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Preparing Veterinary Students for Extramural Clinical Placement Training: Issues Identified and a Possible Solution

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ABSTRACT

Extramural clinical placement training is an important part of many veterinary degree programs and provides students with valuable learning experiences in private practice, often focusing on the management of typical first-opinion cases. In the United Kingdom, the Royal College of Veterinary Surgeons (RCVS) has a mandatory requirement that students take 26 weeks of clinical placement or extramural studies (EMS) before graduation. However, if students are to maximize their learning opportunities during these placements, it is important that they be adequately prepared. In response to recent topical issues surrounding EMS in the United Kingdom, the current project undertook an iterative consultation process with key stakeholders, including students and placement providers, to identify key issues associated with students attending placements. These findings then informed the development and content of a computer-aided learning (CAL) package titled "The EMS Driving Licence" that aimed to improve the preparation of students for placements. The CAL package included sections covering the main identified areas of concern: Preparation (including what to take), Working With People (staff and clients), Professionalism (including confidentiality), Frequently Asked Questions (from students), and Top Tips (from practitioners). The CAL package was evaluated by students, and feedback was gathered by means of a questionnaire. Students recognized that the content addressed many of their concerns, and all reported that they would recommend the package to others. The CAL package has been made available to all UK veterinary schools and has received backing from the RCVS as part of their current recommendations on EMS to the UK veterinary profession.

Key words: clinical placement training, extramural studies, veterinary, work-based learning, clinical practice, e-learning, professional development, veterinary programs, curricula worldwide

INTRODUCTION

Clinical placement training is a form of work-based learning (WBL) that provides students with learning opportunities in typical working environments outside of their university or college (i.e., extramural). It is an important part of undergraduate education in a variety of professional disciplines, including medicine,[1] nursing,[2] social work,[3] and accounting.[4] These placements can offer quite different experiences to those in the institution (intramural), particularly in relation to the type of learning opportunities provided and the background and training of staff responsible for supervising students.

In veterinary medicine, clinical placement training forms an important component of the professional degree in a number of countries and is referred to by a variety of different names. These include extramural studies (EMS) in the United Kingdom[5] and Ireland,[6] extramural placement studies in Germany,[7] extramural practical work in Hungary,[8] preceptorships in Canada,[9] and extramural placements in Australia;[10] in the United States, examples include a Practice-Based Ambulatory Program[11] and an extramural clinical education program.[12]

Much of the intramural clinical teaching in veterinary schools is based at veterinary teaching hospitals (VTH) that are usually secondary or tertiary referral hospitals. As such, one of the key advantages of extramural clinical placements is that they provide veterinary students with an opportunity to recognize, and become familiar with, the approach to handling routine first-opinion clinical cases.[13] This is important because the nature of the complex and unusual cases in VTHs does not reflect the experience of most new graduates,[14] most of whom find initial employment in private first-opinion practices. Similarly, in medicine there is an increasing trend to encourage students to undertake rural clinical placements so that they learn how to manage common cases from initial presentation onward.[15] There are several other advantages to the learning opportunities afforded veterinary students during extramural clinical placements, which include the quantity and variety of cases that they may be exposed to and the small number of other students at the same placement.[16] The value of these placements in contributing to students' learning has been recognized, as shown in a survey from the Faculty of Veterinary Medicine, University of Glasgow.[17] EMS were considered by graduates to have been useful for a number of disciplines, particularly surgery and medicine in cattle and small animals. Additionally, at the University of Sydney, students reported that the benefits of extramural placement included developing such abilities as interpersonal skills and recognizing and treating disease.[10]

Veterinary curricula around the world have different levels and requirements for clinical placement training. In the United Kingdom, it is compulsory at a national licensing level. The Royal College of Veterinary Surgeons

(RCVS) has a mandatory requirement that veterinary students spend 26 weeks between the third year (of the five-year course) and graduation taking clinical EMS as a core professional requirement.[18] This has been part of UK veterinary education since 1932. These placements are often arranged by students themselves, and most take place at private veterinary clinics where the student "shadows" the veterinarian, taking part in everyday workplace activities, initially as an active observer and subsequently gaining supervised hands-on practical experience. It is also possible for students to arrange placements at other extramural facilities such as research laboratories, government surveillance units, and private referral practices to gain an understanding of the day-to-day activities of other branches of the veterinary profession. These placements are offered by the EMS providers as gestures of goodwill, and they do not receive payment for them. Hence, there is no formal accreditation or evaluation of EMS providers at present.

In the United Kingdom, EMS are subject to review from time to time, and the RCVS then issues reports and guidelines.[18] For example, in the 1990s the Supporting Independent Learning in Veterinary Extramural Rotations (SILVER) report recommended that students set their own personal objectives, take a more independent approach to their learning, and be expected to behave in a manner appropriate to "nearly professionals" during EMS.[19] The RCVS is currently undertaking a further review of EMS as a result of certain topical issues, including recent changes in higher education; increased student numbers, which may limit the availability of placements and put extra pressure on placement providers; and the cost and associated effect on student debt that attending extramural placements incurs, in terms of both travel and accommodation expenses and students' inability to undertake paid holiday work during this time.

If students are to gain the most from EMS placements, proper preparation is clearly important, and this issue has also been raised in the recent RCVS review.[20] At present, students are provided with guidance from their schools, usually starting with a briefing before the first placements; documentation, which may include a logbook or checklist of skills to develop and practice; and a set of learning objectives. In addition, the RCVS provides information for both students and practitioners,[18] and the British Veterinary Association has also recently produced two booklets for its members, one for practitioners[21] and one for students.[22]

However, in spite of all the advice and materials available, it was apparent, through the project team's contact with practices and students, that commonly occurring issues and concerns still existed relating to a lack of preparation for EMS placements. Therefore, the aims of the current project were

1. To consult with the main stakeholders involved in EMS about these issues;

2. To use these data to inform the design, content, and development of a computer-aided learning (CAL) package that students could complete before starting their EMS placements to better prepare them for their placements, and thus benefit both the students and their placement providers; and

3. To evaluate the CAL package.

IDENTIFYING THE ISSUES

Issues relating to EMS placements can be considered from the perspectives of four key stakeholder groups, namely veterinary students, EMS providers (mostly private practitioners and other practice staff), veterinary schools, and regulatory professional bodies such as the RCVS. The project team worked closely with these stakeholders in an iterative manner to determine some of the concerns, issues, and problems relating to EMS and to develop a potential solution (the CAL package).

Stakeholder Consultation

EMS Providers (Private Practices) Both focus groups and questionnaires were used to gather feedback from private practitioners and their staff, including veterinary nurses (veterinary technicians) and receptionists, about key issues relating to EMS.

The questions included in both questionnaires and focus groups are shown in Table 1.

A total of 35 staff from four private veterinary practices around the United Kingdom—three mixed practices and one small-animal practice—were consulted by questionnaire. All had extensive experience as providers of EMS placements. In addition, separate focus groups were conducted with veterinary practitioners from three of these practices, with participant numbers ranging from two to seven (relative to the number of veterinary practitioners employed by the practice).

Table 1: Questions covered by project questionnaires and focus groups during stakeholder consultation with extramural studies (EMS) providers

Question

1. What are the main strengths and weaknesses of veterinary students undertaking EMS placements at your practice?

2. What equipment and protective clothing do you expect students to bring with them when undertaking EMS placements at your practice?

3. What dress code do you expect students to follow when undertaking EMS at your practice?

4. What could we do to better prepare students for EMS placements at your practice?

5. Do you have any other comments or feedback on how the EMS experience could be improved for both practices and students?

6. What is your role within the practice?

Veterinary Students   Separate focus groups were also held with two groups of veterinary students at the Royal (Dick) School of Veterinary Studies (R[D]SVS), University of Edinburgh: (1) third-year students before they began their first EMS placements, the focus of which was primarily students' key concerns and anxieties about undertaking EMS placements (five participants), and (2) fourth-year students who had already completed several weeks of EMS placements, the focus of which was primarily identifying key issues and problems experienced during their placements and potential solutions that could address these problems (four participants).

Key Issues Identified by EMS Providers and Students   The questionnaire and focus group responses were analyzed; the quantitative data were presented using Microsoft Office Excel, and the qualitative data were coded to identify themes. Key issues and concerns that were identified are shown in Table 2.

This information was used to inform the next stage of the project—the design and content of a CAL package titled "The EMS Driving Licence" to help students in their preparation for EMS placements.

As the project evolved, it became apparent that additional highly topical issues also needed to be incorporated into the CAL package. For example, client, patient, and practice confidentiality had been raised as a major concern by several EMS providers during project consultations and, latterly, issues surrounding students taking photographs or videos during EMS placements (often without appropriate permission) and then posting them on Internet sites such as Facebook had become a real concern to the veterinary schools.

A POSSIBLE SOLUTION: DEVELOPING THE CAL PACKAGE

The CAL package was intended to be an online information repository, focused on addressing identified EMS-related needs, that students could access and complete before their first EMS placement. It was developed in Adobe Flash and consisted of a series of sections, based on the most commonly volunteered results of stakeholder consultations, including Introduction, Preparation (e.g., advice on appearance, what to take; knowledge and equipment), Working With People (staff and clients), and Professionalism (e.g., issues around confidentiality, use of mobile phones, and the taking of photographs or videos). Other important points and areas were covered in a Tips section (from veterinarians and other practice staff) and a list of Frequently Asked Questions from students (Figure 1). The information was delivered through a mixture of text, photographs (e.g., of protective clothing, negative body language), a video (titled "Don't Keep the Vet Waiting!"), and quotes from students and practitioners (e.g., to explain or emphasize points). The presentation style used a combination of listed key points, dos and don'ts, quotes from both students and practitioners, and the use of humor to illustrate certain issues. Additional features included links to supplementary material (e.g., RCVS Guidelines for EMS) and an option to print a Certificate of Completion of the EMS Driving Licence for inclusion in the student's portfolio (this personalized certificate is only displayed when all sections of the CAL package have been completed). The whole package was designed to be completed within 20–30 minutes.

Although the authors would have liked to include an online assessment tool or quiz at the end of the CAL package, this was outside both the scope and the limited budget of this project. However, this would be a valuable tool to develop in the future as a means of evaluating student learning from the CAL package.

An iterative design cycle was adopted, with continued involvement of stakeholders. In addition to students and EMS providers, key staff (including designated EMS coordinators) at the authors' respective veterinary schools were consulted via face-to-face meetings to identify additional issues and discuss content. Staff from other schools, and members of the RCVS EMS working party, were also consulted by means of e-mail, face-to-face meetings, and presentations to clarify any further issues and gain a broader perspective from stakeholders.

During the final stages of development, a think-aloud[23] was conducted with three students and two practitioners; this technique is used to encourage people to describe their experiences when undertaking a task. A member of the development team sat with each individual while he or she navigated through the CAL package, which allowed the team to identify parts of the package functionality that did not work as expected, and to discuss and refine the content. After addressing identified issues, a focus group was then held with five third-year veterinary students. The students were given 20 minutes to work through the package on their own, and then the group came together to discuss the individual sections in terms of both good points and aspects that could be improved. The project team discussed and acted on the findings as required and produced a version of the CAL package ready for evaluation.

Evaluating the CAL Package

Third-year student volunteers from the R(D)SVS, University of Edinburgh, and the Royal Veterinary College (RVC), London, were recruited to evaluate the CAL package in the first few weeks of the summer break (June 2009), after approval by the institutions' ethics committees. After completing the package, students were asked to fill out an online questionnaire, created and delivered using SurveyMonkey.[24] The first section gathered basic demographic data, followed by free-text sections, Your Opinions on the EMS Driving Licence CAL (asking about positive and negative aspects, improvements, and additional material), and views on Use of the EMS Driving Licence CAL. Microsoft Office Excel was used to handle the quantitative data collected, and thematic analysis was carried out on the qualitative data.

CAL Package Evaluation Results

Forty-two students reviewed the CAL package (18 from R[D]SVS and 24 from RVC), and all completed the online questionnaire and gave consent for their comments to be used anonymously in analysis and publications. The demographic data showed that 86% of the students were female, 79% were from the United Kingdom and 21%

Table 2: Summary of the common issues and concerns associated with extramural studies (EMS) placements identified by the project

EMS providers—issues	Veterinary students—concerns
Theme: Preparation	
Students should ask whether the practice provides basic guidelines for EMS placements before arriving on their first day.	
Students should be appropriately dressed for their placement ("smart casual").	**What is an appropriate dress code for my placement?**
Students should bring appropriate clean and washable protective clothing to their placement.	What protective clothing and equipment should I take to my placement?
	What will the vets expect me to know during my placement?
Theme: Working with people	
We don't expect students to know the answer to every question, but they should attempt to work things out from first principles.	**What should I do if I don't know the answer to a question?**
Students should show respect to all practice staff and clients.	
Some students appear disinterested or bored during their placements.	What should I do during quiet times?
Students should clean up after themselves and offer to help out whenever possible.	
Students should always ask for help if they are unsure about something.	What should I do if I am unsure about something I have been asked to do?
Professionalism	
Students should always maintain client, patient, and practice confidentiality.	
Students should not contradict a vet or offer an unsolicited opinion in front of a client.	
Other common issues or concerns	
Students should try to avoid keeping vets waiting whenever possible, e.g., by having all of their protective clothing together in a strong waterproof bag ready to take out on visits.	
Students should always close gates and kennel, stable, or consulting room doors behind them.	
Students should remember to think before touching a sterile area.	
Students who are polite and appear enthusiastic are a pleasure to work with and are often given the chance to do more during a placement (they may even be offered a job!)	**I'm not sure whether I can ask to be allowed to do a bit more during my placement.**
Veterinarians are under increasing pressure on time and resources.	
Students should be aware that staff are not paid to provide EMS placements and give up their time for them voluntarily.	
It is annoying when students only pick interesting cases to follow or leave before the end of the evening clinic.	
	Should I stay in the room during a euthanasia consultation?
	What should I do if the owner asks me a clinical question while the vet is out of the room?

Note: The five most commonly volunteered themes for both EMS providers and students appear in bold.
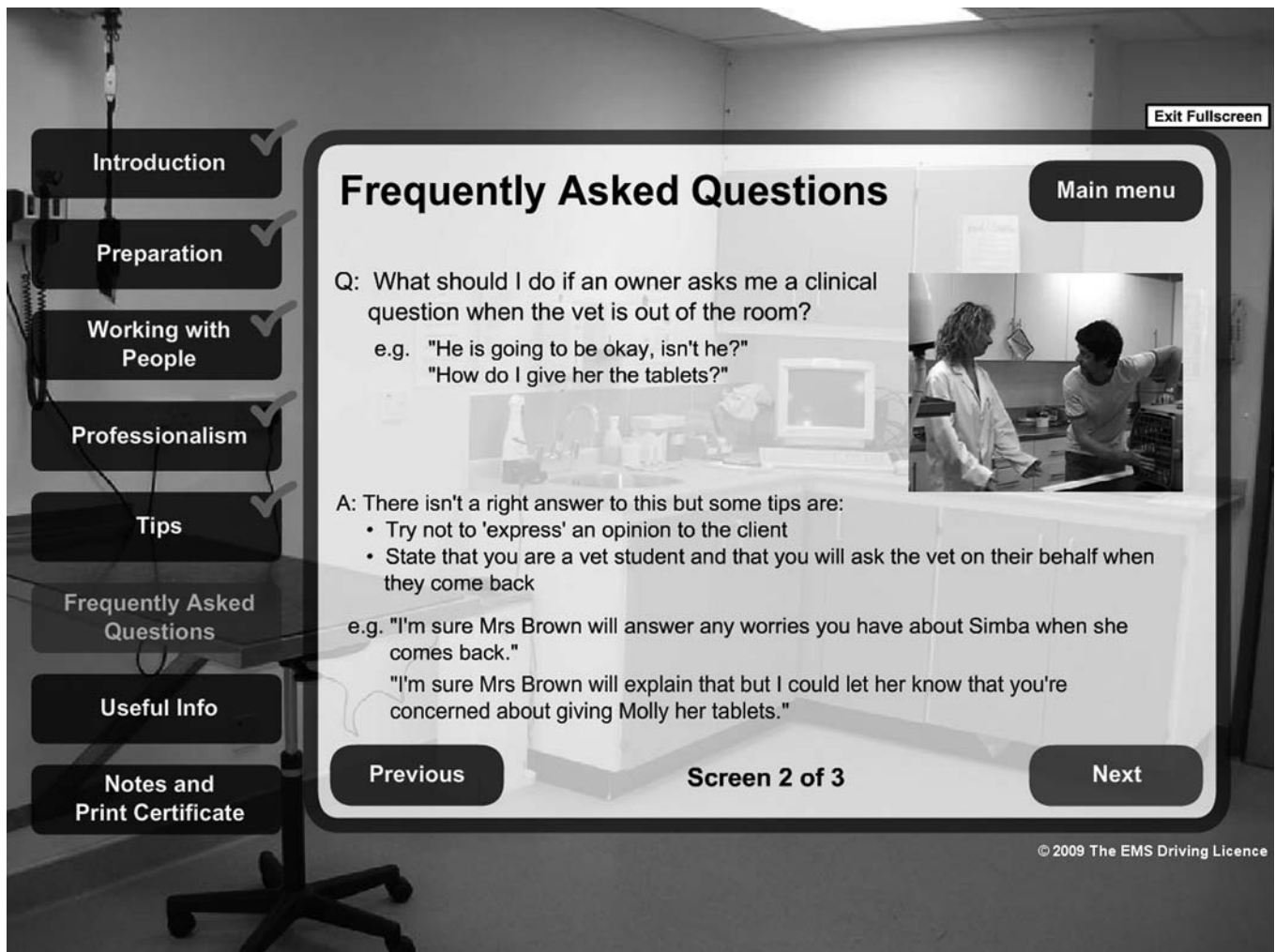
Figure 1: A screen shot from the Frequently Asked Questions section of the Extramural Studies Driving Licence computer-aided learning package, which was based on concerns expressed by students.

were from overseas, and 50% were undergraduates (veterinary medicine being their first degree) and 50% already had a degree.

When asked whether they would recommend the CAL to a fellow third-year student before EMS, 100% of the students answered "yes." Many comments supported this positive reaction ("The CAL is useful to ensure students have properly considered the placement and are sufficiently prepared in advance") and provided recognition that the resource helped to address their issues ("I thought the information covered many of the areas that I was concerned about before I started EMS placements").

In the free-text sections, 41 of the 42 students entered comments when asked about positive aspects of the CAL. Thematic analysis resulted in the responses being classified under four main categories: presentation, the video, frequently asked questions (FAQs), and information on body language. For example, one student wrote, "I thought the section on body language was useful, as I had never really thought about this before. It has made me much more aware of how I may come across to vets and clients."

The remaining comments related to other sections of the CAL—particularly confidentiality, tips, and dos and don'ts. For example, the tips (from vets and other practice staff) were reported to be helpful: "I used these tips at my last practice and it definitely made me more popular with staff and thus I was given more practical tasks which was great."

The students were also asked to report any negative aspects of the resource. Three main themes were identified from the 30 responses: presentation, the video, and unnecessary information. Although the presentation of the CAL package was also a positive theme (e.g., "The CAL was easy to read, quick to go through and explained the vital basics for EMS"), the animation of some pieces of text (flying in from one side) was cited as being annoying. The video—"Don't Keep the Vet Waiting!"—was several students' "best bit" but was not as well received by others who considered it "irrelevant as surely nobody would do that!" thus highlighting the difficulty in pleasing all users. Although some information was viewed as being "quite obvious," many students appreciated the fact that "some people may need to be told" and that

"while some [information] was basic, I often forget about the more obvious things, so it was good to be reminded."

Most students (76.2%) provided suggestions to improve the resource further, which were classified under the following topics: presentation, extra FAQs, provision of clinical information, and more about what to expect. An area in which the presentation could be improved by the addition of more photos was identified as relating to clothing and dress code, particularly the meaning of an often-used term, *smart casual.* The FAQs section was highly regarded, and there was a call for it to include more information such as what to do when things are quiet and to ensure that students realize that vets are not paid to provide EMS. It was also considered beneficial for the FAQs section to continue to evolve in the future. Finally, some students mentioned that the vets' expectations of their abilities should be more clearly defined, including realizing that the vet does not necessarily expect the right answer to a question but may be trying to gauge knowledge and skill levels to pitch teaching and tasks accordingly.

The final section of the questionnaire explored possible methods for accessing and using the CAL package. Some students (33%) thought that it would be useful to incorporate the package into a tutorial lead by a staff member. Most (88%) wanted it to be made available via the Internet, rather than only being available at a specific booked time in the computer room, indicating that students favored having permanent access to the package and the flexibility to use it in their own time.

Final Modifications and Release
The project team used the feedback to improve the CAL package. Extra information was provided to cover the areas identified by students. Additional photographs and quotes from practitioners were collected; however, producing extra video clips was outside the scope of the current project. The CAL package "The EMS Driving Licence" is now available to others via an online Web site.[25]

DISCUSSION
EMS placements have become an extremely topical issue for the UK veterinary profession in recent years, generating a wide-ranging review, consultation process, and list of recommendations from the RCVS and eliciting much discussion in the veterinary press.[26,27] This process has confirmed the importance of EMS placements for student learning,[13,19] and the profession has overwhelmingly supported their being maintained as a mandatory requirement of veterinary education in the United Kingdom.[28] However, because the twenty-first-century veterinary profession is constantly changing, it now faces a variety of relevant challenges and issues, including increasing student numbers, and thus demand for placements; increasing student debt, which is compounded by the requirement to undertake extramural placements; increasingly demanding and litigious clients, which reinforces the requirement to demonstrate professional behavior and maintain client confidentiality at all times; and increasing time and resource pressures within veterinary practices, which can make supervision of students difficult. As a

result, it is important that the veterinary schools listen to the opinions of relevant stakeholders to try to optimize EMS for all concerned and to develop realistic solutions for the issues that arise.

By adopting stakeholder consultation methods, this project has identified key issues from the perspectives of both the EMS providers and the veterinary students and found that most of these could be alleviated if students were better prepared before starting their first placement. The importance of preparation for clinical placement training (or other WBL) concurs with the findings of other authors in veterinary medicine,[29] nursing,[2] paramedic training,[30] and social work.[3] The fact that the EMS Driving Licence CAL package offers a potential solution to this issue may therefore be of interest to others.

The EMS Driving Licence CAL package was extremely well received by students, with 100% of respondents reporting that they would recommend it to other students and numerous positive comments being made about its authenticity, content, and usability. This positive outcome may be attributable to a number of processes in the project methodology, including

- Key stakeholders were identified at the project outset, and regular consultation was undertaken with them throughout the project.

- The content and design of the CAL package was informed directly by results of the project stakeholder consultation.

- An iterative design cycle that included multiple methods for gathering user feedback (think-aloud, a focus group, and a survey) was adopted for the CAL package.

Some of the topical issues that emerged during the project were of particular interest and are likely to evolve further in the future. For example, students' frequent use of social networking sites such as Facebook to share photos and videos taken during EMS placements was identified as a major cause for concern in relation to client, patient, and practice confidentiality. This concurs with Prensky,[31] who used the term *digital natives* to describe students who have grown up with, and are completely familiar with using, cell phones, computers, and other digital technology. They therefore see them as essential rather than as a novelty and often use online sites such as Bebo, Facebook, and YouTube as a regular means of communicating with friends. This may be in marked contrast to their EMS providers, who are often from a different generation and as a result are likely to have different expectations and norms and may be unaware of the potential issues associated with such technologies. Therefore, there is clearly a need to provide guidelines to students about seeking appropriate consent before taking and using images.

Our project also complemented the findings of previous studies[19] in relation to students taking responsibility for their own learning during EMS placements. This is being addressed at UK schools through the use of case books and portfolios[32] and by encouraging students to set their own realistic learning objectives that they then discuss with the practice early on their placement.[20]

The EMS Driving Licence is targeted at third-year veterinary students before the first clinical EMS placements through each school's EMS coordinator, but it is also available to all students undertaking EMS (whatever the year, time, and place). It has also been included in the recent recommendations by the RCVS EMS Working Party, who commented that "the EMS 'Driving Licence' developed by Edinburgh and RVC will be very useful preparation for placements and the working party hopes that this can be made available to other veterinary schools."[33] As a result, it is now hosted on an open-access Web site[25] and has been released to all UK schools (Winter 2009–2010). In the future, the package may also have broader application in veterinary education because extramural placements may be adopted more widely by other countries, particularly to give students access to first-opinion cases.

In conclusion, recognition of the value of and need for support for clinical placement training (or WBL) is well documented. Our project represents an innovative, authentic, realistic stakeholder-led solution to these issues.

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