Submission to the
Health Professions Regulatory Advisory Council by
The Ontario Opticians Association and
The Opticians Association of Canada
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Refractometry and Dispensing

“It is the belief of the Ontario Opticians Association and the Opticians Association of Canada that visionary leadership identifies innovative pathways to good public policy that result in better results and greater choice for consumers.”
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1.0 Introduction
The Ontario Opticians Association (OOA) and the Opticians Association of Canada (OAC) have a mandate to represent the interests of the profession of opticianry, particularly as it relates to the provision of safe and effective services to vision care consumers. Public safety is at the forefront of our thoughts as we provide the following comments to HPRAC regarding optician-performed Refractometry. Public Safety is also the underpinning of our commentary on the issue of dispensing as it has been framed in Minister Smitherman’s referral to HPRAC.

1.1 Health Legislation Enables Professional Growth
As health professions' regulations have moved forward into the 21st century, governments have remolded and realigned services by adopting the philosophy that consumers are entitled to the widest possible choice of qualified service providers; that those who are trained and able to provide service should be able to do so; that increasing services represents natural career progression for professions; and that technology and education offers exciting opportunities to make maximum use of health care professionals – all for the benefit of consumers.

Opticians believe that providing refractometry services for their clients is a natural extension of the services they already provide.

1.2 Re-shaping the Question Posed in the Referral
The OOA and OAC are concerned that Minister Smitherman’s referral to HPRAC regarding Refractometry is identical to the referral that was made to HPRAC under Minister Witmer. At the time of the initial referral we believed the wording didn’t properly address the issue or charge HPRAC with a task that was appropriately defined. The resulting recommendation that was sent to Minister Witmer from HPRAC did nothing to clarify the situation or move the issue forward. The question to HPRAC should rather seek to answer the issues that arise from what it is Ontario opticians wish to add to their scope of practice.

1.3 Legislative Change Required
Refractometry is not a controlled act and therefore does not require a scope of practice increase. Prescribing or dispensing, for vision
or eye problems, subnormal vision devices, contact lenses or eye glasses other than simple magnifiers is a controlled act and would therefore require a scope of practice increase. Consequently the question to be posed should more properly be, “Can opticians safely prescribe lens powers for consumers based on the results of Refractometry they have performed absent physician oversight within specific limitations?”

The OOA and OAC believe they can and both groups further believe that this practice will result in positive vision health outcomes for Ontario consumers. Scientific and experiential evidence support that belief.

Refractometry is not a controlled activity under the Regulated Health Professions Act (RHPA) and opticians have recognized that as vision care professionals they must ensure the public understands the limitations of the process, the necessity for seeking periodic eye health examination. Regulation surrounding optician-performed sight testing in Alberta and British Columbia has focused on developing the tools opticians need in order to identify the need for and to make appropriate referral. Opticians believe they require regulation to enforce common standards and guidelines.

Opticians believe their Refractometry service will provide a unique opportunity to provide general education about eye health to consumers. These four factors – safety and accuracy of optician-performed Refractometry, improved health outcomes for consumers, opportunities for public education, and enforcement of standards – have been a considered and allowed for by the College of Opticians of Ontario in the Standards of Practice they are developing.

1 Alberta Client Assessment and Informed Consent Form Used By Refracting Opticians
2 College of Opticians of British Columbia Standard of Limitations for Refracting Opticians
1.4 The Difference Between Refractometry and an Eye Health Examination

It is important to be clear on the difference between Refractometry and an eye health examination. The Canadian Ophthalmological Society describes it this way.

“For the ultimate benefit of the public, a clear distinction should be made between a diagnostic eye examination and an examination for the purpose of refraction. A diagnostic eye examination involves the practice of medicine and requires the highly specialized training of a physician. A refractive examination involves the taking of measurements from the visual system, which is simply a data-gathering procedure and involves no medical expertise.”

To be more specific, an eye health examination includes gross assessment of the tissue of the eye (the white of the eye, the outer lids, the lining of the lids, the cornea, the tear ducts) the pupils, the ability of the eyes to move and track together, the ability to see in all peripheral areas, and intraocular pressure (glaucoma test); biomicroscope evaluation of the front of the eye; examination of the back of the eye with pupil dilated; and other components, as indicated, including optic nerve head analysis, colour vision testing, and evaluation of the blood vessels in the retina. An eye health examination is designed to reveal the presence of eye conditions for the purpose of diagnosis and treatment.

Refractometry involves using a variety of methods to discover what power of lenses will cause an individual to see well. Refractometry is based on mathematical and scientific functions that are measurable and calculable. The lens prescription even looks like an algebraic formula e.g. +1.00 –0.75 x 125. Figuring out what lens powers to use is a matter of measurement. It is a data gathering procedure.

Clear vision is available when light entering the optical system of the eye comes to a point of focus on the retina. All physical features of the human body vary to a greater or a lesser extent from

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\(^{1}\text{Canadian Ophthalmological Society Policy Guidelines}\)
what is considered the ‘norm’. In the case of nearsighted and farsighted people, the axial length of the eye is longer or shorter than the norm. HOWEVER the optical system of the human eye does not generally vary. That is to say the refracting power of the cornea, the crystalline lens and the ocular fluids remains pretty constant. As a result light passing through a nearsighted eye tries to focus where the retina should be and ends up instead in front of the retina. Light passing through a farsighted eye ends up behind the retina. Images will be seen as a blur by both.

The goal of sight testing is to find the lens power that will force the rays of light onto the retina. If the individual doesn’t have latent pathology refractometry should be able to bring visual acuity to at least 20/40. The literature indicates that visual acuity is the most sensitive bellwether of eye disease. If 20/40 cannot be achieved (the gold standard set out by the COS) you need to look for symptoms of eye disease or – in the case of optician-performed refractometry – you need to refer the individual for an eye health examination. In British Columbia opticians have set a more stringent standard at 20/25.

2.0 Refractometry
2.1 What Do Opticians Wish To Do?
Ontario opticians wish to provide refractometry services for Ontario consumers independent of physician/optometric oversight. As well, they wish to use the results derived from the refractometry service to make eyewear. Ontario opticians wish to do this under very narrow terms of reference including educational requirements and standards of practice and limitations as determined by the College of Opticians of Ontario. The standards of practice and limitation will be designed to provide a multi-layered screening tool to identify those consumers who are suitable candidates for optician-performed refractometry and to form the basis for appropriate referral for eye health examination. These tools include a pre-screen questionnaire that targets the profile of the ‘at risk’ consumer, a standard of practice and limitations that further

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1 Managing Eye Disease in Primary Care: Steven R. Shields Vol 108/No 5/October 2000
2 Postgraduate Medicine
3 Canadian Ophthalmological Society Policy Statement on Referral
targets those ‘at risk’, a public education strategy and a strict result requirement.

2.2 How is Refractometry Performed\textsuperscript{34}
Refractometry can be accurately performed using a variety of methods including manual modalities such as trial frames and phoropters as well as by making use of suites of automated equipment. Ontario opticians do not believe it is necessary to restrict opticians who perform refractometry to the use of a specific method of refraction. It is not the gathering of the data that is a controlled act and therefore the method of gathering the data need not be regulated.

\textbf{Figure 1 Trial Frame}
With the trial lens method the client wears a special trial frame (Fig. 1) that can accommodate the multiple lenses. The lenses are inserted manually into the trial frame and adjusted for orientation prior to the client viewing an eye chart and deciding ‘which lens is better?’

\textsuperscript{34} Manifest Refraction Versus Autorefraction for Patients with Subfoveal Choroidal Neovascularization
Figure 2 Phoropter

A phoropter is the instrument more people know from their own eye examinations. It has the lenses incorporated into its mechanism and hangs on an arm that the operator can position directly in front of the client. The lenses are rotated with a knurled wheel located at the side of the phoropter and the client is asked ‘which lens is better?’

Figure 3 Suite of Automated Refracting Equipment

The system that the government of British Columbia has stated as a requirement for optician-performed refracting in B.C. is a suite of computer-networked instruments that provides automated testing. The operator of the equipment starts the software and the machine...
itself prompts the client through a series of tests before arriving at a recommendation of lens power. The automated equipment has optional features such as automated glaucoma testing and automated fundus photography. Some of these options are used in Alberta where opticians perform refractometry using a telehealth model. Opticians send refracting results to a supervising physician prior to dispensing eyewear. This allows for a technician to perform testing in a location apart from the diagnostician.

- All methods of refracting start with an evaluation of aided and unaided visual acuity.
- All methods end with a confirmation of visual acuity achieved through the recommended lens powers.
- All methods involve subjective and objective measurements of refractive error. This means that measurements are taken both with client response to visual cues and with measurements taken independent of client response.
- All methods utilize the client’s current lens powers as a starting point.
- All methods involve confronting the client with a series of graduated optical lens powers and evaluating improvement of vision using an eye chart.

3.0 Current Situation
3.1 Consumers Paying For Unnecessary Testing

Eye examinations did not become an insured service in Ontario until the mid ‘sixties. Prior to that if an individual needed refraction performed because a new prescription was required, he/she could opt for or decline to have the extended eye health service in much the same way as a consumer may attend a physician’s office for a specific isolated service rather than having a complete health examination each time service is required.

The Ontario Health Insurance Plan (OHIP) initially covered only eye health examinations that were provided by ophthalmologists. Several years later optometrist-provided eye health examinations were included. Gradually the myth evolved and became ingrained in the public and governmental psyche that all consumers required eye health examinations every two years.
As the number of ophthalmologists has declined (only 800 in Canada in 2004) optometrists have become realistically the only source for consumers seeking refraction. Optometrists have taken the position that they will only perform refraction in tandem with an eye health examination. This forces Ontario consumers, who continue to be told that they need an eye health examination every two years, to pay for unnecessary testing.

The majority of people seeking optometric services do so because they need new glasses or contact lenses and merely want to make sure they will not be spending money on expensive ophthalmic lenses that are too weak (see figure 23).

The price of an optometrist-performed eye examination was revealed in a survey commissioned by the OAC to be an average of $60-$70 with a high of $100 as compared with the $41.30 that is paid to an optometrist for a major oculo-visual examination under the current Ontario government payment schedule for citizens who are still covered by OHIP. When a consumer needs to purchase a new pair of glasses or contact lenses, the price of an optometric eye examination clearly acts as a deterrent to updating the lens powers with the only recourse being to duplicate a previous pair of lenses or put up with reduced visual acuity. The latter choice represents a risk of harm both to the individual requiring correction and to others. When people can’t read street signs easily, accidents happen. When reading is difficult mistakes are made in the workplace. Vision affects judgment and comprehension. Bad judgment and poor comprehension are costly in terms of dollars as well as personal safety.

It is believed that improper eyewear selection is one reason eye injuries occur at a rate of more than 1,000 per day in the U.S. and the cost of these injuries is estimated at more than $467 million. Although the reference made is to safety in the workplace where the risk of harm may be magnified due to the presence of dangerous equipment in the environment, it could be argued that a car, a lawn mower, a blender or a stove are equally dangerous.

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6 OAC Survey of Cost of Eye Examination in British Columbia Optometric Practices 2003
7 Schedule of Benefits for Optometry Services for Ontario November 2004.
8 MRO Today-Safety glasses: Blending Style and Safety
when blurry vision prevents the user from appropriate and cautious use.


3.2 Reasons Why Consumers Seek an Eye Examination
Health Canada’s report on the Health of Canadians for the years 1996-1997 revealed the majority of Canadians over 12 years of age who sought eye examinations did so not because of job requirements (2%), or cataracts (3%), or Glaucoma (4%), or eye conditions (5%) or declining sight (6%). Reassurance – not complaint – was the main reason people went for an eye examination (50%) and the need for a prescription change was a close second (47%). (Some respondents answered in multiple categories.)

For purposes of refreshing the lens powers or purchasing new product, individuals falling into those age categories and who require optical appliances should not be required to undergo and pay for an eye examination that is bundled with a sight test. To repeat a crucial point, a standalone sight test can be performed affordably without risk to consumer eye health.

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9 Statistical Report on the Health of Canadians /Determinants of Health /Health Services/Eye Examinations
Furthermore, many people who have not worn distance eyeglasses throughout their lifetime often self-treat when they reach the reading glasses stage. They go to a drugstore and buy a pair of off-the-rack readers. The system needs a way of finding a user-friendly opportunity for these people to access refraction and eye care education. Optician-performed Refractometry will be accessible, affordable, safe and convenient.

3.3 Refracting as a Screening Tool

While government continued to offer universal coverage for eye examinations, it became the custom for refracting stakeholder groups to bundle the refracting procedure into the complete oculo-visual examination with the unchallenged argument that this would provide effective screening for occult eye disease. Since it is reduced visual acuity that normally triggers a visit to the refractionist, this position is only valid if it can be said that those people who seek refraction are more likely to have eye disease than those who don’t. Consequently, even if it were true that systemic disease could be detected via an oculo-visual examination, only those people seeking a prescription for visual correction would be screened. A search of the literature has revealed that in fact there is no correlation between the need for visual correction and the presence of eye disease. In other words, persons with Myopia, Hyperopia, Hypermetropia and Presbyopia are not more prone to eye disease than the portion of the population not requiring visual correction.

In recent years all provincial governments have removed refraction from their list of insured services save for those individuals who are considered to be in an ‘at risk’ category. This decision falls into line with our research, which shows that for asymptomatic individuals who are not considered ‘at risk’ a base line oculo-visual examination is required with much less frequency than formerly supposed and with a visual acuity test providing sufficient sensitivity to flag the need for specialist referral. ‘At Risk’ individuals are easily identifiable and filtered by demographic grouping including but not limited to ethnic background, current medical conditions and age. The refracting
guidelines that will be developed by the COO provide for such a filter.

With deinsurance the vast majority of consumers have been left to decide upon the frequency of, the necessity of and to arrange the financing for, eye examinations and refractions. Nevertheless optometrists have continued to assume a gatekeeper function in the vision care system by attempting to re-enforce the bundling of refraction with eye health examinations and by raising concerns about refracting opticians ‘missing’ diagnosis of both eye disease and systemic disease. The net effect of this is to penalize eyeglass wearers without addressing the overarching issue of discovering a method of screening that segment of the population that may be ‘at risk’ but that doesn’t exhibit loss of visual acuity and therefore doesn’t seek out any sort of vision care professional

3.4 Missed Pathology a False Premise
Some stakeholders claim that if Refractometry is performed apart from an eye health examination, pathology will be missed and consumers will be at risk for eye disease. This position is founded on a false premise. They perpetuate the argument that through such examination they can diagnose ocular diseases and systemic conditions and raise questions as to whether diabetes might go undetected, or glaucoma, or AIDS.

In fact with the exception of those eye diseases that are prevalent in specific demographic segments of the population, it is almost impossible and, one could speculate, dangerous to offer up oculo-visual examinations as an effective screening tool for a variety of diseases and conditions which, although potentially serious and often life-threatening, can only be properly detected with particularly sophisticated equipment and by specialty trained professionals.

As an example of this, the optometric group recently wrote that refracting opticians would be apt to miss the diagnosis of a rarely found condition called ‘papilledema’\(^{10}\) which, in fact, can only be diagnosed with stereoscopic indirect fundoscopy or optic nerve

\(^{10}\) eMedicine-Papilledema: Article by Joseph Giovannini, MD
ultrasound. Sophisticated diagnostic equipment such as this is not standard in an optometric practice nor would it be found in the office of a general practitioner.

Dr. J. Mcdonald (Ontario Medical Association) in comments made to the Health Professions Advisory Council Re: Referral on Optometry: ‘Prescribed Diseases’, puts to rest the notion of optometrists diagnosing by saying, “We were concerned that Dr. Bruce Hawking (optometrist) from New Liskeard felt he could ‘diagnose’ hypertension or diabetes solely on the basis of his eye assessments, a claim that could not be made by even the best trained retinal specialist. It is inconceivable that hypertension has been ever diagnosed without blood pressure measurements, and that diabetes has ever been diagnosed without blood sugar measurement…”

While we agree that it is essential that persons with diagnosed disease or who are at ‘high risk’ to develop the disease should have ongoing examinations, authorities do not find evidence that the general ‘low risk’ population needs to be screened and certainly not using oculo-visual examination as a tool. Further, we believe that ‘at risk’ consumers who are under the care of a physician should be considered suitable candidates for optician-performed Refractometry.

The OOA and OAC do not dispute the need for those in the ‘at risk’ population to have visual examinations. What we’re saying is the visual examination is typically used to monitor those who have a diagnosed disease in order to recognize changes symptomatic of the early onset of vision-threatening complications at which point treatment can commence.

Yet optometry pursues the argument that vision screening is an efficient tool for diagnosing systemic disease. No independent authority that we can find agrees with this premise. To require citizens of Ontario to have a full oculo-visual examination, when all that they need or desire is a sight test, serves only the economic interests of optometry at the expense of the public.
3.5 Eye Health Examination as a Diagnostic Tool For Disease Diabetes Mellitus

Although the list of diseases optometry professes to be able to detect includes AIDS, macular degeneration, glaucoma, retinitis pigmentosa, leukemia, hypertension and even brain tumors, an analysis of information available on detection and monitoring of diabetes is representative of data and recommendations found in the literature in relation to all of these conditions.

One study that is frequently used as a template in developing screening protocols is The Canadian Task Force on Preventive Health Care. We draw guidance from this document\(^{11}\).

Diabetes mellitus is by far the most significant disease affecting the eye. According to the American Diabetes Association, “Diabetes is the leading cause of new cases of legal blindness among adults 20 to 74 years of age. Diabetic retinopathy is the greatest cause of blindness in economically developed countries of the world second only to cataracts. Screening for Diabetic Retinopathy is critical. The OAC does not argue with these statistics or ignore the threat to vision.

However, the reality is that it is estimated that 6.8% of the entire population has diabetes. It is also believed that approximately 5% of those with diabetes have the sight threatening form.\(^{12}\) Onset of symptoms has been suggested to occur approximately 5 years after diabetes takes hold. Proper risk management is not served by simply requiring 100% of those who want to have a vision test to also have a physiological eye examination when statistically less than 1% of the population is likely to have symptoms of diabetic retinopathy.

4.0 Screening for Eye Disease
4.1 Screening Recommendations for Diabetes

Independent studies such as the Canadian Task Force study indicate and their data supports a position that it is not necessary to screen the ‘low risk’ population demographic. ‘High risk’

\(^{11}\) Periodic Health Examination, 1995 Update: Canadian Medical Association Journal 1995; 152: 1211-1222

\(^{12}\) Statistics on Vision Impairment: Lighthouse International
categories as well as people with diabetes should be screened and this group is clearly defined in the Canadian Task Force study.

The preferred and most sensitive modality of screening noted is digital imaging and not the standard oculo-visual examination performed in optometric offices.

While the specific screening technique may differ for each systemic disease, our review of documentation indicates the conclusions regarding a similar lack of sensitivity of the typical oculo-visual examination as an effective screening tool.

4.2 A More Effective Use of the Vision Care System
In the best of all possible worlds, 100% of the population would receive screening for disease. Early treatment is the key to preserving vision as well as to treating conditions that have visual side effects. Militating against the ideal is a legislated and user-unfriendly pathway into the vision care system, combined with historically and economically based turf battles between groups with overlapping scopes of practice.

Optometry has held a legislated and vertically integrated monopoly for many years in refracting, prescribing and dispensing of optical appliances. Optometric regulation against freedom of association has prevented a natural professional relationship between opticianry and optometry and only in isolated circumstances are mutual referrals made and consultations available between members of the two groups. Optometrists have incorporated into their regulations and by-laws ethical prohibitions against being employed by an optician or working in conjunction with an optician.

The vision of the framers of reports to government on improving our health care system includes an ideal whereby there would be a realignment of practice in the vision care system. As an example of this concept in practice, optometry’s goal of adding to their scope of practice, the use of and prescribing of Therapeutic Pharmaceutical Agents seems reasonable and helpful to consumers in a Canadian demographic where there are approximately 800 ophthalmology specialists in the entire country and with an aging
population requiring specialist service. Following parallel reasoning, the data supports and common sense dictates that opticians be allowed to perform the services to consumers of refracting and prescribing ophthalmic lenses without regulatory impediment. Governmental policy and fiduciary responsibility to the consumers of Ontario support this request.

4.3 Recommended Frequency of Eye Health Examination
The Canadian Ophthalmological Society (COS) has defined sight testing as a non-medical procedure that can be performed by non-medical personnel separate and apart from an eye health examination. Although the recommended frequency of eye health examination differs from one professional group to another, the American Academy of Ophthalmology (AAO) standard is widely recognized as being a benchmark and is supported by the Canadian Ophthalmological Society (COS).

According to the AAO schedule, whether they wear eyeglasses/contact lenses or not, adults between the ages of 20-29 need a comprehensive eye examination once throughout those years while those between the ages of 30-30 should have two eye health examinations and those between 40-64 need be examined every two to four years. The recommendation is based on age and not on refractive errors. In other words, the AAO does not recommend a greater frequency of eye health examination for eyeglass wearers than it does for other adults. They make no connection between eye disease and the need for refractive correction.

In reality, individuals in these age categories who do wear eyeglasses/contact lenses will need to replace their lenses or refurbish their appliance with much greater frequency than the schedule suggests. Ophthalmology recognizes this truth. The American Academy of Ophthalmology has stated that yearly eye health examinations for individuals who are not at risk unnecessarily escalates the cost of vision care.

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14 American Academy of Ophthalmology-Health Tips on How Often to Have an Eye Exam
4.4 Stand Alone Sight Testing is Safe
With appropriate education, and with well defined Standards of Practice and Limitations in place Refractometry can be safely performed as a discrete test and the results arrived at can be used to manufacture corrective lenses.

4.5 Improved Health Outcomes
The sight testing service offered by opticians has a limited and narrow purpose, and it is vital that consumers understand this. It provides consumers with an easy, affordable method of upgrading or fine-tuning their visual acuity. In a model where sight tests and eye health tests are bundled and the burden of payment is not borne by the health care system, consumers often delay visits to a eye care professionals in order to save money. Many times, this results in gradually reduced visual acuity. This introduces to the debate a facet of the safety issue far different from the risk of eye disease focused upon by stakeholders opposing optician sight testing services. Compromised visual acuity represents danger on the job, at home and on the roads.

In Health Canada’s 1996-1997 Report Statistical Report on the Health of Canadians\textsuperscript{15}, 15% of Ontario residents (approximately 2,000,000 people) stated they had had an eye examination 3+ years ago or never. There is no data to break that number into age groups or to determine how many fall into the ‘never’ category. It is, nonetheless, an alarming statistic that can be addressed by developing a wider screening process that includes a range of access including simple vision screening as performed in the schools and elsewhere to optician-performed refractometry.

4.5 Public Education
Whether out of curiosity, need, or budgetary restraints, consumers take advantage of stand alone sight testing services. The first benefit for them is improved visual acuity to perform daily functions such as driving and work requirements. As well, the standardized and regulated process of interview and selection that takes place prior to an optician providing the sight test acts as a

\textsuperscript{15} Statistical Report on the Health of Canadians-Determinants of Health/Health Services/Eye Examinations
means of providing vision health care education and referral as appropriate.

The College of Opticians of Ontario has consulted with stakeholders on the development of their Standards of Practice document and the required interview protocol. The OOA and the OAC have been part of that dialogue. The OOA and the OAC believe the resulting College documents are not only effective tools for eliminating those individuals who are not appropriate candidates for an optician-performed sight test, but will serve as triggers for discussion through which the optician can answer questions and provide direction.

4.6 Appropriate Referral
Opticians are frequently the first professionals selected by consumers when information about vision care is required. Opticians are accessible and approachable in widely spread retail settings. As regulated professionals, opticians routinely recognize questions and complaints that lead them to suggest specialized attention to clients. Through their primary education Ontario opticians are trained to recognize ocular anomalies and to refer when they observe symptoms other than normal.16

A study that was reported in The International Journal of Pharmacy Practice (2001)17 is instructive. Most customers in the study were found to consult for advice on managing their eye complaint rather than asking for a product. Difficulty in accessing the GP was the main driver for customers to consult a pharmacist. Others considered the complaint too trivial to trouble their doctor. This parallels the experience of opticians whose clients are often unsure if their complaint is minor or serious.

In the same study, 34% of consumers were conditionally referred to another health professional and 15% were directly referred, usually to a GP. It was concluded that the referrals were appropriate as all but one customer received a prescription from the GP.

16 Seneca College Outline: OPT104 Anatomy & Physiology of the Eye
17 International Journal of Pharmacy Sept. 2001-Responding to Red Eye
British Columbia opticians have been providing refraction for consumers for several years. Initially they used a telehealth model similar to that used by opticians in Alberta. In 2004 after a great deal of consultation the government announced a new opticians’ regulation that would allow opticians to perform automated sight testing independent of physician oversight and to use the results of those tests to make eyeglasses. In the course of fulfilling their regulatory duties the College of Opticians of British Columbia conducted a survey of refracting opticians to develop statistics on referrals made. In that survey there were close to 40,000 refractions performed. The average referral rate was approximately 1 in 5.\textsuperscript{18}

Due to the lack of formality in the referral structure between opticians, optometrists and ophthalmologists it is impossible to develop statistics on how many of those referrals resulted in a diagnosis. What we mean by this is that when an optometrist makes a referral to an ophthalmologist there are referral fees involved and there is a protocol that requires the receiving professional to report his/her findings to the sending professional. Both protocols allow for statistical data to be developed. Opticians are only rarely in a position to make a direct referral if, for example, they have developed a friendly professional relationship with a nearby physician or optometrist. The optician may suspect that the client needs to be seen by an ophthalmologist but the gateway to the ophthalmologist is a visit to an optometrist. This wastes time and money. When opticians gain legislation allowing them to perform refractometry it will be possible to make a direct referral.

4.7 Multi-layered Screening Protocols

The College of Opticians of Ontario Guidelines for Referral will be clear in not only requiring opticians to retrieve health history from clients but also to recognize articulated complaints that are typical to symptoms of eye disease or other eye-related conditions. Frontline health care service providers are without question effective in

\textsuperscript{18} COBC Refracting Opticians Survey
serving as a conduit to both information and referral. There are many easily observable symptoms that can trigger referral such as pupils of markedly different size or a differential in the ability of the eyes to move in tandem.

Ontario Health Minister George Smitherman has stated that a Family Physician referral may eventually become necessary to access OHIP-covered eye exams. A Family Practitioner-centred vision care model is consistent with the AAO guidelines for frequency of eye examination as well as with the conclusions drawn by Dr. Steven R. Shields, assistant professor of ophthalmology, Saint Louis University School of Medicine, and director, Glaucoma Service, Saint Louis University Eye Institute. In his paper, which appeared in the peer-reviewed journal Postgraduate Medicine Dr. Shields found, “Periodic visual acuity testing is adequate screening for persons up to age 40 who are at low risk for occult eye disease.” Dr. Shields further suggests that a Snellen test (an ordinary eye chart) is adequate testing for low risk individuals between the ages of 6 and 40 years.

Once opticians have been formally integrated into the vision-screening network, Family Practitioners can more effectively and economically triage patient needs by referring for standalone sight tests when required.

5.0 Safe Choices
5.1 Regulation/Legislation Enables Safe Choices
It is clear that all governments recognize the need for change in existing eye care models to support the Canadian universal health care concept. Studies have been done both in the United States and Canada, reflecting on ways to contain costs while respecting the need for continued high standards of care. The considered advice evolving from these several commissions and task forces is to discover methods of maximizing existing human resources. In other words, before engaging in additional expenditures, make the most of what you have.

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19 Toronto Sun Newspaper-May 29, 2004 They Just Don’t See Eye To Eye
20 Post Graduate Medicine Oct 2000-Managing Eye Disease in Primary Care/How to Screen for Occult Disease
The Pew Commission Report on Reforming Health Care Workforce Regulation\textsuperscript{21} is well respected and often quoted with reference to the re-shaping of health professions. The Commission produced 10 recommendations (attached) all of which are captured by Ontario’s Regulated Health Professions Act. In summary, these recommendations promote competency standards, regulatory oversight including public representation, public education about the profession, professional mobility, safety of performance, enabling mechanisms to allow professions to evolve their scope of practice and requirements for practitioners to demonstrate their competence throughout their careers.

It is for this reason that new legislation for health care professionals focuses on regulatory governance structures that ensure uniform public accountability and allow for flexibility in assignment of reserved activities. These legislative principles are mirrored in the decisions by the Alberta and British Columbia governments to support regulation for opticians to perform refractometry and in the case of British Columbia, to prescribe for dispensing.

5.2 Education and Technology Lead Change
It is always a challenge for government, professions and members of the public to shift to new models of health care delivery, particularly when there are overlapping scopes of practice. The dilemma has been aptly put by Barbara Safriet, a member of the Pew Commission, speaking to the National Summit on State Regulation of Health Professionals in the 21\textsuperscript{st} Century.\textsuperscript{22} “The real issue is we have an increasing disjunction between legal authority and clinical ability. The law says who is allowed, but it has not kept up very well with the question of who is able.” And she further stated, “The law always drags behind developments.” This is particularly true in the matter at hand since emerging technology and professional education have outstripped the commitment of legislators to implement the fundamental spirit of umbrella legislation that has already been enacted.

\textsuperscript{21} Pew Health Professions Commission-Considering the Future of Health Care Workforce Regulation (1997)
\textsuperscript{22} CLEAR (Council on Licensure, Enforcement And Regulation)-National Summit on State Regulation of Health Professionals in the 21\textsuperscript{st} Century-May 1999
It is the belief of the OAC that visionary leadership identifies innovative pathways that make good public policy and result in greater choices and better results for consumers. The new regulations for optometrists and opticians announced by the BC government are reflective of this concept.

5.3 Historical Perspective
Ontario opticians have earned the confidence the Ontario government. They have historically demonstrated their commitment to serve the public interest and to be responsible members of the vision care community. Opticians in Ontario have taken a deliberate path toward higher standards of education, uniformity of service and career progression. They have demonstrated leadership at a national level in the development of national competency standards for dispensing and refracting.

Both the College and sight testing opticians acknowledge the necessity for consumer education and careful selection of appropriate candidates for optician-performed refractometry service. The College has taken guidance from experience in other jurisdictions in preparation for developing its own regulatory templates.

5.4 Limitations on Optician-performed Refractometry
The College of Opticians of Ontario has reached out to stakeholders for input into the development of their Standards and Guidelines. The OOA and the OAC offer comment on some of these Limitations.

- Age restrictions – The OOA and the OAC support a recommended age bracket of 20 through 65 as suitable to exclude a significant portion of those individuals who are not suitable for automated sight testing.
  - Age is the greatest risk factor for the diseases described by the Canadian National Institute for the Blind as the leading causes of visual impairment- Age Related Macular Degeneration, Cataract and
Glaucoma and Diabetic Retinopathy\textsuperscript{23}. Studies have shown that the incidence of these diseases is greater after age 65. Consequently the regulation will eliminate those individuals as candidates for optician-performed sight testing. The COO will provide other screening categories (commented on elsewhere in this document) that have sensitivity to eliminate the small number of consumers between 50 and 64 who may require specialized screening.

- \textsuperscript{24}The Estimated Specific Prevalence Rates for AMD as published by Prevent Blindness America (PBA), indicates
  - AMD affects .5% of the population over age 50. Between the ages of 50 and 75 the incidence of AMD is fairly stable running between 1-2 percent of that age group. The figures take a dramatic leap after age 75. The CNIB estimates that one in three Canadians will have clinical signs of AMD by age 75 and that figures leaps to one in two by age 90.\textsuperscript{25}
  - Cataract affects 6% of the general population. Starting at age 50 the incidence of cataract sits at about 2 per cent of that age group, and rises at age 60 to 10% of the age group. By age 80 between 60 and 75 percent of the age group will suffer from cataract. Cataract causes a thickening and clouding of the crystalline lens therefore negatively impacting visual acuity, which is a trigger for referral.
  - Diabetic Retinopathy occurs in 1.6% of the general population. It strikes
approximately 1% of those people ages 40 – 49, and at age 50 begins to climb until it spikes at age 70 at slightly less than 6 per cent for whites and blacks, and 10% for Hispanics. This eye disease is best diagnosed by a physician 3-5 years after onset of diabetes

- Glaucoma occurs in .6% of the general population. It strikes those between ages 50 – 64 at a rate of approximately 2%-4% of that age group and escalates dramatically after age 70.

The population demographics and environmental circumstances are similar enough between the United States and Canada that we can safely extrapolate data that is equally applicable in this country.

The College Standard will eliminate individuals over 65 as candidates for a standalone sight test and the College will require opticians to educate the public to the COS guidelines for frequency of eye examination.

- There has been fair evidence that for healthy adults a vision chart was the best monitor of onset of eye disease. The OOA and the OAC believe that the COO protocols surrounding optician-performed sight tests will provide a more highly refined referral mechanism than that recommendation. This in turn should result in better eye health outcomes for Ontario consumers.

- The lower age threshold in the regulation is reasonable. The major changes in physiology affecting vision take place from birth to 20. Infants at birth are all farsighted (approximately 2 dioptres). This farsightedness ordinarily decreases in most by age 2 and levels off to zero by age 6. There is a greater prevalence of myopia after age 8 leveling off

[26 Development of Refractive Error in Typically Developing Children and In Children With Down’s Syndrome]
at puberty. Myopia typically worsens throughout the teen years and levels off in adulthood.

- The Department of Ophthalmology, Odense University Hospital, Denmark did a 2-year study on myopia progression in children 9 – 12 years of age. They revisited the same cohort of children 8 years subsequent to the study when the children were 17-20 years of age. They found the mean increase to be approximately 2.37 dioptres.27
- Refraction has been found to be stable for adults between the ages of 20 and 40 at which point most people require vision correction for reading.28

- Illnesses and Conditions- Individuals should be excluded from an automated sight test who suffer from diabetes, high blood pressure, heart disease, glaucoma or who have a personal family history of eye disease unless a physician is treating their health condition. Once an individual suffering from any of these diseases is under care there is no valid reason why the supervision physician should not refer to an optician for an ophthalmic lens update.

  - An eye health examination is not an effective tool for diagnosing diabetes, high blood pressure or heart disease but it is an effective tool for monitoring those conditions once having been diagnosed.
    - It is important for people with diabetes to have regular retinal examinations. Approximately 5%-6% of the population suffers from diabetes. Half of those Canadians are at risk for sight threatening diabetic retinopathy.
    - Uncontrolled diabetes can lead to glaucoma, cataracts, heart disease and diabetic retinopathy.

27 Myopia in teenagers- An eight-year follow-up study on myopia progression and risk factors. H. Jensen
28 Gross & Erickson 1987
- People who require vision correction and who suffer from diabetes, glaucoma, cataracts, and heart disease may have need for changes in their lenses to improve visual acuity separate and apart from their regular visits to a physician or optometrist. Once under the supervision of a physician or optometrist these individuals should be able to access sight testing services from opticians.
- The COO Standards and Guidelines will eliminate as candidates for optician-performed sight tests those individuals with diagnosed diabetes who are not under the care of a physician or optometrist.

- Symptoms – The Canadian Ophthalmological Society (COS) Policy Statement on ‘Appropriate Referral’\(^\text{29}\) provides guidance, which the OOA and the OAC endorse as to symptoms that should trigger the optician to advise referral. With the exception of three, the listed symptoms are easily observable or notable without special equipment. The COS Policy states:
  - A nonmedical practitioner (the COS describes an optometrist as being a nonmedical practitioner) providing services to any person should refer that person to a licensed physician and surgeon for definitive diagnosis and treatment at any time the patient requests, when an eye disease or central nervous system disorder is suspected or when the nonmedical practitioner notes:
    - Failure to achieve corrected 20/40 visual acuity in either eye, unless the cause of the impairment has previously been medically confirmed and appropriately treated.
    - Complaints of flashing lights, recent onset of floaters, haloes, transient dimming or distortion of vision, obscured vision, loss of vision or pain

\(^{29}\) COS Policy Statements and Guidelines-Appropriate Referral
in the eyes, lids or orbits, double vision or excessive tearing

- Reports of suspected or real permanent or temporary loss of any part of the visual field
- Presence of a tumour (as reported by the client – OOA/OAC comment) swelling of the eyelids or orbit or protrusion of one or both eyes;
- Presence of detected opacities or abnormalities in the normally transparent media of the eye, the ocular fundus or the optic nerve (not observable by optician – OOA/OAC comment);
- Presence of inflammation of the lids, conjunctiva or globe
- Strabismus or maligned eyes, whether permanent or transient
- Rapid or unexpected changes in optical measurements, even though the vision may be fully correctable. Intraocular pressure suspected to be above normal (currently opticians are not able to measure intraocular pressure within their scope of practice. Automated tonometry (pressure reading) is available and could be provided by opticians in much the same way as blood pressure testing is provided in drug stores);
- Anisocoria (unequal pupil size)
- Any case that does not respond normally to routine testing

- Previous Eye Health Examination – The OOA and OAC endorse, as does the Canadian Ophthalmological Society, guidelines for frequency of eye examination as set out by The American Academy of Ophthalmology (AAO).
  - The AOA recommends that adults between the ages of 20-29 should have an eye health examination once during that period.
  - Between 30-39 individuals should have two eye health examinations.
  - Between the ages of 40 and 64 an eye health examination is recommended every 2 to 4 years.
• Rapid change of lens strength required – If the required lens power changes by 1.00 dioptres of strength or more over a 6-month time frame or if there is a change of 2.00 dioptres since the last prescription, the opticians should refer that client to a physician. This applies to spherical as well as cylindrical components.

The natural refractive power of the eye is dependant on the curvature of the cornea, the power of the crystalline lens of the eye, the length of the eyeball from front to back and the radius of the eyeball. Any physiological changes in one or all of those components will result in changes in vision. Conditions that create pressure within the anatomy of the eye will have the affect of altering the physical optics and this will be reflected in the requirement for a change in vision correction.

In the age group under consideration vision is normally stable with the major change taking place around age 40 when correction for reading is typically required. Between ages 40 and 45 most people will start requiring vision assistance for reading. The reading power will increase gradually over a period of 10 years and then level off at around +2.50 dioptres. This establishes a norm for reading power in the age group 40-50.

  o A study of refractive changes of individuals between the ages of 20 and 40 years revealed refraction changes very little during that period. Although it is normal for children to experience an increase of –0.50 to –1.00 dioptre of power per year, for an adult, an increase of –1.00 dioptre of power over a 6-month period would indicate a dramatic steepening of the cornea and raise concern about the possibility of kerataconus.\textsuperscript{30}

Because the presence of Diabetes, Glaucoma, Age Related Macular Degeneration and Cataract have an influence on
either the radial or axial length of the eyeball, the curvature of the cornea or the thickness of the crystalline lens, dramatic changes in required lens powers can signal concern and should trigger referral.

For example:
- If the cornea becomes steeper, the physical optics of the eye will no longer bring light to a point of focus and the individual’s visual acuity will decrease. Refraction will reveal the necessity for a change in eyeglass/contact lens power.
  - Increased intraocular pressure is a symptom of glaucoma and sudden onset can cause a progression of up to 1.50 D of myopia. Such occurrence would trigger referral for an eye health examination.
  - People who are farsighted (called hyperopia) are at an increased risk for glaucoma because the anterior chambers of their eyes are shallow, reducing the ability of the eye to drain away tears. Should this become a problem the ocular pressure pushing outward would cause a change in the physics of the visual system resulting in compromised visual acuity and a change in refraction.
  - Cataracts may start to develop around age 40-45. While it isn’t unusual for a myope to require small increments of negative power, it would be unusual for a hyperope to swing in the direction of less positive power. When cataracts start to form the crystalline lens will begin to thicken providing the eye’s natural vision system with more positive power than it previously had. The hyperope will begin to be more comfortable with less positive power.

- High Minus or Plus Powers – Individuals whose lens powers are considered ‘high’ are more likely to develop glaucoma. A referral for an eye health examination should be triggered if the client requires lens powers exceeding
–8.00\textsuperscript{31} dioptres or +8.00 dioptres.

- Individuals with high myopia are at greater risk for conditions such as retinal detachment than those with lower lens powers due to the increased length of the eyeball as compared with average, and the resultant stretching and thinness of the retinal layer covering the back of the eyeball.
- Individuals with high hyperopia are at greater risk for conditions such as certain types of glaucoma due to the shorter than average length of the eyeball and the resulting pressure placed on the ducts that drain tears.

- History of Eye Surgery – Automated sight tests should not be performed on individuals who have had surgery for a detached retina, refractive laser surgery, corneal transplant, Inter-ocular lens implant.
- Visual Acuity-The measurement of visual acuity has been indicated by several authoritative bodies to be a sensitive bell-weather of eye disease. A Visual Acuity is the first measurement recommended for each of the eye diseases listed in the AAO Summary Benchmarks For Preferred Practise Patterns\textsuperscript{32}. The COS Policy Statement on Referral recommends as its standard, failure to achieve a Visual Acuity of 20/40 in each eye. The OOA and the OAC support this standard.

\section*{6.0 OVERVIEW OF KEY PUBLIC ISSUES}

The purpose of all health regulations and legislation is to protect the public from risk of harm. Many provincial health acts have, in recent years, been restructured and refocused on several additional over-arching principles. These core principles include:

- A scope of practice should not be exclusive to any group or groups of health care professionals. Instead, health commissions have recommended and governments have

\textsuperscript{32} American Academy of Ophthalmology, October 2003-Summary Benchmarks for Preferred Practice Patterns™
acted to legislate in favour of listing restricted or reserved ACTS.

- As a corollary to this fundamental construct is the position that these restricted or reserved acts may be performed by ANY health professional who
  - Has the training to do so AND
  - Can demonstrate the ability to do so.

Additionally, reports and recommendations of health commissions including the Schwartz commission Report, the Mazenkowski Report, and The Manitoba Law Reform Commission Report, in detailing ways to more effectively make use of health systems have uniformly recommended that it is in the public interest to:
  - Have a menu of choices for consumers seeking a health professional to perform a service
  - Make the most effective use of the existing array of health care providers
  - Make provision for the natural and desirable career progression of professionals.

These concepts are clear and should be applied with an even hand to the request for optician-performed refractometry in Ontario.

The act of sight testing is not a restricted or reserved activity under Ontario legislation. This is not – or should not – be at issue. Ontario opticians are not asking for authority to perform a reserved activity. Optician-performed Refractometry would allow opticians to fine tune existing lens powers under rigidly controlled standards and guidelines. The only matter under consideration is whether Ontario opticians have met the burden of responsibility required by the legislation.

**The Basic Training of an Optician Provides the Appropriate Underpinning**

- The training programmes used by opticians in Ontario are well respected both nationally and internationally and continue to be accepted by eight Canadian provincial regulatory bodies as appropriate pathways to licensing and certification. The integrity of the COO registration examination
has been affirmed as meeting a standard equivalent to that used by the 8 other regulatory bodies.33

Sight Testing Opticians Must Be Required to Have Specialty Training to Perform This Service

- The College of Opticians of Ontario has used a subset of the National Competency Matrix upon which the Refractometry training programme will be based. Every sight-testing optician will have to successfully challenge an advanced practice examination including those opticians who have previously performed sight-testing services prior to regulation.

There Is a Consumer Need for Optician Performed Sight Tests

- Optician-performed Refractometry has not been widely used in Ontario due to the pushback this practice received from other stakeholders who initiated complaints against refracting opticians. Fortunately the projects in both British Columbia and Alberta have provided ample proof of consumer satisfaction.

There Has Been No Injury to Consumers as a Consequence of Optician Performed Sight Tests

- The OAC cannot speak to any official complaints that may have been generated by consumers unhappy with the service or who have had cause to seek medical attention as a consequence of their optician performed sight test. Investigation and disciplinary matters are the responsibility of the regulatory body and the College of Opticians of British Columbia is able to address that issue.

In 2000, the OAC contacted the opticians’ and ophthalmologists’ regulatory bodies in the three provinces in which opticians have performed Refractometry. At that time the only complaints

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33 Professor Ernest Skakun
that had been lodged were at the instigation of or by competing stakeholders.

7.0 Refractometry Conclusion

The OOA and the OAC suggests that Ontario opticians have met the burden of responsibility set out in the Regulated Health Professions Act and they have performed due diligence. The teaching institutions have developed training programs for refractometry that meet a national standard. The College has developed regulatory requirements for refracting opticians that will ensure safe performance.

Canadian opticians believe Optician-performed refractometry is a safe way to economically expand consumer choice, provide an effective source of referral and relieve pressure on other health professionals.

It is the belief of the OAC that visionary leadership identifies innovative pathways that make good public policy and result in greater choices and better results for consumers. Quality of outcomes is the main challenge to consumers and governments as they try to rationalize health care in a fiscally responsible fashion.

Optician-performed refractometry is a safe way for the government to support universal vision screening without exaggerated costs to consumers.

We urge HPRAC to recommend to Minister Smitherman that the government support an increase of scope of practice opticians to implement the regulation.
8.0 Regulation of Dispensing

8.1 National Standards
Dispensing is a regulated activity in all ten Canadian provinces. Legislative discussion over the last 50 years has always arrived at the conclusion that regulated standards are in the best interest of Canadian consumers. Some stakeholders would propose that deregulation or partial de-regulation of dispensing is appropriate. Other stakeholders who share dispensing with opticians in their scope of practice seek to delegate dispensing functions to untrained professionals.

8.2 Dispensing More Critical Than Prescribing
The OOA and the OAC believe that appropriate dispensing of eyewear is arguably more critical to a positive visual result than the lenses prescribed. The most scientifically arrived at lens powers have no affect until they are installed in a frame. Prescribing is considered by all legislative authorities to be an activity requiring regulation. Dispensing – the act that enables the prescription – needs also to be a regulated activity.

8.3 Labour Mobility
In order to fulfill the requirements of the labour mobility clauses in the Agreement on Internal Trade, Canadian regulators, including the College of Opticians of Ontario have spent considerable human and financial resources over the past 6 years developing standards and agreements that have enabled the signing of a Mutual Recognition Agreement amongst provincial regulatory bodies. Nine of the ten provincial regulatory bodies have signed this document. The MRA allows regulated opticians to move from one province to another without entry-to-practice barriers. If dispensing were to become even partially deregulated in this province, Ontario opticians would lose their ability to easily pursue a livelihood in other Canadian provinces.

8.3 Retail Environment and Public Interest
Unlike optometrists and physicians, Ontario Opticians are predominantly employed in a retail environment. As such work place is not controlled by public interest regulation or institutional rules such as is the case with pharmacies or hospitals, Opticians often find themselves in situations of conflict between the demands
of their employers versus the needs of their clients and therefore appreciate the precise standards and rules of conduct imposed by the College of Opticians.

The OOA and OAC support the continued regulation of opticianry as a means of ensuring that the needs and expectations of the public are met and that the trust the consumer places in their optician is well placed.

The OOA and OAC believe that there needs to be increased authority so that retail premises can be regulated. While the OOA and the OAC feel that the RHPA includes provisions that are sufficient to protect the public from most harm, the OOA and OAC feel they do not protect the public from harm associated with unauthorized practice. Because of the retail nature of dispensing, the College of Optician needs to have some control over the place where dispensing takes place. This could be similar to The Drug and Pharmacies Regulation Act. Currently the College must go through a lengthy, expensive court process, identify the dispenser, prove that the dispenser is not a registrant of the College and finally to prove the person was dispensing. The corporation employing such a person often mounts a vigorous defense. A good example of this is the court case involving The King Optical Group, its employee Sandra Wadden and the College of Opticians of Ontario. Not only did this process utilize valuable court resources but also the costs associated with the process, both to the taxpayer and by the College and its members was very high. The College is diligent and usually wins at these proceedings, as it did in the King/Wadden case, however while all this takes place the perpetrator may continue to carry on dispensing to unsuspecting consumers.

The College of Opticians has demonstrated its ability to regulate effectively and is proactive in enforcing the prohibition against the performance of its controlled act by unauthorized persons, the rules of professional conduct and the standards of practice. Quality assurance programs currently involve mandatory continuing education. The College continues to regularly review its standards of practice and its continuing education requirements.
Different interpretations of harm by different eye-care industry stakeholders have definitely led to difficulties. Opticians whose practice involves solely the dispensing of subnormal vision devices, contact lenses and eyeglasses, are very cognizant of the various harms to patients and third parties that can result from poor dispensing. Surgeons and physicians on the other hand tend to believe that only death, or morbidity are serious risks. Corporate entities demonstrably see no risk except that to the bottom line. The OOA and the OAC believe that the public of Ontario relies on the protection accorded by maintaining dispensing as a controlled act.

Opticians dispense eyeglasses, contact lenses, prosthetic devices (artificial eyes) and hearing aids. The OOA and the OAC suggest that there may be enough risk of harm in dispensing these appliances to warrant inclusion in the list of controlled acts.

**8.5 Title Protection**
Title protection is necessary but is an inadequate means of protecting the public from harm. The title ‘Doctor’, such as that awarded optometrists, leads the patient to believe that the practitioner is a medical doctor. In an optical dispensary any one who chooses can pose as an optician. The College requires that all members wear supplied identification badges. This helps but it is difficult to enforce and the public is not informed enough to be vigilant.

**8.6 Opticians Regulated Under the Optometric Act**
The suggestion that opticians should be regulated under the optometric act ignores the inherent conflict of interest in such a regime. Some have questioned whether or not Opticians should be regulated under the optometric act. This would be extremely detrimental to consumer interest. The whole purpose of professional regulation is to avoid inherent conflicts by avoiding vertically integrated professions. There is already a blatant conflict of interest in the vertical integration of activities performed by optometrists in both prescribing and dispensing, although optometrists frame this practice as performing ‘total eye care’. To have opticians regulated by a group that has a vested interest in
reducing competition would be a regressive initiative for professional regulation.

8.7 Readymade Reading Glasses
Consideration should be given to the regulation of off-the-rack reading glasses. As consumers approach the age of 40, it is typical that they will require eyeglasses for reading. The four biggest threats to vision health are age-related. Consequently at the point when reading glasses become a necessity, consumers should be seeking an eye health examination. Historically off-the-rack reading glasses have been considered exempt from professional regulation under the premise that they are no more than magnifiers mounted into a frame. Manufacturers of this off-the-rack product now make them in a bifocal and multifocal (invisible bifocal) format. This allows consumers to self-prescribe.

Opticians believe that off-the-rack readers should fall under the regulatory jurisdiction of health care professionals. This may be politically unrealistic. The current philosophy of health regulation strives to provide consumer choice. Opticians believe that choice should be based on an understanding of the health risks and that at a minimum all off-the-rack reading glasses should come with educational information about the necessity for an eye health examination as well as about the potential in an aging population for eye disease.

9.0 Other Issues
The OOA and OAC are pleased to address some of the questions asked by HPRAC committee members at the oral presentations made on April 21, 2005.

9.1 Changing the Lens Powers
Images are formed on the retina by the optical system of the eye. The retina is located at the back of the eyeball. When refraction is performed the testing instrument by international convention sits approximately 14 mm from the retina. The numbers that are developed from the refraction (the prescription) indicate that

- If an optical appliance is constructed using these precise numbers for the lenses and
• If the optical appliance sits at the same distance from the retina the testing instrument was sitting,
• Crisp images will form on the retina.

If any one of the elements defining the visual result is altered, the other elements must be altered so as to assure the recommended result is achieved.

Since the focusing length of an optical lens is fixed, if you move the position of the lens closer to or farther away from the retina, the desired effect of the original prescription will be lost. Images will focus either in front of or behind the retina. Consequently if it happens that the optical appliance is going to sit at an altered distance from the retina, as a contact lens would, the numbers must be modified to ensure the proper result. There are standard formulae used to determine the modified lens power.

Another scenario where lens powers must be altered also involves dispensing of contact lenses. When a contact lens is applied to the eye it introduces several new optical surfaces that ultimately have an impact on image formation. The resulting power will not be that of the lens alone but instead will be a sum of all the optical elements in the system. Tears are an optical medium. When a contact lens is worn there will be a layer of tears in front of the lens, as well as a pocket of tears between the lens and the cornea. All will refract light and all must be accounted for by using a formula to modify the lens power.

All modifications to the lens are based on the original formula or lens power and serve the purpose of ensuring the visual affect recommended by the original prescriber.
Contact Lens Positioned on Eye

Pocket of Tears

Front Surface of Contact

Back Surface of Contact
9.2 The B.C. Model For Optician-Performed Refractometry

The government of BC supports a model whereby the optician provides automated refracting services for consumers and, independent of physician/optometrist consultation, uses the results of the test to provide optical products for that consumer. It is the view of the BC government that automated technology has made it possible to provide safe and cost effective sight tests for the citizens of BC. The government has identified public education as its only safety concern. There is some concern that without proper information consumers may believe they have had an eye health examination and therefore will not seek appropriate diagnostic and treatment services. For this reason the government has required the regulatory body to develop a requirement for opticians performing refraction to provide clear information to clients about the necessity for seeking an eye health examination. The government has also stipulated that opticians receive appropriate training and that a standard of limitations restrict the profile of consumers who are eligible for optician-performed refracting to healthy adults.