concluded that this was the major factor for the failure of the service and it had two components. Firstly, farmers did not see veterinary service as an integral part of the farm operation, instead it is useful when there was a problem, but when the problem was solved there was no further need for the service until the next problem arose.

Secondly, the use of a veterinary service on a continuous basis, as pointed out in 1958, required prosperity and stability of the industry and since 1970 the sheep industry has not been prosperous or stable (Osborne 1958). In fact, there has been an inexorable decline in significance of sheep and wool in this country.

During the author's tenure with the farm management advisory services, two trends were observed. Initially, the farmer used the advisory service as intended, for advice on agricultural matters, such as soil, pasture, agronomic advice. The farm advisor provided information on these matters and the farmer acted or did not act on this advice. However, with time, advice on a whole range of other matters – for example, should they buy or lease equipment, farm machinery, motor cars; what bank, stock firm, insurance company gave the best service – was sought and then demanded by the farmer.

Secondly, the farmer, the decision-maker in the process, gradually transferred this responsibility to the advisor; slowly, the farmer abrogated the role of responsible decision-maker. In effect, the farmer developed the attitude of a shareholder, instead of owner-manager in the enterprise, with the advisor becoming the CEO. This was not always the case, but it was in the many instances.

The farm advisors were not happy with this arrangement; when the author became the veterinary consultant to two services, both advisors expressed relief that they no longer had to provide veterinary advice, for which they were not qualified.

As a veterinary consultant, the author refused to have placed upon him the added burden of economic decision-maker, and this may have contributed to the termination of the service.

“I know of no private practitioner who derives any considerable proportion of his income from fees received for advice.” (Filmer 1947); *“Livestock owners still expect to pay only for treatment: advice to be acceptable, must be free.”* (Smithcors 1958) The author's experience supported these observations.

CHAPTER 5. EMPIRE BUILDING: 1970s.

5.1 Introduction.

The 1970s was a challenging time for the farming community and for those servicing them. During the decade, the plight of rural practice in Australia was examined by the AVA; much was reported and discussed, but little resulted.

The fourth Veterinary School was established in Perth and began graduating students in 1979.

This chapter explores the impact of these events on rural practice and describes the changes made at Katanning in adapting to these changes.

5.2 Agricultural changes during the decade

One agricultural commentator described the 1970s as a “Troubled Decade”, whilst another declared “The Market Triumphant” (Burvill 1979c; Davidson 1981).

From the time of the Ottawa Agreement of 1938, most of Australia’s agricultural export went to Great Britain. However, beginning in 1963, Great Britain made a number of attempts to join the European Economic Community, achieving that goal in 1973, which necessitated a realignment of Australia’s trading position. By the late 1960s and early 1970s Japan and the USA had become the principal markets for Australia’s export agricultural products (Davidson 1981; Gruen 1990).

During the 1960s Australian farmers maintained income, in spite of rising costs and declining product prices, by increasing output and productivity. In the case of livestock this was often achieved by increasing stocking rates. For example, in the Wheat and Sheep Zone, stocking rates increased from 1.0 sheep equivalents per acre of pasture in

1964-67 to 1.5 sheep equivalents per acre by 1970-71; in the Beef and Sheep Zone the corresponding figures were 2.0 to 2.8, representing increases of 150%. Another solution proposed at the time was to increase the size of the holding by purchasing neighbouring properties, characterized by the dictum "Get Big or Get Out!" However, there was a limit to this process and by the 1970s, "*the cost-price squeeze caught up with Australian farmer's ability to adjust...*" (Davidson 1981; Gruen 1990)

The extraordinary rural expansion in WA from 1949 to 1968 was halted when wheat stocks exceeded world demand. The area harvested for wheat in WA fell from 2.95 million ha in 1968 to 2 million in 1972. In addition, the year 1969 saw a major drought in the cereal and sheep areas that ranked alongside droughts of 1914 and 1940 in severity and required government assistance; in some districts the drought continued until 1970. Wool prices slumped in 1971-1972 and the world-wide inflation from 1973 increased prices of wool, meat and cereals but producer costs for labour, fuel, freight, fertilizer and other farm inputs increased at a greater rate and climaxed in the general world recession of the mid-1970s (Burvill 1979c).

A number of government interventions in the marketing of agricultural products took place. Wheat delivery quotas were introduced throughout Australia in 1969, and operated until 1974. Wool prices deteriorated to 64.5 cents per kg greasy wool and the Federal Government established the Australia Wool Commission in 1970 and the Australian Wool Corporation in 1973, to provide a buffer stock scheme with wool purchased by the Commission and stored if auction prices fell too low. In 1973, the Tariff Board was replaced by the Industries Assistance Commission which recommended dropping many of the tariff barriers protecting rural production in Australia. The Labour Government

accepted these recommendations and they were withdrawn and were not restored when the Liberal-Country Party Government returned to power in 1975. Unemployment doubled in the period immediately following the decision to cut tariffs (Burvill 1979c; Davidson 1981; Gruen 1990).

5.3 Veterinary growth in WA during the decade.

As this was taking place there was rapid growth in the population of veterinary surgeons registered in WA (Table 5.1).

Table 5.1

Changes in the number and percent of registered veterinary surgeons in the various categories within WA in 1970 and 1980 (Proctor 1970; Ward 1980).

Classification	1970		1980		Increase	
	n	%	n	%	n	%
Government	40	33%	52	18%	12	30%
Perth practice	35	29%	127	43%	92	263%
Rural practice	30	24%	65	22%	35	117%
Out-of-state	13	11%	24	8%	11	85%
Teaching	0		26	9%	26	
Other	4	3%	0		-4	-100%
Total	122		294		172	141%

In the decade there was an overall increase of 141% from 122 to 294. Although government veterinary numbers increased from 40 to 52, the proportion of government veterinarians decreased from 33% to 18%. The advent of the Murdoch Veterinary School led to a growth in teaching staff in WA to 9% of the total population. The major growth took place in urban practice in Perth where there was a 262% increase in actual numbers and an increase in the proportion from 29% in 1970 to 43% in 1980.

5.4 Changes to the Katanning Practice.

The relationships of rural holding, sheep and cattle numbers between Australia as a whole, WA and the region in which the author practiced are illustrated (Table 5.2).

Table 5.2

Number of rural holdings, sheep and cattle in Australia, WA and the region serviced by the Katanning practice in 1970 taken from the 1972 WA Year Book (Bartlett 1972).

Criteria	Australia	Western Australia	Katanning region
Rural holdings	250,000	23,000	2,440
Sheep numbers	180 million	33.6 million	6.4 million
Cattle numbers	22 million	1.7 million	48,000

Of the total of a quarter of a million rural holdings in Australia, nearly 10% were located in WA and of the country's total sheep and cattle population, nearly 19% and 8% were located in WA respectively. Within WA, 10% of rural holdings, 19% of sheep and 3% of cattle resided in the region serviced by the Katanning practice.

In Katanning there was an increase in the demand for veterinary service to beef cattle beginning early in the 1970s and reaching a peak by the mid 1970s when 60% of practice activity was with this species. The "Beef Boom" resulted from the importation of exotic European breeds of cattle into Australia using newly discovered reproductive technology, such as pregnancy diagnosis, oestrus control, superovulation, time controlled artificial insemination and surgical embryo transfer (Maher 1975; Davidson 1981). The embrace of beef cattle by sheep-men proved unsettling for they knew little of cattle husbandry or management and it created havoc for those handling the cattle, including the veterinarian, having to work in inadequate facilities.

During the 1960s and 1970s State Government schemes operated for the eradication of Tuberculosis and Brucellosis for cattle. This was part of the National Bovine Brucellosis and Tuberculosis Eradication Campaign (BTEC) (Anon. 1970; Cole 1973; Underwood and Armstrong 1979). Some rural practices obtained TB testing and Brucella bleeding contracts and the Katanning practice received a contract to bleed cattle as part of the Brucella eradication program.

The cost of travel was proving a problem to the use of the practice by the farming community. In 1973, two branch practices were established; one at Kojonup, 40 km west of Katanning and the other at Wagin, 55 km north of Katanning. New graduates were placed in each branch practice, and another was employed at Katanning, so that four veterinarians worked under the Katanning banner. The plan was that each branch practice would provide on-farm service to the local district, thus reducing travelling costs, minor surgical cases would be handled on site and all major surgical cases would be referred to Katanning.

It had been apparent for some time that the clinic had limitations and what was needed was a purpose-built hospital to accommodate large animal as well as small animal facilities. In addition there was an increasing demand for the provision of the newer artificial breeding techniques, such as synchronised artificial insemination in beef cattle and surgical embryo transfer in cattle. At this stage no such facility existed in rural WA to provide all these services.

Land was purchased and a building of 500 square metres was constructed housing the Katanning Regional Veterinary Hospital and the Katanning Animal Breeding Centre. This facility was opened in December 1975, by the Hon R.C. Old, Minister for

Agriculture and Professor R.H. Dunlop, Dean of Murdoch University Veterinary School. The opening of the hospital was reported in the rural press and as a result the Veterinary Surgeons' Board of WA charged the author with breaching the advertising regulations of the Veterinary Surgeons' Act (Maher 1975). The article, a news and photo-opportunity for the Minister and the Dean, was arranged by the Minister's press secretary. Legal advice was necessary to deal with the charge.

The hospital was equipped to provide a comprehensive service to both companion animals and all livestock; consulting, operating and hospital facilities for both small and large animals, diagnostic laboratory as well as dark room for the developing of radiographs, boarding facilities and a series of holding yards and paddocks for the management of large animals. The hospital serviced all the needs of the clients of the Katanning practice and the surgical cases of the branch practices.

In 1976, the practice entered into an arrangement with the stock firm Wesfarmers to conduct a faecal worm egg counting service for the detection of internal parasites in sheep.

5.5 Continuing Education

Working in rural practice, especially in solo practice, meant isolation, not only from colleagues but also from the flow of new information. Textbooks and journal publications were the staple diet of rural veterinarians, supplemented by irregular meetings with colleagues. During the 1970s, the Postgraduate Foundation of Continuing Education of Sydney University began to provide courses, and this required employing a locum whilst attending the course in Sydney. Considerable costs were involved – plane fare,

registration fee, accommodation and the locum's fee. When Murdoch Veterinary School became operational it developed continuing education courses.

In 1970, Professor Ian Johnstone, Director of the University of NSW's Research Institute at Fowler's Gap, examined the results of the PM/AP program and advised of its suitability for a post-graduate degree. The author enrolled as an external Master of Agriculture candidate at the University of Western Australia, but was involved in a serious accident which prevented completion of the program. Although experiencing a series of physical injuries in the first 10 years in practice, this injury proved near fatal; during the examination of a mare for pregnancy, the author received a kick to the face and head and incurred a compound fracture of the mandible and a number of head and facial fractures.

Opinion amongst interviewees varied on the value of continuing education, especially the issue of it becoming compulsory.

"It should be self-initiated." (Vass 2006)

"I don't believe it should be compulsory. We can all go to a conference and tick our names. Most of the motivation should come from the vet." (Hunt 2006)

"I would be unhappy with that [compulsory CE] and I would not be motivated to learn about cats and dogs." (Bell 2006)

"Continuing education is vital, you've got to have it and I believe it should be compulsory. Take the case of someone out in practice for 10 years and good at preg testing and general advice; he is just good for being a work horse, but for specialized advice you need someone who is current." (Micke 2006)

“I cannot participate in continuing education. How can I? I am a single veterinarian practice in a country town and I’m farming...I don’t think compulsory continuing education is fair or necessary.” (Brighton 2006)

“I think it’s a good thing and I think it should be encouraged, but I’m not quite sure how you regulate it for the average rural practitioner. Getting to it is a big factor because most of it is in Perth.” (Erickson 2006)

“I have a number of very real concerns...for some individuals it is very easy [to participate in CE], for some individuals it is almost impossible...I think it [compulsory CE] needs to be adopted with a great deal of caution.” (Batey 2007)

5.6 Murdoch University Veterinary School.

Dr John Shilkin, of the Department of Agriculture WA raised the issue of a veterinary school in WA with members of the WA Division of the AVA during the 1950s. He had discussions with the Farmers Union and in 1963 that body agreed to ask the State Government to investigate the need for a Faculty of Veterinary Science at the University of WA. Professors E.J. Underwood and R.G. Moir of the Institute of Agriculture, University of Western Australia, supported the proposal, but the Chief Veterinary Surgeon with the Department of Agriculture (C.R.Toop), stated that he did not feel that such a school was warranted (Shilkin 1977).

In 1965, Premier Brand considered that WA had a stronger case than any other state for a fourth veterinary school and suggested that the establishment of a Faculty of Veterinary Science at the University of WA be included in its submission to the Universities Commission for the 1967/69 triennium; however, the submission failed (Shilkin 1977).

The Australian Universities Commission for 1968-69 recommended the establishment of a fourth veterinary school in Australia. Dr R.N. Farquhar was given the task of reporting to the Commission on the current situation regarding veterinary education and recommended that a fourth School of Veterinary Science be established at the University of New England in NSW and the Commission accepted his submission and proposed that the school should be established during the triennium 1970-72 (Farquhar 1969).

A fourth school was established in 1973, not at New England, but as the foundation school at Murdoch University in Perth. Professor R.H. Dunlop was invited to become the Foundation Dean of the veterinary school in 1973 and the first class of undergraduates enrolled in 1975 completing their training in 1979.

At the opening of the Veterinary School in 1979, the Premier, Sir Charles Court declared, *“The whole purpose of this school is to get the best trained surgeons onto farms doing wonderful things for the economy and for the farming industry of WA.”* He further added that he did not want to see *“vets caught up in the dog and cat syndrome”* (Clark and Grandage 2005). The former did not happen and the latter came to pass.

Concern was expressed at the time that there might be an overproduction of veterinary surgeons (Anon. 1977; McGuinness 1978). This led to the following caveat in the prospectus for prospective students of Murdoch University, *“Aspiring applicants may or may not be aware that there is at present, a controversy regarding the number of veterinary graduates being produced each year in Australia. Some members of the profession believe that a crisis of over-supply is almost on us while others feel that employment prospects for the projected number of graduates are good. Only time will tell which opinion is correct.”* (Clark and Grandage 2005).

5.7 Disquiet regarding the viability of rural practice.

Concern for the viability of rural practice was raised a number of times during this decade and one comment often voiced by rural practitioners was that they received no support from their city colleagues.

One colleague – a government employee – offered the following suggestions, “*It may be the rural practitioner no longer has a role to play.*” and “*...attempts to rehabilitate rural practice may be counterproductive.*” (Auty 1976)

Following is an analysis of the various reports.

AVA/WA Report: Rural Practice in Western Australia. 1971 (Sier, Batey *et al* 1971). As a result of the rural recession of 1969/70, the WA Division of the AVA established a three-man committee to examine the status of rural practice and recommend changes that would improve its viability. A report entitled “Rural Practice in Western Australia” was presented to the Council of the WA Division of the AVA in 1971.

The report found that in 1964, there were seven veterinarians in dairy practice and four in pastoral practice (sheep and beef cattle). By 1969, there were 14 in dairy practice and 18 in pastoral practice, however, in 1971 there were 11 in dairy practice and eight in pastoral practice. The reasons for these fluctuating changes in veterinary numbers were outlined – the inadequacies of the type of service offered by rural practitioners; the method of charging; the shortcomings of undergraduate training; the State Government subsidy scheme; and the thorny issue of competition with government veterinary services.

The report made a series of recommendations:

“1. It will be necessary for the veterinary profession to expand its services to the rural community from purely animal health to animal health and production.”

2. *It will be necessary for the profession to change its undergraduate training to produce graduates capable of effectively servicing the rural community. If it cannot do this then it must institute post graduate training to ensure it.*
3. *It will be necessary to inform potential clients of the broader service it can offer. At the same time it will need to inform non-veterinary scientists involved with agriculture of this change in approach.*
4. *It may be necessary to change the Code of Ethics to accommodate this change in veterinary approach.*
5. *It will be necessary to decide who is to provide the veterinary service, private enterprise or the government. If the decision is in favour of private enterprise then the government role will need to change. If the decision favours the latter there will be no role for the private practitioner in the country.”*

The report concluded that, “ *inadequate approach and unfair competition make the rural practitioner’s position untenable...and it will be necessary to decide who is to provide the veterinary service, private enterprise or the Government.*” These recommendations were presented to the WA Division of the AVA, but not acted upon.

Gannon Review: A Task Force on Stabilisation of Rural Practice (Gannon 1975).

As a result of the collapse of the beef industry in 1975, the federal AVA appointed “A Task Force on Stabilisation of Rural Practice”, with Dr J. Gannon as consultant.

“The repercussions of the general rural recession have been felt almost universally by rural practitioners. Without exception there has been a reduction in the number of service calls to dairy, beef, sheep and pig producers. The gross income in the vast majority of rural practices has fallen by amounts varying from 20% -50%...In Western

Australia – one of 24 practices has closed and the number of practitioners has reduced from 40 to 20.”

Gannon noted that there had been a change in the trend in rural practice, namely, a reduction in the service of production animals and a corresponding increase in servicing domestic pets and horses, even stating that the survival of more than 90% of rural practices depended on servicing these latter species. He also found that retrenchments of professional assistants and lay staff reduced the quality of life in most rural practices and also reduced the physical ability of the rural practitioner to service the industry.

Other concerns were the conflict arising from competition between rural practice and the government veterinary service and the oversupply of new veterinary graduates.

A series of stabilisation proposals, both long- and short-term, were enunciated in the report. One was the implementation of Herd Health programs and Gannon drew attention to the program with dairy clients being carried out by the University of Melbourne.

Although anticipating an adoption rate of 50% by Victorian dairy farmers, Gannon added, *“Should herd health programming not prove economically feasible, the AVA must look to an alternative means of instituting the “managerial and advisory” role for rural practitioners as a long term contribution to practice stability...”*

One of Gannon’s respondents stated, *“Veterinary practice in a rural area has always been under the challenge of change and flexibility of thinking and versatility of skills are a prerequisite for survival.”*

In a response to the Gannon Report, one observer stated, *“Practitioners have attempted to adjust to this situation and in many cases principals are now operating without the help of assistants. As a result, both the quality of life and services to the community have*

deteriorated...In our practice bovine calls have been reduced by 80 per cent from 1974 to 1976." (Howes 1977)

The President of the AVA commented, *"It is estimated that, of about 500 veterinarians who were in rural practice in Australia at least 100 have left in the past year... Council recognizes an urgent need to stabilize veterinary practices in rural areas and to develop a positive program involving total membership support."* (Sutherland 1976; Sutherland and Gannon 1976)

A veterinarian, who had been overseas for a number of years, recalled this era in his oral history interview, *"I wanted to work in rural practice...but there were no jobs available...I worked as a builder's labourer for 3 or 4 months in Melbourne."* (Bell 2006)

The Gannon Report was an examination of the problems facing rural practice in 1975, the recommendations were not implemented and 28 years later the same issues were re-examined by Frawley (Gannon 1975; Sutherland 1976; Sutherland and Gannon 1976).

The Delivery of Veterinary Services to Western Australia: Report of the Working Party (Lewis, Wilkinson *et al* 1979). In 1979, the WA Division of the AVA appointed a six-man working party charged with the task of suggesting means whereby improved rural veterinary services might be implemented. They produced a report entitled "The Delivery of Veterinary Services to Western Australia: Report of the Working Party".

The working party examined the issue of the conflict between government and practice and acknowledged, *"... a 'free' Government service competes with private enterprise."*

This working party produced a number of recommendations:

- (1). The encouragement of the establishment of Consultancy Practice – *“the encouragement of consultancy practice should be the best way of expanding the delivery of veterinary services to benefit livestock production.”* This recommendation was made even though it was noted that the adoption by farmers of such a service for dairy cattle in Victoria and beef cattle in NZ had been slow.
- (2). The high cost of travelling to and from the farm was considered a major factor in limiting the use of rural practice and it was recommended that mileage subsidization be instituted.
- (3). It was proposed that a fund for the development of rural practice be established under the control of the Minister of Agriculture.

This report was presented to the WA Division of the AVA, which again failed to act.

Statistical Examination of Private Veterinary Practice in the Rural Areas of W.A.

(Gabbedy 1979). In 1979, a veterinary officer of the WA Department of Agriculture reported on a statistical model of what was required for viability in rural practice in the state. The parameters chosen to support a veterinary surgeon in a rural practice were 2,000 horses + 30,000 dairy cattle or 300,000 beef cattle + 100,000 pigs + 8 million sheep + 15,000 human population. The model was tested against the current 18 rural practices in WA and found to provide a reasonable “fit”.

Gabbedy concluded that there were less than eight additional veterinary surgeons presently required to service the entire animal population to the level of current usage with the following proviso: *“It is highly unlikely that 8 additional veterinarians would in fact find work as the additional animals are located in the more remote areas.”*

Using projections supplied by the Rural and Economics Branch of the WA Department of Agriculture, the prediction for 1984/85 was that only four additional veterinarians would be required to service the increased animal population, however, as veterinary practice costs would have increased whereas animal values would not have increased Gabbedy concluded, “... *there is little potential for an increase in the number of veterinary practitioners in rural areas, now or in the future, if the current form of practitioner service continues.*”

During the decade, others voiced similar warnings regarding the status of rural veterinary practice (Dunlop 1973; Edwards 1976; Maxwell 1978).

5.8 Herd and Flock Health Programs.

At the centre of the recommendations in the above series of reports was the need to develop a population approach to servicing farming clients. At this time a team from the University of Melbourne’s veterinary school published a series of articles documenting their experience with a dairy cattle herd health scheme (Blood and Morris 1971; Morris 1971; 1977; Blood and Morris *et al* 1978). This approach was adopted by a prominent dairy practice in Victoria (Malmo 1973; 1977); however, this practitioner recently admitted that the practice no longer used these programs (Malmo 2005).

Although the results appeared promising the Werribee team noted, “*Ours is not the only programme available but all of the current ones are having the same difficulty as we have – their failure to gain general adoption and widespread use.*” (Blood, Williamson *et al* 1978). Unfortunately, this group was disbanded and some time later the team-leader declared that, “*Cattle herd health programmes never really caught on in Australia.*” (Blood 1992).

A rural practitioner found, *“Many veterinary surgeons attempted to interest their more progressive and successful farmers in herd health programs. These were rejected – not because of the scheme – because even the more-financial farmers were reluctant to spend money on this aspect of farm management.”* (Howes 1977).

At the end of the decade Murdoch University initiated a project to determine the feasibility of a sheep consultancy service and this led to the establishment of a private sheep consultancy service at Kojonup, WA (Bell 1979; 1986; 2006).

CHAPTER 6. THE ERA OF VETERINARY OVERSUPPLY: THE 1980s.

6.1 Introduction.

This chapter records the impact of the oversupply of veterinary graduates and measures taken to remain viable. In this context, the author examined the issue of employing veterinary assistants in rural practice; more than 20 assistants had been employed by the Katanning practice.

The PM/AP approach was seen as the way to service production animals during this decade.

6.2 Agricultural data.

In 1975 there were 20,500 agricultural enterprises in WA, whilst in 1980, there were 18,000; in five years there had been a 12% contraction of farming units. The WA Year Book for 1982 reported that there were 134 million sheep in Australia, with 30 million located in WA (22.4%) and that there were 27 million cattle in Australia, of which 2 million were in WA (7.4%).

In the area serviced by the Katanning practice there were 1,785 rural establishments containing 6,254,868 sheep and 50,419 cattle (Bartlett, 1982).

The value of agricultural products did not increase, however, the costs of production did and this contributed to a subdued rural sector during the decade.

In the 1970s, farmers in the great southern region diversified into beef cattle, however, with the collapse of beef boom, they withdrew from cattle production. The desire for diversification remained and during the decade the Katanning practice was called upon to service Angora and Cashmere Goats, Deer and Ostriches. Sheep farmers, who knew little about cattle, knew even less of these other exotic animals; some few still operate

enterprises with these exotic species today, however, they are the exception. The major and only lasting diversification was into cropping with many wool producers become mixed farmers. In recent years, there has been some diversification from wool production to sheep meat production.

6.3 Veterinary data.

During the decade the number of veterinarians registered within the state almost doubled (Table 6.1).

Table 6.1

The growth of registered veterinary surgeons in WA between 1980 and 1990 (Ward 1980; Craig 1990).

Classification	1980		1990		Increase	
	n	%	n	%	n	%
Government	52	18%	54	10%	2	4%
Perth practice	127	43%	328	57%	201	158%
Rural practice	65	22%	98	17%	33	51%
Out-of-state	24	8%	42	7%	18	75%
Teaching	26	9%	45	8%	19	73%
Other	0		5	1%	5	
Total	294		572		278	95%

In this decade there was an increase of 95% in total veterinary numbers in the state.

Government veterinary proportion decreased from over 17% to less than 10%; rural practitioners decreased from 22% to 17%, whereas, urban veterinary proportion increased from 43% to 57%. The “Other” category was introduced for veterinarians who did not specify their position. In spite of the tenuous position of rural practices during the decade, rural practitioner numbers grew from 65 to 98.

By 1980, Murdoch University veterinary school had graduated 66 veterinarians (42 male and 24 female) and during the decade, a further 453 veterinarians (222 male and 231 female) graduated (Craig 1990). In 1980, there were 26 Murdoch graduates registered in WA (18 male and 8 female); that is 9% of registered veterinarians in WA had graduated from Murdoch University (Ward 1980). By 1990, there were 268 Murdoch graduates registered in WA (136 male and 132 female); that is 47% of registered veterinarians in WA had graduated from Murdoch (Craig 1990).

6.4 Failure of the breeding centre.

By the end of the 1970s, it was realized that surgical embryo transfer in cattle was not viable. The Katanning Animal Breeding Centre was struggling to cover costs and there were a number of reasons for this. Both the cost of the procedure and the value of the stock were significant factors, but also the limitations placed on veterinary surgeons by the Veterinary Surgeons Act.

A situation developed that highlighted this dilemma. As an animal breeding centre operated by a registered veterinary surgeon, there was an obligation to operate within the constraints of the Veterinary Surgeons Act of WA and this meant that this service could not be promoted by advertising. At the same time, a private company established a similar facility at Broomhill, some 20 km south of the Katanning. They were free to advertise in the rural press and even operated tourist buses to view the procedure. Two New Zealand veterinary surgeons were employed by the company to conduct the surgery on a fly-in, fly-out basis; neither veterinarian was registered in WA. The Veterinary Surgeons' Board of WA did not act on the fact that two veterinary surgeons performed surgery within the state without being registered.

Although the author went to North America in 1980 to acquire skill in non-surgical cattle embryo transfer, the breeding centre ceased to function in the mid 1980s.

6.5 Era of veterinary oversupply.

At the end of a long career, Professor J.G. Wright, of the University of Liverpool Veterinary School, was asked to comment on the future of the veterinary profession in the UK. He made a number of predictions for agricultural practice for the following 20 to 25 years, and one was to prove prophetic, *“Can the profession continue to increase at the rate I have foreshadowed and still maintain the standard of prosperity it is reasonable for professional men to expect? My conclusion is that it cannot and I believe it to be inevitable that over-production with its attendant evils will become manifest during the period I have selected.”* (Wright 1961)

Over-production of veterinary graduates in Australia began to be discussed during the 1970s (Frost 1976; 1977; Widdows 1976; Holt 1977; Alexander 1978; McGuinness 1978). It was reported that, *“Over the last few years most professions in Australia have reached the point where the gap between supply and demand has noticeably narrowed and in some cases there has been an oversupply of graduates...The veterinary profession has been affected by this trend much later than other professions, but its impact has been exacerbated by the concurrent reduction in employment opportunities in rural veterinary practice. There have therefore been many expressions of concern about the possible over-supply of veterinary graduates.”* (Morris 1976)

Another stated, *“we are producing far too many graduates every year from our schools and are likely to continue to do so. With the Murdoch school in full production.[sic] Australian schools will graduate some 250 veterinarians per year, approximately 3 times*

as many per head of population than produced in the United States of America (USA) or the UK.” (Frost 1976)

Overproduction of veterinarians was also reported in Canada (MacDonald 1994; Bolvin 1998; Guernsey 1999).

Initially, the oversupply produced an easing of the man-power problem in rural practice, as previously, the author had to advertise for veterinary staff in the UK. However, as the oversupply became obvious, new graduates began to establish their own practices as there were no positions available in existing practices. Many were ill-equipped to do this and many failed, however, this increased competitive pressure on both urban and country practice led to a number of practices cutting back staff and creating difficult social conditions (Heath 2002a and b). The closure of the branch practices at Kojonup and Wagin in 1980 was due to the oversupply.

As the decade drew to a close, the anticipated impact of the oversupply was not realized and the reason soon became clear. Many, if not most, of the new graduates were female and many sought part-time work. Others on entering practice discovered that being a veterinarian wasn't as they imagined and they left the profession. The new female graduates masked the full impact of the oversupply because they were not “full-time equivalents” (Maxwell, Costa *et al* 2008b).

Early in the 1990s a veterinarian voiced concern for the oversupply of veterinarians in an article entitled “Re. the closure of some Vet Schools”. *“At present Australian taxpayers are paying millions a year to train bright students to go and look after English cats and dogs...In the 1980's, even though Australia was being held up as the supreme example of overproduction of vet graduates, intake [at veterinary schools] was increased by about*

35%...Probably the largest part of Australia's overproduction goes overseas...Early in 1993 it was said 30 of Murdoch's 45 or so 1992 graduates had already gone to England...There is a considerable waste of human talent and taxpayers' money in the over-production of vets...Assistants salaries went from 1.6 – 1.8 times the average male weekly wage in 1967, to 0.8 in 1977.” (Staadon 1993)

At the Plenary Address of the 2006 AVA Conference, the output of veterinarians from Australia's veterinary schools from 1980 to a projected 2010 was tabled. In the 1980s, the veterinary schools were producing slightly more than 200 graduates annually, by 2010 there will be a projected 575 graduates a year (Whittington 2006).

Today, there is no further pretense that a serious oversupply situation exists (Heath 2007d). Two recent newspaper articles testify to the situation in WA, “*Perth has twice as many vets as the east coast of Australia and four times as many as the UK and US. Welcome to Vetsville!*” (Murray 2007; Pemble 2007).

Three existing veterinary schools – Murdoch University, the University of Sydney and the University of Melbourne – have sought accreditation in the USA, as this allows graduates to practice in the USA as well as the UK.

6.6 Employing veterinary assistants in rural practice.

As a result of employing more than 20 veterinarians, the author was able to form an opinion as to the competence, attitude, suitability and limitations of veterinary surgeons available for work in rural practice.

Where the veterinarian was experienced, their competence in performing the range of veterinary duties required in rural practice was satisfactory, and the issue became their attitude to work and to the client. On the other hand, where one was dealing with new

graduates, the main issue was lack of competence, particularly in the performance of routine skills. This was also exacerbated by the fact that a number lacked general skills in handling livestock.

Although the new male graduate was not more competent than the female, they were better equipped physically to deal with the range of tasks to be performed. The author viewed this lack of physical capacity of the female graduate in the same light as the female athlete having less physical capacity than their male counterpart.

Three of the most competent assistants employed were UK graduates, however, all were experienced veterinarians. One Irish graduate lacked competence in every aspects of rural practice. The other employees were graduates from either the University of Sydney or the University of Queensland and they varied greatly in competence.

In 1982, the practice employed a new graduate, who, breached the terms of employment by establishing a practice in Katanning in 1984. This type of unethical behaviour, although common today, was rare at that time. Since then a number of rural practice proprietors have reported similar experiences (Maxwell, Costa *et al* 2008b).

Concern regarding the competence of new graduates began to be voiced at this time and continues today (Smits 1977; Rex 1993; Anon. 1999; Coleman, Salter *et al* 2000); the results of the current survey and interviews support this concern in WA (Maxwell, Costa *et al* 2008a and b).

Recent criticism of the standard of school leavers and university graduates has been raised (Kelley 2007; Hiatt 2007a and b). It has been suggested that the present trend in lowering the standards of education lies in changes introduced in the late 1960s and early 1970s (Donnelly 2007). Two aspects of recent veterinary graduate performance and

attitude support this view, firstly, today's graduates are capable of passing examinations, but require on-the-job training in practice to be able to function there. Many enter practice not having seen, let alone performed, a number of basic and routine veterinary procedures. Secondly, a 'hedonistic lifestyle' has been proposed as a factor and today's veterinary graduate is certainly interested in lifestyle, which appears to be of greater concern than duty, service and commitment (Donnelly 2007).

6.7 Herd and flock health becomes fashionable

The PM/AP approach received a fillip with the establishment of the Mackinnon Project at the University of Melbourne. *“Established in 1982, the group is now a recognized leader in agricultural consultancy in Australia, in particular for the services provided to the beef and sheep industries. The positive impact of the Mackinnon Project on the Australian farming community has been confirmed in several independent studies. In addition, many Mackinnon Project ‘graduates’ now occupy senior positions in Universities, Departments of Agriculture, CSIRO, industry funding bodies and drug companies, whilst others either operate their own consultancy services, or successfully manage large beef or wool producing enterprises.”* (Larsen 2004)

Examination of the performance of the Mackinnon Project, as reported in its 21st Anniversary publication, revealed that in 21 years, with a staff of 12, the project had developed a client base of 130 sheep and beef cattle clients, of which 25% were described as 'quite active' (Larsen 2004). Also, as best as could be ascertained, none of the project's 'graduates' worked as full-time private consultants in the sheep or cattle industries.

In 1985, the first textbook on PM/AP appeared (Radostitis and Blood 1985a). The book entitled “Herd Health” stated, *“It is our conviction that the present rapid growth of health maintenance services to herds and flocks will continue and that within a decade this form of veterinary activity will dominate food animal practice.”* This prediction has not been realised.

Like Osborne, nearly 30 years before, Radostits and Blood defined the requirements for successful herd health programs; firstly, a willing farmer, secondly, an enthusiastic, competent veterinarian and finally, a system of record keeping and animal identification. It is not known how many of the current crop of Australian farmers or veterinary graduates would meet their criteria.

In 1985, a special edition of the AVJ appeared that was entirely devoted to the Proceedings of The International Conference on Veterinary Preventive Medicine and Animal Production. The conference, held in Melbourne, honoured the work of Professor Blood in nurturing this aspect of veterinary science. A series of articles and a number of posters were presented; significantly, there was no contribution from a private veterinary consultant (Hughes 1985).

In 1988, two continuing education conferences, Sheep Health and Production (Proceedings 110) and Sheep Consultancy Practice (Proceedings 111), were held by the University of Sydney’s Post Graduate Committee in Veterinary Science.

The key speaker, a sheep consultant stated, *“Currently, in 1988, there exists perhaps a dozen such veterinarians [sheep consultants], with a steady rate of expansion throughout the sheep-dominant regions of Australia. At least half of these are in Western Australia and there seems no reason why the number could not double in the next few years...In the*

early 80s little recorded information was available regarding whole farm sheep veterinary services. Maxwell (1978) described a preventive medicine-animal production service in Western Australia...At this stage no other example of planned sheep health and production programmes for commercial grazing enterprises could be found in the literature.” (Bell 1988a)

In a separate paper, this speaker outlined the key areas of veterinary involvement in a consultancy practice and declared, *“The majority of such involvement will be concerned with economics...advice given must generally be measured in terms of monetary profit...a veterinarian serious about service to sheep business enterprise must target actions and advice affecting farm profitability.” (Bell 1988b)*

A second consultant stated, *“To be effective in improving the profitability of a sheep farm, a veterinary consultant needs two pieces of information which are generally not known by those involved in clinical veterinary practice. Are sufficient funds available to the farm business to allow for expenditure or deferment of cash income? Where should resources (money, labour, etc) be spent first to return the greatest improvement in profitability? I suggest that this knowledge...distinguishes a veterinary consultant from a practitioner...” (Abbott 1988a)*

This was a complete departure from previous veterinary service and represented a paradigm shift. Here it was suggested that the veterinarian’s primary concern – which had always been the welfare of the client’s animal – was the client’s profitability. Veterinary surgeons, who have no training in economics, must concern themselves principally with economics!

A veterinarian's interest in a client's financial position is limited to the extent money, or the lack of it, will determine what therapy can be used in a particular case. Can you envisage the small animal practitioner being concerned with the client's profitability, if that client was a hairdresser, shop keeper, fast food operator, solicitor, etc.? Does today's clinical veterinarian provide advice and take action to improve a client's profitability? No, the clinical practitioner provides an assessment of the health and productivity of an animal based on clinical examination and experience. It is not the province of a veterinarian to be involved in the client's financial affairs. Yet here, leading exponents of sheep consultancy declared that it was paramount!

The key advice provided to clients of the first consultant was the increased use of fertilizer (super phosphate), increased stocking-rate and late Winter- Spring lambing, yet none of these recommendations could be considered veterinary advice. In fact, these same recommendations were made by a non-veterinarian farm management advisor speaking at the same conference (Hall 1988).

The second consultant stated, "*Raising the stocking rate (SR) on a farm which is stocked below the most profitable level is one of the most effective steps that a veterinary adviser can take to increase the long-term financial security of his clients.*" (Abbott 1988b)

Advice that is self evident.

Other papers presented at these conferences – Building a Sheep Enterprise Budget; Building a Farm Budget – Exercise; To lease or not to lease. – were those you might expect to see presented at a conference of farm advisors, not a veterinary conference.

Another sheep consultant, speaking at a Farm Management seminar stated, "*Worm control is often about the only ongoing veterinary work...The only veterinary tasks I*

perform are vaccination of dogs when on farm (a service to the client), sale of antibiotics for dermatitis, and other diseases based on diagnosis.” (McKenzie 1990) and this raises the question, is this veterinary work and would a veterinary surgeon consider this a good use of their education?

By the end of the decade, the novelty had passed, and the next sheep refresher course held by the Post Graduate Foundation had returned to the more traditional area of Sheep Medicine (Proceeding 141, July 1990).

CHAPTER 7. SLOW RECOVERY: THE 1990s.

7.1 Introduction.

The recovery phase for agriculture and rural practice in WA during the 1990s was an adjustment to the realities of the market place. In the 1960s there were between 250,000 and 300,000 productive farms in Australia, in the 1990s there were just over 100,000 and rapidly declining.

In 1999, the state representative of one of the large pharmaceutical manufacturers advised that “agriculture is dead” and no major company is manufacturing new products for agriculture, such as anthelmintics (Mike Haines, personal communication).

During the 1960s Katanning was the centre of the most productive agricultural region in the south-west of the state for wool production, sheep breeding and cropping. The farming community was confident, vibrant, and the outlook for continued prosperity, high. During the intervening years, agriculture had taken a battering and had slipped from its pre-eminent position as the primary export earner, to be replaced by mining, tourism and manufacturing.

7.2 Veterinary data

Undaunted by this decline, the veterinary schools kept producing graduates in ever increasing numbers. During the decade in WA there was an increase of 46% in total veterinary numbers. Private practitioners – urban and rural – represented 75%, teaching 7% and government veterinarians 8% of the total. There was a large increase in veterinarians classified as ‘Others’, that is, not in the usual classifications. Growth of the veterinary profession within WA during the 1990s is presented (Table 7.1).

Table 7.1

Comparison of the Register of Veterinary Surgeons in WA in 1990 and 2000 (Craig 1990; Keefe 2000).

Classification	1990		2000		Increase	
	n	%	n	%	n	%
Government	54	10%	66	8%	12	22%
Perth practice	328	57%	459	55%	131	40%
Rural practice	98	17%	170	20%	72	73%
Out-of-state	42	7%	39	5%	-3	-7%
Teaching	45	8%	59	7%	14	311%
Other	5	1%	39	5%	34	680%
Total	572		832		260	46%

A newspaper article, “TV series a pull for women vets.” appeared at this time, and indicated the direction being taken by the veterinary schools. The Dean of the University of Sydney’s Veterinary School was quoted as saying, *“He welcomed the fact that the profession was starting to be dominated by women because they were smarter, more dedicated and better vets. Women have a vocational commitment to veterinary science that is instinctive, whereas men are more financially calculating in their choice...he enjoyed teaching women because they were a civilizing influence in the class.”*

(Anon.1994)

7.3 Continuing education.

The opportunity for overseas continuing education became available and in 1993 the author attended the British Small Animal Veterinary Association Conference and a series of continuing education meetings throughout England and Scotland.

At the University of Edinburgh, two equine continuing education courses were attended at the University's field station; one involved endoscopy and the other ultrasonography. Endoscopy had become a recognized aid in the diagnosis of upper respiratory disease conditions of the horse and ultrasonography was an emerging diagnostic technique for assessing soft tissue injuries, especially the musculoskeletal system. Certificates in both subjects were obtained and on returning to Australia, the Katanning practice acquired both endoscopic and ultrasound equipment.

The author gained experience in equine arthroscopy at a course at The Animal Health Trust, Newmarket and as a result, this technique was added to the surgical procedures performed at Katanning.

During the decade, courses conducted by the Foundation for Continuing Education at Murdoch University and the Postgraduate Foundation in Continuing Education of the University of Sydney were attended.

In 1995 the author gained certificates in Small Animal Basic and Advanced Orthopaedics at courses conducted by AO-International. Membership of the Australian College of Veterinary Scientists in Surgery of Horses was gained in 2000 as was a Master of Veterinary Studies in Small Animal Medicine and Surgery in 2001.

7.4 The Australian Veterinary Association.

During the interviews, participants were asked to comment on the effectiveness of the AVA in representing the profession in WA. Nine of the eleven participants offered their opinions; five were current members and four were ex-members.

Firstly, current members, *"I have been a member of the AVA since graduation [1968] and I can't think of any reason why I would stop being a member, but their intentions and*

aims are in conflict with mine. For example, going to an AVA conference, I go as a rural general practitioner and I am not well catered for...They don't accommodate the interest of the older veterinary member, but concentrate on providing material for the newer graduate." (Vass 2006)

"The association suffers from the fact it is a bureaucracy...the structure we have in WA is appalling because you have a city-based crowd and quite unrepresentative." (Batey 2006)

"Well I don't know who can represent it if the AVA doesn't." (Hunt 2006)

"It doesn't have much of a membership really. I think it does represent the profession in as much as we don't have anybody else to represent us." (Erickson 2006)

"I think they represent small animal vets very well, but I don't think they represent large animal vets very well, except for the horse section. Being a member is expensive, so Rob [business partner] and I split it up a bit. The AVA has failed, but I don't know how to address the problem, but we should have 80 to 90% of people saying I'm proud to be a member." (Nye'Chart 2006)

Secondly, ex-members, *"I left the AVA a number of years ago and transferred money from the AVA to the Post Graduate Foundation for Continuing Education of Sydney University."* (Mayberry 2006)

"I'm not a member...I was way back because it was what I thought you did. It was traditional and then they put the fee up hugely, dramatically and at that stage I was working as a consultant...so I wasn't going to pay a multitude of fees, so the AVA went, because it wasn't doing anything for me...the AVA was not representing me in rural practice." (Bell 2006)

“I don’t belong anymore, I got turned off when they started employing PR people...they are not interested in production vets...I would like to be a member of the cattle SIG, but I don’t want to join the AVA.” (Micke 2006)

“I am not a member now, no, they do not represent the interests of the veterinarian.”
(Brighton 2006)

In the 2004 annual report, the CEO of the AVA stated, *“The AVA now represents approximately 55% of registered veterinarians in Australia.”* (Conley 2004). In March 2007, at a meeting of the Southern Branch of the WA Division of the AVA, the state president reported that less than 40% of the states’ registered veterinarians were members of the AVA (Neck 2007). So, in Australia the AVA can claim to represent half the profession, whereas, in WA, its representation is less than half.

7.5 Veterinary Surgeons’ Board of WA.

In the 1970s, it could be seen that the Veterinary Surgeons’ Board of WA was not acting impartially. The Board took action against private practitioners for breaches of the Act, but ignored breaches by government veterinary officers and other non-practitioners, for example zoological veterinarians. Discrimination by Veterinary Surgeons’ Boards had been reported in Australia as early as the 1930s (Fethers 1933).

In the 1980s, the discrimination became more obvious, with the addition of Murdoch University veterinary staff to the ranks of those immune from the Boards’ action. By the 1990s, the Board appeared to adopt the role of consumer protector, representing the complaining client in action taken against the practitioner and this has been observed in other jurisdictions (Hart 2005).

Interviewees were asked to comment on the conduct of the Veterinary Surgeons' Board of WA and seven were prepared to do so,

"They are not effective." (Vass 2006)

"We have a number of problems that they have done nothing about...I have been on places where there is a 1,000 doses of prostaglandins sitting on top of the fridge and the Board, on being notified, does nothing about it." (Micke 2006)

One stated that Board members don't know what their job is and another stated that the Board is out of touch (Erickson 2006; Nye'Chart 2006).

"There is a total failure on the part of the Board to appreciate rural issues...it is actually contrary to the interest of livestock, livestock practitioners and livestock industries...I think the Board is acting against the interests of the individual members of the profession." (Batey 2006)

"I've had a few letters from the Board...I've discussed the issue of the provision of after-hours in rural practice with the Board on a few occasions and I've never been able to get a straight answer from them." (Hunt 2006)

"I regard the Veterinary Surgeons' Board as one of my greatest adversaries...They are always trying to advance and appease clients instead of administering the Act, which is what they are supposed to be doing...They used to resolve disputes between practices; they used to provide counseling; they used to have a word in the ear of the odd vet who stepped out of line; they used to give advice to people who needed it; and they used to help people in dire circumstances; not now..." (Brighton 2006)

A meeting of the Southern Branch of the AVA was held at Albany in August 2005, and the WA Registrar stated that in the 13 years in that post, over 1,000 investigations had been conducted but only one involved a non-practitioner (Keefe 2005b).

7.6 Specialisation.

Graduates of the 1960s considered that having a veterinary degree meant that one was a specialist in the examination and treatment of the range of animals likely to be presented for veterinary attention. With experience one became more adept at the practice of the veterinary art and as a result of this process, some veterinarians gained a reputation of special skill in an animal, a physiological system or discipline, however there was no division into specialists and generalist. The one exception being in the diagnostic skills such as pathology and bacteriology

How and when did this embrace of specialisation come about within the profession? The move from the tradition of becoming recognized by one's peers to gaining specialist status by coursework came about with the establishment of the Australian College of Veterinary Scientists, which modeled itself on the example set by the Australian medical profession and the UK and USA veterinary systems (Taylor 1983; Woolcock 2007).

Membership status of the college could be acquired externally and part-time, however, Fellowship status – specialist qualification – required full-time study under supervision, usually at a university or accredited specialist facility and this severely restricted the number of candidates.

Specialisation has produced significant changes within the profession (Hirshhorn 2007).

By the 1990s, small animal practitioners, who had been treating skin diseases in their patients, were now required to offer the option of referral to a specialist dermatologist.

Instead of performing corneal surgery, the general practitioner was expected to refer the case to an ophthalmologist. General practitioners, who had been performing orthopaedic surgery routinely in their practices, were now expected to refer such cases to an orthopaedic specialist.

The author has no argument with a veterinary surgeon gaining specialist qualifications, however, the assumption that the specialist is more capable than the generalist is unwarranted, and elevation of the specialist by denigration of the generalist is to be strongly condemned.

The status of specialization is elitist and to ensure that the specialist warrants this status it must be demonstrated that the candidate has extraordinary talents and this cannot be satisfactorily achieved by sitting for examinations.

This issue was canvassed in the personal interviews: "*The guy in the bush is a specialist...*" (Brighton 2006)

"I believe it is real, for in my area there are three specialists in equine reproduction – mainly through the use of ultrasound. There is also embryo transfer in cattle, however, what annoys me, is the ready handing out of drugs to clients." (Vass 2006)

"The public is willing to pay for specialization and the public is now being educated to demand specialization. As we are basically a service industry, we have got to develop along the way the consumer is asking...I am disappointed to see Murdoch creating a separate animal science degree to produce people who specialize in animal production." (Micke 2006)

"There's a bit of a tendency for some specialists to regard the GP as a bit of a mug...Undergraduates think that unless you're a specialist you haven't made it. There is

a tendency for a lot of kids to think that if you're a GP you don't know much. I'd argue that if you're a GP you know more than a specialist.” (Hunt 2006)

“It is probably a good thing for people to accept that you can't do everything and there are specialists that you should refer to or you should at least offer the option of referral to...It can't happen in rural practice unless the practice gets big enough for internal specialization. Its hard to have the ongoing case load to maintain your position as a specialist which is hard in rural practice.” (Erickson 2006)

The Annual Register of Veterinary Surgeons in WA for 2005 included a list of 25 specialists; 21 practiced in WA with four practicing elsewhere. Of the 21, four had retired, six were in private practice in Perth and 11 were employed at Murdoch University (Keefe 2005a).

Currently, in WA, specialists represented less than 3% of the profession with the majority working at Murdoch University. When students, from this school, are advised to refer cases to specialists, they are essentially being directed to refer to Murdoch University and apparently this is being done without recognising the potential for conflict of interest.

CHAPTER 8. RESEARCH PROJECT: INTRODUCTION AND PROCEDURE.

8.1 Introduction.

In September 2002, the author provided a submission to the Frawley Review. There was a sense of *deja vu* regarding the matter, as similar submissions were made during the 1970s. The Review was published in 2003 and assented to by the Commonwealth Government in 2004 (Frawley 2003; Anon. 2004).

The Review's analysis of the problems facing rural practice in Australia was relatively accurate, however, the recommendations were totally inadequate. There was recognition of the importance of surveillance in protecting Australia's livestock from exotic disease and recognition of a decreasing capacity of government veterinary services to provide this surveillance, however, the Review failed to recognize that rural practice could be employed for this purpose.

Instead of recommending the use of rural practice in this preventive role, it recommended the formation of the Australian Veterinary Reserve, which by its very nature, is a reactive organization called upon when an exotic disease is discovered in Australia (Doyle 2004).

The Gannon Report failed to effect beneficial change to rural veterinary practice in Australia in 1975; its recommendations did not result in the co-operation of the farming community, the veterinary profession and the government to bring about stability and underpin the future of rural practice (Gannon 1975). Four years after the release of the Frawley Review the profession is yet to see any benefit from its release (Frawley 2003).

As a result, the author formulated the idea of a thesis of rural veterinary practice in WA and approached Professor Graham Wilcox, Head of Post Graduate Veterinary Studies at Murdoch University, who considered that the concept had merit and supervisors for a doctoral thesis were appointed.

To establish the status of rural practice in WA, it was decided to conduct a survey of current rural veterinary practitioners. For the purpose of comparison, current government veterinary officers employed by the Department of Agriculture in WA were also surveyed.

To expand on this information a number of respondents to the surveys were invited to participate in oral history interviews.

This information could help shape the future of rural practice in Australia.

8.2 Procedure.

In 2006, two research projects were conducted: (1) A survey of currently registered rural practitioners in WA with the objective of gaining fact and opinion on a wide range of issues that concern rural practice. At the same time a survey of currently registered government veterinary officers in WA was undertaken with a similar purpose. (2) Oral history interviews with some of the respondents to further examine issues that were raised in the surveys.

All questions asked in the surveys and the interviews, were submitted to the Human Ethics committee of Murdoch University for approval. This committee required, in addition to the questionnaires, an introductory letter and consent form to accompany the questionnaires and when this was completed, the material was approved.

(1) Survey of rural practitioners.

Information of rural practitioners to be surveyed were taken from the WA Annual Register of Veterinary Surgeons, May 2005 (Keefe 2005a). The register provided details of the name, address, date of registration, qualifications, university where basic degree attained, post-graduate qualifications and field of employment.

There were 958 registered veterinary surgeons in WA of which 787 (82%) were employed in private practice.

A key to the fields of employment of each veterinary surgeon was included in the Register. For example, “PSA Practice (Small Animal), PLA Practice (Large Animal), PM Practice (Mixed), PE Practice (Equine), PC Practice (Consultancy) and PO Practice (Other)”.

Veterinarians classed as PLA, PM, PE with a rural address were invited to participate in the survey. Veterinarians classified as PC servicing economic livestock were invited to participate whether living in Perth or rural regions. Veterinarians classified as PO, where the type of employment was not specified, were excluded from the survey. Veterinarians classified as PSA were not included in the survey, whether living in Perth or rural areas of WA.

One hundred and fifty-one questionnaires were mailed to rural veterinary surgeons in March 2006 and those returned by the end of May 2006 were included in the survey.

The survey consisted of 60 questions divided into six parts; personal information, rural practice questions, workplace safety issues, relationship with government veterinary services, farmer attitude to rural practice, impact of the Frawley Review and the future prospects of rural practice in WA (Appendix 1).

The results were transferred to Microsoft Excel for analysis.

(2) Survey of government veterinary officers.

Forty-six veterinary surgeons (six female and 40 male) were registered as “GAG Government (Dept of Agriculture)” in the 2005 Annual Register (Keefe 2005a). Two officers were employed by Australian Quarantine and Inspection Service and one officer was considered doubtful and all three were excluded from the survey. Two others were added to the list because both were recently retired life-time members of the WA government veterinary service.

Twenty-two worked in Perth, whilst 23 lived and worked in rural WA. Forty-five questionnaires were mailed to government veterinary officers in March 2006 at the same time as those to rural practitioners.

Each participant was asked 51 questions in six parts; personal information, government veterinary service, workplace safety, relationship with rural practice, farming attitude regarding government veterinary services, impact of the Frawley Review and the future of government veterinary services in WA (Appendix 2).

Results were transferred to Microsoft Excel for analysis.

(3) Oral history interviews.

Thirteen respondents to the questionnaires were selected to participate in personal interviews. The criteria used for selection was that the veterinarian had been engaged in rural veterinary service in WA for 20 or more years as it was considered that veterinarians with this degree of experience could provide the best overview of the era. Two others were chosen because, although in practice for periods less than 20 years, they had made written submissions to the Frawley Review, indicating an interest in the subject

of rural practice. The object was to secure detailed information from these veterinarians and to explore their opinions in a variety of matters central to rural practice.

Thirteen were contacted and 11 were willing to sign the consent form for the use of their name in the thesis. From August to December 2006, the interviews were conducted using a tape recorder for accuracy in documenting. The tapes were transcribed and excerpts are found within the thesis where appropriate. The tapes are stored at Murdoch University.

The interviewees, the dates of the interviews and the question protocol are located in the Appendix (Appendix 3).

CHAPTER 9. RESEARCH PROJECT: RESULTS.

9.1 Introduction.

Results are presented under three headings; (1) Rural practice, (2) Government veterinary service and (3) Oral history interviews: the future of rural practice and government veterinary services in WA.

9.2 Survey results: Rural practice.

(1). Response to the questionnaire.

Eighty-two rural practitioners – 41 female and 41 male – responded to the questionnaire. Eight questionnaires were returned, marked “No longer at this address” and 20 rural practitioners, found in the 2005 register, were no longer recorded as such in the 2006 register (Keefe 2005; 2006).

During the year 11 female and nine male veterinarians left rural practice, having either left the state and let their registration lapse or relocated to urban practice in Perth. At the same time, nine female and two male new graduates entered rural practice in WA.

Not all respondents answered all questions.

(2) Gender and decade of graduation.

Eighty-two responding rural practitioners graduated between 1964 and 2005; eight (10%) during the 1960s, 12 (15%) during the 1970s, 30 (36) during the 1980s, 17 (21%) during the 1990s and 15 (18%) in the first five years of the present century. Sixty-two (76%) of the respondents had graduated since 1980. The following table (Table 9.1) presents data on the decade of graduation for rural practice respondents based on gender. For the 41 female respondents, 10 (24%) had graduated by 1986 with 31 (76%) graduating within the last 20 years; 26 respondents (64%) had graduated since 1990. For the 41 male

respondents, 31 (76%) had graduated by 1986 with 10 (24%) graduating since then; six respondents (15%) had graduated since 1990.

Table 9.1

Female and male respondents to the questionnaire and the decade in which they graduated.

Decade of graduation	Female respondents		Male respondents	
	n	%	n	%
1960s	0		8	19%
1970s	3	7%	9	22%
1980s	12	29%	18	44%
1990s	13	32%	4	10%
2000s	13	32%	2	5%

(3) Age of respondents.

The mean age of respondents was 44 years (± 1.2 years SEM) with an age range of 24 to 70 years. The mean age of female respondents was 37 years (± 0.9 years SEM) and of males was 51 years (± 1.0 years SEM).

(4) Retired respondents.

Seven of the respondents reported that they had retired from rural practice; two females and five males. Three had retired in the 1990s and four since 2000. None had ceased work altogether with four pursuing other veterinary activities, such as government veterinary service and three pursuing non-veterinary activities, such as farming.

(5) Undergraduate training.

Ten respondents had graduated from the University of Queensland, five from the University of Sydney and one from the University of Melbourne, gaining a BVSc degree.

Fifty-five (67%) had graduated from Murdoch University gaining BSc and BVMS qualifications and 11 graduated from non-Australian universities gaining a variety of basic degrees, such as DVM.

(6) Assessment of undergraduate training.

Respondents were asked to assess their undergraduate training (Table 9.2)

Table 9.2

Assessment of adequacy of undergraduate training

Criteria	Theoretical knowledge		Practical skills	
	n	%	n	%
Adequate in all aspects	13	16%	5	6%
Adequate in most aspects	61	74%	44	54%
Adequate in only a few aspects	8	10%	32	39%
Not adequate at all	0		1	1%

There was considerable difference between satisfaction with undergraduate teaching and training. Ninety per cent of respondents considered their undergraduate teaching in theoretical knowledge to be adequate, but only 60% considered that their training in practical skills sufficient.

(7) Initial employment.

Seventy-two respondents (88%) were initially employed in private practice, seven worked in government, one in university and two in industry. Of the 72 in private practice, seven began in urban practice with 65 (90%) commencing in rural practice.

Using the criteria of working five-days-a-week to represent full-time and anything less as part-time, 79 (96%) respondents worked full-time with three working part-time when they began in practice; all three working part-time were female graduates.

(8) First practice.

Seventy-one of 79 respondents (90%) initially joined an established practice with eight beginning their veterinary careers by establishing a practice. Fifty-five of 77 respondents (71%) joined a solo practice with 22 joining group practices.

(9) On-the-job training.

Fifty-four of 79 respondents (68%) received on-the-job training from a senior veterinarian in the practice, whereas, 25 reported receiving no such training.

(11) Animal species initially attended in rural practice.

The veterinarian engaged in rural practice is expected to attend both economic livestock (sheep, cattle, pigs and poultry) and companion animal species (dogs, cats and horses). On entering rural practice 44 of 82 respondents (54%) serviced economic livestock and 38 did not. Of those who did, 37 spent up to one quarter of their time with these species, with the remaining seven allocating more than 50% of their time; all of this latter group were production consultants.

At the same time, 74 of 82 respondents (90%) serviced companion animals and 7 did not. Those who did not service companion animals were all production consultants. Of those servicing companion animals, 53 respondents spent up to a quarter of their time with these species with 21 respondents devoting more than 25% of their time to them.

(12) Married to a veterinarian.

Thirteen respondents were married to a veterinarian or had a partner who was a veterinarian. Most of the former worked in the same practice with about half working full-time.

(13) Higher qualifications achieved by respondents.

Eleven respondents (13%) had achieved higher qualifications, such as MS, MVS, MACVSc and PhD. Nine had acquired one higher degree and two had acquired two degrees.

(14) Work place safety.

Working with animals poses a risk. Injuries, such as being bitten, scratched or kicked can occur or an illness can be acquired, for example brucellosis. Forty-one of 81 respondents (51%) reported that they had acquired a serious injury or illness during their career in rural practice. Twenty-four (59%) of these reported that it had impaired their ability to practice and eight of 39 respondents (21%) stated that it would lead to them leaving practice.

(15) Veterinary and lay staff numbers in rural practice.

Respondents provided information on the number of veterinarians and lay-staff employed in the practice (Table 9.3).

Table 9.3

Veterinary and lay staff employed in rural practice in WA.

Numbers Employed	Veterinary staff		Lay staff	
	n	%	n	%
Zero	0		3	4%
One	18	27%	10	15%
Two	13	19.5%	9	14%
Three	14	21%	6	9%
Four	9	13%	9	14%
Five and more	13	19.5%	29	44%
Total	67		66	

Forty-six per cent of respondents worked in one- or two-person practices with the balance in group practices. Some veterinarians worked without lay-staff support. The one- and two-person practices employed few lay-staff with the bulk employed in group practices, however, many of these were employed part-time. The ratio of veterinary staff to lay staff reported in this survey of rural practice in WA was 1:1. Practices with four or more veterinary and lay staff were those practices located in regional centres.

(16) Recruiting and keeping staff.

Forty-two of 48 respondents (88%) reported that recruiting veterinary staff was difficult while six of 48 (12%) did not report difficulty.

Thirty of 45 respondents (67%) reported that it was difficult keeping veterinary staff in rural practice, whilst 15 of 45 (33%) did not find this to be the case.

(17) Relationship with local government veterinary service.

Fifty-seven of 68 respondents (84%) reported that there was a government veterinary officer in the district when they entered practice. Fifty-five of 61 respondents (90%) reported that the relationship between the two services was complimentary and 57 of 60 respondents reported that relationships between the two services were amicable. The balance saw the relationship as competitive and in a few cases hostile.

(18) Independent income.

Nineteen of 56 respondents (34%) reported that during their career in rural practice they found it necessary to develop an independent income. Sixteen (84%) did so in non-veterinary activities, such as farming and three did so in other veterinary activities, for example, marketing veterinary products.

(19) Former employees working in competing practices.

Twenty-four of 66 respondents (36%) had experienced veterinary employees leaving and working for, or establishing, a competing practice in the same area. When this occurred 36% reported that it caused conflict between the practices.

(20) Proprietorship.

Thirty-four of 75 respondents (45%) were sole-proprietors, 12 (16%) were partners and 29 (39%) were assistants in rural practice. Eight of 37 female respondents (21%) were sole proprietors, four (11%) were partners and 25 (68%) were assistants. Twenty-six of 38 male respondents (68%) were sole-proprietors, eight (21%) were partners and four (11%) were assistants.

The following table (Table 9.4) demonstrates the position within the practice held by both female and male rural practitioners. Twenty-four per cent of sole proprietors were female and 76% male; 33% of partners were female and 67% were male; and 86% of assistants were female and 14% were male.

Table 9.4

Position within the practice of both female and male rural practitioners.

Category	Sole-proprietor		Partner		Assistant	
	n	%	n	%	n	%
Female respondent	8	21%	4	11%	25	68%
Male respondent	26	68%	8	21%	4	11%
Total	34	45%	12	16%	29	39%

(21) Provision of specialized services.

Sixty of 71 respondents (85%) reported providing specialized services, such as artificial insemination of livestock, embryo transfer, faecal work egg counting for internal

parasites and nutritional advice. Twenty-six of 57 respondents (46%) reported providing artificial insemination in cattle, with three and five of 57 respondents (5% and 9%) providing laparoscopic artificial insemination of sheep and embryo transfer in both cattle and sheep. These latter practices specialized in these services and did not provide a comprehensive rural practice service.

Forty-six of 58 respondents (79%) provided a faecal worm egg counting service to detect internal parasites in sheep and 39 of 55 respondents (71%) reported providing nutritional advice to clients of the practice.

(22) Practice income.

Fifty-five respondents provided details of rural practice income (Table 9.5).

Table 9.5

The various components of rural practice income and proportions contributed from these different sources in WA in 2006.

Source	Zero%	1-25%	26-50%	51-75%	76-100%
Professional fee	4	8	26	14	3
Travel charges	4	50	1	0	0
Therapeutic drugs	2	33	18	0	2
Merchandising	16	38	1	0	0
Animal food	26	29	0	0	0
Special services	34	19	1	0	1
Herd/flock health	36	15	1	1	2
Other	46	5	2	2	0

Forty of 55 respondents (73%) reported that professional fees represented from 26% to 75% of total income of the practice. Four reported no professional fees and these were sheep and pig consultants who recorded this fee under the headings specialized services

or herd/flock services. The three respondents who reported over 78% of income from professional fees were a cattle consultant, a sheep reproductive specialist and a mixed practice located in one of the major regional centres.

Fifty of 55 respondents (91%) reported travel charges represented from 1% to 25% of total charges. Those who did not record travel charges were a sheep consultant and mixed practitioners who operated from their clinics only. The one respondent who reported travel income of 35% was a sheep consultant.

Fifty-one of 55 respondents (93%) reported therapeutic drugs sales accounted for between 1% and 50% of practice income. One mixed practitioner and one equine consultant reported zero therapeutic drug sales and one mixed practitioner and one sheep consultant reported that drug sales represented more than 76% of practice income.

Thirty-nine of 55 respondents (71%) merchandised; for 38 respondents this represented between 1% and 25% of total practice income, whilst for one dairy practitioner merchandising represented 35% of total income. Sixteen respondents (29%) did not merchandise.

Thirty of 55 respondents (55%) reported selling animal feed, principally dog and cat food, which represented between 1% and 25% of practice income. Of the 25 respondents who did not sell animal food, 17 were mixed practitioners, three were large animal practitioners and five were consultants.

Artificial insemination, embryo transfer, faecal worm egg counting and nutritional advice were grouped together as special services. Nineteen of 55 respondents provided these services which represented between 1% and 25% of practice income. In one instance an equine consultant provided reproductive services which represented 30% of practice

income and one practitioner reported that sheep reproductive services, such as laparoscopic AI and embryo transfer provided 80% of total income. Twenty-five mixed practitioners, three large animal practitioners and four consultants did not provide such services.

Thirty-two of 70 respondents (46%) reported that they provided a flock or herd health service in addition to providing a therapeutic service. Sixteen of 26 respondents (62%) reported that this service provided a moderate increase in practice income with the balance reporting no increase. Four of 63 respondents (6%) reported that they provided this type of service exclusively and all four were classified as consultants; one sheep, one pig and two sheep and cattle. All four considered that their income from this enterprise was adequate.

Nine of 55 respondents (16%) used the 'Other' category. For example, one mixed practitioner derived 20% of total income from equine farriery and one mixed practitioner conducted a cattle service in the north of the state which included cattle speying.

(23) Current Employment.

At the time of the survey (2006), 56 respondents (68%) were employed full-time with 26 (32%) working part-time. Of the latter group, 19 (73%) were female and seven (27%) male.

Fifty-nine respondents (72%) reported that they were continuously employed as a veterinarian, whilst 23 (28%) reported that for periods of their working lives they were not employed as veterinarians. Of this latter group, 17 (74%) were female.

(24) Animal species attended at the time of the survey.

At the time of the survey, 31 of 82 respondents (38%) serviced economic livestock and 51 did not. Of those that did, 21 spent up to one quarter of their time with those species, four allocated between 26% and 50% with the remaining six allocated more than 50% of their time; all of this latter group were consultants.

At the same time, 60 of 82 respondents (73%) serviced companion animals and 22 did not. Of those that did service companion animals, 34 spent up to a quarter of their time with these species and 26 devoted more than 50% of their time with them.

Table 9.6

Comparison of time spent with production animals and companion animals for female and male respondents on entering practice and at the time of the survey.

Category	On entering practice % (\pm SEM)	At the time of the survey % (\pm SEM)
Female respondent:		
Production animal	31 (\pm 3)	19 (\pm 3)
Companion animal	69 (\pm 3)	81 (\pm 3)
Male respondent:		
Production animal	46 (\pm 3)	39 (\pm 4)
Companion animal	54 (\pm 3)	61 (\pm 4)

On entering rural practice female respondents spent 31% of their time servicing production animals, but at the time of the survey this had reduced to 19%. The trend was similar for male respondents, but not to the same degree (Table 9.6).

(25) Attitude of farming community to rural practice.

Thirty-eight of 76 respondents (50%) reported that farmers were reluctant to pay for advice and 34 (45%) reported that farmers resent paying for the veterinarian's travel costs. Seventy-three of 76 respondents (96%) reported that farmers want an account rendered for service provided and 23 (30%) reported that farmers exceeded the credit terms of the practice.

Twenty-seven of 77 respondents (35%) reported that farmers shop around for the cheapest veterinary service and 19 of 76 (25%) reported that farmers used the rural practice as the last resort.

Sixty-one of 76 respondents (80%) reported that farmers demanded that rural practice be available at any time day-or-night, 27 (36%) reported farmers resented the rural practitioner taking time off for any purpose and 36 (47%) reported that they were required to act as labourers on the farm to handle stock because of insufficient farm staff. Fifty-seven of 77 respondents (74%) reported that farmers expect to receive therapeutic drugs when they demand them and 42 (55%) reported that if farmers could have direct access to therapeutic drugs they would not employ the practice.

Finally, 30 of 77 respondents (39%) considered that farmers treated female veterinarians differently from males; 51% thought that they did not and 10% were not sure. Fourteen of 39 female respondents (36%) considered that they were treated differently by the farming community, whereas, 16 of 38 male respondents (42%) thought female veterinarians received different treatment from farmers.

(26) Career satisfaction.

The level of satisfaction achieved by respondents is presented (Table 9.7). Five percent of respondents were dissatisfied with the work performed, 35% with the income received and 12% with the status achieved.

Table 9.7

Satisfaction achieved by respondents during a career as a rural practitioner.

Comment	Job satisfaction		Income received		Status achieved *	
	n	%	n	%	n	%
Completely satisfied	25	31%	7	9%	20	25%
Mostly satisfied	52	63%	46	56%	50	63%
Dissatisfied	5	6%	29	35%	10	12%

* two respondents abstained from answering this question.

(27) Response to Frawley Review.

One of 55 respondents reported benefiting from the publication of the Frawley Review, whereas 54 (98%) reported no benefit. The sole beneficiary considered that there had been an increase in livestock work in the practice and attributed this increase to the Review.

(28) Future of rural veterinary practice in WA.

Fifty-five of 72 respondents (76%) considered that rural practice in WA had a future, whereas, 17 (24%) did not. Fifty of 70 respondents (71%) believed that the future viability of rural practice lay in servicing companion animals, whereas, 17 (24%) considered that the major component of practice income would be derived from livestock and three were not sure. However, 14 of the 17 respondents provided a service exclusively to livestock.

Fifty of 53 respondents (94%) believed that this trend toward the servicing of companion animals as the main source of rural practice income would continue. As a result, 10 of 65 respondents (15%) reported that their practice had curtailed services to economic livestock and seven of 63 (11%) rural practices had eliminated veterinary services to economic livestock altogether.

9.3 Survey results: Government veterinary officers.

(1) Response to the questionnaire.

One female and 29 male government veterinary officers responded to the questionnaire. Sixteen respondents (53%) resided in Perth with the balance located in rural WA. Twelve were located in the southern agricultural region and two in the north of the state.

(2) Decade of graduation.

Eight (27%) graduated in the 1960s, 13 (43%) in the 1970s, six (20%) in the 1980s, three (10%) in the 1990s and none since 2000. Twenty-seven had graduated by 1986 and three since then; that is, 90% had graduated more than 20 years ago with the balance graduating within the last 20 years. The sole female respondent graduated in 1983.

(3) Age.

The mean age of respondents was 54 years (± 1.7 years SEM); age range of 31 to 68.

(4) Retired.

Two respondents had retired from government service, but were still engaged in veterinary pursuits; one in a diagnostic laboratory and the other in industry.

(5) Undergraduate training.

Seventeen respondents (57%) had graduated from the University of Queensland, two from the University of Melbourne, nine from Murdoch University and two from international veterinary schools.

(6) Assessment of undergraduate training.

Respondents were asked to assess their undergraduate training (Table 9.8). Whereas, 86% of respondents considered their undergraduate teaching in theoretical knowledge as adequate, only 52% considered their training in practical skills sufficient.

Table 9.8

Assessment of the adequacy of undergraduate training.

Criteria	Theoretical knowledge		Practical skills	
	n	%	n	%
Adequate in all aspects	0		1	4%
Adequate in most aspects	25	86%	14	48%
Adequate in only a few aspects	4	14%	14	48%
Not adequate at all	0		0	

(7) Initial employment.

Seventeen respondents entered government service upon graduation – 14 had received government cadetships which assisted with their education – with the balance entering government service after variable periods in practice or university. On entering service, 27 respondents (90%) were employed full-time with three working part-time.

(8) On-the-job training.

Twenty-six of 29 respondents (90%) received on-the-job-training by a senior veterinarian, with only three reporting no such training.

(9) Animal species attended.

Government veterinary officers provide a service to economic livestock only except in cases where there is no practitioner to provide service to companion animals.

Respondents were asked to allocate their time spent with the various species when their careers began and at present (Table 9.9). Essentially, there is no significant difference in the allocation of the veterinarian's time between the varying animal species when the respondents began their careers and at the time of the survey.

Table 9.9

Allocation of time spent by WA government veterinary officers on the various livestock species at the time of initial employment and at present.*

Livestock species	Per cent of time allocated	
	Initially	Present
Sheep	43%	52%
Beef cattle	35%	24%
Dairy cattle	10%	10%
Pigs	6%	5%
Poultry	3%	7%

* the balance of the time was spent with animal species other than those indicated.

(10) Marital status.

Only one respondent was married to a veterinarian.

(11) Higher qualifications achieved by respondents.

Twenty-one respondents (70%) had acquired higher qualifications. The 21 respondents had between them a total of 31 post graduate degrees, including BSc (Vet Path), DipACVP, MAgSc, MVS, MVSc, MSc and PhDs.

(12) Work place safety.

Seven of 29 respondents (24%) had incurred a major injury or illness whilst employed in veterinary activities. Five of the seven (71%) reported that it had impaired their performance as a veterinarian, but none would leave veterinary service as a result of the condition.

(13) Changes in government veterinary services.

Sixteen of 27 (59%) respondents considered that changing economic circumstances for farming since the 1970s had caused changes in the types of services being offered by government veterinary officers. Ten of 16 respondents stated that there had been an overall decrease in the volume of work now performed. There had been an increase in administrative and regulatory work accompanied by a decrease in field work, extension, research and diagnostic work (Table 9.10).

Table 9.10

Changes in government veterinary service attributed to changing economic circumstances in WA agriculture.

Service category	Increased	Decreased	No change
Administration	13	0	2
Regulation	7	2	4
Research	1	10	3
Extension	3	9	3
Diagnosis	2	11	3
Field work	0	13	1

Thirteen of 25 respondents (52%) considered that the introduction of charges for government veterinary services (1988) affected the types of service provided and 15 of

22 respondents (68%) considered that farmer attitudes to the service also changed as a result. On-farm service, extension and field research decreased, whereas, administration and regulation had increased.

(14) Relationship with rural practitioners.

Nearly all respondents (94%) considered that the government service and rural practice were complimentary and the relationship between the two services amicable. Only two of 24 respondents reported conflict because of similarity of service.

(15) Range of veterinary tasks performed.

Twenty-two of 28 respondents (79%) performed the whole range of government veterinary tasks, namely, administration, regulation, research, extension, diagnostic and field work. Of the remaining six, one had only performed diagnostic work, two had not performed extension or field work, one had not performed field work, one had not performed diagnostic or field work and one had not performed research.

(16) Current employment.

Twenty-six of 30 respondents were employed five-days-a-week (full-time) with two working part-time. Twenty-five of 30 respondents (83%) worked continuously as veterinarians whilst five (17%) had periods employed in non-veterinary activities.

Fifteen respondents worked in the city and 15 lived and worked in rural WA.

(17) Career satisfaction.

Satisfaction achieved by respondents is reported (Table 9.11)

The respondents were mostly satisfied with the work they performed and the status achieved, however 20% were dissatisfied with their income.

Table 9.11

Satisfaction achieved by WA government veterinary officers during their careers.

Comment	Job satisfaction		Income received		Status achieved *	
	n	%	n	%	n	%
Completely satisfied	10	33%	4	13%	6	21%
Mostly satisfied	19	64%	20	67%	21	75%
Dissatisfied	1	3%	6	20%	1	4%

* two respondents abstained from answering this question.

(18) Response to Frawley review.

Twenty-one of 27 respondents (78%) considered that the government veterinary service in WA had not benefited from the release of the Frawley Review, whereas, six respondents reported a benefit, however, this did not lead to an increase in work performed, but better co-operation between government departments.

(19) Future of government veterinary service in WA.

Twenty-six of 30 respondents (87%) considered that the government veterinary service would continue to have a role in livestock health and productivity in WA. Four of 26 respondents believed that the service offered in the future would be the same as provided in the past, however, 22 (85%) believed that a new service would evolve.

9.4 Oral history interviews: Future of rural practice in WA.

“I have watched them [dairy farmers] go broke. But at the same time, in this area, they have been well padded by the inflation of land prices and this has buffered them. Firstly, there was the compensation money when the industry was deregulated with most investing off-farm. Some became wealthy by investing in Perth property that is going through a boom. Secondly, they have been cushioned by the dramatic increase in land values in the area where many from Perth are now buying and building homes...The

practice is rapidly changing from a diary practice to a companion animal practice; before 70% was cattle work, 10% horses and 20% small animals, but now small animals are 50% of the practice.” (Vass 2006)

“I believe I could run a sheep and cattle consultancy with about 70 clients. However, it’s not what any veterinarian can do, as you have to sell yourself and be a lateral thinker...I also advocate the employment of vets by institutions servicing rural communities. They will be wearing two hats but they could at least get a job...I am concerned with the advent of the new Animal Science courses because it will impinge on veterinary work. These new graduates will get work with agricultural firms and will try to do what a rural vet should be doing.” (Micke 2006)

“When all these groups started up [consultancy practices in the 1980s] I actually said there are ten positions potentially in Western Australia. You could actually be providing a service and making a living doing this [Sheep consultancy]...The potential was there, now there are none... So, who is going to service these people? Well I don’t know how we are going to get people out of the veterinary profession or educated in a veterinary school and this is one of the reasons for the trial at Murdoch started up the Animal Science Course...I don’t think the veterinary profession will ever do it because of its emphasis on companion animals.” (Bell 2006)

“I have some physical problems with my upper arm which may inhibit future activity in large animal work; my heavy physical work may not last for much longer... When you are preg testing all day, its not the most stimulating job in the world...I have started to accumulate a little capital and I would like to exit from work to some extent and go travelling with my wife and have a bit of pleasure.” (Morrell 2006)

“No, farmers are not worth servicing, but their dogs are sometimes. But I don’t think they are worth servicing. You can’t make a living out of farm consultancy and you can’t make a living out of purely farm animal practice unless you do it by working out of the boot of your car and therefore have no overheads.” (Erickson 2006)

“Farming has had it. I’m a farmer, I’ve got a farm and I’ve sold half of it and I’m going to sell the next half. I cannot make a commercial quid out of it. However, the real estate value will save me when I do so...I have lost all my dairy people bar three and considering there were over 100 dairy farms here when I came that is quite extraordinary. All the flock and herd proponents – they all went scientific to make money – not one did it successfully. They were all subsidized by various university programs, used computers and they all came and went. I call them ‘fudger-of-figures-men’ No, the only way you can earn enough money to pay the bills, to keep going, to employ people is to do small animal work as small animals is the income earner.” (Brighton 2006)

“We will have to accommodate hobby farms and as a business it is a big avenue for us and we will not knock it back...A number of farms have been lost to tree farms so we have to look to other avenues for work. We’ve proven that you can survive servicing production animals as well as dogs and cats...There isn’t enough dogs and cats for us to survive like the situation in Albany. We have to be truly a mixed animal practice... You’ve got to grab whatever you can as a practice owner-manager.” (Nye’Chart 2006)

“Instead of taking the pessimistic view of a reduction in the numbers and significance of farmers, I take a slightly different view. In WA there are 11,000 commercial farmers, but there are also 53,000 hobby farmers and they turn-over every 2 to 3 years. So, in regional centres there is a population growth of hobby farmers who are well intentioned,

kind hearted, have animals and know absolutely nothing about them, and I think they will provide a very good market for rural veterinarians who will be able to be advisers as well as fire-brigade people. I think veterinarians have a future in large regional centre, but in smaller and more remote regions we are seeing a drop in population and we have a problem not only for veterinarians servicing them, but, also as a nation, because there is a big hole there for animal health surveillance...” (Moir 2006)

“I reckon in 20 years time farmers will be living in Perth and driving out on Monday morning... Governments pay lip service to the bush, don't they. It's going to get worse with one vote one value.” (Hunt 2006)

“I have shown the concept [Farmancare] to others within the department who have not been enthusiastic about the idea, instead retorting that the rural practitioners could abuse the system.” (Mayberry 2006)

9.5 Oral history interviews: Future of government veterinary services in WA.

“Changes recently introduced by the department have not been successful in providing an effective government service. In fact, I believe that these changes have hurt the service... They have cut the wrong corners... As eradication programs wound down, the government failed to replace it with a more suitable alternative and as a result have lost ground... In addition field services have been wound down.” (Mayberry 2006)

“I don't think government can ever effectively service the needs of individual farmers. The role of the government has changed immensely of course, and where, in the 60s and 70s, government vets used to investigate herd and flock problems... government has now moved a long way from that, so there is no way in the world they will ever service the rural communities' veterinary needs.” (Moir 2006)

“Originally, the government services were the vets! In the 70s, if it wasn’t for government vets, then no one could get anything done. Then it turned into argi-bargi competition between the private vets in the country and the government vets.” (Brighton 2006)

“For a long time there has been the question of will the government service take on a new and different form? All I can say is when?...The change in name means nothing.” (Micke 2006)

“There’s no government vet in Kalgoorlie and we do a bit of government work. Kalgoorlie is a big rail centre for imported stock...I had a great time in the government service, but people tell me now it’s entirely different. I understand the conflicts when there are government and private vets in the town, but I’d say those days are nearly gone, because there wouldn’t be any government vets would there?” (Hunt 2006)

“Government veterinary services have changed dramatically. Bunbury is no longer a regional office, there was a period when there were seven vets there...The regional laboratory established at Bunbury is now defunct.” (Vass 2006)

“When I began, private vets charged and government vets didn’t and farmers didn’t like to come to us because we charged and they could get it free from the government. And then the government vets did start charging for things and that was really unpopular because then everyone was charging. But now it’s gone back the other way and they don’t charge a lot of the time, but they don’t seem to actually see animals.” (Erickson 2006)

“One of the major problems that we are confronting is that in real terms the budget of the Department of Agriculture is 40% of what it was about 15 years ago...At the field

level I'm concerned and I think they are desperately searching for relevance... One thing that annoys me is that they jump into areas where private enterprise could deal with it quite effectively." (Batey 2006)

"I don't know where the Ag. Department is going, basically." (Nye'Chart 2006)

CHAPTER 10. RESEARCH PROJECT: DISCUSSION.

10.1 Introduction.

Gannon interviewed 78 veterinarians from Victoria, New South Wales and Queensland and held discussions, by telephone, with officers of the AVA in South Australia, WA, Tasmania and Northern Territory (Sutherland and Gannon 1976). Frawley received submissions from four WA rural practitioners and met with eight at two meetings (Frawley 2003). The present author surveyed 82 WA rural practitioners and 30 WA government veterinary officers and conducted 11 personal interviews.

10.2 Rural practice in WA.

Figures taken from the annual register of veterinary surgeons in WA reveal that during the period 1960 to 2005 rural practitioner numbers increased from six to 151. In any one year, rural practitioners averaged between 15% and 20% of the total population of registered veterinary surgeons in the state (Toop 1960; Proctor 1970; Ward 1980; Craig 1990; Keefe 2000).

Eighty-two of 151 rural practitioners responded to the questionnaire, however, when the total is adjusted for eight who were not at the address specified and 20 who had either left rural practice or the state in 2005, the response rate became 67%, which can be considered representative of the population (Edwards 1990).

Half the respondents were female and 75% of female respondents had graduated within the last 20 years. Seventy-five per cent of male respondents graduated more than 20 years ago and this accounted for the wide discrepancy between the mean ages of females (37 ± 0.9 years) and males (51 ± 1.0 years).

The loss of 13% from rural practice in the year 2005 to 2006 was higher than previously recorded, which has ranged from 3.5% to 10%, but these figures were derived from observations over a number of years not just one year as in the present case (Heath 1996b; 2002a,b and c; Heath and Niethe 2001).

The most significant finding was that the viability of rural practice in WA depended upon servicing companion animals not economic livestock. Of the 82 respondents only five derived their entire income from servicing economic livestock; one from sheep, two from cattle and two from pigs, and they were classed as either consultants (PC) or large animal veterinarians (PLA). All respondents classified as mixed practitioners (PM) derived the bulk of their income from companion animals. The survey has established that the vast majority of rural practitioners in WA spend most of their time attending to the needs of dogs, cats and horses and much less attending sheep, cattle, pigs and poultry. Others have reported similar findings when dealing with rural veterinary populations elsewhere in Australia (Gannon 1975; Heath 1999; 2002a and b; Heath and Niethe 2000).

The majority of respondents considered that the level of knowledge gained as an undergraduate was suitable for them to function in rural practice, however, only 60% considered that they were adequately equipped with the necessary practical skills. This inadequacy in practice skills was also cited by interviewees and is a serious impediment to a successful transition from undergraduate student at university to an effective and useful rural practitioner (Heath, Western *et al* 1993; Heath 1997; Craven 2004).

Two-thirds of responding rural practitioners in WA graduated from Murdoch University. This veterinary school has become the major source of rural practitioners for the state and this tendency for the majority of veterinarians in a region to have graduated from the

region's veterinary school has been observed elsewhere in Australia (Heath 2002a; 2005; 2007a). In its 30 year existence Murdoch University has graduated 1290 students, of which 596 (46%) were registered in WA in 2005 (Culliver 2005 private communication). Most respondents began their veterinary careers in private practice with the majority starting in rural practice and this is consistent with other reports (Heath, Western *et al* 1993; Heath 1996b; 1997; 1999; Heath and Niethe 2001).

On entering rural practice, 96% of respondents were employed full-time, whereas currently, 68% are employed full-time. Forty-six per cent of female and 17% of male respondents work part-time currently and the increase in rural practitioners working part-time coincides with the predominance of female graduates, who appear not prepared to devote their total work time to practice (Brown and Silverman 1999; Heath and Niethe 2001).

In a recent study, Heath reported that, "*At the end of the 15th year, 68% of males, but 37% of females, were doing veterinary work full time, and more females than males were working part time (P<0.001)*" (Heath 2007b).

The last 20 to 25 years has seen a reversal of the dominant gender of veterinarians in Australia from an initial male dominated profession to one that is rapidly becoming female dominated. The President of the AVA stated, "*We have to recognize that change is inevitable, and it is due to the fact the generations are changing and the profession is becoming more female (the intake in many veterinary schools is now almost 100% female).*" (Seksell 2007). It appears that nothing is being done to address this gross imbalance.

Twenty-seven per cent of respondents work alone with the balance in group-practices of varying sizes. Fifty-six per cent of this latter group work in two- and three-veterinarian practices located in medium sized country towns in the agricultural region and 44% work in large group-practices located in regional centres. The employment of lay staff reflects this trend; some solo-practices do not employ lay staff and others employ only one, whereas, in large group-practices, more lay staff is employed. On average, one to one and a half lay-staff were employed per veterinarian.

Ninety-two per cent of male respondents were owners or partners in rural practice, however, the corresponding figures for female respondents was 32%. These figures suggest that, in WA, ownership and administration of a rural practice is far less attractive to female graduates than for their male counterparts. Sixty-eight per cent of female respondents were assistants or associates in rural practices in WA compared to 8% for males. These trends regarding proprietorship have serious implications for the future of rural practice in WA and have been reported by others elsewhere in Australia and overseas (Brown and Silverman 1999; Heath and Niethe 2001). Commenting on this issue, Heath reported that 63% of males and 51% of females were sole or part owners of practices, however, this was for urban as well as rural practices (Heath 2007b).

Assessment of satisfaction achieved during a career in rural practice revealed that 6% were dissatisfied with the work performed, 35% were dissatisfied with the income received and 13% dissatisfied with the status achieved. Long working hours, poor remuneration, sexist attitudes of farmers, heavy physical demands, danger, relatively poor status and prestige and lack of suitable infrastructure in country towns have all

been raised as reasons for discontent leading to an exodus from rural to urban practice (Heath 1996b; 2002a,b and c; 2007a and b; Heath and Niethé 2001).

Traditionally, rural practice income has come from three sources, professional fees, therapeutic medication administered and dispensed, and cost of travel to and from the farm (Blood 1985a). The present survey indicates that, in addition, other services have been incorporated into rural practice. Some respondents had developed skills associated with reproduction, such as artificial insemination and embryo transfer, whilst others provide laboratory services such as faecal worm egg counting and nutritional advice. Others have developed herd and flock health services whilst others have provided equine farriery or cattle speying capabilities. However, the largest areas of diversification have been in merchandizing and the sale of animal food. Whereas, the former diversifications could originate from interest and demand, the reason for the latter would most likely be due to a desire to increase practice income.

The inadequacy of rural practice income was emphasized by the fact that 34% of respondents found it necessary to have an independent income. These figures seriously question the profitability of rural practice and confirm 'poor remuneration' as a major reason for leaving rural practice (Heath 1996b; Brown and Silverman 1999; Heath and Niethé 2001)

During the last 40 years the Flock & Herd Health approach has been promoted as the means to servicing of economic livestock (Johnstone 1966; Gannon 1975; Sutherland and Gannon 1976; Blood 1977; 1985b; Blood, Williams *et al* 1978; Taylor, Swan *et al* 2000; Heath and Niethé 2001). The survey results do not support this proposition in WA rural practice. Two respondents provided this type of service exclusively to pigs

and the only sheep consultant has since retired and is teaching animal production students to take on the task, because veterinarians are not attracted to this work (Bell 2006).

The result supports the conclusion of the recently retired Dean of the Faculty of Veterinary Science at the University of Sydney, who reported, "*In Australia currently, there is minimal contact of experienced livestock veterinarians with production animals and minimal active laboratory surveillance of livestock diseases. Private veterinary practitioners specialising in extensive livestock industries have all but disappeared due to a combination of economics and loss of government work.*" (Rose 2001).

Half the respondents had incurred a major physical injury or illness during their veterinary careers and most reported that this had impaired their ability to function and 20% considered leaving veterinary service as a result of it. Confirming that rural practice is a hazardous undertaking, not only financially, but also regarding one's physical well being.

Only 13% of respondents pursued higher qualifications – clearly they are not required to function in rural practice. This is in contrast with government veterinary services where higher qualifications in the diagnostic disciplines is required and encouraged (Maxwell, Costa *et al* 2008a).

The opinions expressed by respondents regarding the attitude of the farming community indicate little change from that experienced half a century ago (Cole 1958; Osborne 1958; Taylor 1958). Frawley reported that, "*only some 20% [of farmers] engage veterinarians in any given year for professional services and advice...average expenditure by farm on veterinary service is about \$200 per year...less than 0.5% of*

total farm costs per farm.” (Frawley 2003) The farmer views rural veterinary practice as an expense and they do all they can to avoid employing such services.

This entrenched attitude raises the issue of the advisability of providing a veterinary service to economic livestock. Twenty per cent of respondents had curtailed their service to economic livestock and 10% had eliminated them altogether.

The UK Farmers Weekly, in an article entitled “Vanishing Vets” reported “*Farm vets are staring into the abyss...with 18% of farm animal vet practices planning to cease practice in the next 10 years.*” (Long 2006)

Various researchers have attempted to unravel the relationship between the farming community and rural practitioners in Australia, but with little success (Jones 1976; Fairnie 1978; Jones, Dunlop *et al* 1978; Chapman, Copland *et al* 1991).

10.3 Government veterinary service in WA.

The Department of Agriculture of WA came into existence in 1898 with the express purpose of fostering the State’s agriculture; it is the branch of the State Government which communicates scientific advice to farmers, conducts research and administers relevant Acts of Parliament (Burvill 1979a; Underwood 1979).

The size and relative proportion of government veterinarians in WA has changed significantly during the last 40 years. From the annual register of Veterinary Surgeons in WA it can be seen that in 1960, there were five government veterinary officers of a total veterinary population of 22 (23%) and by 1970 there were 25 government veterinary officers representing 26% of a total veterinary population. During the 1970s there was an increase in both government veterinary numbers (49) and proportion (38%). In the 1980s numbers increased to 65, but the percentage dropped below 20% and by 2005 there were

46 government veterinary officers representing 5% of the population of veterinarians in WA (Toop 1960; Proctor 1970; Ward 1980; Craig 1990; Keefe 2000 and 2005a).

The 67% response rate means that the sample can be considered representative of the population of government veterinary officers (Edwards 1990). However, the 17% response from female government veterinary staff contrasts with that of male staff (74%) and may prejudice the results.

The survey revealed an ageing population with the mean age of respondents of 54 years. Sixty-seven per cent were over 50 years-of-age with 27% over 60.

Twenty-four (80%) respondents were recruited into government service by 1986, with 17 entering the service immediately upon graduation and seven others entering service after a period (from 2 to 14 years) in practice or university. The remaining six were recruited into government service during the last 20 years, however, none of these entered government service at graduation. Many of these officers, who are highly qualified, will soon retire and will be difficult to replace, so the significance of government veterinary services within WA are likely to diminish and this was noted in the Frawley Review (Frawley 2003).

Fifty-seven per cent of respondents graduated from Queensland University assisted by state government cadetships, which bonded them to employment with the WA Department of Agriculture. Nine respondents graduated from Murdoch and two each from Melbourne and overseas universities. The cadetship scheme was successful in ensuring a steady supply of graduates for government

Government veterinary officers service economic livestock exclusively, however only half were located in rural areas. Most of these lived and worked in the southern

agricultural region with only a few in the pastoral north of the state. The balance lived and worked in Perth.

The survey demonstrated that government veterinary officers allocated the majority of their time to working with sheep and beef cattle. Dairy cattle occupied about 10% and pigs and poultry together another 10% of the respondent's time.

Only one respondent failed to derive satisfaction from their career as a government officer and most were satisfied with their status. Twenty-one per cent were not satisfied with their income and although "poor remuneration" is frequently cited as a cause for dissatisfaction for rural practitioners, this is the first report of government veterinary dissatisfaction (Heath 1996b; 2002a, b and c; Heath and Niethe 2001).

The majority of respondents considered theoretic knowledge gained during their undergraduate training to be suitable for the transition into government veterinary service, however, only half considered their practical skills suitable. Heath and co-workers made similar findings, reporting that 41% and 53% of veterinarians believing that they were equipped with the practical skills to enter veterinary service (Heath, Western *et al* 1993; Heath 1997).

The survey demonstrated that the WA government veterinary service operated an effective on-the-job training system with new graduates with a mentoring program. In a recent article comparing the support given to new graduates in private practice and government service, it was concluded that, "*government employees felt a higher average level of support than those in private practice.*" (Heath 2005).

Seventy per cent of government veterinary officers had higher qualifications and most of these were in diagnostic specialties such as pathology, bacteriology and virology.

Most reported that they were encouraged to acquire these extra qualifications whilst in government service. As the older, highly qualified government veterinary diagnosticians retire, if not replaced with equally qualified personnel, the diagnostic capacity of the Department of Agriculture in WA will deteriorate (Richards, Ellis *et al* 1993; Frawley 2003).

One in five respondents had acquired a major physical injury or illness during their careers and although these conditions impaired their ability they did not lead to retirement from the service. There is little available information of disease and injury among Australian veterinarians; in a survey of practitioners in WA, 71% of respondents had been injured over a 10 year period, however, most respondents were urban small animal practitioners (Jeyaretnam, Jones *et al* 2000).

Most government veterinary officers reported that as the roles of both government and rural practitioners were complimentary, the relationship between these two groups was amicable.

As most government veterinary officers had been in the service for a considerable time they had witnessed the changes associated with the downturn in the rural economy and the impost of fees being levied for government veterinary services. Half of the respondents reported changes had taken place resulting in an increase in administrative and regulatory work at the expense of research, field work and extension services.

Similar changes took place when the service began charging in 1988 (Richards, Ellis *et al* 1993).

There was confusion regarding the issue of whom the government veterinary officers served, the government or the farming community, and the majority of respondents

thought that they served both. Approximately 20% thought their allegiance was to the farming community and an equal number considered it was due to the state government. This potential for a conflict of interest has been reported by others (Radostits and Blood 1985c).

One respondent proposed that the future needs of rural WA could best be met by incorporating rural practitioners in a government funded scheme, which he named Farmancare, using the human Medicare program as a model. This was not the first time that a national insurance scheme had been suggested; in 1968 it was proposed that such a program be established by charging a 'small levy' on land holders (Montgomery 1968). Although most of the recommendations of the Frawley Review involved relationships between various government departments, most respondents reported no direct benefit accruing to the service since its release.

Finally, the majority of respondents considered that the state government veterinary service would continue, however there was confusion as to the form it would take. Only 10% thought it would function as it had in the past. Most thought the service would emphasize regulation and biosecurity and take on new roles such as public health and this has recently been advocated (Whittington 2006).

10.4 Summary

Rural veterinary practice in WA

The majority of rural practitioners in WA depend on companion animals, not production animals, for viability of their practice. There are few veterinarians operating consultancy services for economic livestock.

Poor remuneration is a major factor for veterinarians leaving rural practice and many rural practitioners find it necessary to supplement their income or develop an independent income.

Rural practice experiences difficulties securing the services of young graduates and keeping them working in the country.

Many rural practitioners are questioning the advisability of servicing economic livestock.

Government veterinary service in WA

Government veterinary services in WA are undergoing major changes reflecting the implementation of competition policy.

The veterinary staff is ageing and the replacement rate is not keeping pace with staff retirements.

The service is contracting and changing its nature.

In the future government veterinarians will most likely fill differing roles with the emphasis of providing research and extension to animal health and production problems being replaced by the provision of public health in line with the type of service veterinarians provide in European countries. At the same time it will most likely increase its regulatory role.

CHAPTER 11. CONCLUSIONS: LOOKING BACK ON FORTY YEARS.

“Throughout the entire period veterinary practitioners although few in number have played their role and have adapted to changing conditions.” (Taylor and Mylrea 1992)

11.1 Viability depends on adaptation to change.

Survival in rural practice in WA requires a willingness to adapt and make changes as they become necessary. From the time of arrival in Katanning, the survival of the practice depended on a willingness to change. The Katanning and Districts Veterinary Club failed to meet its obligations, but instead of leaving, changes were implemented and within a year a private rural practice was established.

With the failure of the sheep consultancy service, a traditional rural veterinary practice was developed.

Initially, prescriptions were written to be dispensed by chemists, and when this failed, the practice stocked and dispensed therapeutic drugs. If the profession has this capacity taken from it in the future, then it will have to return to writing prescriptions.

Because of the resistance to travel charges, two strategies were implemented; one was the establishment of branch practices, whilst the other was to establish a regional veterinary hospital. The former failed and the branches were closed, whereas, the latter succeeded.

This meant dealing with cases in the hospital which led to more efficient use of the veterinarians' time. Earlier presentation of an animal and better case management led to a higher success rate and this, in turn, emphasized the practice's commitment to quality service in a first class facility.

When beef cattle dominated in the region, they were effectively serviced but when the cattle boom collapsed, the practice was able to adjust, however, the cattle breeding services ceased to operate.

The hospital allowed for the surgical management of complex equine cases and to accommodate this demand for sophisticated surgery of the horse, the author gained higher qualification in this field. A number of cases managed at Katanning were documented in the Australian veterinary literature. For example, caesarean section in a mare for the surgical correction of uterine torsion, tendon splitting as a treatment for bowed tendon, the surgical management of sand impaction and of oesophageal obstruction, and hemi-castration, an iatrogenic consequence of equine castration (Maxwell 1971; 1979a; 2003; 2005a and b).

With the gradual shift in servicing production animals to companion animals there has been the noting of a significant social change. Twenty years ago dogs and cats were known as 'pets' whereas, today they are 'family'. Clients seek information about the health of their 'family' from a variety of sources, including the internet, and are aware of the range of sophisticated diagnostic and therapeutic services and this has led to greater expectations of treatment for these species. Although these latter procedures are considered too expensive for economic livestock, they are routine with companion animals and this has produced a two-tiered charge system.

Companion animals are charged at a different rate than economic livestock. For example, in 2002, the average fee for a caesarian section in a cow in WA was \$384, whilst, for a cat it was \$477 and for a dog \$597 (Anon. 2001). By 2004, the fee for a cow had decreased to \$358, whilst the fees for the cat and dog had increased (Anon. 2004). This

has led to a number of rural practices questioning whether it is worth servicing economic animals.

The oversupply of veterinarians has impacted on rural practice. The establishment of second and in some cases a third practice in centres which once supported one practice caused considerable disruption. The branch practices at Kojonup and Wagin were closed as a result and the practice at Katanning has been assailed by a number of competitors. By emphasizing the quality of the service and by downsizing from a four person practice to a solo practice it was able to survive, so that it now operates as a two-person practice. The practice at Katanning has continued and prospered, but only by demonstrating a willingness to change and adapt as the market dictated.

What of the future? More of the same! *“All we can do is adapt ourselves to changing circumstances to our best advantage.”* (Anderson 1962)

11.2 The four research questions

Both the Frawley and Craven Reviews raised a series of questions which have been examined during the thesis and can now be summarised.

(1) Is rural practice a hazardous financial undertaking?

The thesis has demonstrated that rural veterinary practice in WA, as well as the rest of Australia, has always been a financially hazardous undertaking. Historical records indicate that private veterinary practice faced financial difficulties from colonial times when the first recognized qualified veterinary surgeon struggled to survive. Colonial veterinary practice was assessed as not possessing *“the characteristics of a successful specialization”* (Fisher 1994a).

During World War I and the Great Depression, rural practice was in the doldrums and the majority of veterinarians sought positions within government services.

In WA there was no growth in rural practice until the late 1950s. The agricultural development in WA during the 1960s provided the impetus for the establishment of rural practices in the state; however, with a series of rural recessions, beginning in 1969/70, rural practice has experienced difficult times and the Frawley Review brought the issue to the attention of the Federal Government in 2003.

Failure of the rural community to value veterinary services, unfair competition to rural practice from non-charging government services, long hours, difficult working conditions, poor remuneration and, more recently, the domination of the veterinary profession by female veterinary graduates have all contributed to the current state.

The situation in the larger rural centres has been different, as these practices are essentially urban in that they service companion animal practices almost exclusively.

Of the two types of private veterinary practice, urban practice has fared much better financially than rural during the latter half of the 20th century; however, with the impact of the overproduction of veterinary graduates in Australia, urban practice could also become a financially hazardous enterprise.

(2). Does rural practice provide an effective veterinary service to production animals and are these services utilized by the farming community?

The veterinary profession in rural practice provides two types of service, the traditional therapeutic service and the flock or herd health service. The former is eminently suitable for animals of high individual value; the criterion for its use is the cost of the service in relation to the value of the animal. Where production animals are of high individual

value, the traditional service is suitable, but this is not the case with commercial flocks, where the individual animal is not valuable enough to warrant individual attention. Here, the PM/AP comes into play and, as was demonstrated 40 years ago, is successful both in terms of results achieved and cost-benefit. This type of service is eminently suitable when applied to health and production problems at the flock or herd level. Again, the criterion for its use is the cost of the service relative to the cost of the health or production problem being experienced.

The Australian veterinary profession has not been able to effectively service the major economic livestock in this country, but the failure has been due to a lack of utilisation by the farming community, not the service provided. The problem lies with the potential consumer of the service, who may, and often does see the value of the service, but is reluctant to use it because of the cost. The farming community wants a veterinary service to be available, they just don't want to have to pay for it.

As the foundation of the Australian economy during its formative years, farming has enjoyed a privileged position; farmers have received advice on all aspects of agriculture at no direct cost. As agriculture has declined in significance in Australia's economy, and the farming sector has lost much of its political authority, this support has declined. It can no longer expect government largess whenever requested, although exceptions exist, as the recent drought relief program proves.

Sustainable farming must stand on its own feet and not look for government support whenever it gets into difficulties (Stowe 2006). It must be put onto a business footing, for only then can it know its true operating costs. When, and if this comes about, it will be in a position to determine if it has a future and what services it can afford to use.

Can Australia's livestock industries support rural veterinary practice? Of course they can, but, currently the farming community, by and large, views private veterinary practice as just another cost of production. The farmer's decision to use a private veterinary practice is based on economics – if their animals are not worth attention then the service is not worth employing, with one caveat. For most of its existence, the farming community has been in a position to disregard animal welfare issues, but this is not likely to last much longer.

They are capable of meeting the cost of veterinary service however, they are often reluctant to pay and this is especially the case when they use veterinary service only when necessary and often far too late to be of value. They are certainly not prepared to pay for advice and this raises the question of the suitability of the farming community as clients. Already a number of rural practitioners have decided that farmers are not suitable clients by limiting their service to production animals, whilst others have ceased to provide such services (Maxwell, Costa *et al* 2008b).

(3). What is wrong with veterinary education?

The system of selection of students ensures that today's veterinary graduates have little knowledge of rural life and livestock production. Most graduates come from the city and have little desire to work in the country. The established veterinary schools are located in cities and do not provide sufficient exposure to rural life and the handling of livestock.

In spite of Frawley's recommendation that there was no need for another veterinary school, two have been established. The justification for the establishment of the school at Wagga in NSW, was that accepting students from a rural background would ensure that they will work in rural practice (Fawcett 2004; Thornley 2004). There is ample evidence

to challenge the validity of this assumption (Heath 1998; 2002a and b; 2007c; Heath and Niethé 2001) and therefore, the establishment of additional veterinary schools in Australia must have another agenda.

As was revealed by the survey and oral history interviews, many veterinarians at graduation felt inadequate regarding practical skills. Many rural practice principals have observed inadequacies with livestock handling and the performance of routine diagnostic and therapeutic skills in new graduates. The fault lies squarely with undergraduate training and must be addressed, for at the moment, practice owners are faced with the prospect of employing graduates who cannot function in a practice setting.

In addition, most schools appear to be emphasizing companion animal medicine and there is criticism of the level of training being given for livestock. Recent articles have raised this shortcoming (Chenoweth 1996; Radostits 2000a and b).

It is the author's belief that undergraduate training will have to change as outlined in the next section.

(4). Does government have a role to play in supporting rural veterinary practice?

Historically, when a problem existed in the livestock industries and it was considered a "public good" to eliminate, government functioned by implementing eradication programs. For example, State and Federal governments participated in eradication schemes regarding TB and Brucellosis in cattle. Rural practices were paid out of government coffers to participate in the eradication effort.

Governments could do the same again for a perceived public good. For example, if the prevention of the introduction of exotic diseases into Australia can be achieved by an effective surveillance program, then the government should implement such a program.

As government veterinary services are no longer in a position to provide surveillance, the existing rural practice infrastructure within Australia should be utilized.

11.3 Recommendations.

(1) Undergraduate veterinary training.

The problem – Graduates from the existing Australian veterinary schools are not adequately trained to function in private practice and this is most apparent in rural practice.

The solution – In an article entitled, “Responsibilities of the University to the Practitioner” the Dean of the School of Veterinary Medicine, Auburn University stated, *“An honest assessment of priorities reveals today, as always, that the primary objective of the university’s function is to produce qualified practitioners.”* (Vaughan 1978).

The central tenet of the Craven Review was, *“The challenge for the profession, the registration authorities and the other key stakeholders is to work together to develop systems that improve the transition of veterinary graduates into the workforce...transition to practice...is the key issue to be addressed.”* (Craven 2004)

Changes need to be made to veterinary undergraduate education. The author proposes the establishment of a Chair of General or Clinical Practice. The occupant would have to have had extensive and wide ranging experience in private practice. The responsibilities of the Chair would be three-fold; undergraduate teaching and training and facilitating the transition into practice.

(1) Undergraduate teaching – Lectures integrating the pre-clinical and clinical subjects into a coordinated whole. Lectures on ethics and business management for the conduct of private practice.

(2) Undergraduate training – The Chair would be authorised to employ the services of existing private practitioners in accredited practices to provide on-the-job instruction to undergraduates. Thus, the new graduate would be familiar and skilled in all the areas required to function effectively in practice. This training would be acquired in an environment outside of the university.

(3) Transition to practice – The Chair would be authorised to employ the services of existing private practitioners in accredited practices to act as mentors when the new graduate starts their career in practice. For a period of time, for example, one year, the new graduate would work under supervision in all aspects of practice, including a variety of animal species and exposure to the clientele of private practice.

It would be the role of the Chair to establish, co-ordinate, administer and monitor the progress of the program and the maintenance of accreditation.

(2) A role for government.

The problem – The viability of Australia’s livestock industries is dependant on its ability to meet international standards on animal health and welfare and these standards are becoming more stringent. The annual gross value to Australia of exports of livestock products is \$14.7 billion and that trade is dependant on the continued maintenance of Australia’s disease-free status.

Because of recent disease outbreaks in economic livestock in the UK, Europe and Japan there is likely to be an increased demand for greater and more stringent health status requirements from countries that import our livestock products. There is the perception that the risk of an outbreak of exotic disease in Australia has increased.

Surveillance against incursions of exotic diseases and emergence of new diseases is perhaps the most important requirement of rural veterinary service in Australia, and it appears that it is not being met adequately. In fact, the Frawley Review formed the opinion that surveillance has actually declined and this has been highlighted by the recent incursion of equine influenza into Australia (Biddle, 2007; Smyth 2007).

To date government veterinary services have been responsible for the overall maintenance of Australia's animal health system and disease-free status. However, in recent times there has been a reduction in the number of government veterinary officers, whilst at the same time there has been an increase in private practitioners. The Frawley Review reported that the number of veterinarians employed by State and Territory government departments decreased by 12% between 1981 and 1991, and by 25% between 1991 and 2001. Whereas, in 2001, approximately 6000 veterinarians were employed in private practice in Australia; 61% were based in the cities and 39% in rural area (Frawley 2003).

The solution – The Australian Livestock industries are facing difficulties in maintaining a disease-free status and there is the prospect that disease surveillance in Australia will not keep pace with future requirements of importing countries. At the same time rural, veterinary practice is facing an increasingly difficulty in attracting and keeping staff. Could the solution to these two problems be achieved by the employment of rural practitioners in the task of livestock disease surveillance?

For government and industry to develop effective, comprehensive animal health systems utilizing the services of rural veterinary practices, it will require funding by both industry

and government. There is the precedent with the employment of private practitioners in the TB and Brucellosis eradication schemes of the 1970 to 1990's.

By utilizing rural practices in these essential animal health activities the viability of rural practices would be enhanced, which in turn would create conditions in rural practice that would make it attractive to newly graduating veterinarians. Established rural practices could be funded to provide animal surveillance and participate in quality assurance programs for an amount that would ensure the employment of additional veterinary staff.

The author recommends the immediate establishment of such a system. A number of willing, existing rural practices would participate in a scheme of surveillance operated under a co-operative relationship between private practice and State and Federal governments for an agreed system of remuneration.

If this arrangement and outlay prevented the occurrence of a FMD outbreak in Australia, it would be money well spent. This would be a far better outcome than to have to mobilize the Australian Veterinary Reserve after such a disease became established on our shores!

APPENDIX

Appendix 1

SURVEY QUESTIONNAIRE: RURAL VETERINARY SERVICES IN WESTERN AUSTRALIA.

PART A. PRIVATE PRACTICE: TO BE ANSWERED BY RURAL PRACTITIONERS

Answer by writing in the space provided or ticking in the appropriate box.

Survey questionnaire number _____

Date _____

Personal Questions:

Q 1. What gender are you?

Male Female

Q 2. What year were you born? Year _____

Q 3. What year did you graduate from veterinary school? Year _____

Q 4. Which University did you attend and what was your qualification?

Queensland	B.V.Sc.
Sydney	B.Sc., B.V.M.S.
Melbourne	D.V.M.
Murdoch	Other
Other	

Q 5. If you have post-graduate qualifications (include college or specialist training) please list.

Qualification:

University/Organization:

Year Awarded:

Q 6. When did you commence your professional veterinary career? Year _____

Q 7. Where were you initially employed, in the city or in the country?

Urban Veterinary Service

Rural Veterinary Service

Q 8. What employment did you undertake immediately after graduating from veterinary school and what employment are you engaged in now?

Employment:	At Graduation:	At Present:
Practice		
Government		
Academia		
Industry		
Non-Veterinary		

Q 9. In your present position as a veterinarian do you work 5 or more days a week (full-time) or less than 5 days per week (part-time)?

Full-time Veterinarian

Part-time Veterinarian

Q 10. Previously, in this position, or in other veterinary positions did you work 5 or more days a week (full-time) or less than 5 days per week (part-time)?

Full-time Veterinarian

Part-time Veterinarian

Q 11. Has your working-life as a veterinarian been continuous or have there been periods when you were employed/engaged in non-veterinary activities?

Continuous Veterinary Activity

Periodic Veterinary Activity

If there have been periods of your working life in which you worked in a non-veterinary activity, what per cent of your working life has been spent performing veterinary work, and what per cent has been spent in non-veterinary activities?

Working as a veterinarian _____%

Working in a non-veterinary capacity _____%

Q 12. In your veterinary career did you achieve satisfaction in the work performed, income received and status achieved?

Comment:	Job satisfaction:	Income:	Status:
Yes, completely satisfied			
Yes, mostly satisfied			
No, Dissatisfied			

Q 13. Is your wife/husband/partner a veterinarian, if so, does he/she work with you in the same veterinary service and is he/she part-time or full-time?

Is your wife/husband/partner:	Yes:	No:
A veterinary surgeon		
Employed in the same service		
Full-time		
Part-time		

Q 14. If retired, what year did you retire from veterinary service? Year _____

If retired:

Have you ceased work altogether?

Are you pursuing another veterinary activity?

Pursuing non-veterinary activity?

Undergraduate Training:

Q 15. Did your undergraduate training provide you with the theoretical knowledge and practical skills needed to function effectively in Rural Veterinary Practice?

Comments:	Theoretical knowledge:	Practical skills:
Yes in all aspects		
Yes in most aspects		
In only a few aspects		
Not at all		

Rural Practice:

Q 16. Upon graduating did you initially work for other(s) in an existing practice or did you establish your own practice?

Join a Practice

Establish a Practice

Q 17. What year was the practice of your initial employment established?

Year _____

What year was the practice where you currently work established?

Year _____

Q 18. Was the first practice you worked in and the present practice begun as a single-man practice or a group-practice? Please tick.

Practice:	Single-veterinarian:	Multiple-veterinarians:
First		
Present		

Q 19. How many rural practices have you worked at throughout your veterinary career?

One practice

Two to four

More than five

Q 20. Did the senior veterinarian in your first practice position provide you with on-the-job training?

Yes

No

If yes, was this training helpful to you becoming proficient in practice?

Yes No

If no, was this detrimental to your becoming proficient in practice?

Yes No

Q 21. What were the approximate percentages of time spent with the various animal species when you started in practice and what are they now?

Species:	Initial per cent:	Present per cent:
Sheep		
Beef cattle		
Dairy cattle		
Pigs		
Poultry		
Dogs		
Cats		
Horses		

Q 22. What is your position in the present practice?

Sole Proprietor

Partner

Assistant/Associate

Q 23. Private Rural Practice provides a service to the livestock industry and as such is directly subject to market forces. As a result of the various rural recessions that have occurred over the years have you had your employment terminated?

Yes No

Have you had to terminate an assistant's employment?

Yes No

Q 24. As a proprietor of a rural practice (sole proprietor or partner) has the practice income in the last 5 years allowed for expansion of staff and services?

Yes No

Q 25. In the last 5 years has the practice income exhibited a trend?

Increased

Decreased

Stayed the same

Q 26. As a proprietor of a rural veterinary practice in the last 5 years has it been difficult to recruit and keep veterinary staff?

Difficult to recruit veterinary staff Yes No

Difficult to keep veterinary staff Yes No

Q 27. During your career as the owner/operator of a rural veterinary practice has it been necessary for you to develop an alternative source of income to supplement the income from the veterinary service?

Yes No

If yes, has this income been veterinary or non-veterinary?

Veterinary

Non-veterinary

Q 28. What is the number of staff employed in the present practice?

Veterinary Staff _____

Lay Staff _____

Q 29. Have previous employees (veterinary or lay) established or worked in competing practices?

Yes No

If yes, has this produced conflict between the practices?

Yes No

Q 30. Where do you provide your veterinary service?

On-Farm

Clinic

Both

Q 31. Do you own or lease buildings, motor vehicle(s) and equipment for the provision of the veterinary service?

Own

Lease

Q 32. Does your practice merchandise?

Yes No

If yes, tick the appropriate box(es):

Veterinary Therapeutic Drugs

Livestock Veterinary Remedies

Non-Veterinary Livestock Products

Dog and Cat food

Q 33. Do you provide a flock or herd health service in addition to the traditional therapeutic veterinary service in your practice?

Yes No

Has the provision of a herd or flock service increased the income of your practice?

Significant Increase

Moderate Increase

No Increase

Decrease

Q 34. Do you provide a flock or herd health service exclusively, that is, function as a rural consultant without a therapeutic service?

Yes No

Do you derive your entire income from this service?

Yes No

If yes, is the income adequate?

Adequate

Inadequate

If not, what other enterprises do you undertake?

Farming

Other veterinary activity

Other rural enterprise

Q 35. Do you provide other specialized services to your rural clients?

Yes No

If yes, tick the appropriate box(es):

Service:	Yes:	No:
Artificial insemination		
Laparoscopic A.I.		
Embryo transfer		
Faecal worm egg counting		
Nutritional advice		

Q 36. In the present practice please provide estimates in percentages of the contribution to total income of the various income earning resources:

Service provided:	Per cent of total income:
Professional attendance fee	
Travel charges	
Therapeutic drugs sales	
Merchandising income	
Sale of animal food	
Her/Flock health services	
Other	

Workplace Safety:

Q 37. In the conduct of the service have you incurred any major physical injuries or illness?

Yes No

Q 38. Have these (injuries/illness) impaired your performance in practice?

Yes No

Q 39. As a result of the injuries/illness will you leave practice?

Yes No

Government Veterinary Service:

Q 40. Was there a Government Veterinary Service in the district when the present veterinary practice was established?

Yes No

Q 41. What was the relationship between the private practice and the government service?

Complementary Competitive

Q 42. Because of the similarities of the services provided has there been conflict between the private practice and the Government Veterinary Service?

Yes No

Q 43. What is the present relationship between veterinary staff employed by your practice and the government veterinary staff?

Amicable Hostile

Farmer Attitude Toward Veterinary Service:

Q 44. Are farmers reluctant to pay for advice even though they seek it from you?

Yes No Not sure

Q 45. Do farmers resent paying for your traveling expenses?

Yes No Not sure

Q 46. Does the farmer "shop-around" for the cheapest vet?

Yes No Not sure

Q 47. Do farmers want an account for your services rather than settle at the time the service is rendered?

Yes No

Q 48. Do farmers generally exceed the practices' credit terms?

Yes No Not sure

Q 49. Do your farming clients generally use you as the service of last resort?

Yes No Not sure

Q 50. Do your farming clients consider that your services should be available at any time day or night?

Yes No Not sure

Q 51. Does the farming community resent your taking time-off from practice?

Yes No Not sure

Q 52. On farm visits are you expected to act as labourer (e.g. muster sheep or cattle) as well as perform your veterinary task?

Yes No

Q 53. Does the farming community expect your veterinary practice to supply therapeutic drugs on demand?

Yes No

Q 54. Is it a common farming attitude that if the farmer had access to therapeutic drugs they could attend to their veterinary problems without resorting to your veterinary services?

Yes No Not sure

Q 55. Does the fact that the rural veterinarian performs tasks under the gaze of the farmer undermine the value of that service?

Yes No Not sure

Q 56. Does the farming community treat female veterinarians differently than male veterinarians?

Yes No Not sure

Frawley Review 2003:

Q 57. In the two years since the release of the Frawley Review and implementation of its recommendations has your practice directly benefited?

Yes No

If yes, indicate in what way?

Increase in livestock work-load: Yes No

Increase in practice income: Yes No

Q 58. In light of the contracting significance of rural enterprises in the Australian economy do you consider that Rural Veterinary Practice has a future?

Yes No

Q 59. In Rural Veterinary Practice today the major component of practice income is that derived from companion animals not production animals; is this the case in the practice in which you work?

Yes No Not sure

If yes, do you think this trend will continue?

Yes No

Q 60. Some Rural Veterinary Practices have curtailed their service to production animals or eliminated this service altogether; is this the case in the practice in which you work?

Curtailed Yes No

Eliminated Yes No

Appendix 2

SURVEY QUESTIONNAIRE: RURAL VETERINARY SERVICES IN WESTERN AUSTRALIA.

PART B. GOVERNMENT SERVICE: TO BE ANSWERED BY GOVERNMENT VETERINARIANS.

Answer by writing in the space provided or ticking in the appropriate box.

Survey questionnaire number _____

Date _____

Personal Questions:

Q 1. What gender are you?

Male Female

Q 2. What year were you born? Year _____

Q 3. What year did you graduate from veterinary school? Year _____

Q 4. Which University did you attend and what was your qualification?

Queensland	B.V.Sc.
Sydney	B.Sc., B.V.M.S.
Melbourne	D.V.M.
Murdoch	Other
Other	

Q 5. If you have post-graduate qualifications (include college or specialist training)

please list.

Qualification:

University/Organization:

Year Awarded:

Q 6. When did you commence your career as a government veterinary officer?

Year _____

Q 7. Where were you initially employed?

City

Country

Q 8. What employment did you under take immediately after graduating from veterinary school and what employment are you engaged in now?

Employment:	At Graduation:	At Present:
Practice		
Government		
Academia		
Industry		
Non-Veterinary		

Q 9. In your present position as a veterinarian do you work 5 or more days a week (full-time) or less than 5 days per week (part-time)?

Full-time Veterinarian

Part-time Veterinarian

Q 10. Previously, in this position or in other veterinary positions did you work 5 or more days a week (full-time) or less than 5 days per week (part-time)?

Full-time Veterinarian

Part-time Veterinarian

Q 11. Has your working life as a veterinarian been continuous or have there been periods when you were employed/engaged in non-veterinary activities?

Continuous Veterinary Activity

Periodic Veterinary Activity

If there have been periods of your working life in which you worked in a non-veterinary role, what per cent of your working life has been spent in veterinary work, and what per cent has been spent in non-veterinary activities?

Working as a veterinarian _____%

Working in a non-veterinary capacity _____%

Q 12. In your veterinary career did you achieve satisfaction in the work performed, income received and status achieved?

Comment:	Job satisfaction:	Income:	Status:
Yes, completely satisfied			
Yes, mostly satisfied			
No, dissatisfied			

Q 13. Is your wife/husband/partner a veterinarian, if so, does he/she work with you in the same veterinary service and is he/she part-time or full-time?

Is your wife/husband/partner:	Yes:	No:
A veterinary surgeon		
Employed in the same service		
Full-time		
Part-time		

Q 14. If retired, what year did you retire from veterinary service? Year _____

If retired:

Have you ceased working altogether?

Pursuing another veterinary activity?

Pursuing non-veterinary employment?

Undergraduate Training:

Q 15. Did your undergraduate training provide you with the theoretical knowledge and practical skills needed to function effectively as a Government Veterinary Officer?

Comment:	Theoretical knowledge:	Practical skills:
Yes in all aspects		
Yes in most aspects		
In only a few aspects		
Not at all		

Q 16. As an undergraduate did you have a State Government cadetship?

Yes No

Government Veterinary Service:

Q 17. Where are you presently employed?

City

Country

Q 18. If working in a Regional office when was the present office established? Year

Q 19. What were the percentages of animals seen when you started in government service and what are they now?

Species:	Initial per cent:	Present per cent:
Sheep		
Beef cattle		
Dairy cattle		
Pigs		
Poultry		
Dogs		
Cats		
Horses		

Q 20. Did senior staff assist you in becoming established and effective? That is, did you receive on-the-job training?

Yes No

Q 21. Was the present office started with only one veterinarian?

Yes No

Q 22. How many veterinary staff are employed now?

Number _____

Q 23. How many veterinary lay staff are employed in the office now?

Number _____

Q 24. Where do you perform your veterinary service?

On-Farm

Office

Both

Q 25. Have the fluctuations in economic circumstances of the farming sector in recent years led to changes in the type and volume of veterinary services you provide?

Yes

No

If yes, tick the changes:

Changes:	Type of service:	Volume of service:
Increased		
Decreased		
No change		

Q 26. If you answered "yes" to the last question, tick the area in which the changes occurred.

Type of work:	Increased:	Decreased:	Same:
Administration			
Regulation			
Research			
Extension			
Diagnostic			
Field work			

Q 27. With the Government Veterinary Services raising a charge to farmers has there been significant changes to the services you now provided?

Yes No

Q 28. As a result of these changes has there been a change in farmer attitude towards the veterinary services you now provide?

Yes No

Q 29. What areas have these changes been made? Tick in the appropriate box(es) where significant changes have been made.

Type of service provided?

Animal Species Serviced?

On-Farm Service?

Reporting?

Administration?

Extension?

Regulatory Services?

Farm Bio-security?

Q 30. Have these changes affected the volume of the work you now perform?

Increased work-load

Decreased work-load

Essentially the same work-load

Q 31. Have these changes altered the number of Government Veterinary Staff?

Yes No

If yes, have they led to an increase or decrease in veterinary staff numbers?

Increase

Decrease

Have these changes been experienced in Perth as well as regional officers?

Yes No

Q 32. Do you see this trend continuing, stabilising or reversing?

Continuing

Stabilising

Reversing

Q 33. Do you think that the Government Veterinary Services in Western Australia has a major role in the future of Livestock Health and Productivity?

Yes No

Q 34. Please tick all the various aspects of Government Veterinary Service that you have performed?

Administration

Regulatory

Research

Extension

Diagnostic

Field work

Q 35. During your career as a Government Veterinarian have you had the opportunity to work as a veterinarian in other branches of Government Service?

Yes No

If yes, have you had the opportunity to work in other Departments of the Western Australian Government, or for other State Governments or for the Commonwealth Government?

Other WA Government Departments

Other State's Government Departments

Commonwealth Government

Q 36. During your career as a Government Veterinarian have you had the opportunity to work as a veterinarian overseas?

Yes

No

If yes, what was the nature of the posting?

Government Position

University Position

Other

Q 37. During your career as a Government Veterinarian were you encouraged to pursue higher qualifications?

Yes

No

If yes, did you pursue the higher qualification in Western Australia, the Eastern States or Overseas?

Western Australia

Eastern States

Overseas

Q 38. If you gained a higher degree did this benefit your status within the State Government?

Yes No

If yes, was this reflected in:

A higher grading in the service

A promotion

Increase in income

Workplace safety:

Q 39. In the conduct of the service have you incurred any major physical injuries or illness?

Yes No

Q 40. Have these (injuries/illness) impaired your working ability?

Yes No

Q 41. As a result of the injuries/illness will you leave government service?

Yes No

Private Veterinary Practice:

Q 42. Was there a private practitioner in the district when you arrived?

Yes No

Q 43. What was the relationship between the Government Veterinary Service and the neighbouring Private Veterinary Practice?

Complimentary

Competitive

Q 44. Has there been conflict between your Government Veterinary Service and the neighbouring Private Practice because of the similarity of services provided?

Yes No

Q 45. What is the present relationship between veterinary staff employed by the Government Service and the neighbouring Private Practices?

Amicable

Hostile

Q 46. Have you had any experience of private practice?

Yes No

Q 47. Is it the function of the Government Veterinary Service to serve the farming community or the State Government?

Farmers

State Government

Q 48. Does the farming community treat female veterinarians differently than male veterinarians?

Yes No Not sure

Frawley Review 2003:

Q 49. In the two years since the release of the Frawley Review and implementation of its recommendations has Government Veterinary Services in Western Australia benefited?

Yes No

Q 50. If yes, indicate in what way?

An increase in veterinary work performed Yes No

Greater co-operation with Private Veterinary Practices Yes No

Greater co-operation between government departments Yes No

Q 51. In your opinion will the Western Australian State Government continue to service the veterinary needs of the rural community of Western Australia in the same manner as in the past or will it take on a new form?

Continued Veterinary Service	Yes	No
Same Veterinary Service	Yes	No
New Veterinary Service	Yes	No

Appendix 3

Oral History Interviews:

Thirteen West Australian veterinary surgeons, who participated in the Survey Questionnaires, were approached to participate in Oral History Interviews. All were asked to sign a consent form authorizing the use of their name in the thesis. Two did not agree to this request and were not interviewed. From August to December 2006, 11 interviews were conducted; two government veterinary officers and nine rural practitioners. Only veterinarians who had been in rural service for more than 20 years were interviewed, with the exception of two who had made submissions to the Frawley Review. All interviews were tape recorded and are stored at Murdoch University.

1. Raymond G Batey – Perth. Rural Practitioner

Born 1943 in Sydney, NSW. Present age 63.

Graduated University of Sydney, 1965. Still active in career which has encompassed rural practice, academia, government and industry. Began career with NSW government.

Wrote a submission to the Frawley Review.

Interviewed 15 November 2006.

2. Kevin Bell – Kojonup/Perth. Retired Consultant/ part-time academic.

Born 1944 in Melbourne, Victoria. Present age 62.

Graduated University of Melbourne, 1967. Began career in academia. Retired from Consultancy practice of 23 years and is now part-time Professor of Animal Science, at Murdoch University.

Interviewed 8 December 2006.

3. Peter G Brighton – Bridgetown. Rural Practitioner.

Born 1948 in Perth, WA. Present age 58.

Graduated University of Queensland, 1971. Commenced career working for the WA Government – secured a cadetship – but has been in continuous rural practice at Bridgetown for 35 years.

Interviewed 28 October 2006.

4. Anna Erickson – Narrogin. Rural Practitioner.

Born 1967 in UK. Present age 39.

Graduate of Bristol University, UK, 1992. Worked in both the UK and WA in rural practice in a 14 year career. Wrote a submission to the Frawley Review.

Interviewed 1 November 2006.

5. Brent R Hunt – Kalgoorlie. Rural Practitioner.

Born 1949 in Perth, WA. Present age 57.

Graduated University of Queensland, 1971. Started career with the WA government on a cadetship and then went into private practice in Kalgoorlie in 1976 where he still operates.

Interviewed 30 November 2006.

6. Chris Mayberry – Perth. Retired Government Veterinary Officer.

Born 1950 in Perth, WA. Present age 56.

Graduated University of Queensland, 1974. Secured a cadetship and spent the whole of veterinary career with the WA government. Retired in 2006 and engaged on a doctoral thesis at UWA.

Interviewed 20 August 2006.

7. Don Moir – Narrogin. Government Veterinary Officer.

Born 1947 in Pemberton, WA. Present age 59.

Graduated University of Queensland, 1969. Secured cadetship from WA government and started veterinary career with the government and then spent a number of years (13) in rural practice. Worked on an aid project overseas and now back with the WA government.

Interviewed 13 September 2006.

8. Bryon Micke – Moora/Perth. Semi-retired Rural Practitioner.

Born 1945 in Perth, WA. Present age 61.

Graduated University of Queensland 1969. Secured a cadetship and worked for WA government for 4 years before commencing rural practice. Retired in 1991 and worked in industry, consultancy and now semi-retired.

Interviewed 20 September 2006.

9. David Morrell – Broome. Rural Practitioner.

Born 1953 in Perth, WA. Present age 53.

Graduated University of Queensland, 1975. Secured a cadetship and commenced career with WA government. Started practice at Broome in 1978 and has been active in practice since then.

Interviewed 25 September 2006.

10. Miles Nye-Chart – Mount Barker. Rural Practitioner.

Born 1961 in Kenya, Africa. Present age 45.

Graduated from Murdoch University, 1990. Started practice immediately at Mount Barker in partnership with Rob Graham. Wrote a submission to the Frawley Review.

Interviewed 8 November 2006.

11. Don E Vass – Harvey. Rural Practitioner.

Born 1942 in Sydney, NSW. Present age 64.

Graduated from University of Sydney, 1968. A career of 38 years in rural practice.

Interviewed 6 September 2006.

Oral History Interview Question Format 2006:

The following format of questions for the Oral History Interview will be adopted:

1. Why did you become a veterinarian?
2. When and where did you train?
3. Was your undergraduate training suitable preparation for a career as a rural veterinary surgeon?
4. Did you experience difficulty changing from a veterinary student to an active member of the veterinary profession?
5. If so, in what ways was it difficult?
6. What changes to the undergraduate course do you think would improve the transition from student to professional?
7. Were you assisted by your first employer in making the change from university to the workplace?
8. If so how were you assisted?
9. What aspects of your work as a rural veterinary surgeon did you particularly enjoy and give you satisfaction?
10. What aspects of the job did you find unrewarding and unpleasant and did these dampen your enthusiasm for the work?
11. During your career did you achieve full satisfaction in terms of job satisfaction, income received and status achieved?

12. During the last 40 years there have been a number of changes within the profession.

What comments would you like to make regarding the following:

- The competence and attitude of new graduates;
- The impact of female dominance of the profession;
- Changes in ethical standards;
- Effectiveness of the AVA to represent the profession;
- Conduct of the Veterinary Surgeons Board of WA;
- Changes in undergraduate training with emphasis on companion animals;
- Reduction in the significance of production animal undergraduate training;
- Reduction of the significance of agriculture in Australia's economy;
- Farmer attitude toward rural veterinary service;
- The current emphasis on continuing education;
- The current emphasis on specialist training;
- The changing significance of government veterinary service.

13. What do you think is the future of rural veterinary services?

14. Does rural veterinary practice have a future servicing economic livestock?

15. Will the service of future rural practice be confined to servicing companion animals?

16. Will government veterinary services remain as they have been in the past or will they take on a new and different form?

17. If production animals are to be serviced in the future, how will this best be achieved and who will pay for the service provided?

Other questions will be canvassed in the interview if the interview leads in a particular direction.

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