The Swine Medicine Education Center—
What Can It Mean to Your Practice?

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Introduction
The Swine Medicine Education Center (SMEC) is an innovative collaborative effort between the Iowa State University College of Veterinary Medicine (ISU CVM) and the Audubon Manning Veterinary Clinic (AMVC). The mission of the center is to collect and synthesize the best practices for clinical swine medicine, translate and disseminate those practices to stakeholders who can apply them to improve swine health, ensure pork safety, maintain sustainability, and conserve resources. The goal of the SMEC is to educate veterinary students from across the country, provide educational opportunities to swine production stakeholders, and to provide educational opportunities to the general public and media. The goal is to have a curriculum that demonstrates (live or digitally) every clinical technique used in swine medicine practice and clinical research trials and to provide students/participants from around the world a place to practice those techniques.

The center is uniquely equipped with numerous industry experts and leaders, a wide variety of stakeholder collaborators, the proven infrastructure of the Iowa State University College of Veterinary Medicine, readily available commercial farm access, transportation, and fully furnished student apartments available while working at the center. A wide variety of educational opportunities is available and ranges from one-on-one instruction in the field to educational videos on the Web playable from your home or office.

Background
The Association of American Veterinary Medical Colleges (AAVMC) Foresight Report suggested specialized education centers be created and operated by the appropriate competent professionals. The AAVMC report further outlined the need for the refinement and expansion of Web-based distance learning opportunities, especially in the areas of food supply veterinary medicine, public health, and biomedical research. The current number of veterinarians in these fields is inadequate to address current and future societal needs and well-being.
At the 2010 AASV meeting, the idea of initiating a national center of excellence in swine production medicine was proposed, and it was suggested that we model what had been done in beef and dairy. Meanwhile, the ISU CVM has been working to strategically position itself as the premier food supply veterinary medical education center. While many veterinary colleges are not replacing swine-focused professionals, the ISU CVM continues to grow the number of swine-focused faculty in teaching, research, and professional practice. For these reasons, the ISU CVM has seen a substantial increase in external demand by fourth-year veterinary students for swine production medicine courses. Similarly, the demand for swine production medicine education from foreign visitors has continued on a steep upward trajectory.

The faculty at the ISU CVM understands that it is necessary to provide students with experiences in the most modern and progressive swine production systems to best prepare them to work in or for these systems. The ISU CVM was uniquely positioned to have a successful and vibrant center for swine medical education and needed an industry partner to start the effort. AMVC has a strong commitment to agriculture, the pork industry, Iowa State University, and the educational process and thus immediately stepped forward as a collaborator to create the Swine Medicine Education Center.

The ISU CVM provides curriculum development and management, online course management, research on instructional strategies, accredited degree programs, and administrative structure. AMVC provides farm access, on-site student housing, classroom facilities, and an instructor. The sustainability and success of the SMEC depends on financial support from a broad range of agricultural and educational stakeholders. The center is the first in the United States dedicated to providing veterinary students and practicing veterinarians around the world with extensive hands-on experiences and education in swine health and production.

**Services Available**

Currently, instructional courses include a two-week course in swine medicine (SMEC480: Swine Production Medicine Clinical Rotation) in which students get to practice sample collection techniques and farm evaluation strategies while visiting five commercial farms to perform case investigations of a current problem. When not on farms, students participate in rounds of discussion about student case investigations, pertinent diagnostics, and other topics relevant to swine medicine (pharmacology, diagnostic strategies, equipment maintenance, etc.). A similar shorter class (SMEC401: PIGLAB) is also available in which students get to practice the diagnostic collection techniques and perform a case investigation on two farms. Both courses are offered to fourth-year veterinary students and veterinarians. Other courses (SMEC402: Introduction to Swine Population Pharmacology; SMEC100: Swine Medicine Backgrounder; etc.) are available on the Web and can be completed at any time. A full list of all currently available courses can be found online at [http://vetmed.iastate.edu/smek/courses/training-modules](http://vetmed.iastate.edu/smek/courses/training-modules).

The SMEC also has the capabilities and expertise to develop custom training modules specifically tailored to your needs. For example, the center has developed training videos for use in international production systems, trained groups of international veterinarians in the field, and has scheduled a course to host veterinarians from abroad for several weeks of experience. Training is also not limited to veterinarians, as there is a definite need for veterinary technician and layperson training. Plans are being implemented that include the SMEC as part of the veterinary technician curriculum at Northern Iowa Community College. Courses are built with structured learning modules that typically include pre-assessment, content delivery, specific case context, post-assessment, take-home tools, and feedback from each module. The assessments and feedback are vital to track the learning process and for continual evaluation and adjustments of the courses to optimize the educational experience. The center has a wide variety of training modules and content available for utilization.
Occasionally, complex or unusual problems arise in which practitioners require further information about a particular topic. The SMEC can help, as we offer a Search and Summary of Current Evidence for Practice service. The center staff has unique resources and expertise to quickly conduct extensive reviews of research literature and other sources of information to answer specific clinical questions. This information is then compiled and evaluated for relevance to the specific case or question as well as scientific soundness. The findings are then summarized and delivered in a final report.

In addition, the SMEC also can execute field research trials. The center can help evaluate certain products, production practices, or techniques that you may consider for your clients or production system. All research is overseen and evaluated by SMEC faculty. Findings are evaluated in comparison with all other published data and resources available, and a written document summarizing the findings is then delivered to the client. Please visit the SMEC Web site at http://vetmed.iastate.edu/SMEC for additional details and the latest news involving the center. If the SMEC can be of service to you or your practice, please give us a call at 515-294-3837 or feel free to contact Dr. Josh Ellingson (staff veterinarian) at jellingson@amvcms.com or Dr. Locke Karriker (SMEC director) at karriker@iastate.edu via e-mail.

**Summary**

In summary, the Swine Medicine Education Center serves as a resource to help swine veterinarians practice the highest quality medicine. The center strives to continually provide access to the latest evidence-based techniques and instruction in swine practice methodologies. These offerings allow practitioners to stay up to date with new technologies and techniques, review topics of interest, gain evidence to support diagnostic and treatment decisions, help educate clients, and practice better medicine. The center also helps to ensure that new graduates are best equipped with the knowledge and skill set necessary to enter the workplace and practice quality medicine. The SMEC also provides a venue to better educate the media and the public about the continuous quality improvements occurring in swine health assurance.

**References**
