

Senior Project

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March 20, 1994

Introduction

Optometry serves as the primary care providers within the Veteran Administration System. The purpose of this retrospective chart review of one thousand random charts at the Grand Rapids Out Patient Eye Clinic (GROPC) was to elicit referral patterns within this particular multi-disciplinary system. Major systemic and ocular conditions were tabulated. Referral patterns and follow-up reports were reviewed to establish the success of Optometry as the entry point into this complex managed care system. Growing interest in health reform and the defining of optometry's role as primary care providers make this paper a very timely report.

Methods

One thousand random charts were reviewed and tabulations made of all the systemic and ocular conditions encountered. The number of referrals made to medical specialty clinics were recorded for the ocular conditions seen. The four most frequently recorded ocular problems (cataracts, glaucoma, diabetic changes and age related macular degeneration) were broken down into those diagnosed previously and those diagnosed at GROPC. Each referral made from these four categories was recorded and explained. It was also noted if there was a follow-up report in the chart.

Results

Of the one thousand charts reviewed, one hundred and five were referred showing a 10.5% referral rate overall.

Of all the charts reviewed:

10.5% were referred

14.3% were negative exams (ie. no eye findings or refraction change)

16.3% were refraction only

41.1%

Therefore 58.9% were "medical eye " exams managed by the optometry service at GROPC. Of these examinations 13.1% also included a change in the spectacle prescription.

The patient population at GROPC has a high rate of medical problems. Listed below is the percentage of patients with one or more diagnoses. The information was only included here if the patient was being medicated for their specific condition.

One diagnosis	21.9%
Two diagnoses	19.9%
Three diagnoses	9.2%
Greater than 3	4.2%

Table I is a break down of the systemic problems noted in the chart review in order of most common.

TABLE I

Hypertension	31.7%	MS	1.3%
Diabetes	28.7%	S/P Head Trauma	1.3%
IDDM	18.0%	Migraines	1.1%
NIDDM	10.7%	Headaches	0.7%
Heart problems	17.3%	Asthma	1.1%
Psychiatric diagnosis	8.8%	Rheumatoid	0.9%
COPD	5.7%	Peripheral vascular	
Elevated lipids &		disorder	0.8%
cholesterol	5.7%	Parkinson's	0.5%
Arthritis	5.1%	HIV	0.3%
CVA	4.6%	Herpes Zoster	0.3%
Lung conditions	3.4%	Crohn's	0.1%
Cancer	2.7%	Hepatitis B	0.1%
Thyroid	2.2%	Syphilis	0.1%
Gout	1.5%	Neurofibromatosis	0.1
Epilepsy	1.4%	Malaria	0.1%

Table II is a break down of the ocular conditions managed at GROPC in the order of common.

TABLE II

	<u># seen</u>	<u># referred</u>
S/P Trauma	45	0
Hypertensive retinopathy	29	0
Retinal degeneration	29	1
PVD	29	1
Double vision	25	0
Strabismus	20	0
Amblyopia	18	0
Blepharitis	18	0
Field loss	12	2
Pterygium	12	5
BRVO (including S/P)	11	2
S/P Retinal detachment	11	0
Keratoconjunctivitis	10	0
Foreign body	10	0
Asteroid Hyalosis	10	0
Red Eye	9	0
Transient loss of vision	8	4

TABLE II Continued

White without pressure	7	0
Epiretinal membrane	7	1
Blepharoconjunctivitis	6	1
EOM palsy	6	0
AION	5	3
Macular hole	5	1
POHS	5	0
Acne Rosacea	5	2
Allergic reaction	4	0
Optic atrophy	4	2
Iritis	4	1
Retinal holes	4	0
K sicca	4	0
Atrophic holes	4	0
S/P Bell's palsy	4	0
Peripapillary atrophy	4	0
Internal hordeolum	3	0
Hollenhorst plaques	3	0
NLP eye	3	0
S/P PKP	3	0
Prosthesis	3	0
Herpes simplex	3	0
Sub conjunctival hemorrhage	3	0

TABLE II Continued

Choroidal Nevus	3	0
Medullated nerve fibers	3	0
Ectropion	3	0
Chorioretinal scar	3	0
Retinal detachment	2	2
Corneal Furrow Degeneration	2	0
Retinoschisis	2	1
Corneal Degeneration	2	1
Amiodarone keratopathy	2	0
Disc drusen	2	0
S/P CRVO	2	0
Entropion	2	1
Chalazion	2	0
Corneal abrasion	1	0
Hippel disease	1	1
Band keratopathy	1	0
Iris cyst	1	1
Cavernous sinus aneurysm	1	1
Best's disease	1	1
Uveitis	1	0
Episcleritis	1	0
Impaired dilator	1	0
Horner's syndrome	1	0

In Table III the four ocular conditions most frequently recorded are reviewed more closely. The total # and % of each is noted as well as the total # and % of each referred and the % of each condition referred. The top four are broken down even further to evaluate how many patients were previously diagnosed and how many were diagnosed at GROPC. Included is a case by case report of what was referred and the # of follow-up letters received.

TABLE III

Glaucoma

Previously diagnosed	54 (54%)
Diagnosed at GROPC	20 (20%)
Questionable glaucoma	62 (62%)

13 Referrals

- 6 Evaluation due to poor compliance
- 2 Narrow angle glaucoma with prior angle closure and decreased HVF
- 3 End stage glaucoma
- 1 Pigmentary dispersion syndrome
- 1 Macular edema (?) FA and laser evaluation

2 Follow-up reports

TABLE III Continued

Age related macular degeneration

Previously diagnosed	16 (1.6%)
Diagnosed at GROPC	63 (6.3%)

5 Referrals

- 2 SRNVM
- 2 Old (subsequently wet) scar
- 1 SRNVM bleed 20/20 to CF

2 Follow-up reports

Cataracts

Previously diagnosed	30 (3.0%)
Diagnosed at GROPC	94 (9.4%)
Previous surgery	62 (6.2%)
Irvine-Gass Syndrome	3 (0.3%)

37 Referrals

- 21 to Ann Arbor Ophthalmology VA Service
- 12 to local physician
- 4 for YAG laser of secondary membrane

0 Follow-up reports

TABLE III Continued

Diabetes

NIDDM

Diagnosed at GROPC

NVI	1
BDR	9
ME	1

IDDM

Diagnosed previously

NVI	1
BDR	7
PDR	5
ME	4

Diagnosed at GROPC

NVI	6
NVE	1
NVD	5
BDR	38
PPDR	10
PDR	7
ME	11

18 Referrals made for diabetic changes

7 for pan retinal photocoagulation

7 for macular edema

2 for vitreous bleed

1 for subretinal neovascular membrane

1 for proliferative diabetic retinopathy

3 Follow-up reports received

In Table IV Diabetes, Cataracts, ARMD and Glaucoma are recorded as the # of patients seen, the # and % of referrals made and the percentage of each disease referred.

TABLE IV

Diabetes

IDDM 180

NIDDM 107

287 = 28.7% of all patients seen with 18 referral or 1.8% of total patients seen were referred for diabetic changes and 6.3% of the diabetics were referred

Cataracts

Previously diagnosed 30

Diagnosed at GROPC 94

124 = 12.4% of all patients seen with 33 referrals or 3.3% of all the patients seen were for cataract evaluation for surgery and 27% of the cataracts were referred

ARMD

Previously diagnosed 16

Diagnosed at GROPC 63

95 = 9.5% of all the patients seen with 5 referrals or 0.5% of all patients seen were referred for ARMD and 5.3% of ARMD were referred

TABLE IV Continued

Glaucoma

Previously diagnosed 54

Diagnosed at GROPC 20

74 = 7.4% of all patients seen

with 13 referrals or 1.3% of all patients seen were referred and 18% of glaucoma patients seen were referred

Questionable Glaucoma

62 of all the patients seen or 6.2% were worked up for possible glaucoma

Discussion

Optometry serves as primary care providers for the Veteran's Administration, in this case the Grand Rapids Out Patient Clinic. The purpose of this retrospective chart review was to determine what is managed by the eye clinic and to elicit referral patterns within this particular system. Follow-up reports were noted if received by the eye clinic.

Many patients in this study had multiple medical conditions. Fifty five percent of the patients seen had at least one medical diagnosis. Hypertension and diabetes were noted most frequently. The other conditions noted, as well as the percentage of each, are noted in Table I.

Various ocular conditions were managed at GROPC. Those encountered are noted in Table II, as well as the # seen and the # referred. The ocular diagnoses noted most frequently (glaucoma, cataracts, ARMD and diabetic changes) are reviewed in Table III. These tables show that many different and complicated ocular diagnoses are managed at this facility. They also show the low number of follow-up reports received.

Conclusion

In these days of luming health care reform it is important for optometry to define its role as primary eye care providers. Satya B. Verma, OD in the February 1994 issue of the Journal of the American Optometric Association relates primary (eye) care to the patient's entry point into the health care/eye care system, but states also includes all interventions to keep the patient healthy.

The patient population seen at GROPC has a high incidence of systemic and ocular conditions. The success of optometry as primary care providers can be evaluated on the basis of how well conditions encountered are managed. In this study 58.9% of cases seen were " medical eye" conditions and were managed by the eye clinic. A referral rate of 10.5% indicates that most cases are managed within the clinic.

Management of these complex patients may be improved if the rate of follow-up reports were to increase. Currently many patients are lost to follow-up, which may interfere with the effectiveness of patient care. This pattern may be this particular system or it may indicate a lack of information as to the role optometry can serve in this system or within any health care environment.

It is obvious from the data presented in this study (Tables I-IV) the patients seen at GROPC require a high degree of medical management. If optometry can serve as an entry point into this system, in which patients have an increased level of pathology, then the profession can serve just as effectively in the health care of the general population.