

Portland Community College Veterinary Technology Program Program Review Evaluation 2012

Purpose of Program/Discipline Review

- Inform the college community about a program or discipline.
- Give Subject Area Committees (SACs) an opportunity to study specific topics related to the enhancement of student learning.
- Provide a forum for each SAC's findings to be communicated to Administration, during which the SAC and Administration can explore and determine ways to address the recommended improvements (including timelines and "check-in" points between reviews).
- Create written records of what is working well, what can be improved, and specific plans for implementing chosen improvements.
- Collect information that will contribute to institutional assessment and improvement.

1. Program/Discipline Overview:

The Portland Community College Veterinary Technology Program is an effective and highly visible health professional program that attracts motivated students who are successful in their chosen field of veterinary technology. Certified Veterinary Technicians are recognized to play a critical role as members of the health professional team within essentially all of the diverse areas of veterinary medicine including: small animal general practice, emergency and critical care, specialty practices such as oncology and dermatology, equine practice, zoo and wildlife animal medicine, shelter based medicine, laboratory animal medicine, and within academia itself.

The VT program has maintained **full accreditation** with the American Veterinary Medical Association's Committee for Veterinary Technician Education and Activities (AVMA-CVTEA) since 1992. The AVMA is the exclusive accrediting body for veterinary professional education, which includes college programs for Certified Veterinary Technicians and Colleges of Veterinary of Veterinary Medicine. Our most current AVMA site evaluation/self-study in the spring of 2011 reminded us of the program's rich curriculum, consistent success with students, unique assets- including direct access to hands-on learning with a diverse collection of college-owned animals, state-of the art classrooms/labs, on-campus teaching hospital, experienced faculty and broad student support services, library holdings, relations with community partners, and most importantly- its continued matriculation of motivated, professional and successful students.

Upon graduation with the A.A.S. degree in Veterinary Technology, our graduates are eligible and prepared to sit for the National Veterinary Technician Examination (NVTE). This program review will highlight a near perfect pass-rate for PCC graduates on this examination, well

above the averages set by other comparable accredited VT college programs in North America (See appendix A for examination score data).

With its history of full AVMA accreditation, access to live animals/patients, and reputation for student success, the PCC VT Program is the only one of its kind in Oregon and one of approximately 190 programs in North America. The culture of the PCC VT Program is defined by its approach to academic excellence and student support, hands-on learning, professional development, and emphasis on animal welfare. Whenever possible, veterinary technical and nursing skills are developed in a setting and under conditions that are a reflection of the manner in which graduates will use these skills. The teaching hospital environment in RC 7/127 and the professional relationships displayed between the program director, CVT, faculty, and farm coordinator provide an immediate, consistent example of effective health-care team interactions for program students. An effective Cooperative Education Program, consisting of 480 hrs. of off-campus clinical experience with diverse industry partners, further enhances the technical education and skills of our students.

As an array of live animal species are maintained on campus and used to support student learning, the college is designated a Class "R" Research Facility and under the direct supervision of the United States Department of Agriculture (USDA). All ethical animal use, preventative medicine, diagnostics and treatments are monitored by the USDA Veterinarian of Record, Dr. Brad Krohn, and is conducted in strict accordance with the Animal Welfare Act. The program has a longstanding collegial relationship with the USDA and hosts inspections at least annually, culminating in a consistent history of compliance with its regulations. Maintaining our facility in accordance with strict USDA standards is a significant and ongoing undertaking for the program veterinarian and CVT. We also directly incorporate this responsibility into student learning. Program students, via required daily animal care duties, experience hands-on training in the specialty area of veterinary medicine known as Laboratory Animal Medicine. This access to live animals and immediate immersion into the area of hands-animal care and nursing is a significant attraction to our program for prospective students. The PCC VT program can accurately be described as a unique "living laboratory" of veterinary technical training grounded in a professional and collegial cooperation among students, faculty, and staff.

In summary, full AVMA accreditation, exemplary pass rates on the NVTE, modern teaching facilities, experienced faculty, motivated students, hands-on animal care, and our reputation for student support and success has made the PCC Veterinary Technology Program an elite training ground for employable, successful Certified Veterinary Technicians.

- A. What are the educational goals or objectives of this program/discipline, and how do they compare with national or professional program/discipline trends or guidelines? Have they changed since the last review, or are they expected to change in the next five years?**

The educational goals of the PCC VT program are to matriculate students that:

- 1) Meet the college requirements for an Associate of Applied Science degree in Veterinary Technology

- 2) Qualify for the Oregon Board of Veterinary Medical Examiners certification examination, the Board is currently using the Veterinary Technician National Exam (VTNE)
- 3) Function as a competent entry-level Certified Veterinary Technicians in their chosen area of veterinary technology

These educational goals are consistent with the guidelines of our accreditor The American Veterinary Medical Association's Committee on Veterinary Technician Education and Activities (AVMA-CVTEA).

The Veterinary Technology Program currently has the status of "Full Accreditation" with its national professional accrediting body – AVMA-CVTEA. The VT program earned initial probationary accreditation in 1988, then has maintained full accreditation since 1992. Our program is reviewed every 5 years via an in-depth self-study authored by the Department Chair followed by a 3-day on-site visit by the AVMA-CVTEA. The most current evaluation was performed in the spring of 2011 and the next evaluation is scheduled for 2016. By definition, Full Accreditation means that the program has "met or exceeded all minimum requirements." Please see Appendix A for the 2011 Report of Evaluation.

Accreditation requirements of the AVMA-CVTEA do inherently change over time as the field of veterinary medicine and the professional expectations of Certified Veterinary Technicians evolve. The VT program Department Chair maintains a close, collegial relationship with the AVMA-CVTEA and is kept well informed of requirement changes via emails, memos, and personal communications. Changes in accreditation requirements are typically considered minor with no major changes expected in the upcoming 5 years.

B. What changes have been made as a result of the last program review?

We have made the addition of a second full-time faculty member and hired an additional program technician (part-time casual) to support laboratories and day-to-day operations. We have aligned with USDA requirements by procuring a new state-of-the-art kennel facility to house our program-owned dog and cat population. We have increased annual enrollment from 25 to 30 students. We have made college level Cell Biology and General Chemistry true pre-requisites for program admission. As per the recommendation of adjunct faculty, we have increased the focus on "professional development" of our students by way of increased communication of expectations and accountability in regards to academic performance, teamwork, communication, and leadership.

2. Curriculum: reflect on learning outcomes and assessment, teaching methodologies, and content in order to improve the quality of teaching, learning and student success.

- A. Addressing Course-Level Outcomes: Identify and give examples of assessment-driven changes made to improve attainment of course-level student learning outcomes. Where sequences exist, also include assessment-driven changes to those sequences. (CTE programs may address this in section 6).**

See Section 6.

B. Addressing College Core Outcomes

- i. Describe how the College Core Outcomes are addressed in courses, and/or aligned with program and/or course outcomes.
<http://www.pcc.edu/resources/academic/core-outcomes/index.html>
- ii. Please revisit the Core Outcomes Mapping Matrix for your SAC and update as appropriate. <http://www.pcc.edu/resources/academic/core-outcomes/mapping-index.html>

See Section 6.

C. Assessment of College Core Outcomes (*Note: for Career and Technical Education (CTE) programs, assessment of Core Outcomes that have been mapped into the Degree and Certificate outcomes may be addressed in that section 6B instead*). This section may refer to, include or summarize the results of annual Core Outcomes assessments carried out over the last 5 years.

- i. Describe the strategies that are used to determine how well students are meeting the College Core outcomes
- ii. Summarize the results of assessments of these outcomes (SACs may refer and /or link to the Annual Reports, but work should be summarized here.)
- iii. Identify and give examples of assessment-driven changes that have been made to improve students' attainment of the Core Outcomes.

See Section 6.

D. To what degree are courses offered in a Distance modality? Have any significant revelations, concerns or questions arisen in the area of DL delivery?

The Veterinary Technology program has one Distance Learning course, VT209 Radiation Safety. It is a graduation requirement for program students and is also open to Certified Veterinary Technicians within the community that need to acquire this certification necessary to work with diagnostic radiology (x-ray) equipment. During my attendance of the last biannual conference for National Veterinary Technician Educators, the inherent challenges of online veterinary technology curriculums were discussed and it is apparent that the online approach remains an option in only approximately 5 of 191 accredited programs.

E. Has the SAC made any curricular changes as a result of exploring/adopting educational initiatives (e.g., Service Learning, Internationalization of the Curriculum, Inquiry-Based Learning, Honors, etc.)? If so, please describe.

No.

F. Identify and explain any other significant changes that have been made to course content and/or course outcomes since the last review.

- 1) In cooperation with the advisory committee, the program has renewed its emphasis on the Large Animal related areas of the curriculum including the recruitment of faculty specializing in large animal medicine. Dr. Joseph Snyder, a diversely experienced large animal practitioner, now teaches VT121 Basic animal Science. Dr. Kellyerin Claybaugh, an experienced equine clinician, was recruited as instructor for VT209 - Large Animal/Equine Diseases and Procedures. Recent large animal acquisitions have included a well-tempered Quarter horse mare, a Jersey cow, a Llama and two Alpacas.
- 2) In cooperation with the advisory committee, we have strengthened our dentistry curriculum via addition of dentistry-related lectures and laboratories, the purchase of an industry-standard dental radiograph machine, and the recruitment of a guest CVT instructor with specialist credentials in Veterinary Dentistry. We have also added a part-time casual CVT employee to provide teaching support in dentistry laboratories.
- 3) As part of our ongoing approach to the professional development of students, we have increased the requirements and expectations for 2nd year student clinical presentations in VT203. All 2nd year students present a 20-30 minute powerpoint/multimedia presentation on a clinical topic of their choice (approved by the Department Chair), followed by audience questions. This event is now called the VT Student Seminar Series and its goal is to prepare students for the presentation of similar content at professional continuing education conferences.
- 4) Based upon its emerging presence in veterinary medicine and the special interest and training of the Department Chair, we have added principles of Aquatic Animal Medicine to the VT curriculum. Aquatic animal medicine is well known to be a significant emerging sector of modern veterinary medicine and is endorsed by our AVMA accreditor. Topics include introductory fish husbandry, diagnostics, medical treatment, radiology, and anesthesia. An introduction to aquaculture concepts has been added to the VT121 Basic Animal Science curriculum, aquatic animal anesthesiology to VT 201 Veterinary Anesthesia, and aquatic animal radiology to VT204 Veterinary Radiology.

3. Needs of students and the Community: are they changing?

A. What is the effect of student demographics on instruction, and have there been any notable changes since the last review?

Although it was not measured in the last review, the percentage of applicants and incoming students with existing degrees (A.S, B.S., M.S.) appears to be increasing. Existing degrees are a mixture of science and non-science degrees. Typically during

interviews applicants convey a unique and sincere sense of calling to the veterinary profession that was missing from previous career explorations. The typical applicant to the program appears to have a much clearer vision of the expectations and demands of the program and the profession than in previous years. We attribute this to enhanced recruitment and advising strategies that begin the process of student professional development as early as possible.

It appears that more men are seeking and gaining admission into the program as well.

B. Describe current and projected demand and enrollment pattern. Include discussion of any impact this will have on the program/discipline.

According to the 2010-2011 Bureau of Labor and Statistics report, employment opportunities for Certified Veterinary Technicians are expected to grow much faster than average, and overall the job opportunities should be excellent:

“Veterinary technologists and technicians held about 79,600 jobs in 2008. About 91 percent worked in veterinary services. The remainder worked in boarding kennels, animal shelters, rescue leagues, and zoos.

Excellent job opportunities will stem from the need to replace veterinary technologists and technicians who leave the occupation and from the limited output of qualified veterinary technicians from 2-year programs, which are not expected to meet the demand over the 2008-18 period. Employment is expected to grow much faster than average.

Employment of veterinary technologists and technicians is expected to grow 36 percent over the 2008-18 projection period, which is much faster than the average for all occupations. Pet owners are becoming more affluent and more willing to pay for advanced veterinary care because many of them consider their pet to be part of the family. This growing affluence and view of pets will continue to increase the demand for veterinary care. The vast majority of veterinary technicians work at private clinical practices under veterinarians. As the number of veterinarians grows to meet the demand for veterinary care, so will the number of veterinary technicians needed to assist them.

The number of pet owners who take advantage of veterinary services for their pets is expected to grow over the projection period, increasing employment opportunities. The availability of advanced veterinary services, such as preventive dental care and surgical procedures, also will provide opportunities for workers specializing in those areas as they will be needed to assist licensed veterinarians. The growing number of cats kept as companion pets is expected to boost the demand for feline medicine and services. Further demand for these workers will stem from the desire to replace veterinary assistants with more highly skilled technicians in animal clinics and hospitals, shelters, boarding kennels, animal control facilities, and humane societies.

Continued support for public health, food and animal safety, and national disease control programs, as well as biomedical research on human health problems, also will contribute to the demand for veterinary technologists, although the number of positions in these areas is fewer than in private practice

Excellent job opportunities are expected because of the relatively few veterinary technology graduates each year. The number of 2-year programs has recently grown to about 160, but due to small class sizes, fewer than 3,800 graduates are anticipated each year, a number that is not expected to meet demand. Additionally, many veterinary technicians remain in the field less than 10

years, so the need to replace workers who leave the occupation each year also will produce many job opportunities.

Veterinary technologists also will enjoy excellent job opportunities for research careers in a variety of settings, including biomedical facilities, diagnostic laboratories, wildlife facilities, drug and food manufacturing companies, and food safety inspection facilities.

Despite the relatively few number of graduates each year, keen competition is expected for veterinary technician jobs in zoos and aquariums, due to expected slow growth in facility capacity, low turnover among workers, the limited number of positions, and the fact that the work in zoos and aquariums attracts many candidates.

Employment of veterinary technicians and technologists is relatively stable during periods of economic recession. Layoffs are less likely to occur among veterinary technologists and technicians than in some other occupations because animals will continue to require medical care.”

The Veterinary Technology program has a closed admissions policy with an effective application/interview process for selecting successful students. We currently receive approximately 70 completed applications per year for the 30 seats in each year's incoming class. This number of applicants has been consistent over the past 10 years. Of the 70 applicants, it is rare that more than 30-35 submit a strong application and/or appear knowledgeable and motivated during the interview process.

The Oregon State laws regarding veterinary technology certification are changing. In Beginning January 1st, 2013 veterinary assistants will no longer be able to sit for the National Veterinary Technicians Examination based upon documentation of 4 years of work experience alone. Only graduates of AVMA accredited programs will be able eligible for licensure. This change represents the widening gap between formally trained and educated CVTs and veterinary assistants, and is evidence of the AVMA's significant support and oversight of CVT education and the profession of Veterinary Technology. Those within the veterinary profession view this positively. The PCC Veterinary Technology program may see an increase in applicants following the dissolution of the alternate path to certification. Approximately 50-80 veterinary assistants have sat for the NVTE annually over the past 5 years in Oregon and Washington. The pass-rate for these candidates ranges from 30-45% annually, which is significantly lower than the averages for graduates of accredited training programs.

Conversations among the SAC, Advisory Committee, and AVMA point to the shortage of CVTS being primarily due CVTs not staying in the field, presumably due to dissatisfaction with salaries. Once this is identified, the goal becomes to create strategies to maintain CVTs employed in the profession. The SAC is hesitant regarding significant expansion of program enrollment, as the quality of applicants seems to decrease considerably after the top 30-35 each year.

C. What strategies are used within the program/discipline to facilitate access and diversity?

All program inquiries get direct responses from either the Program Department Chair, Program Technician, or other faculty. The program actively participates in college-

day activities for high school students and gets excellent feedback from high school students that preview the vet tech program during these events. The Department Chair hosts detailed Prospective Student Information Sessions once monthly to thoroughly advise all potential applicants. For the past 4 years, the program Department Chair has also hosted an annual lecture and tour of the VT program facilities for students and faculty from Japan's World Pet College.

See Appendix for Institutional Research Data regarding diversity within the VT program.

D. Has feedback from students, community groups, transfer institutions, business, industry or government been used to make curriculum or instructional changes (not been addressed elsewhere in this document)? If so, describe.

Please see other areas of report detailing the program's close involvement with its Advisory Committee in regards to identifying areas of curriculum enhancement and strategies for doing so.

Student evaluations of instructors and courses are performed according to college policy. Decisions made on changes are based upon student input as well as instructor input and concerns.

Upon recently taking on the teaching responsibility for VT103 - Animal Nursing and Restraint, program CVT Dolores Galindo made immediate improvements to the course curriculum delivery in direct response to student recommendations solicited via a survey.

4. Faculty: reflect on the composition, qualifications and development of the faculty

A. Provide information on

i. Quantity and quality of the faculty needed to meet the needs of the program/discipline.

The quantity of VT program faculty is sufficient. The Veterinary Technology Program faculty is composed of 2 full-time Doctors of Veterinary Medicine (DVMs), 6 part-time DVMs, and 1 Certified Veterinary Technician with an A.A.S. degree in veterinary technology. Veterinary medicine is an extremely diverse field and each faculty member has a special interest and expertise in the subjects that they teach. All faculty members openly display a sincere passion for teaching and student success, consistent with their respect for the profession of veterinary medicine. Instructors earn excellent reviews from students in regards to their knowledge base, teaching style, approachability, organizational skills, etc.

See Sections C. and E. for further descriptions of faculty strengths.

Our 2011 AVMA-CVTEA accreditation report highlighted an "enthusiastic and diverse program faculty who are very concerned for student success".

Accreditation reports from the AVMA-CVTEA have suggested that the program increase the number of CVTS in the faculty rank and add an additional CVT as a classified support technician.

ii. Extent of faculty turnover and changes anticipated for the future.

The VT program has traditionally relied heavily upon part-time faculty and has been fortunate to have little turnover. It is true, however, that not all good veterinarians make good teachers and the program department chair and division dean have made minimal changes in faculty personnel when necessary. In past self-studies, it has been documented that the recruitment of part-time faculty that meet the high expectations of the program has been challenging. The addition of a second full-time faculty member with a broad knowledge base in veterinary medicine has lessened this burden. This faculty member would be available to fill very specialized teaching assignments left vacant if any long-time part-time faculty were to resign or otherwise leave.

Our AVMA-CVTEA accreditor has documented that they would like to see more CVTs in faculty/staff positions within our program. The Department Chair has identified this need to the Division Dean and work is being done to prioritize the addition of a second full-time or part-time CVT as a classified laboratory support technician.

iii. Extent of the reliance upon adjunct faculty and how they compare with full-time faculty in terms of educational and experiential backgrounds.

As mentioned above, the program has relied heavily upon adjunct faculty. The educational and experiential backgrounds of the adjunct faculty have been comparable to that of full-time faculty as all are Doctors of Veterinary Medicine with diverse and broad knowledge bases. VT program courses are typically highly specialized in nature and faculty with expertise within a given subject area are recruited by the Department Chair. The current VT program faculty is extremely effective in contributing to student success.

iv. How the faculty composition reflects the diversity and cultural competency goals of the institution.

The VT program faculty is male/female, multi-racial, and has age diversity. The recent job search for a full-time faculty position placed the appropriate priority on the diversity and cultural competency goals of the college.

B. Report any changes the SAC has made to instructor qualifications and the reason for the changes. <http://www.pcc.edu/resources/academic/instructor-qualifications.pdf>

No significant changes made.

C. How have professional development activities of the faculty contributed to the strength of the program? If such activities have resulted in instructional or curricular changes, please describe.

Dr. Krohn: Dr. Krohn's special interests in veterinary medicine include Aquatic Animal Medicine, Zoonotic Disease, Promoting the Human-Animal Bond, and Client Relations. Through Dr. Krohn's unique background in diverse areas of veterinary medicine and ongoing professional development, the program curriculum has seen the addition of aquaculture and aquatic medicine concepts (including fish examination, diagnostic procedures, anesthesia, and radiography). His broad interest in the welfare of all species has impacted the culture of the program and motivated students to pursue unique paths within their profession. Dr. Krohn is an alumni of the Aquavet® program held at the National Marine Biological Laboratory in Woods Hole, Ma. He attends Laboratory Animal Medicine regulatory conferences hosted by the Northwest Association of Biomedical Research and The International Conference on Environmental Enrichment, both of which have immediate impacts on animal welfare on campus. Dr. Krohn also attends the biannual National Veterinary Technician Educators Symposium to meet with other veterinary technology program directors and the American Veterinary Medical Association. In the summer months, Dr. Krohn sees aquatic patients through his private practice Aquatic Veterinary Services of Oregon.

Dolores Galindo CVT: Dolores Galindo's limitless commitment and sincere enthusiasm for her profession and student success is displayed every day in the VT program. Dolores consistently attends local Continuing Education seminars on diverse topics relating to small animal veterinary medicine. She routinely exceeds the state requirement for continued education to maintain her CVT licensure (15 hrs. every 2 years). She also maintains weekend and summer employment as a CVT at Sunnyside Veterinary Hospital, allowing her to keep her clinical skills honed. Dolores is also the Chair of the Oregon State Veterinary Board and is a valuable source of information relating to changes in the Veterinary Practice Act. As laws regarding the duties of veterinary technicians change, our curriculum responds appropriately (example: CVTs are now allowed to perform basic dental extractions and this technique is highlighted in the curriculum).

Dr. Tom Chatkupt: Laboratory Animal Medicine-related conferences. Also completes all required Continuing Education requirements to retain veterinary licensure with the Board of Veterinary Medical Examiners (30 hrs. every 2 years).

Brian Tate CVT: Completes all required Continuing Education requirements to retain veterinary licensure with the board of Board of Veterinary Medical Examiners (30 hrs. every 2 years).

Dr. Bruce Hopman: Completes all required Continuing Education requirements to retain veterinary licensure with the Board of Veterinary Medical Examiners (30 hrs. every 2 years). (30 hrs. every 2 years).

Dr. Joseph Snyder: Completes all required Continuing Education requirements to retain veterinary licensure with the board of Board of Veterinary Medical Examiners (30 hrs. every 2 years). (30 hrs. every 2 years).

Dr. Kellyerin Claybaugh: Completes all required Continuing Education requirements to retain veterinary licensure with the board of Board of Veterinary Medical Examiners (30 hrs. every 2 years).

Dr. Randal Haveman: Completes all required Continuing Education requirements to retain veterinary licensure with the board of Board of Veterinary Medical Examiners (30 hrs. every 2 years).

Dr. Christina Tran: Completes all required Continuing Education requirements to retain veterinary licensure with the board of Board of Veterinary Medical Examiners (30 hrs. every 2 years).

5. Facilities and Support

A. Describe how classroom space, computers/technology and library/media, laboratory space and equipment impact student success.

See Appendix for a detailed description of VT classrooms, laboratories, animal holding areas, farm assets, and offices.

See Appendix for a detailed description of program equipment, including all AVMA-CVTEA required equipment.

See comments below in 5.B. regarding student/library relationship.

B. Describe how students are using the library or other outside-the-classroom information resources.

The Rock Creek Campus Library and its large volume of veterinary-related holdings represent an incredibly diverse resource for program students and faculty. The program Department Chair annually for changes and updates needed reviews the collection. During our recent AVMA-CVTEA site evaluation, the RC campus library was described as one the best libraries attached to a veterinary technology program in the nation. This library assessment was not based only on the remarkable veterinary-related holdings, but on the availability and enthusiasm of the highly trained professional library staff as well.

The Rock Creek Campus library is located on the second floor of Building 9, approximately 50 yards east of Building 7, which is home to the Veterinary Technology classrooms and offices. It is the primary library directly serving students in the Veterinary Technology program. There are, however, two other comprehensive libraries in the Portland Community College district with additional, supplementary materials related to topics in the program. The Rock Creek library has 656 books related to veterinary medicine and/or veterinary technology areas. Three print periodicals relating to veterinary technology are retained: the library currently has subscriptions to print copies of Journal of the American Veterinary Association; Veterinary Technician; and All Animals. Electronic periodicals include 113 periodical titles with full text available (some only backfiles) from various databases. This result is from a search with the truncated word **vet*** (and removing

matches on “veteran”) done on the library linker:

http://xs4py7qu3f.search.serialssolutions.com/?V=1.0&L=XS4PY7QU3F&N=100&S=T_AZ&C=A

There are 8 total science-related databases: Agricola, Agriculture collection, Biology Journals, Biosis, Ebsco Animals, ECO: Electronic Collections, JSTOR, Science Direct. The library subscribes to a total of 109 databases and electronic reference sources. In the main veterinary technology classroom (Building 7/Room 127), students can request access the AVMA’s NOAH and the Veterinary Information Network (VIN) via the program director’s password.

There are 80 total computer workstations with seating (48 workstations, 32 computers in library classroom, 3 library-dedicated kiosks, without seating). In addition, students have ready access to Veterinary materials from colleges and universities throughout the Pacific Northwest, through the SUMMIT consortium. They may initiate their own borrowing from consortia member libraries, as well as further afield interlibrary loans.

Class assignments in numerous program courses encourage library use. Students are introduced to the campus librarians and their services during the VT Student Orientation held the week prior to beginning the program. During lectures, the Department Chair, Dr. Krohn, routinely refers students to particular and unique books from the library’s collection. In VT203 Veterinary Procedures Seminar, 2nd year program students use library resources significantly in creating a term paper and 25 minute audio-visual presentation of a clinical case or subject of special interest in veterinary technology. In recent years, the expectations and quality of this term paper/ presentation assignment has increased. Students are expected to present their subject in a professional manner consistent with speaking to other professionals at a veterinary CE conference, etc. An award is presented at Graduation for Outstanding Student Presentation and is much valued within the culture of the program.

Further Services available to Vet Tech students: Chat reference during open hours, reference e-mail with 24/hour turn-around during business hours, library faculty contact for research assistance, collection development, information literacy instruction (Class pages available on library website <http://www.pcc.edu/library/>)

VT program students are encouraged to join a professional website/database called VSPN. VSPN is a partner of the Veterinary Information Network (VIN), which is the industry standard for online access to the most current journal articles, conference proceedings, and direct access to boarded specialists in veterinary medicine for real-time case discussions. VSPN.

VT program students also acquire significant information immediately relative to their profession while attending their Cooperative Education clinical assignments. There are 3 cooperative education assignments per student and 160 hrs. of work time is completed at each. Students directly see how veterinary medicine and veterinary technology are practiced in day-to day settings, and learn the importance of teamwork and professionalism in these endeavors.

Comment from Dolores Galindo CVT: "I place items on reserve so that students must go to the library."

C. Provide information on clerical, technical, administrative and/or tutoring support.

The program benefits from having access to three administrative assistants within the Division of Science and Technology. The division's programs are divided among the three and Susan Lispki is the Administrative Assistant attached to the VT program. Susan has become very familiar with the program and is considered a valuable member of our team. Administrative Support is more than adequate for the program.

Increased technical support is needed and student learning/patient safety would be enhanced by the addition of a second program technician (CVT), preferably full-time. (elabo

The Science and Technology Division Dean, Dean of Instruction, and Campus and District President have all been supportive and genuinely interested in the needs and accomplishments of the Veterinary Technology Program. These members of the administration were available and participated in the 2011 AVMA-CVTEA accreditation site visit. The prior campus president was instrumental in the acquisition of the much-needed update to our on-campus kennel facilities.

PCC and the Veterinary Technology Program provide excellent student support services as well academic and personal counseling. All program faculty and staff are active mentors and professional role models for students. Faculty is accessible during scheduled office hours for academic and professional/personal counseling. A Learning Skills Specialist is also attached to the VT program; this person is very committed and successful in helping program students succeed academically. Individual and group study skills sessions are held and the Learning Skills Specialist also audits VT program courses to gain insight into the student perspective/experience. The Rock Creek Campus Student Learning center also offers a regularly scheduled Workshop Series designed to support students in maximizing their learning skills. At the institutional level, PCC provides diverse student support services on campus including academic advising, personal counseling, financial aid, emergency financial assistance, job placement services, cooperative education programs, the Women's Resource Center, Multicultural Center, and a host of other services.

D. Provide information on how Advising, the Office for Students with Disabilities and other student services impact students

PCC RC general advising staff have attended the Department Chair's Prospective Student Information Sessions to better understand the program and its admission requirements. The VT program has worked closely with the Office for Students with Disabilities on several occasions to provide all necessary accommodations for its students. The program has also used campus counseling services to support students in their professional development, typically in regards to interpersonal communication and professional relationships with other program students.

A significant contributor to VT student success has been the cooperation between the VT program and Learning Skills Specialist Jessie Levine. Jessie has a sincere interest in the academic success of program students and has audited the program's most challenging courses in effort to better understand the academic challenges students face. Her study sessions for VT105 – Veterinary Anatomy and Physiology have significantly impacted student success.

E. Describe current patterns of scheduling (such as class size, duration, times, location, or other) address the pedagogy of the program/discipline and the needs of students.

We have increased class size to 30 per annum since 2005, otherwise has been status quo.

6. For Career and Technical Education (CTE) Programs only : to ensure that the curriculum keeps pace with changing employer needs and continues to successfully prepare students to enter a career field.

A. Evaluate the impact of the Advisory Committee on curriculum and instructional content methods, and/or outcomes.

AVMA-CVTEA accreditation standards require that:

“The program must have an advisory committee that meets at least annually to provide counsel regarding equipment, curriculum, demographic trends and other matters pertaining to the veterinary technology profession. Membership must include veterinarians and veterinary technicians with diverse professional interests, and should include veterinary technician students, industry representatives, and public members.”

The Veterinary Technology Program's relationship to its Advisory Committee is strong. We have a consistently active committee membership comprised of industry leaders, veterinarians and CVTs from diverse areas of the veterinary profession. The president of the student Vet Tech Club is an ex-officio member of the Advisory Committee. The committee is also adding another veterinarian member that is a boarded specialist in laboratory animal medicine. The committee played a key role in our recent AVMA-CVTEA site visit, and received a very positive review from our accreditor.

The advisory committee reviewed all Course Content and Outcome Guides (CCOGs) prior to the last Program Review in 2004 and the program Department Chair has referred to evolving AVMA-CVTEA standards of accreditation and Advisory Committee input to remain current. In the past, nearly all suggestions made by the advisory committee on course content were incorporated into the CCOGs. Advisory committee meetings are held 3 times per year during the fall, winter, and spring academic terms. Dr. Krohn provides the committee routine updates regarding students and curriculum via powerpoint presentations (recent presentation topics included summaries of the Large Animal Curriculum Improvements and updated strategies/equipment for teaching Small Animal Dentistry). The Advisory Committee has worked in a cooperative team approach with the program to directly improve the Dentistry curriculum via shared discussions and in the recruiting of

an industry partner employee, a CVT with specialty credentials in veterinary dentistry, to visit annually as a guest lecturer of small animal dentistry. The VT program and Advisory Committees' effort to identify the need for improvement, and implementation of the necessary changes, has led directly to improved scores in Dentistry on the NVTE exam.

The committee has been very supportive and is considered to be a strength of the program. Several members represent veterinary facilities that participate in our Cooperative Education Program. Committee members also employ our graduates so are very familiar with the competencies of our graduates. Special subcommittees may be formed when necessary to accomplish specific goals.

Advisory committee members have provided contacts to procure guest lecturers in specific areas of veterinary technology such as the specialty of veterinary dentistry. Recently, advisory committee members representing a key local industry partner (Dove Lewis Emergency Animal Hospital) participated in the VT Program's booth at the PCC 50th Anniversary event in Pioneer Square. Advisory committee members representing local industry partners also participated in a well-developed community partnership DVD project.

B. Degree and Certificate Outcomes [From the 2010 Interim Accreditation report: the college must show *“progress in demonstrating, through regular and systematic assessment, that students who complete their programs have achieved the intended learning outcomes of degrees and certificates.*]

This section may refer to, include or summarize the results of annual assessments carried out over the last 5 years.

i. List your degree and certificate student learning outcomes, and identify the strategies that are in place to assess them

The learning outcomes of the A.A.S. degree in Veterinary Technology, in addition to meeting the requirements for AVMA-CVTEA accreditation, should also reflect the core outcomes for the college. Listed below are the desired Learning Outcomes of the Veterinary Technology Program. Also listed in italics is which core outcome is fulfilled by the learning outcomes of the program.

1. Graduates should be able to pass the National Veterinary Technician Board Examination. (*Professional Competence, Critical Thinking & Problem Solving*)

The best evidence and measure that students are meeting the program's outcomes in terms of professional competence is the commendable scores on the Veterinary Technician National Examination (VTNE). We measure professional competence based on the program outcome listed above as #1: *Graduates should be able to pass the National Veterinary Technician Board Examination. (Professional Competence, Critical Thinking & Problem Solving).* Annually the Program's Department Chair receives a report from the Professional Examination Service in New York, NY, the administrators of the VTNE. Each state and province in Canada utilizes this examination as a measure of a graduate's knowledge to be a licensed, registered, or certified veterinary technician (depending on the state or province's

veterinary technician licensing nomenclature). In 1992, the Oregon Board of Veterinary Medical Examiners started using the VTNE as their standard test to determine eligibility to become a certified veterinary technician in the state of Oregon. Prior to this, the Oregon Board made up its own exam. In 1998, the testing service's report started listing data comparing the average scores PCC graduates received with the average scores of graduates of other programs. This enables us to perform comparative analyses with the data obtained.

See Appendix for detailed analysis of graduate performance on the VTNE.

- 2. Graduates should be able to function as competent veterinary technicians in their chosen area of veterinary medicine, whether it is veterinary practice, research, laboratory, or industry. They should be able to think, calculate, and make the decisions allowed them by the Veterinary Practice Act of the state in which they are employed. (*Communication, Critical Thinking & Problem Solving, Professional Competence*)**

Again, this outcome is best assessed via graduate performance on the NVTE which is used by the veterinary industry to ensure that a graduate has the skills and knowledge base required of an entry-level Certified Veterinary Technician in all areas of veterinary practice.

See Appendix for detailed analysis of graduate performance on the VTNE.

- 3. Graduates should be able to work as effective members of the animal health care team in their chosen area of veterinary medicine. This involves the ability to communicate effectively (written and orally), work together with other individuals, and be reliable and responsible. They should recognize that the individuals they interact with on a daily basis, whether it is a co-worker, employer, or pet owner, has uniquely individual needs and behaviors based on their backgrounds and perspectives on life. (*Communication, Critical Thinking & Problem Solving, Cultural Awareness, Self-Reflection*)**

As mentioned above, the PCC VT program can accurately be described as a unique "living laboratory" of veterinary technical training grounded in a professional and collegial cooperation among students, faculty, and staff. Program students are consistently evaluated by faculty and staff in their ability to complete on-campus animal care duties while working in a cooperative, team approach. Student's written entries into patient medical records represent legal documents and are continually reviewed by the program veterinarian. Students must also routinely submit formal written and oral reports to the program CVT in regards to completion of all assigned animal care duties.

4. **Graduates should have an awareness of their responsibility as part of the animal health care industry in the prevention of disease in both humans and animals, as advocates for animals and their health, and in the education of the public on animal health care issues. (*Community and Environmental Responsibility, Cultural Awareness, Self-Reflection*)**

This outcome is more difficult to assess. PCC graduates are taught these concepts in their course work. An entire course is devoted to this issue, VT 207 - Public Health & Sanitation. All graduates would have passed this course and therefore understand the needs of the community in preventing animal diseases, and especially those with that are zoonotic in nature.

5. **Graduates should understand that they are life-long learners, and continuing education is fundamental to their ability to keep up with the advances in veterinary medicine and related technologies. (*Communication, Critical Thinking & Problem Solving, Professional Competence, Self-Reflection*)**

The Oregon Board of Veterinary Medical Examiners requires that 15 hours of Continuing Education be completed and documented every 2 years in order for CVTs to maintain licensure.

- ii. **Summarize the results of the assessments of these outcomes.**

An ongoing annual analysis of VTNE exam pass rates and scores on individual sub-sections of the exam is performed by the program Department Chair. During the 2011 accreditation site visit, our AVMA accreditor identified our program's strength in its "commendable pass rates on the VTNE." Assessing data as far back as 15 years shows that the pass rate for our first time test takers (new PCC VT program graduates) is well above the average of other comparable accredited VT College programs. The few graduates that do not pass on the first attempt have a 100% pass rate as repeat test takers. This percentage is dramatically higher than the North American average for repeat test takers (which is actually lower than the 50-60% average for first time test takers).

Scores on the individual sub-sections of the exam are also assessed and our graduates' performance has remained significantly above the North American average scores for nearly all categories over the past 15 years. A transient decline in PCC graduate scores in the subject of dentistry was recently identified. The dentistry curriculum was reviewed by the SAC and Advisory Committee and timely curriculum improvements were made including acquisition of new equipment (industry-standard veterinary dental x-ray machine, equine dental float), improved lectures and laboratories, guest speakers specializing in veterinary dentistry, and increased technical support in laboratories. This has resulted in an improved score on the VTNE in 2011.

See Appendix for detailed analysis of graduate performance on the VTNE.

Feedback from Advisory Committee members who employ our graduates has also been consistently positive in confirming these outcomes.

iii. Identify and give examples of assessment-driven changes that have been made to improve students' attainment of degree and certificate outcomes.

As scores on the VTNE and its sub-sections are generally so strong, the program has the ability to engage feedback from the Advisory Committee, AVMA-CVTEA, and program SAC to largely guide improvements to the curriculum. If a weakness, as evidenced by a drop in score on a portion of the VTNE is detected, it is addressed immediately. As an example, discussions were held within the Advisory Committee summarizing the large role that CVTs play in veterinary dentistry and the significance of veterinary dentistry as a part of modern small animal practice. Improvements were created and implemented into the VT curriculum including enhanced lecture time devoted to veterinary dentistry, and increased laboratory time committed to teaching dental technical dental skills, including a guest CVT lecturer with specialty credentials. New related equipment was acquired including an industry standard dental radiograph machine for small animals, and access to a power dental floating instrument for common equine dental procedures. We also added a part-time casual CVT employee with clinical experience in small animal dentistry to provide additional instructional support during dentistry laboratories. These changes led to improved VTNE scores in Dentistry in 2011 that once again surpassed the national average.

Upon taking on the teaching responsibility for VT103, CVT Dolores Galindo made immediate improvements to the course curriculum delivery in direct response to student recommendations solicited via a survey.

C. Review job placement data for students over the last five years, including salary information where available. Forecast future employment opportunities for students.

See Appendix for Graduate Employment Surveys. Also see Appendix for Bureau of Labor and Statistics report. The program needs to prioritize the distribution of annual graduate and employer surveys. We have been relying upon consistent positive feedback from our diverse advisory committee and Dolores' position on the State Veterinary Examining Board and the direct communication and positive feedback it provides from regional veterinary professionals regarding our graduates. Also many graduates are in continued communication with the program as they are employed as CVTs in industry partner hospitals and serve as mentors for current students at these Cooperative Education sites.

D. Analyze any barriers to degree or certificate completion that your students face, and consider the reason that students may leave before completion.

Barriers to degree completion that are tracked are academic and non-academic.

The PCC Veterinary Technology program has had a consistently low attrition rate over the past 5 years. Within an incoming student class of 30 new students per year, the

program typically loses approximately 1 student during the first academic term due to academic failure. This occurs in the challenging VT105 Veterinary Anatomy and Physiology course that serves as the foundation of the medical knowledge base for veterinary health professionals. The class may lose on average 1-2 other students to unexpected personal reasons that prevent them from being able to commit the time needed to be a full-time student. The class of 2012 currently has 29 students expected to graduate, and the class of 2013 has 27 students expected to graduate. This is considered to be an exceptionally low attrition rate per our AVMA accreditors who have quoted 30-35% average annual attrition rates for all accredited North American programs. Factors contributing to this increase in student retention and success include:

- 1) Chair-driven changes in student recruitment via implementation of Prospective Student Information Sessions (PSIS) that increased efficiency of pre-enrollment advising and set clear tone for academic and professional development expectations of all program students. These sessions are held monthly and hosted by the program Department Chair.
- 2) A well-organized new VT student orientation seminar is held the week before the fall term starts for incoming students. The program considers the “3rd step” in setting clear expectations of the academic rigor of the program and the time commitment necessary for student success. This message is consistently conveyed earlier in Prospective Student Information Sessions and during the admissions interview.
- 3) High-level involvement of the Student Learning Specialist Jessie Levine has also increased student success. Her regularly scheduled Anatomy and Physiology review sessions have helped decrease the incidence of sub-“C” grades in the challenging first term course VT105 Veterinary Anatomy and Physiology. Ms. Levine audits the course annually in effort to gain a “student-view” of the challenges of this important course.
- 4) An improvement in required program science pre-requisites including Chemistry 100 and Biology 112 (Cell Biology for Health Professionals). These courses appear successful in better preparing incoming students for the rigorous VT Program science curriculum. Satisfactory completion of these courses is considered an effective predictor of academic success by the admissions committee.
- 5) A strengthening of the membership of the Admissions Committee, chaired by the program Department Chair, to include key faculty (Diana Corwin DVM, PhD-Instructor of VT 105/106 Veterinary Anatomy and Physiology, and Brian Tate CVT).

E. Describe and explain any additional changes (not already addressed above) that have been made to the program since the last program review.

1) The addition of a second program CVT, Brian Tate, as a part-time casual employee has improved the student/faculty/staff ratio directly leading to improved student learning and patient safety during highly technical laboratories requiring general anesthesia and surgery.

2) In 2010 we purchased "CPR Jerry", a high-tech canine CPR simulator mannequin that has improved the delivery of Emergency Medicine/CPR curriculum.

3) The completion of a new Kennel Facility (2008) for housing of program-owned dogs and cats has led to improved quality of life and an increased focus on diverse methods of daily animal enrichment. The maintenance demands of new kennel facility has also resulted in a highly organized student involvement with daily animal care duties. These daily husbandry and nursing student duties are coordinated by program CVT Dolores Galindo and reflect the day-to-day duties of a practicing CVT. A state-of-the-art dog bathing station was purchased that includes a non-slip walk-up ramp for safely loading/unloading dogs into the bath.

4) The creation of a ring pen on the campus farm and associated bleacher seating for students, which provides a proper and safe environment for the teaching of basic horsemanship and for the environmental enrichment of program horses.

5) An improvement in the quality and content of the incoming VT Student Orientation Session: This 2 day event introduces new students to campus resources for success and sets a clear tone for the expectations in regards to academic success and professional development.

6) For the past 3 years the VT program has hosted an annual summer lecture and facility tour for visiting students and faculty from Japan's World Pet College. The lecture is delivered by Program Chair Dr. Brad Krohn and introduces Japanese students and faculty to the structure of the veterinary technology profession and education process in the United States.

7) Purchased Surgivet® monitors now provide enhanced safety for patients under general anesthesia in laboratories.

8) An industry-donated ultrasound machine has enhanced the VT204 Veterinary Radiography curriculum.

9) An industry-donated rigid fiberoptic endoscope has enhanced the VT201 Surgical Nursing curriculum and improved animal care by facilitating thorough evaluation of the external ear canal.

10) In 2010 the program purchased an industry-standard Tonopen® tonometry device for assessing intraocular pressure in veterinary patients. This equipment has directly improved nursing instruction and our level of animal care.

11) In 2011 the program purchased specialized anesthetic machine safety pop-off valves, which prevent build-up of pressure in the machine system and enhance patient safety under general anesthesia laboratories.

12) Acquisition of various donated fish species including *Astronotus ocellatus* (Oscar fish), *Hypostomus plecostomus* (Plecostomus fish), and *Cyprinus carpio* (Koi) and husbandry supplies to enhance delivery of aquatic medicine curriculum. The VT program Department Chair, Dr. Brad Krohn, has taken on health maintenance responsibilities for the RC campus Koi pond and incorporated preventative medicine, diagnostics, and treatment of college-owned Koi into the VT curriculum.

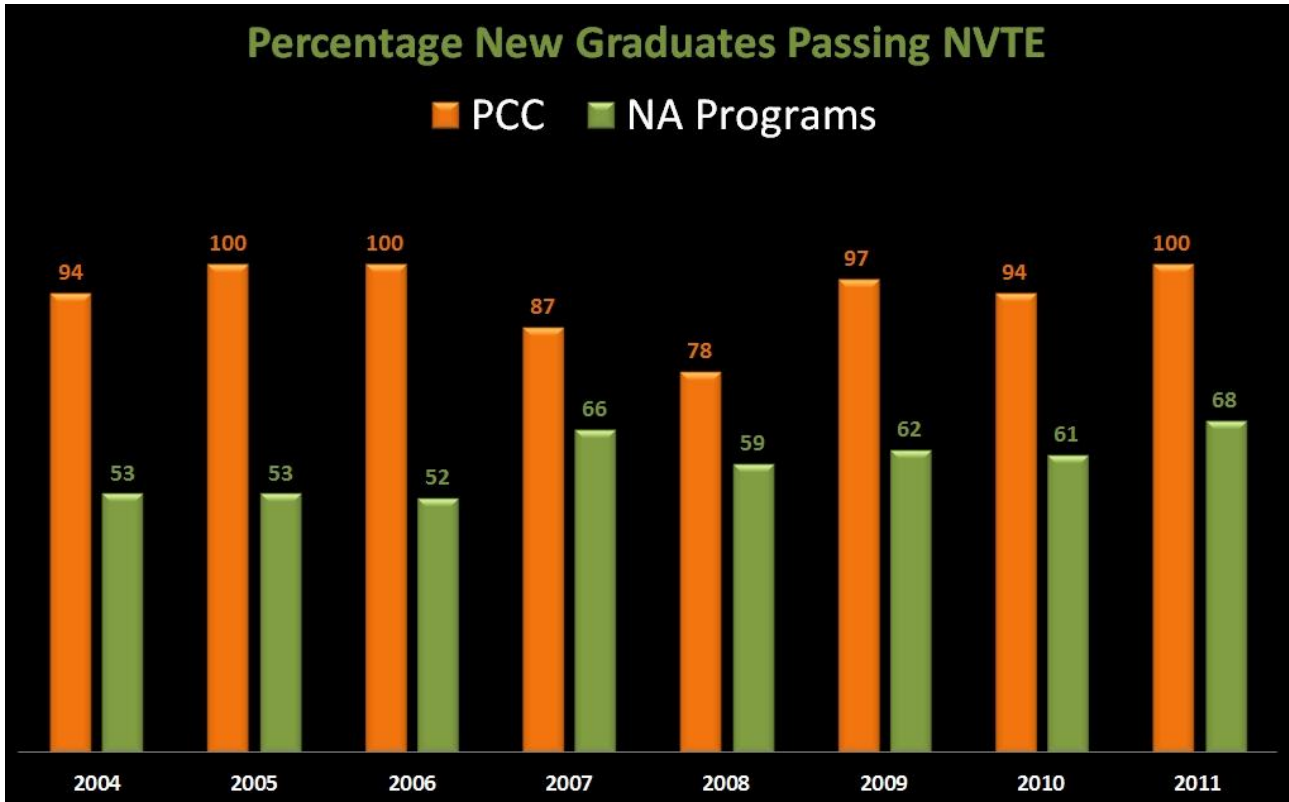
7. Recommendations

A. Identify recommendations related to teaching and learning based on assessment of student learning outcomes (course, degree, certificate and/or College Core Outcomes)

Considering our graduates exemplary results of the VTNE, including results in subsections of the exam that reflect major areas of program course content, no significant changes in curriculum are recommended at this time. Assessing this area for ongoing recommendations and improvements will continue to be a primary priority of the program Department Chair, SAC, and Advisory Committee.

B. Identify recommendations relevant to areas such as maintaining a current curriculum, professional development, access and success for students, obtaining needed resources, and being responsive to community needs. (For recommendations that require additional funding, please identify those that are of greatest importance to the SAC)

- 1) Hire a second full or half-time CVT support technician.
- 2) Increase funding for continuing education of fulltime faculty.
- 3) Continue current emphasis on preparing students to be successful in all of the diverse areas of the veterinary profession open to CVTs (i.e. giving due emphasis to non-traditional and emerging areas of veterinary practice).
- 4) Build Cooperative Education Partnership with the Oregon Zoo veterinary staff to benefit program students interested in pursuing careers in zoo animal medicine.

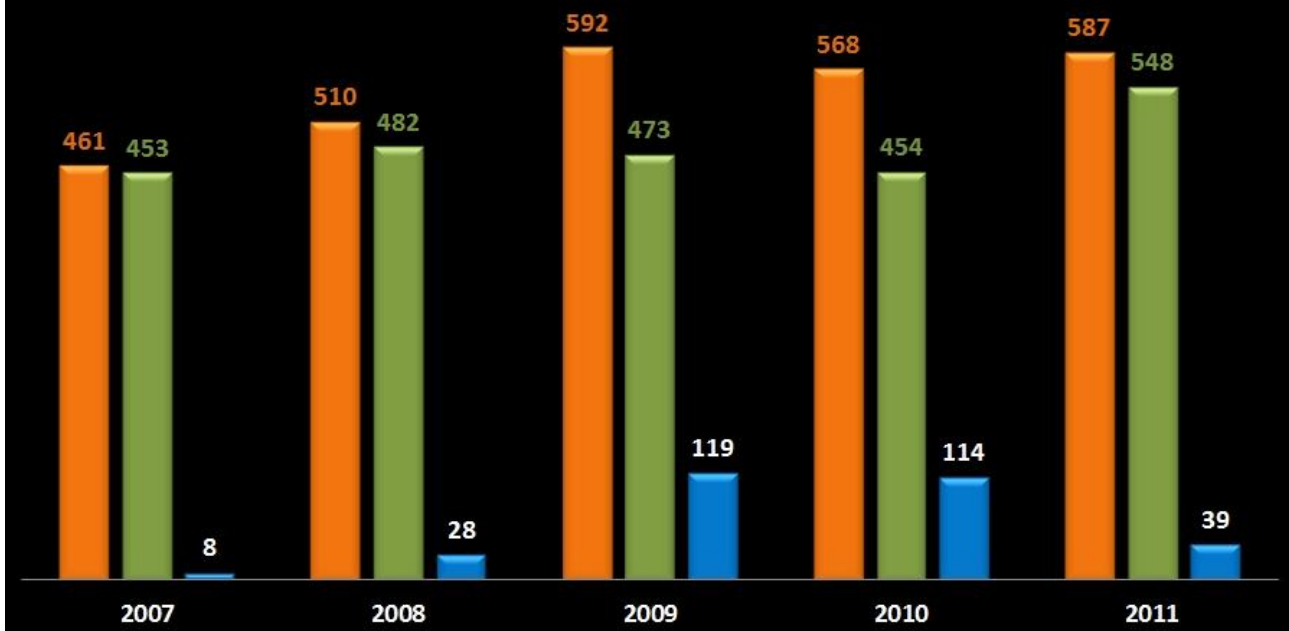


Note: This graph represents the success of first time test takers only. PCC repeat test takers have 100% pass rate, while the North American average for repeat test takers is significantly lower than its avg. for first time takers.

*NA=North American

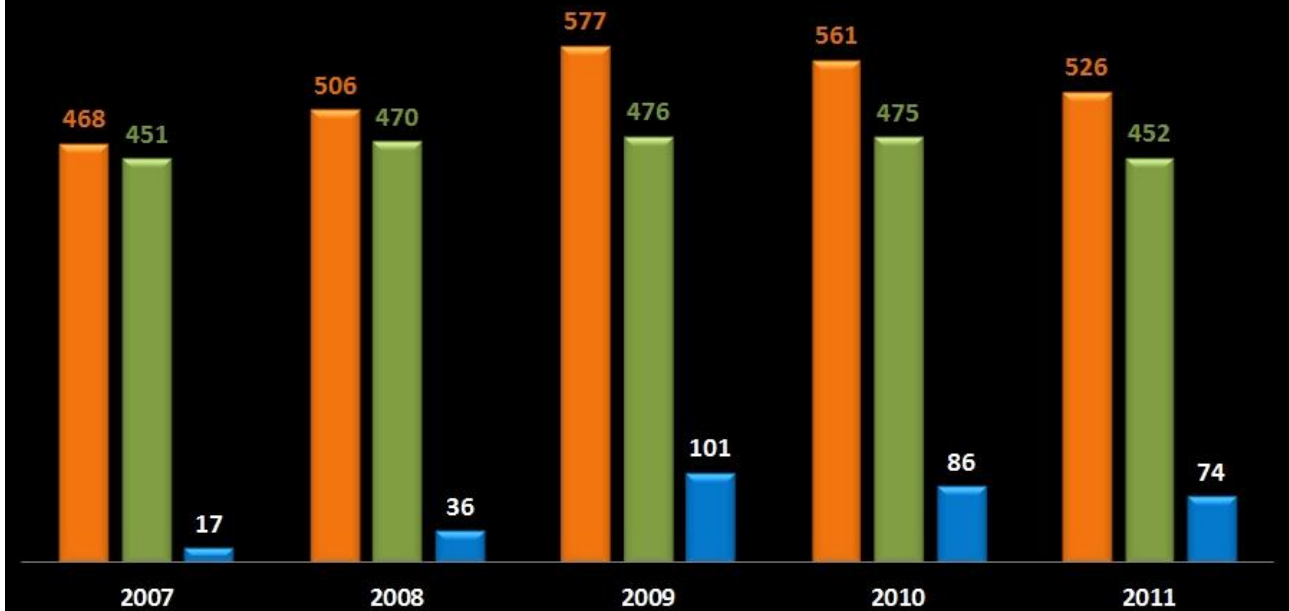
Anesthesia

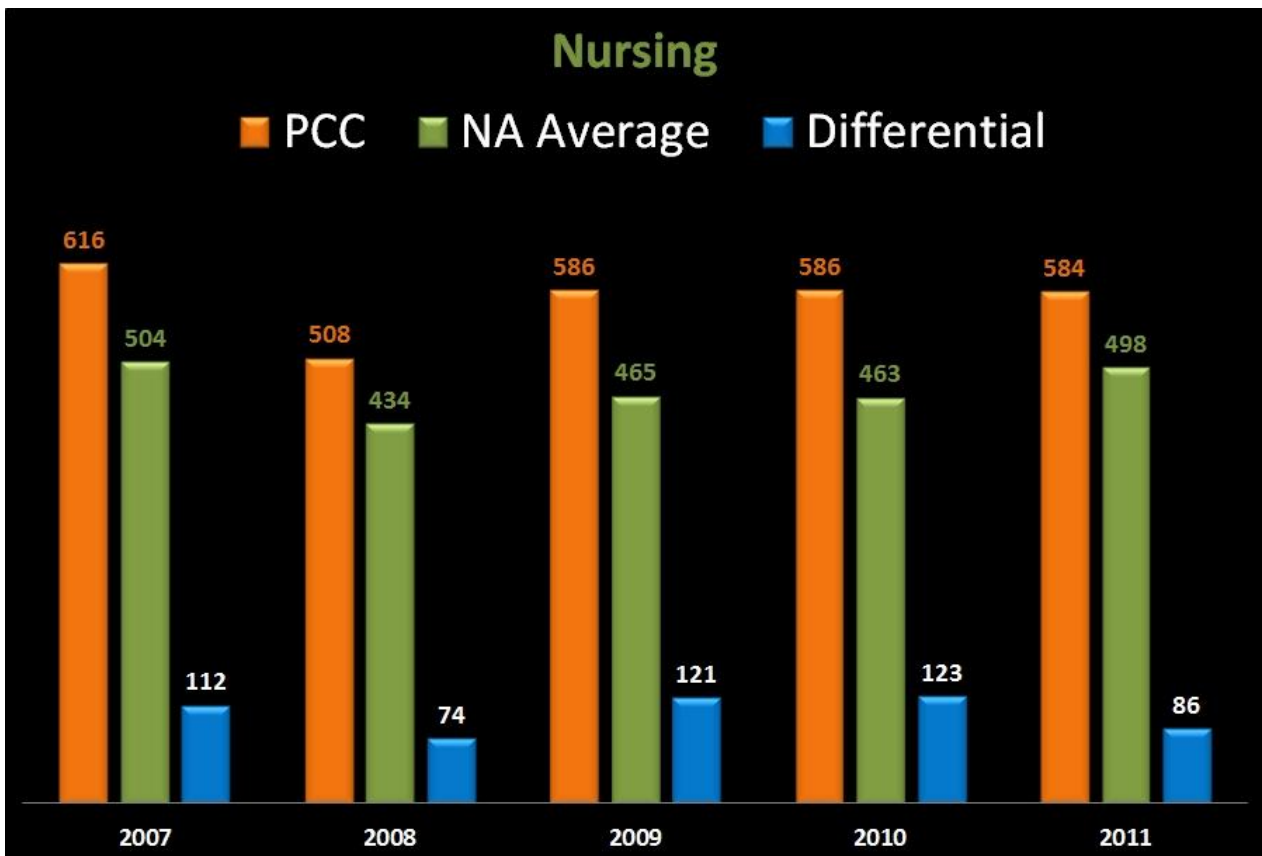
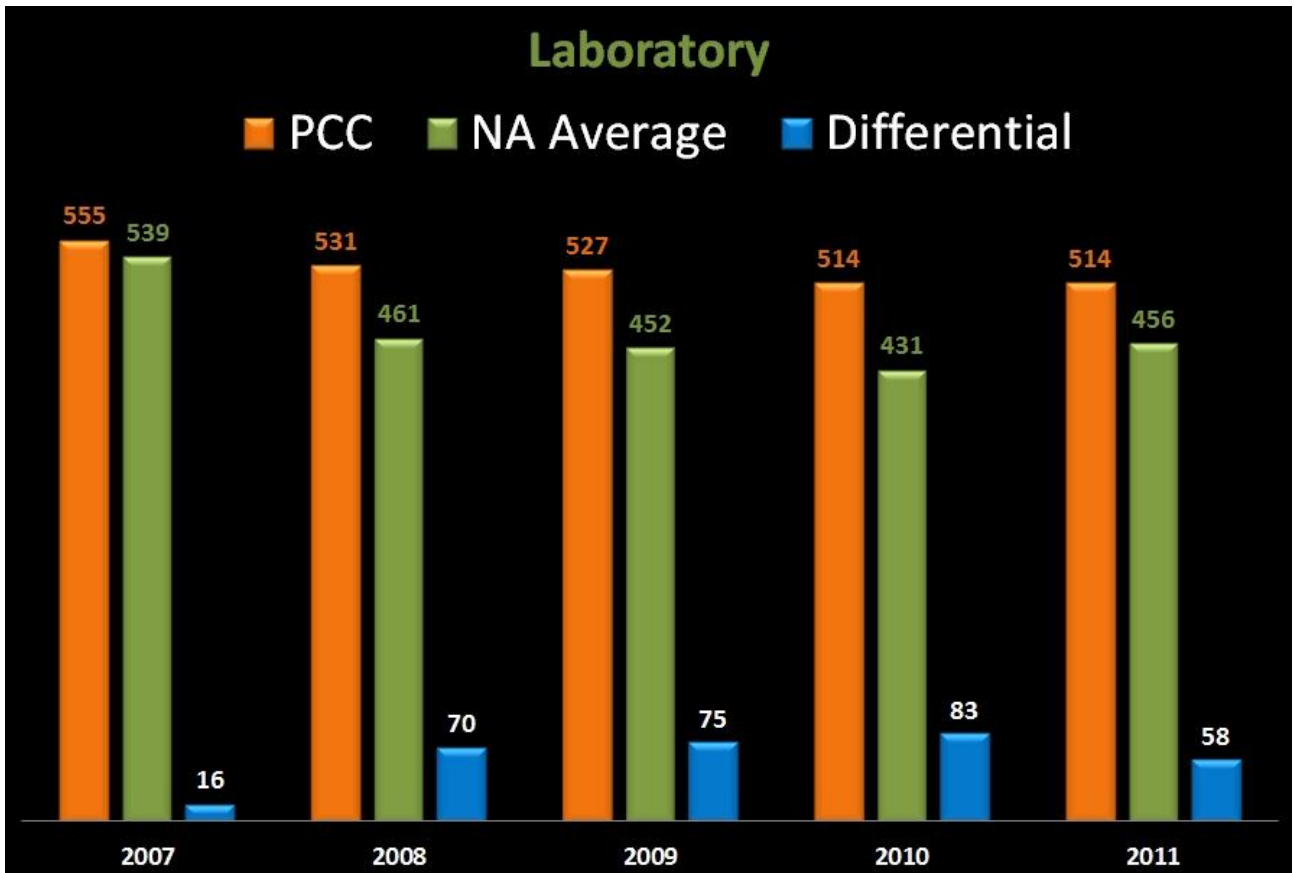
■ PCC ■ NA Average ■ Differential



Imaging

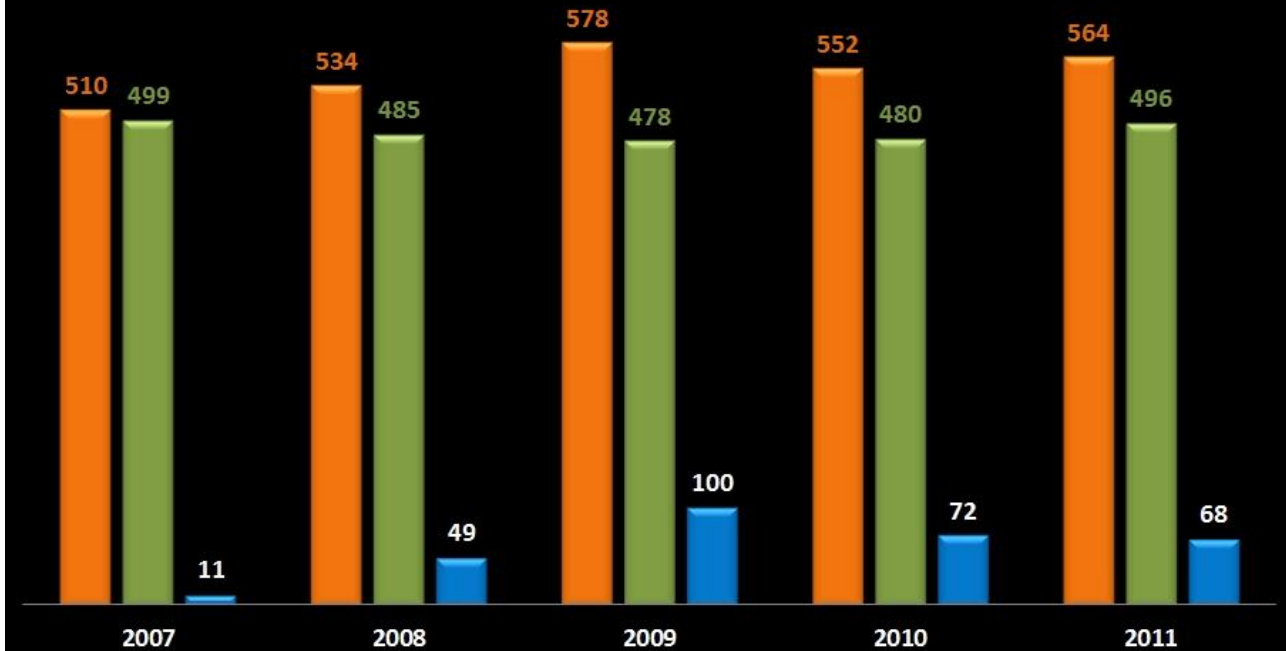
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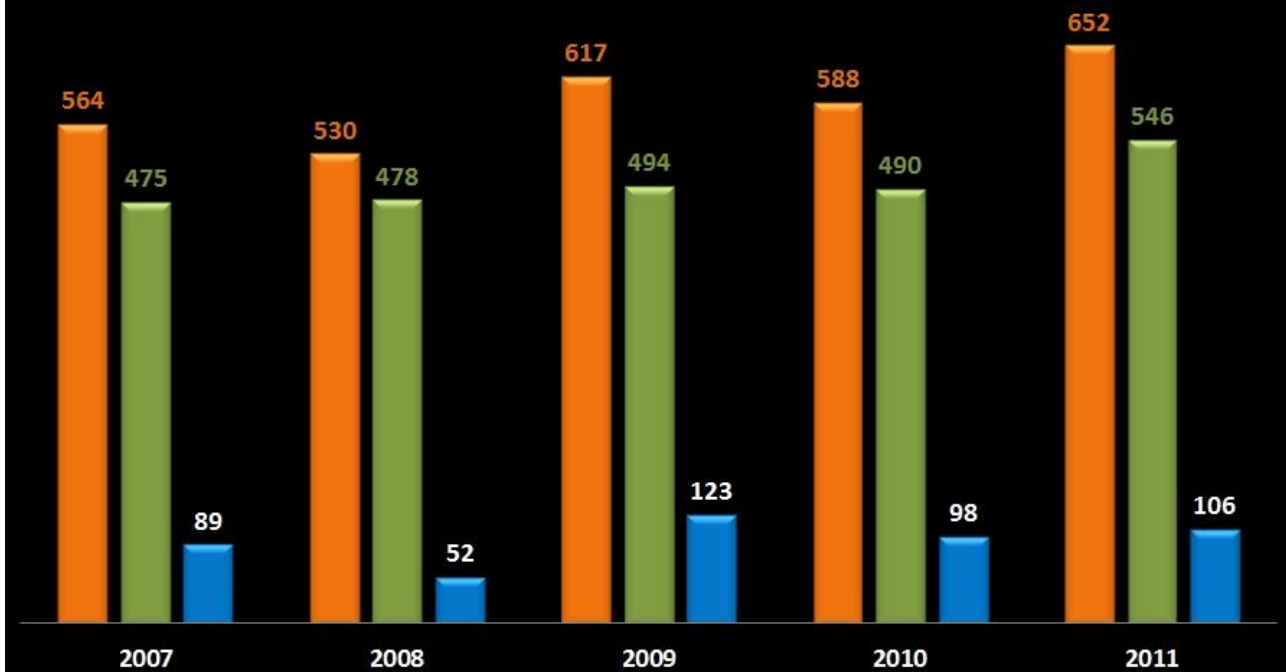
Pharmacy

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Surgery

■ PCC ■ NA Average ■ Differential



Dentistry

■ PCC ■ NA Average ■ Differential

