

# **Annotated Bibliography**

**Bayer Animal Health  
Communication Project  
Establishing the Need**

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**Bristol, D.G. (2002). Using Alumni Research to Assess a Veterinary Curriculum and Alumni Employment and Reward Patterns. *Journal of Veterinary Medical Education* 29(1):20-27.**

**Objective:** To obtain an outcomes assessment and to share the methods and results of a survey of one veterinary college's alumni of the professional degree program.

**Design:** Self-administered Questionnaire/Survey.

**Setting:** North Carolina University College of Veterinary Medicine.

**Subjects:** 514 of 974 (52.8%) veterinary alumni.

**Intervention:** none

**Measures:** Survey included multiple-choice and open-ended questions designed to assess: initial and current state of employment, usefulness of coursework in the veterinary curriculum, overall quality of training program, to determine gender differences, determine types of species treated by alumni and assess satisfaction with veterinary career.

**Results:** Ninety-three percent of alumni indicated they were employed within three months of graduation. Women were more likely than men to be employed in small animal practice and men were more likely to be employed in an "alternative veterinary career" including military or industry. There was a remarkable difference in salaries by 1999, where 45% of men vs. 79% of women earned salaries less than \$60,000 per year. Alumni identified three topics that should have been covered in their veterinary education but were not including communication and interpersonal skills, business management and financial planning, accounting and marketing. The most important skills that were reported for success in veterinary practice included communication skills and dealing with clients (33.4%). Women respondents reported higher satisfaction with their career choice in practitioner categories.

**Conclusions/Recommendations:** This study reports similar results to the KPMG (Mega Study) regarding lower salaries for women and decreased likelihood of practice ownership. An additional finding was that women veterinarians are less likely to be in a partnership business structure compared to male practice owners although the reasons for this difference are unclear. Alumni surveyed indicate that 1) working with animals 2) working with clients/building relationships are the most satisfying aspects of their work as veterinarians. Communication skills were the most frequently cited skills necessary for success in practice. Employers in many areas express the need for better written and verbal communication skills although few veterinary programs emphasize these skills to the point of systematically assessing them within the curriculum.

**Brown, J.P., & Silverman, J.D. (1999). The current and future market for veterinarians and veterinary medical services in the United States: Executive summary. *Journal of the American Veterinary Medical Association* 215(2):161-183.**

**Description of Context:** This article is a report of the KPMG, commissioned by the AVMA, AAHA, and AAVMC in April 1998 to analyze and prepare a comprehensive study of the veterinary profession. The three organizations wanted to ensure that the profession remain productive, responsive and economically successful. The report is a comprehensive, far-reaching and seminal work containing in-depth analyses and special insights of veterinary medicine. Issues of supply, demand, income, gender, market forces, and characteristics of what constitutes successful practices and public and private practitioners were examined.

**Topic/Scope:** The study suggests that there is a group of serious problems that need special and sustained attention. The problems are often manifested by economic pressures in certain segments of veterinary medicine practice. The study suggests that the traditional approaches of the profession and past required skills and knowledge may not be adequate with the rapid changes and new demands of the profession. The AVMA/AAHA/AAVMC Joint Steering Committee identified 6 critical issues as a result of the report: 1) Veterinarians' Income: Income of the profession lags far behind that of similar professions and impacts ability to repay student loans, and to attract high-quality student applicants to the profession. Pricing of veterinary services do not appear to be relative to the real cost of the service and value being delivered. 2) Economic Impact of Large Percent of Females in the Profession: Income of Female veterinarians is seriously below that of male counterparts. Women work fewer hours, less likely to be practice owners, and price services below that of men. This affects the overall income level of veterinarians. 3) Global demand for all categories of veterinary services: There is evidence that there is a potentially significant market for veterinary services in nontraditional and nonprivate practice areas. 4) Inefficiency of the Delivery System: Veterinary Care delivery system is highly fragmented and inefficient including issues related to excess capacity, staff utilization, and use of capital resources. 5) Supply of Veterinarians: In economic terms, there is an excess of veterinarians, which contributes to the downward price pressure and projections over the next 10 years of stagnant veterinary incomes. The characteristics of supply may not closely match the demand 6) Skills, Knowledge, Aptitude, and Attitude of Veterinarians and Veterinary Students: There is evidence that although the scientific and clinical skills of the profession are high, many veterinarians lack some of the skills and aptitudes important in attaining economic success.

**Conclusions/Recommendations:** The study reported evidence for change and the need for a far-reaching and comprehensive plan to counter many of the serious problems of the veterinary profession uncovered in the report. The three organizations (AVMA, AAHA, and AAVMC) interpreted the report as a "call to action." The organizations established plans for a dialogue to be held on a national level to discuss the critical findings of the report and to develop and implement effective strategies.

**Butler, C., Williams, S., & Koll, S. (2002). Perceptions of fourth-year veterinary students regarding emotional support of clients in veterinary practice in the veterinary college curriculum. *Journal of the American Veterinary Medical Association* 221(3):360-363.**

**Objective:** To explore the perception of the importance and adequacy of training to assist fourth-year veterinary students in dealing with the emotional needs of clients.

**Design:** Self-administered Questionnaire

**Setting:** U.S. veterinary schools in summer 1996

**Subjects:** Senior Veterinary students (71% female, 76% between ages 20-29, 51% in small animal track, 19% in large animal track and 30% in general track).

**Intervention:** none

**Measures:** 16-item questionnaire with 8 items focused on providing emotional support to grieving clients.

**Results:** Respondents clearly believed that veterinarians benefit from training that assists them in providing emotional support to clients. Female respondents were much more likely to agree that training in the emotional support of clients is a valuable tool. Only a third of the respondents believed that they were receiving adequate instruction in the provision of emotional support to clients. Eighty-four percent of the respondents agreed they wanted to be trained in methods of addressing clients' grief over the loss or illness of their companion animal. The students surveyed identified their role with clients who are grieving as primarily an educator (96%), support person or friend (89%), and as a resource or referral guide (93%).

**Conclusions/Recommendations:** Most of the students (84%) agree training in the provision of emotional support is important and is not being adequately delivered at veterinary schools in the U.S. This information has implications for veterinary educators. Modifying current curricula is also warranted in light of the substantial emphasis consumers' place on how they are treated by their veterinarians. Results of the data continue to delineate gender differences among the respondents. Females appear to be more interested in training for the emotional aspects of practice and are more likely to believe that the present delivery of such material in vet school is inadequate. Future research should be performed to determine what aspects of emotional support training veterinary students need in order to be effective with clients. Additional research is needed, but it is clear that some curriculum changes be made immediately. The approach to teaching should not be overly heavy on theory. Rather, it should be applied and give students specific information about what to say and what to do when working with emotional clients.

**Case, D.B. (1988). Survey of expectations among clients of three small animal clinics. *Journal of American Veterinary Medical Association* 192(4):498-502.**

**Objective:** To determine what clients expect and how satisfied they are with the care they receive.

**Design:** Questionnaire (Self-Report).

**Setting:** Three small animal clinics in southern California where a total of 15 veterinarians worked (one practice was a solo practice).

**Subjects:** Three hundred nineteen (319) clients who sought care for their pets in three small animal clinics located in areas that primarily serve middle-and upper-middle class neighborhoods.

**Intervention:** none

**Results:** Client satisfaction was much more highly correlated with how the owner was treated than how the pet was treated. Specific expectations of respondents included being treated with respect, provision of health education for pet wellness, good listening skills and the belief that their needs are taken seriously.

**Conclusions/Recommendations:** The study indicates that the need for owners' desire to be treated as individuals and the need for information suggesting that clients should be thought of as patients as much as their pets. The author found that this is analogous to the pediatric situation, wherein the parent as well as the child is considered a part of the patient-unit. In addition, the study supports the view that the clients' experience with the veterinarian is a multifaceted one. The client seeks good medical care for the pet, but also has concern for his or her own needs. These needs include good communication and consideration for his or her individuality and feelings.

**Chadderdon, L.M., King, L.J., & Lloyd, J.W. (2001). The skills, knowledge, aptitudes, and attitudes of successful veterinarians: A summary of presentations to the NCVEI subgroup (Brook Lodge, Augusta, Michigan, December 4-6, 2000). *Journal of Veterinary Medical Education* 28(1):28-30.**

**Description of Context:** This article describes the SKAs (Skills, Knowledge, Aptitudes, Attitudes) subgroup report from the December 2000 meeting of the National Commission on Veterinary Economic Issues (NCVEI). The NCVEI was established to examine and address the problem outlined in the KPMG study on "The Current and Future Market for Veterinarians and Veterinary Medical Services in the United States" published in July 1999. This study concluded that the economic health of the profession is in jeopardy.

**Topic/Scope:** The SKAs meeting was attended by 45 professionals in the veterinary profession to define the current profession baseline of SKAs to begin developing a consensus of what SKAs are needed, and how and where to advocate and implement change.

**Conclusions/Recommendations:** There was a consensus that business expertise among veterinary professionals is important and desirable, as are interpersonal and communication skills, working well in a team, and understanding cultural differences and values. Other key points outlined included the understanding that effective job performance and satisfaction depend on good person-job fit, desired attributes of veterinary graduates to include professional character, knowledge and understanding, desire to include practice management coursework in veterinary schools. In conclusion, there was an emphasis in the training of veterinary practitioners to be both economically successful and to maintain desirable qualities of compassion and caring while delivering high-quality veterinary services.

**Eddy, R.G. (2001). Communication skills training. *The Veterinary Record* 148(10):320.**

**Core Argument or Premise:** The Veterinary Defence Society (VDS) (Great Britain) has financed a pilot project at the University of Liverpool Veterinary School which is integrating training of communication skills into the undergraduate curriculum. This course provides a model for the other five veterinary schools in Great Britain to adopt.

**Conclusions/Recommendations:** The author reports the needs that the VDS recommend including the need for one body or organization to help all veterinary schools with communication skills training. In addition, it was recommended that formation of a liaison committee with representatives from each school and other interested parties share experiences in their communication skills training. This approach would assure that collaboration takes place although the actual delivery would still require active 'champions' in each school. In addition to the benefits of training, the VDS highlighted the advantage of potential savings and cost advantages of sharing resources.

**Edmondson, K.M. (2001). Veterinary Education and the Development of Professional Expertise. *Journal of Veterinary Medical Education* 28(3):98-100.**

**Description of Context:** The professional education of veterinary students should include informational teaching and learning sources from outside the veterinary field.

**Topic/Scope:** Numerous questions emerge for faculty and educators of veterinary medicine including what is the most appropriate foundation for the development of professional expertise, how is biomedical and clinical knowledge best integrated for students as they progress through their training, what are the necessary skills and attitudes necessary to complement the content knowledge and how can they be integrated in a coherent fashion.

**Conclusions/Recommendations:** There are numerous challenges for the veterinary educator including whether insight can be developed into structuring experiences for maximum effectiveness which promote integrative approaches to professional problem solving that reach beyond the classroom experience into practice-based expertise.

**Felsted, K.E., & Volk, J. (2000). Why do women earn less? *Veterinary Economics* 33-38.**

**Description of Context:** Results from the AVMA commissioned study "The Brakke Management and Behavior Study" which measured veterinarians' 1997 incomes showed that women veterinarians typically earn only about 70% as much as their male counterparts. The author offers insight into the causes of this disparity.

**Topic/Scope:** Concerns abound related to the gender disparity in salary within the field of veterinary medicine. Gender is second only to years in practice as the most important factor influencing a veterinarian's earnings. In addition, the gender disparity appears to

hold constant even when factoring in differences in experience, number of hours worked, community size and socioeconomic level, and ownership status.

**Conclusions/Recommendations:** The author contends that the difference in salary between male and female veterinarians are related to the following: Female veterinarians may hold lower expectations than their male counterparts, women may measure their job satisfaction differently than men and their overall satisfaction may be based on more than compensation, women veterinarians may possess lesser financial acumen or business knowledge, and that women may produce less because they spend more time with their clients.

**Forrester, S.D., Inzana, K.D., Leib, M.S., & Purswell, B.J. (2001). Using the world wide web to enhance the problem-solving skills of third-year veterinary students. *Journal of Veterinary Medical Education* 28(1):31-33.**

**Objective:** To convert case materials to a Web-based format for third-year veterinary students.

**Design:** Evaluation

**Setting:** Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) at Virginia Polytechnic Institute and State University (Virginia Tech).

**Subjects:** Third-year veterinary students at VMRCVM during the Spring 1998 semester.

**Intervention:** Web-based course work including syllabus, class schedule, grades for assignments, example case, 58 clinical cases for review (images of radiographs, ultrasonograms, endoscopic photographs, cytologic or histologic specimens).

**Measures:** Self-administered evaluation of the Web-based coursework which consisted of 5 questions on a Likert scale 1-6.

**Results:** Written student comments about the web site were uniformly positive. Students reported that having access to all diagnostic test results before case discussion in class was very important and greatly enhanced their learning experience. However, some students reported mixed opinions about accessibility of internet materials and the quality of the images online. Some did not have access to a personal computer at home and/or use of the computer in the school laboratory was problematic.

**Conclusions/Recommendations:** The feature rated highest by students was the ability to access results of diagnostic tests before class discussion periods. The project initially required a significant effort to convert all materials for the course to a Web-based format, however, the effort was viewed as worthwhile. On the basis of the experiences with the course, the authors plan to continue using Web-based case materials and will update and add new cases for the future. They also plan to explore the possibility of a more interactive format in which the student obtains more immediate feedback.

**Grave, K., & Tanem, H. (1999). Compliance with short-term oral antibacterial drug treatment in dogs. *Journal of Small Animal Practice* 40:158-162.**

**Objective:** To assess drug compliance in connection with short-term antibacterial drug treatment of dogs in a small animal practice and to investigate the association between compliance level and a selection of possible determinants.

**Setting:** Outpatient Department of the Norwegian College of Veterinary Medicine.

**Subjects:** Ninety-nine dogs and owners over a period of seven months.

**Intervention:** None.

**Measures:** Telephone interviews were conducted at eight to 10 days after the office consultation and included a verbal assessment of number of pills remaining in the bottle/blister package at the time of the interview. This figure was compared with the number that theoretically should have remained, adjusting for any lag period between start of treatment and time of office consultation. The determinants were selected on the basis of factors thought to be predictors of non-compliance in human medicine, in particular, determinants of non-compliance with pediatric medical regimens.

**Results:** Eighteen of the dog owners reported that they did not fill in their prescriptions at a pharmacy and were thus, excluded from the study. Of those who did fill their prescriptions, 44 per cent of the animal owners had 100 per cent compliance rate while 25% and 19% reported a compliance level of between 90-100 and 80-90 percent, respectively. Thus, 12% had a compliance level of less than 80 per cent. Eighty-five per cent of the dog owners thought that the veterinarian spent enough time at the consultation and that group reported a significantly higher compliance rate than the remaining group. Also, when the dogs suffered from gastrointestinal infections, the owners were significantly more compliant than the dogs that were treated for wound infections.

**Conclusions/Recommendations:** The dog owners who did not fill their prescriptions reported that they did not feel that the drug regimen was necessary or they were generally skeptical about the use of antibiotics. Thus, animal owners must be convinced that the drug treatment is needed. It is suggested that non-compliance in children may be compared with non-compliance in pets because 'parenting' is involved in both cases. In human medicine, it has been emphasized that compliance arises through the interaction that takes place between physician and patient and this may be true in veterinary medicine. In this study, it was found that an important determinant for drug compliance was that the owners felt that the veterinarian spend sufficient time on the consultation.

**Hannah, H.W. (1997). Communicating with clients- informed consent. *Journal of the American Veterinary Medical Association* 211(11):1385-1386.**

**Description of Context:** Informed consent in veterinary care includes an agreement by the client to a course of treatment or surgery after receiving enough information from the veterinarian to make an intelligent decision.

**Topic/Scope:** The detail in which the veterinarian should provide is dependent on their understanding of the client. Clients with a great affinity for a companion animal and

have emotional attachment present a problem different than a practical livestock farmer. In addition, clients vary in their ability to understand.

**Conclusions/Recommendations:** Issues involving informed consent loom large in human malpractice litigation, and these same issues exist for the veterinary profession.

**Heath, T. (1996). Teaching Communication Skills to Veterinary Students. *Journal of Veterinary Medical Education* 23(1):2-7.**

**Objective:** To describe details of three Professional Studies courses (I, II, and III), that have been taught to first, third and fifth (final) year veterinary students since the 1980's. The article includes details of the courses including their assessment and evaluation, and of a more intensive course also offered at a veterinary college.

**Design:** Coursework.

**Setting:** University of Queensland and Murdoch University in Australia.

**Subjects:** First, third and fifth year students in veterinary medicine. 85 first year students selected for 1995 included 72% female, 36% between 17-18 years old directly from high school and 64% between 19-42 who had at least one year of college.

**Intervention:** Professional Studies I is comprised of 18 hours of lectures, discussions and tutorials and presented in the first of the 10 semesters of the veterinary curriculum and serves as a general introduction to the veterinary curriculum and profession. The remainder of the course (approximately 70%) deals with communication skills. Professional Skills II is comprised of 18 hours of lectures, tutorials and student presentations. Professional Studies III contains elements dealing with ethics, law, accounting, management and communication. An 3-week intensive course, designed for a volunteer group of 14 fifth year students contains 10 interactive, 20-50 minute long presentations covering the communication process, non-verbal messages, listening, questioning, explaining and empathy, assertiveness and closure, scientific literature, group dynamics, written communication and communicating with employers.

**Measures:** The Professional Studies I assessed skills in coding and decoding messages and steps in listening, non-verbal communication, scientific language of veterinary medicine, factors that help and hinder communication, structure of the scientific literature, group dynamics. Professional Studies II assessed skills that promote thought, and research into pertinent veterinary medicine issues, foster skills required to work in groups, and develop ability to effectively use scientific literature, encourage a critical approach to the literature. Professional Studies III assessed skills to communicate effectively with clients, partners and colleagues, to effectively deal with stress and conflict, understand impact of grief on clients. The intensive course assessed communication skills including non-verbal messages, questioning, listening, empathy, assertiveness, closure, grief and conflict.

**Results:** Student evaluation of Professional Skills I on a 7-point scale showed a mean of 5.3 over five year. Professional Skills II evaluation results indicated that 90% of students agreed that the course fulfilled the stated objectives. Evaluation results of Professional Skills III indicated high level of agreement that communication skills can be learned and

their skills in communicating with clients had improved as a result of the courses. The intensive skills course evaluation of content and presentation on a seven-point scale revealed a 5.8.

**Conclusions/Recommendations:** Many veterinary students initially have a limited view of the importance of communication skills for practicing veterinarians. Required coursework for first, third and final year veterinary students includes communication skill training, technical skills needed to use the scientific literature effectively, to encourage understanding of critical issues in the profession. The emphasis in courses on communication should be on discussing and doing, rather than on being told, on introduction to the relevant principles, discussion and practice with constructively critical feedback.

**Hendrix, C.M., Thompson, I.S., & Mann, C.J. (2001). A Survey of reading, writing, and oral communication skills in North American veterinary medical colleges. . *Journal of Veterinary Medical Education* 28(1):34-40.**

**Objective:** To describe the reading, writing, and oral communication requirements and opportunities at Schools of Veterinary Medicine (SVM) in the United States and Canada.

**Design:** Self-report Questionnaire.

**Setting:** Schools of Veterinary Medicine in the United States and Canada.

**Subjects:** 27 of 31 Academic Deans from U.S. and Canadian SVM's.

**Intervention:** none

**Measures:** The questionnaire consisted of 15-items which assessed oral, written and reading communication requirements, covering six major components: 1) university-required, elective communication courses and support services for writing, speaking, and reading activities, 2) types of required or elective courses within the veterinary curricula, 3) extramural writing and speaking projects, 4) academic deans' perceptions of communication tasks performed by practicing veterinarians, 5) academic deans' opinions regarding today's veterinary students' abilities to read, write and speak, and, 6) academic deans' attitudes when comparing today's veterinary students to their counterparts of 10 years ago.

**Results:** Of the 27 responding academic deans, almost all reported that their SVMs require prerequisite writing courses for admission, while only a third reported that their SVMs require prerequisite speaking courses. Once a student is admitted into a program, few courses devoted to speaking and writing are available, but writing, speaking, and reading tasks are included in most courses. Many of the veterinary curricula seem more concerned with academic or clinical communication than with the communication required to operate a veterinary practice. Written communication is viewed as most problematic.

**Conclusions/Recommendations:** The survey reinforces the importance of communication skills in veterinary medicine, as pointed out by the Pew National Veterinary Education Program (PNVEP) over 10 years ago. The following veterinary

medical curricula recommendations were made by the authors: develop integrated communication courses to be offered during the 1<sup>st</sup> year, continue incorporation of case-based/problem-based learning activities, encourage veterinary faculty members and students to become aware of and to utilize academic support services available, offer writing workshops for practicing veterinarians through continuing education, and make veterinary faculty members and students aware of extracurricular writing and speaking opportunities. Finally, recommendations require the appointment of a communication skill coordinator to assist SVM faculty members in incorporating writing, speaking, and reading tasks into course and to conduct continuing education workshops.

**Humble, J.A. (2001). Critical skills for future veterinarians. *Journal of Veterinary Medical Education* 28(2):50-53.**

**Core Argument:** There is national debate about what constitutes the preparation of veterinary students to assume the challenges, responsibilities and leadership of the profession.

**Primary Evidence:** The University of California School of Veterinary Medicine and the CVMA compiled a list of favorable skills, attributes, and knowledge expected of the graduate veterinarian. More specifically, these areas include 1) the science of reasoning, 2) communication skills, 3) innovation, 4) leadership skills, 5) emotional intelligence and motivation.

**Conclusions/Recommendations:** Screening veterinary school candidates for emotional well-being, and integrating the science of reason, communication skills, leadership expertise, and promoting innovative learning and expression into the veterinary curriculum, will provide future veterinarians with important tools for problem solving and understanding.

**King, L.J. (2000). It was the best of times, it was the worst of times. *Journal of the American Veterinary Medical Association* 217(7):996-998.**

**Core Argument:** The KPMG study, raises serious questions about the future of the veterinary profession while at the same time, offers encouragement about the professions' true potential.

**Primary Evidence:** The results of the KPMG study suggest that if the profession does not act to make a series of strategic changes, the profession will fail to meet societal needs and demands. The KPMG study reported that customer and public surveys regard veterinarians to be highly regarded, valued and respected professionals. In addition, the report highlighted the relative inelasticity of demand and the high value clients place on veterinary services, yet the profession undervalues its' service via low pricing schedules and low incomes.

**Conclusions/Recommendations:** Without improving incomes, the following will occur: suboptimal performance, no reinvestment back into practice improvements, inadequate funds to acquire new equipment and technology, inability to hire technicians and technologists, less money for continuing education, and personal improvement, reductions in service quality, difficulty in repaying student loans, and a subtle shift toward

creating a profession that is more elitist, where only the truly wealthy can afford to enter. Thus, lower incomes impact the entire profession. Colleges of veterinary medicine have focused on producing scientifically knowledgeable and technically competent professionals. Instead, the critical success factor for veterinarians in our changing world are more about life skills, including interpersonal competence and entrepreneurial skills, ability to adapt, leverage technology, working in teams, and high self-confidence and desire to improve and continuously learn.

**Lloyd, J.W., & Walsh, D.A. (2002). Template for a Recommended Curriculum in “Veterinary Professional Development and Career Success”. *Journal of Veterinary Medical Education* 29(2):84-93.**

**Objective:** To design an educational workshop with the objective of developing a detailed outline of a model curriculum that would encompass the skills, knowledge, aptitudes, and attitudes deemed essential for economic success in the veterinary profession.

**Design:** Educational workshop attended by 38 participants from North American veterinary schools, including faculty and practice management consulting firms and/or prominent veterinary organizations and business school faculty. Workshop included sessions with 250 veterinary students from 5 veterinary schools. Program was initiated by a sequence of presentations and discussions by several panels.

**Setting:** Michigan State University

**Subjects:** Total of 38 participants: 16 veterinary school faculty representing 14 North American veterinary schools, 18 from practice management consulting firms and/or prominent veterinary organizations, 4 from business school faculty at MSU. The students were from Ohio State University, Purdue University, University of Wisconsin-Madison, University of Minnesota, and Michigan State University.

**Intervention:** none

**Measures:** Each panel was asked to address the following questions: What do we need in the realm of veterinary practice management education? What constraints do we face? In addition, two objectives were set: 1) Identify major topics for the veterinary practice management curriculum, and 2) develop an initial list of potential constraints.

**Results:** A detailed outline for a curriculum was generated with the following headings: I. Choosing a Career and Career Search Strategies: Do people choose careers or do careers choose people? II. Basic Life Skills for the Successful Veterinarian: Ensuring that the fundamentals are in place for success. III. The Art of Successful Communication: Effective communication is presenting what you have to say in a way that conveys the message you intended to send, and likewise to ensure that the message you receive is what the sender intended for you to hear. IV. Ethical Values and Responsibilities and their Application in Veterinary Careers. V. The Art and Knowledge for a Successful Veterinary Practice: Understanding the structure of a successful practice is as important for choosing where to work as it is in creating one. VI. Understanding Leadership: Leadership as a Pathway for Success.

**Conclusions/Recommendations:** The outline developed is a suggested curriculum created to provide guidance in the design of the overall veterinary degree, sets of courses and individual courses. One of the intended applications of the outline is for facilities to use it as a template to evaluate their curriculum in the area of practice management and career success skills and to highlight deficiencies and prompt curricular change. Many constraints exist that impede implementation including: enormous amounts of material already covered in veterinary curricula, level of existing faculty expertise in and attitudes towards the topics, students acceptance that an understanding of such issues are important to them in their veterinary training. To achieve continued and full implementation, it is critical to document as early as possible that the curriculum is achieving its desired goal and that graduates of this training achieve a higher level of “success” in the profession.

**Lloyd, J.W., & Larsen, E.R. (2001). Veterinary practice management: Teaching needs as viewed by consultants and teachers. *Journal of Veterinary Education* 28(1):16-21.**

**Objective:** The study was developed to start defining a future direction for both research and teaching in veterinary practice management (VPM). In particular, the objective was to assess the VPM research and educational needs from the perspective of experts in the field: consultants and teachers.

**Design:** Focus group

**Setting:** On-line virtual focus group

**Subjects:** 21 Consultants and 14 Teachers. Consultants were selected in a non-random, stratified manner in an effort to obtain geographic diversity and wide range of technical expertise (half of the consultants were veterinarians with additional training and/or experience in VPM). Teachers included were the primary course coordinators for VPM at each of the North American Veterinary schools.

**Intervention:** none

**Measures:** Two bulletin board sessions were conducted, one for consultants and the other for teachers. Each session lasted for five consecutive days, during which the discussion monitor submitted a new set of five to eight questions to the bulletin board every morning. The questions were developed as a cooperative exercise between the principal investigators and the marketing firm. Both general and direct questions were posed with general questions addressed issues such as the current state of the veterinary professional and discussion of the Mega Study. Direct questions asked specifically about teaching and research needs related to VPM.

**Results:** There was general agreement among the consultants and teachers regarding the conditions and important trends in the veterinary profession. One of the most critical issues was the low declining level of prices for many veterinary services relative to the value perceptions of consumers. The low and declining prices have led to relatively low salaries and declining practice values.

**Conclusions/Recommendations:** There is a real potential for improving price structures, with the major impetus for this changing demand in companion animal practice is an increasingly strong human-animal bond and evolving technology. Consumers are demanding new and technologically advanced services for the care of their animals, exhibiting an increasing willingness to pay for veterinary services. Participants also voiced a need for standardized monitoring methods and procedures, including methods for assessing the performance of veterinary practices in the realm of finance, client satisfaction and human resources. There was consensus to include VPM in the educational program prior to graduation from veterinary school with suggested topics for VPM education to include communication, leadership, personal financial management, conflict management, leadership, team building, strategic planning, human resources, and business finance.

**Mills, J.N. (1997). Use of drama in teaching the human side of veterinary practice. *Australian Veterinary Journal* 75(7):497-499.**

**Objective:** To provide an opportunity for veterinary students to promote discussion of challenging incidents involving communication in practice.

**Design:** Workshops were presented using dramatized scenarios (live and video) of several critical incidents in practice, including euthanasia. Each scenario was followed by group discussion and then evaluated.

**Setting:** School of Veterinary Studies, Murdoch University, Western Australia.

**Subjects:** 5<sup>th</sup> year veterinary students

**Intervention:** Two- 2-hour workshops on the human side of veterinary medicine. The first workshop dealt with managing grief crises in veterinary practice followed by a 20 minute discussion led by a clinical psychologist on grief response. This was followed by three 5-10 minute dramas involving unexpected animal death or euthanasia and then followed by discussion by the psychologist and then a panel of guest veterinarians. The second workshop was held 2 weeks later and dealt with managing stress and consisted of a talk by an organizational psychologist and two guest veterinarians.

**Measures:** Each session was evaluated using a one page questionnaire. Information was sought on the following: identification of the most beneficial aspects of the workshops in preparing students for veterinary practice, how helpful the format was for increasing student understanding of the issues, what changes and topics for future sessions, and to rank their overall level of satisfaction with the workshop.

**Results:** The combination of drama and discussion as teaching formats was more effective than a formal talk and discussion. Sixty percent to 70% of the students considered advice and comments of the guest veterinarians as the most useful parts of the sessions in preparation for veterinary practice. Eighty five percent of the attendees commented that the dramas were invaluable in increasing understanding.

**Conclusions/Recommendations:** Drama was found to be an effective didactic format for teaching communication skills in preparing veterinary students for future practice.

**Moore, D.A., & Klingborg, D.J. (2001). Development and evaluation of a leadership program for veterinary students. *Journal of Veterinary Education* 28(1):10-15.**

**Objective:** To develop, deliver, and evaluate a leadership program for first-year veterinary students.

**Design:** Case-control

**Setting:** University of California, Davis, School of Veterinary Medicine

**Subjects:** Twenty-one first year veterinary students, graduating class of 2004

**Intervention:** A five-day course was delivered to 21 new veterinary students randomly selected just prior to their first year orientation.

**Measures:** Participants completed a four-page, 32-question post-program evaluation at the end of the fifth day with the first 5 questions focusing on leadership roles for veterinarians. The next 8 questions focused on overall evaluation of program and remaining questions on self-report of improvement in specific skills. All students (participants and controls) were also asked to complete a one-page questionnaire on leadership.

**Results:** The participant group redefined their roles in leadership and improved their leadership skills as a result of the course. Two differences between the two groups were that males were slightly underrepresented in the study group (4.8% of the course group vs. 15.6% of class), and that more participants than non-participants indicated on their veterinary school applications that they had taken on leadership roles (81% vs. 72%).

**Conclusions/Recommendations:** The leadership curriculum highlights some ideas espoused by others for veterinary practice leadership: setting goals, the role as a teacher/communicator, reflection, self-awareness, building trust, working in teams, learning from mistakes, and obtaining a diverse set of tools to solve problems. Because the proportion of women entering both human and veterinary medicine is much higher than in the past, and because women are underrepresented in leadership roles, a leadership course for these professional students is vital.

**Routly, J.E., Taylor, I.R., Turner, R., McKernan, E.J., & Dobson, H. (2002). Support needs of veterinary surgeons during the first few years of practice: perceptions of recent graduates and senior partners. *The Veterinary Record* 150:167-171.**

**Objective:** To identify the most appropriate support for recent veterinary graduates by examining existing training strategies for employers and new employees. To devise a package for new graduates to facilitate their entry and establishment in the workplace, particularly by the effective use of continuing professional development (CPD).

**Design:** In-depth interview and self-reported questionnaire

**Setting:** 100-mile radius of Liverpool, England

**Subjects:** In-depth interview: 18 veterinary graduates from 1998-1999 Follow-up self-administered questionnaires: 107 practicing veterinary surgeons from the RCVS register who had graduated in either 1998 or 1999.

**Intervention:** none

**Measures:** Questions included choice of practice, the interview, their experiences on the first day and in the first months, the undergraduate course, the practice and continuing professional development.

**Results:** Two main factors influenced choice of first job position: mixed practice, location. Most job interviews were informal and judgements made based on personality, communication skills and perceived empathy for the job. Veterinary competence was expected. Candidates placed a high premium on the 'character' of the staff, and looked for good quality support in preference to a high salary. Being on-call was stressful for 59% of the new graduates: decision-making while under stress, constant worry about missing calls or finding locations, and fear of making mistakes with subsequent litigation. Communicating with clients, and learning to prioritize were high on the problem list. One in three of the new graduates left their first job within two years. 83% felt moderately prepared by their undergraduate coursework. In addition to more practical experience, many senior partners sought greater commitment in the undergraduate curriculum to financial/legal issues and communication skills.

**Conclusions/Recommendations:** There is a considerable turnover of new graduates which represents a significant loss in potential earnings for practices. New graduates could be eased into practices through personal introductions to regular clients, and provided with more advice on pricing, computer systems and how to avoid litigation. The issue of communication skills is being addressed with the aid of the Veterinary Defence Society but monitoring the impact and thus possibly refining this development is essential.

**Russell, R.L. (1994). Preparing veterinary students with the interactive skills to effectively work with clients and staff. *Journal of Veterinary Medical Education* 21(2):40-43.**

**Objective:** To describe the use of a behavioral measurement instrument among veterinarian students and compare it with the general population.

**Design:** Self-report questionnaire.

**Setting:** Kansas State University

**Subjects:** Three hundred sixty three veterinary students.

**Intervention:** none

**Measures:** 24-question "Style Analysis Instrument" that assessed dominance, influence, steadiness, and compliance (DISC).

**Results:** The behavioral profile of the veterinary students were almost identical to the males and females in the general population. The data refute the myth that veterinarians are different from the general population.

**Conclusions/Recommendations:** Knowledge of behavioral styles can help new graduates more effectively interact with employers, clients, and the practice staff. It also is helpful in teaching leadership skills because the computer report that is generated gives insights into communication, motivation and keys to managing others. The inability to communicate effectively is often a major cause of client and employee satisfaction. When students understand their strengths and weaknesses and how their behaviors communicate that style to others, they can adjust their style to become for effective in working with others.

**Stell, E.J., Price, G.S., & Swanson, C. (2000). Implementation and assessment of a career and life skills program for matriculating veterinary medical students. *Journal of Veterinary Medical Association* 217(9):1311-1314.**

**Objective:** To describe the results of a newly developed workshop in career and life skills offered to first year veterinary students. The workshop was developed as a result of a 1993 survey of graduates and their employers which identified weaknesses in the areas of interpersonal communication, organizational dynamics, and practice management.

**Design:** Educational Workshop.

**Setting:** North Carolina State University College of Veterinary Medicine.

**Subjects:** Seventy-three first-year students that were diverse in age (20-38 years), educational background, and life experience during the fall 1999 academic semester.

**Intervention:** A 2-week experiential workshop in career and life skill elements that included the traditional orientation for entering veterinary students.

**Measures:** Written retrospective assessment of the workshop was developed and provided at the end of the experience. In addition, the assessment included 8 paired statements in which the workshop objectives were evaluated. Part three of the assessment consisted of 10 questions in which the workshop instructors, individual workshops, and impact of the overall program were evaluated.

**Results:** On every statement, paired pre-and post experience responses to questions were significantly different. The answers reflecting the students' perspectives after the workshop were more strongly positive and supportive than their perspective before the workshop.

**Conclusions/Recommendations:** The data support that the workshop experience succeeded in raising student consciousness and establishing a cultural acknowledgment of the importance of the ideals and skills presented among the participants. The authors concluded that the veterinary profession will achieve economic viability and sustainable

growth when its members possess career and life skills in addition to medical knowledge and technical skills.

**Tinga, C.E., Adams, C.L., Bonnett, B.N., & Ribble, C.S. (2001). Survey of veterinary technical and professional skills in students and recent graduates of a veterinary college. *Journal of the American Veterinary Medical Association* 219(7):924-931.**

**Objective:** To gather baseline information and assess veterinary students' and graduates' values and attitudes about veterinary technical and professional skills.

**Design:** Self-reported survey

**Setting:** Ontario Veterinary College

**Subjects:** Students (classes of 2002, 2001, 2000, and 1999) and graduates (classes of 1998 and 1993) of Ontario Veterinary College.

**Intervention:** none

**Measures:** Survey designed to measure different components including value, instruction, competence and comfort of veterinary technical and professional skills in students and graduates. The following items were assessed: technical skills (physical exam, diagnosis, treatment, surgery), professional skills (self-awareness, human relations, communication, and the human-animal bond). A 7- point Likert scale was used and demographic and career interests were also collected.

**Results:** Although both skills were highly valued by students in the first 3 years of training, technical skills were consistently rated slightly higher than professional skills. Technical and professional skills were equally valued by fourth-year students and graduates. Female students and graduates valued learning about professional skills more highly than their male classmates of the same age. Regarding instruction, most participants reported they had not received instruction about professional skills, but for those who had, felt more competent about them. Neither gender or increased age was related to increased feelings of competence. Many did not feel an adequate level of competence or comfort about delivering bad news, setting time limits while providing quality veterinary care, helping clients with limited funds make treatment decisions, communicating with demanding people, and euthanasia.

**Conclusions/Recommendations:** This study demonstrated that that feelings of competence and comfort were not interchangeable among veterinary students and graduates. Given that both may be needed to facilitate the learning of professional skills, a curriculum that addresses underlying self-awareness, communication, and interpersonal issues, as well as procedural matters, would likely increase the proportion of 4<sup>th</sup> year students who feel competent and comfortable about professional skills by the end of their academic training.

**Tumblin, D.L (2000). Need more cash? *Veterinary Economics* 37-40.**

**Description of Context:** This article reflects on the results of the KPMG's megastudy of 1999 which indicated that veterinarians' income is not growing and that stagnant real income is the most significant problem veterinarians face.

**Topic/Scope:** Since veterinarians' incomes are not keeping pace with inflation, the impact on the profession results in frustration for experienced practitioners, and hamper the ability of the profession to attract the best and the brightest students.

**Conclusions/Recommendations:** Stagnant income in the veterinary profession is not inevitable and can be avoided. The author has identified three steps to improve income within a veterinary practice. The first is to value the time, knowledge, and experience of the practice and adjust the prices of services accordingly. Use value-based pricing, and set fees according to the clients' perception of the value of the service provided. The

second step is to charge for every service that is provided. Many veterinarians frequently provide free ("give-away") services, which negatively impacts the overall revenue of the practice. The third step is to carefully manage practice expenses in order to keep profit available to cover veterinary compensation and reinvestment in the practice.

**Van Vleet, J.F. (2001). Application of admissions criteria to applicants with practice versus non-practice career goals in North American schools/colleges of veterinary medicine. *Journal of Veterinary Education* 28(1):22-27.**

**Objective:** To determine whether the 31 North American veterinary schools / colleges use admissions selection processes that favor applicants seeking practice careers over those interested in non-practice careers.

**Design:** Self-report questionnaire survey

**Setting:** North American veterinary schools / colleges

**Subjects:** Associate Deans for Academic Affairs during the summer of 2000 from 25 of the 31 North American Veterinary Schools / Colleges.

**Intervention:** none

**Measures:** The questionnaire had seven individual items using a Likert scale response 1-5. The questionnaire included an assessment of expectations of veterinary applicants with interest in practice or non-practice careers regarding their veterinary experience, animal experience, pre-veterinary course work, written evaluations, interview responses, and other criteria.

**Results:** For veterinary and animal experience, the general expectation for the amount of veterinary experience is similar for applicants interested in practice vs. non-practice careers. However, different types of experience were acceptable ranging from research, zoological medicine, laboratory animal medicine, industry for non-practice

interested applicants from the private practice exposure expected of applicants interested in practice.

**Conclusions/Recommendations:** It appears that considerable variability exists among the institutions in the flexibility of their admissions processes. Those admissions units that continue to rigidly define entry requirements along private practice criteria may be excluding from their programs a cohort of applicants with a broader view of the profession who would eventually enter non-practice careers. Exclusion of these applicants is in opposition to the recommendations of both the 1989 Pew Study and the 1999 KPMG Study.

**Williams, S., Butler, C., & Sontag, M.A. (1999). Perceptions of fourth-year veterinary students about the human-animal bond in veterinary practice and in veterinary college curricula. *Journal of the American Veterinary Medical Association* 215(10):1428-1432.**

**Objective:** To gain information about U.S. veterinary students' perceptions of the importance of addressing the human side of veterinary medicine in veterinary school curricula.

**Design:** Self-reported survey

**Setting:** U.S. Veterinary Colleges

**Subjects:** 552 Senior Veterinary students representing 21 of 27 U.S. veterinary college during the summer of 1996.

**Intervention:** none

**Measures:** The survey was designed to assess perceptions in three areas: the importance of addressing the human-animal bond, usefulness of curriculum in preparing to effectively address human-animal bond issues, and beliefs about euthanasia and client grief. Questionnaire consisted of 16 items that were rated on a 5-point scale, 2 demographic items and 2 items about respondents' practice interests.

**Results:** Seventy-one percent of respondents were women and 29% were men, ranging from 22-43 years old. Respondents clearly believed they would need to address the human-animal bond. Respondents in small animal tracks were more likely to agree that clients' emotional bonds with companion animals would be their concern as practicing veterinarians. Fewer than one-half of respondents believed they were receiving adequate instruction in the area of human-animal bonding. Gender was related to perceptions of adequacy (56% females did not believe they were receiving adequate instruction in human-animal bond issues vs. 36% of males.)

**Conclusions/Recommendations:** There is a need to effectively address human-animal bond issues in veterinary school curricula. Ninety-six percent of respondents believed that addressing the bonds owners have with their companion animals is within the professional domain of veterinary medicine. Nearly one-third of respondents would select a school that offered core curriculum on the human-animal bond over a school that did not. Results from this survey delineate gender differences. Women were more likely to agree that clients' emotional bonds with companion animals should be a

concern of practicing veterinarians, curriculum in the human-animal bond at their school was inadequate, and they would be more likely to choose a school with human-animal bond curriculum over one that did not have such course work available.

**Wyant, L.A. (2001). The internet and the future of equine practice. *Veterinary Clinics of North America: Equine Practice* 17(2):297-303.**

**Description of Context:** Several surveys show that most veterinarians own and use computers including equine practitioners. Aside from the use of office computers to generating client reminders, invoicing and billing, word processing, and inventory, one survey showed that many veterinarians also use the internet for access to clinical information, networking by email and researching products. The time has come for all veterinarians to investigate the internet and the accompanying services available. Each veterinarian needs to assess how the internet could be used as a time-saver, increase client compliance and convenience, and increase practice revenue.

**Topic/Scope:** The use of computer technology can be used in the following ways: consultation, research, communication (communication with clients via website, posting of general information on website for consumers related to new equipment, services, change in payment policy, office/farm hours, contact information, staff biographies, local events, and after-hour emergency care), practice management (client request for appointment time, rescheduling, available appointment times, confirmation of appointment, inventory tracking, payroll procedures, intranet structure for communication between veterinary staff and doctors), client education (central site with illustrative graphic designs in layperson comprehension, written text about certain animal conditions), and online prescriptions.

**Conclusions/Recommendations:** Improving doctor-client relationships and patient care are goals for all veterinarians, and the internet holds the technology to render these now and in the future.