

PORTLAND COMMUNITY COLLEGE

OPHTHALMIC MEDICAL TECHNOLOGY PROGRAM

PROGRAM REVIEW 2009

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Ophthalmic Medical Technology Program

Overview



The Ophthalmic Medical Technology (OMT) program was established in the early 1990's at Portland Community College. A group of ophthalmic administrators, ophthalmic technicians and educators from the Portland metropolitan area met to explore the establishment of a formal training program to meet the growing demand for trained ophthalmic medical personnel. As a result, PCC opted to pursue establishing the OMT program at the Cascade campus. The program has been nationally accredited since 1995, first by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and more recently by the Commission on Accreditation of Ophthalmic Medical Programs (CoA-OMP). The next site visit for renewal of CoA-OMP accreditation is scheduled for October, 2009.

Students enrolled in the Ophthalmic Medical Technology Program must complete 93 credits within the two year associate degree program. Following successful completion of the program, students are eligible to take the national certification examination offered through the Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO) and become credentialed as Certified Ophthalmic Technicians (COT).

Ophthalmic medical technicians are skilled medical technicians qualified by didactic and clinical ophthalmic training to perform procedures under the supervision of a licensed physician (ophthalmologist). Technicians render support services to the ophthalmologist such as taking medical histories, performing diagnostic tests, taking anatomical and ocular measurements, testing ocular functions, administering topical ophthalmic and oral medications, instructing patients, maintaining equipment, sterilizing surgical instruments, assisting in ophthalmic surgery in the office, ambulatory surgical center or hospital, assisting in the fitting of contact lenses, adjusting and making minor repairs on spectacles.

Portland Community College's OMT program is poised for the future and prepared to deliver the highest quality education to meet the needs of an ever-growing aging population. Opportunities exist for graduates to expand their certification once they earn their COT certification. Certified Ophthalmic Technicians may also specialize and become certified in surgical assisting, ophthalmic biometry, diagnostic ophthalmic biography, ophthalmic photography and clinical orthoptics.

1. PROGRAM/DISCIPLINE GOALS

A. Educational goals/objectives

The Ophthalmic Medical Technology program's primary goal is to provide the ophthalmic community with skilled graduates who meet the entry-level competencies as defined by the Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO) and become gainfully employed in the field of Ophthalmic Medical Personnel (OMP).

We continually seek to enhance and improve the learning experience for all students entering into the professional field of ophthalmology. Curriculum is reviewed annually for content, strategies and outcome.

There is little doubt that allied health personnel in all areas of health care will continue to be in high demand in the foreseeable future. Population growth, especially among those over age 65, is unprecedented and will continue for many years. At the same time, ophthalmology has become much better at treating many diseases like diabetes and macular degeneration, so much so that patients in that age group are seeking eye care more than they ever used to. The American Academy of Ophthalmology predicts that demand will outpace capacity when it comes to the supply of ophthalmologists, leaving physicians with few choices except to increase their technical staff to increase efficiency.

It's clear that the OMT program will need to continue to admit and train qualified students who are prepared to meet the needs of our growing older population both now and in the future.

B. Mission, values and goals

PCC Mission Statement: Portland Community College provides access to an affordable, quality education in an atmosphere that encourages the full realization of each individual's potential. The college offers opportunities for academic, professional, and personal growth to students of all ages, races, cultures, economic levels, and previous education experiences.

As a career technical degree program, the OMT program strives to address and meet the values and goals of Portland Community College. Additionally, the OMT program is committed to:

- * Admit those students to the program that have the potential to successfully complete the program; and to appropriately counsel those applicants who require developmental and/or preparatory courses prior to program entry.

- * Develop and maintain a curriculum that integrates the general education segment, the clinical segment and related subjects to the greatest extent

possible and that is based on the job entry level requirements of the ophthalmic community and the respective professional organizations.

- * Utilize a variety of health care facilities in the community to provide clinical learning experiences for students.
- * Graduate sufficient numbers of Ophthalmic Medical Technicians to meet the needs of the ophthalmic community.
- * Provide a program with sufficient flexibility to accommodate the individual needs of each applicant in terms of high school completion, other preparatory courses and credit for previous education and experience.
- * Keep the program in tune with the needs of the community through the expertise of an advisory committee whose membership is representative of the ophthalmic medical field; through periodic graduate follow up studies; through employer studies; and through the program evaluation and accreditation processes.
- * Recruit, develop and retain qualified staff who believes in the community college concepts; who believe that each person has potential, is able and willing to learn; who believe in the Ophthalmic Medical Technician curriculum; and who are committed to continuing education for themselves in both their professional fields and in their development as educators.
- * Encourage interested practitioners to serve on the Ophthalmic Medical Technology Advisory Committee and to participate in the clinical affiliation portion of the program.
- * Encourage students to participate in community service by volunteering for vision screenings, community health fairs and other opportunities that may present themselves over the course of their training.
- * Employ educational technology to facilitate the educational process
- * Involve the staff in regular evaluation of the curriculum, revision of instructional approaches and the development of related curriculum through staff meetings, workshops and instructional materials revision projects.

- * Insure that equipment in the laboratory on campus and in the clinical affiliates is reasonably reflective of that used in the professional community; operational, available and up to date.
- * Involve the faculty in student recruitment for the program and the profession.
- * Maintain an adequate, up to date library and audio/visual materials in the program.
- * Insure that each student is counseled individually each term as need arises and to inform students of job opportunities which have been referred to the program.
- * Promote the recognition of limitations and legal responsibilities of the Ophthalmic Medical Technician.
- * Instill in students pride in their vocational education preparation, in the technical profession for which they are being prepared and in their conduct as professionals

2. Curriculum

A. Evaluation of curriculum using national professional guidelines

The Commission on Accreditation of Ophthalmic Medical Programs (CoA-OMP) sets standards and guidelines for accrediting educational programs. The Commission grants accreditation for a maximum of seven years and requires that the program file an annual report each year to document any changes related to instruction, staff, admissions or educational content.

B. Changes in course content and/or outcomes

The OMT program is currently undergoing extensive course content review. The program has had staffing changes in the last year that have necessitated increased utilization of adjunct faculty, some of those new to the PCC program. New faculty bring perspective and insightful feedback as to course sequencing, depth of content, delivery methods, etc. Course content has seen incremental change since the last program review, most notable in the area of laboratory instruction. At the recommendation of the Advisory Committee in early 2007, a group of clinical site supervisors met in November, 2007, without faculty or staff present, to discuss program effectiveness, particularly in the area of practical skills. Specific recommendations were made with regard to instructor supervision during laboratory time, increased assessment of lab skills and more ongoing oversight while performing practical skills in the lab setting. Since winter term 2008, end of term lab assessment has been included in all courses with a laboratory component. Second year students in the program are being assessed at the end of each term by technicians from the professional community. Lab assessments are conducted on a Saturday near the end of each term, with volunteer "patients". Standards are set and each student performs a mock skill evaluation which includes six diagnostic tests.

Additional content has been added to OMT 232, 233 and 234 (Seminar) in the area of electronic medical records. A new course, Introduction to Ophthalmics, has been added to the first term of the program in fall 2009 to provide students with an overview of the industry as well as additional content in the area of medical law and ethics. The department had required BI 55, a one term anatomy and physiology class, as part of the curriculum for the past eleven years. The OMT SAC decided last year to return to the BI 121 & BI 122 sequence for OMT majors, courses that were in the curriculum for the first five years of the program. It was the opinion of the SAC that students gained greater understanding when offered the two term sequence of anatomy which allowed for more in depth exploration of body systems and their function.

Curriculum will continue to be changed next year as new requirements for incorporation of the national certification examination for certified ophthalmic technicians are implemented. In a recent announcement, the Education and Research Foundation of the Joint Commission of Allied Health Personnel in Ophthalmology will require that all accredited training programs include the national examination as part of their required curriculum if any students are to be eligible for scholarship monies. The OMT SAC agreed to change the last term of the program to a Pass/No Pass option only, allowing instructors to waive finals at the end of the program when students successfully pass their national certification examination. Those who do not pass the

national examination will still be required to take final exams and may attempt the certification examination again at a later date.

C. Assessment of course outcomes

Learning outcomes are assessed by a number of methods. Students in the OMT lecture courses are evaluated through tests and assignments. Those courses with a laboratory component utilize performance measured skills as their assessment, including computer simulated skills. Lab modules are competency based with each module having specific criteria identified. Students are required to repeat work until competency is demonstrated. Student evaluations of laboratory modules are used to not only evaluate the lab experience but also the lecture courses in which the student received the knowledge to perform the required skill.

The clinical practical experience is integral to the learning outcome. Students are evaluated by their clinical site supervisors on whether or not they meet job entry levels in the ophthalmic field. The program receives feedback on student performance from the clinical settings, both in the area of technical performance as well as so called “soft skills” such as patient and peer interactions, professionalism, attendance, punctuality, physician interaction, ethics and confidentiality.

The Joint Commission on Allied Health Personnel in Ophthalmology sends annual Statistical Program Performance Reports providing data on the performance of program graduates taking the national COT exam within the previous one year period. The last report received covered a period from August 1, 2007 through July 31, 2008. PCC’s OMT program had an average pass rate of 70%, compared to all program graduates at 45.6% and all candidates combined at 40%. With the integration of the certification into program curriculum in 2011 the department hopes to see this percentage increase substantially.

Course outcomes for all OMT courses are in need of review and update. Department faculty will be making this a priority in the next academic year once the site visit by the Commission for Accreditation of Ophthalmic Medical Programs is completed in fall term 2009.

D. Assessment of College Core Outcomes

The PCC core outcomes are reflective of the goals and commitment of the OMT program. Students in the OMT program are encouraged and given the opportunity through course work to demonstrate and practice community involvement, critical thinking, problem solving and professional competence. Students are required to work on group projects, effectively using their communication skills. Cultural differences are a part of their clinical experiences as students are required to handle challenging patient situations on a daily basis. Team work is integral to working in any healthcare environment and considerable emphasis is placed on teaching these skills to OMT students during all courses in the OMT curriculum. All of PCC’s core outcomes are critical complements to the marketable skills students must possess in the ophthalmic workplace.

E. Mode of course delivery via distance learning

The OMT department took its first steps into distance learning in fall 2007 with OMT 163 Ocular Anatomy & Physiology. Since OMT courses are only offered once a year, the course was not repeated again until fall 2008. During that term a second course was added, OMT 208 Ocular Motility. While it was hoped that the development of these courses would allow the department to expand the student base beyond those only formally admitted to the program, the decision has been made to return these courses to a campus based modality for the immediate future. OMT 145 and 146 Clinical Optics 1 & 2 will be offered as hybrid courses in fall 2009 and winter 2010. The lecture portion will be online accompanied by a traditional campus based three hour lab for each course. Future expansion of distance learning courses will remain a consideration in the future.

F. Educational initiatives

To date, the OMT program has not made any formal curricular changes in the realm of Service Learning, Internationalization of the of the Curriculum or Inquiry-Based Learning.

3. Changes in needs of students and community

A. Student demographics

The characteristics of the OMT student population are not dissimilar to the College's student population in general. While the racial and ethnic distribution is very close to the student population overall, there is a slight skewing toward students over age 40 and toward a higher proportion of women. About 75% of the OMT students in 2007 – 2008 were women, and 25% over age 40.

| | | OMT Program | Career/Tech/Professional |
|-----------------------------|-------------|-------------|--------------------------|
| Race/Ethnicity Distribution | Non-White | 25.0% | 24.5% |
| Gender Distribution | Female | 74.5% | 52.2% |
| Age Distribution | Over Age 40 | 25.5% | 20.9% |

PCC's Ophthalmic Medical Technology program is the only accredited OMT program in the region. This contributes to a reach beyond the College's defined service district. Last year, 44% of the registered OMT students were from Washington state or Oregon locales beyond the borders of our college district.

The Ophthalmic Medical Technology program has above average attrition. The recent data available from IE reveals that 54% of the cohort that entered in fall 2006 completed the program in Spring 2008. With regard to health programs at PCC, this falls below the median, but is similar to Radiography and Medical Laboratory Technology. Attrition is not necessarily due to academic performance. The grade distribution data reported by IE indicates that 92.9% of the grades awarded to OMT students were passing compared with 85% for all career/technical/professional programs. In the reported data for 2007-2008 only 1% of the OMT cohort received an F/No Pass grade.

B. How feedback affects instructional change

Student surveys are routinely sent to student following graduation. Data from these surveys is shared at SAC meetings with the rest of OMT faculty for consideration of possible curriculum changes in the classroom, labs and clinical settings. Changing community needs are largely gauged by input for the OMT Advisory Committee and to a lesser degree from employer surveys conducted regularly.

C. Current and projected demand and enrollment patterns

Generally held expectations in all areas of healthcare are that demand will continue to exceed supply for the foreseeable future. The U.S. Bureau of Labor recently (February 2009) announced that as of 2010 Ophthalmic Medical Technicians will be recognized as a separate occupational classification. Although the new level of classification encompasses all three levels of certification in the ophthalmic field, it does communicate the complexity and range of tasks that differentiates this profession from medical assisting. Previously, ophthalmic technicians were recognized under the classification Other Healthcare Support Occupations, Medical Assistants. OMT are now recognized under the major category of Health Technologists and Technicians with a new classification of 29-2057, Ophthalmic Medical Technician. The distinction of Ophthalmic Medical Technician with its own classification is an important advancement for the profession. The new classification is expected to heighten the visibility of the career and aid in recruiting people into the profession.

Current total enrollment in the OMT program is 34, which represents a decrease from prior years. Typical enrollment by spring term is about 44 students. The OMT program has seen a marked increase in applications for the 2009-2010 academic year. The program has been filled to capacity (24 students) since December 2008 with a waiting list of 10 students. This is in part the consequence of the current high unemployment rate but also in response to projected demand for ophthalmic personnel.

D. Access and diversity

The OMT has regularly attracted a diverse student population. Although traditionally a female dominated field, men currently represent 32% of students in the program. Data from academic year 2007-08 reflects 25% male students enrolled in the OMT program. Students represent a broad spectrum of cultural diversity. Although 75% of OMT students identify themselves as "White-Non-Hispanic" that percentage includes a sizable eastern European population.

Approximately seven years ago a number of practicum supervisors indicated they had concerns regarding written and oral communication skills of our students. The language barriers were sometimes so great that clinics were dismissing students due to poor oral communication skills and a lack of writing ability that affected their ability to adequately document patient information in their records. To ensure greater student success OMT faculty and staff have worked closely with ENNL (now ESOL) department faculty to develop a written and oral assessment test which has been administered for the last six years. This assessment has allowed the department to determine those students that are not yet ready to pursue an ophthalmic career until they have met further reading, writing, and communication classes in English. This test is given to all students who have met the provisional acceptance requirements of the program and has contributed to great student success.

E. Operational challenges that impact student learning

Student learning has been somewhat impacted recently by numerous changes in faculty assignments necessitated by a full time faculty member being on medical leave since December

2008. Faculty members have done an admirable job of remaining flexible with assignments while being sensitive to the impact such change brings to students.

Faculty: composition, qualifications and development

A. Faculty information

The Ophthalmic Medical Technology Program has two full-time faculty, one with a full teaching load and the other with .375 release time to fulfill faculty chair duties and program director for the OMT department and faculty chair for Health Education at Cascade campus. Additionally, there are four part-time faculty teaching OMT courses.

B. Instructor qualifications

Instructor qualifications determined by the OMT SAC currently include:

- Current credential at the COT or COMT level
- Associates or Bachelors degree in OMT
- Minimum one year (preferably three years) clinical work experience in an ophthalmic practice.

Professional development is a requirement for all OMT educators to maintain accreditation.

4. Facilities and Support

A. Online technologies

OMT instructors and students regular use computers and technology in the classrooms and the lab. Instructors take advantage of podiums with internet access in each classroom to bring animation and video clips into the lecture. Students use one or more computers in the lab to review computer simulated diagnostic testing equipment. The campus library has access to multiple medical journals for student research as well as an additional copy of a learning systems DVD that students can use for practice outside regular lab hours.

B. Clerical, technical, administrative and tutoring support

Technical support is available through the Student Help Desk or through computer labs located on campus. If a student is struggling in a class CIP's are send out immediately and the student is advised to seek additional tutoring or request a private meeting with the instructor. We are conscious that life obstacles may inhibit student success and encourage ongoing communication between student and instructor.

C. Advising

OMT students advising is offered either by the faculty chair or by a Perkins advisor assigned to the OMT department. If a student does not meet program requirements from a previous term the student must be contacted. The OMT program director and the Perkins advisor regularly collaborate to assure student success when necessary.

CTE program needs

A. Advisory Committee impact

The OMT Advisory Committee is made up of community ophthalmic professionals working in a variety of workplace settings and capacities. They all are COT's themselves or have COT's working for them and have a strong interest in the success of PCC's OMT program. Since the OMT program must meet the needs of the ophthalmic medical community, the input given by the Advisory Committee is critical to the future of the program.

Recent committee discussions have focused on such topics as program standards for admission, content and relevancy of course material, English language standards, program graduate performance on national examinations and faculty selection. The OMT program would not be able to maintain relevancy and excellence without the hard work and dedication of its Advisory Committee.

B. Degree Outcomes

Degree outcomes are in need of revision in the OMT department. As a result of this program review, a timeline and goals have been established for the OMT SAC to undertake and complete revisions by the end of the 2009-2010 academic year. Strategies to assess degree outcomes will be part of that revision.

C. Job placement data

OMT graduate survey data, though mainly anecdotal, shows favorable job placement over the last five years. Graduates obtain employment at Casey Eye Institute OHSU, Kaiser Permanente, Veterans Hospital Dept. of Ophthalmology, Eye Health Northwest, Oregon Eye Specialists and private clinics both large and small. Typical starting salary in the Portland Metro area is \$32,000 to \$36,000 annually with excellent benefits such as medical, dental, profit sharing, uniform and education allowance and vacation/sick leave. Current salaries in this area cap at about \$50,000 per year.

D. Future employment opportunities

Future employment opportunities will remain strong for COT's. In a February 2009 article for the American Academy of Ophthalmology, Dr. Richard Mills of Seattle wrote, "It's far too late to increase the number of ophthalmologists being trained to care for the demographic shift; the pipeline is too long for that. Ophthalmic medical technicians will be needed in far greater numbers to fill the shortage of ophthalmologists." Chronic eye disease typically impacts the geriatric population the most, and that demographic is multiplying in record numbers for the next 15 years.

A nationwide 2006 salary survey by the Association of Technical Personnel in Ophthalmology (www.atpo.org) showed that the average annual salary is \$52,128 for a COT and \$64,895 for a COMT. Certified ophthalmic assistants (COAs) earned an average of \$43,567. Salaries may vary depending on whether the technician is working in a hospital, private or university setting.

E. Barriers to success

Students exit the OMT program for a variety of reasons. Some are unprepared for the financial and time burden the program presents. Others find their choice is not well suited to their personality and/or commitment. For others, life “challenges” present in such a way as to undermine their ability to continue in the program. And finally for some, the academic bar is set at an unattainable level. Since the program continues to accept all students who meet the basic math and writing levels required by the college for degree programs, it is unlikely that all students entering the program will ultimately be successful. While very effort is made to assure student success through early intervention unfortunately not all students will complete the program.

Recommendations for Improvement

A. Assessment of strengths

The OMT program is based in a highly regarded community college well known for exceptional, nationally accredited allied health programs. The program enjoys the support of the college administration in terms of resources and advocacy. The ophthalmic community strongly supports the program. Clinical sites are willing to participate, physicians and technicians are willing to teach and serve as guest lecturers. Related professions in the community are receptive to student visits and are will to share their expertise and experience.

The physical facility and equipment available for training is excellent. Laboratory space was remodeled and greatly expanded in 2004, more the doubling the useable space available to students and instructors for training. Related allied health programs on campus allow for excellent instruction in health related areas (human biology, pathophysiology, psychology, etc.) not directly related to core ophthalmic technology courses.

Students are appreciated in the community for their punctuality and excellent attendance record at their clinical sites. Site supervisors report that students exhibit a high level of professionalism while at their practicum sites as well as post graduation. Employer surveys reported a 77% satisfaction rate with the overall training of OMT program graduates. Physicians and clinical supervisors reported graduates are able to perform at a level consistent with expectations for career entry level.

B. Areas needing improvement

Clinical supervisors have asked that we increase assessment of clinical skills in the lab setting. Students need more opportunity to role play taking patient histories and become familiar with the general framework of what kind of exam/history to do for different patient types. Recommend more hands on oversight by instructors in the lab setting and a clear understanding by the student of what ancillary tests are called for during the work up process. (The department has increased lab oversight significantly since receiving this information last fall). Continue to work to improve English language skills for non-native speakers. The program needs to continue to work with students to ease the transition from the classroom to the clinic. Clinical sites have asked that proficiency is adequate before students go to their clinical sites – site do not want to be responsible for teaching basic skills.

Changes that have been implemented within the program to date include hiring an additional instructor for lab oversight and to work more closely with students needing more hands on supervision. In spring term 2008 the program initiated our first skill assessment for students nearing graduation. Since that time we have repeated the same evaluation at the end of each term during the second year of the program. Lab standards have been created and are clearly posted in the lab at all times. These standards have also been added to the OMT Student Handbook. Course content is under review as well as lab assignments. A new course will be introduced in fall term 2009 exposing students to the ophthalmic profession in general but will also cover law, ethics, professional standards of dress, attendance, etc. Discussion is ongoing in

the SAC regarding repetition of subject matter covered during the first year of the program throughout the second year so as to continually reinforce ophthalmic concepts and knowledge for students.

Program faculty will continue to re-evaluate changes in curriculum content and sequencing. Plans are in place to re-convene the clinical supervisors again in fall 2009 to determine whether changes implemented thus far and made a difference in the preparedness of students and recent graduates. Additionally, the SAC agenda for the 2009-2010 academic year includes a review of retention strategies, department grading policy, prerequisites, Perkin's advisor roles with OMT students and satisfactory academic program standards.