Survey of Recently TPA Certified Optometrists

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Abstract:

A survey of Optometrists was taken immediately following a continuing education course which certified the doctors in therapeutic pharmaceutical use. The survey asked what diseases the doctors would treat and who they would refer to, what pharmaceuticals they would use and not use, what procedures and tests they would perform, order or refer, and how the use of TPA's would effect their practices. A follow-up survey was taken to discover how the doctor's ideas had changed since using therapeutic pharmaceuticals for six months. The paper outlines the survey findings and highlights points of interest.

Introduction:

Optometrists in the state of Michigan recently received the right to use therapeutic pharmaceutical agents (TPA's) in the practice of optometry. Many doctors who graduated before 1987 did not have the required hours of education in the use of therapeutic pharmaceuticals to become certified once the TPA bill was approved. These doctors were required to take an intensive continuing education course to become TPA certified. Immediately after the two week TPA course was completed, the doctors were surveyed to determine what diseases they were planning to treat and who they would refer to if they did not treat, what pharmaceutical classes they planned to use, what tests and procedures they planned to perform, order or refer, and how the use of TPA's would effect their practices. A follow-up survey was conducted to determine how the doctors actually practiced and how their ideas had changed during the following six months with the right to use TPA's.

The survey contained pharmaceuticals included and not included in the TPA law, diseases that could be and could not be treated, and some diseases that were in a "gray area" under the TPA law. The treatment of glaucoma by optometrists in Michigan is under question, "gray area", by the state surgeon general although it is allowed in the TPA law.

Survey Results:

The following are the initial and six month follow-up survey results. The total number of responses from the initial survey was 43. The follow up survey netted 31 responses from the total of 43 mailings. The following results, in spread sheet form, break the doctors up into mode of practice (Solo, OD Group, Corporate, and Institutional) and supply a total for the surveys.

The results when comparing the conditions and diseases that were planned to be treated between the two surveys are, in general, comparable. The area with the greatest difference is the treatment of glaucoma. The initial survey shows a much higher treatment rate than the follow-up survey. This difference is most likely due to the surgeon general's opinion that optometry should not be allowed to treat glaucoma, which was released during the period between the two surveys.

Conditions and Diseases that a					
Mode of practice	Total	Solo	OD group	Corporate	Institutiona
% willtreat/ OD referrral/ MD)	N=43	N=17	N=15	N=7	N=4
yelid					
richiasis	93/2/5	94/6/0	87/0/13	100/0/0	100/0/0
Chalazion	84/2/14	82/6/12	87/0/13	86/0/14	75/0/25
lordeolum	93/2/5	88/6/6	93/0/7	100/0/0	100/0/0
Pediculosis	79/5/16	82/6/12	80/7/13	71/0/29	75/0/25
Canaliculitis	51/2/47	47/0/63	47/7/46	57/0/43	75/0/25
Preseptal cellulitits	35/2/63	24/0/76	40/7/53	29/0/71	75/0/25
Blepharitits / meibomianitits	95/2/3	88/6/6	100/0/0	100/0/0	100/0/0
Conjuntiva					
Acute conjunctivitis	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Chronic conjunctivitis	93/2/5	82/6/12	100/0/0	100/0/0	100/0/0
piscleritits	95/2/3	94/6/0	93/0/7	100/0/0	100/0/0
Scleritits	28/5/67	24/0/76	20/13/67	57/0/43	25/0/75
Subconjunctival hemorrhage	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Conjunctival foreign bodies	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Conjunctival laceration	81/5/14	76/6/18	80/7/13	86/0/14	100/0/0
Cornea	01/3/14	70/0/10	30/7/13	30/0/14	100/0/0
Ory eye syndrome	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Corneal abrasions	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Corneal forgein bodies				************	***********************
Chemical burns	81/0/19	82/0/18	80/0/20	71/0/29	100/0/0
Toxic keratitis	84/2/14	76/6/18	87/0/13	86/0/14	100/0/0
Superficial punctate keratitis	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Exposure keratopathy	98/2/0	94/6/0	100/0/0	100/0/0	100/0/0
Phlectenulosis	88/2/10	82/6/12	87/0/13	100/0/0	100/0/0
Band keratopathy	74/2/24	65/6/29	67/0/33	100/0/0	100/0/0
nfectious corneal ulcer	79/5/16	76/6/18	67/7/26	100/0/0	100/0/0
nterstitial keratitis	47/5/48	29/6/65	53/7/40	71/0/29	50/0/50
Fungal keratitis	49/5/46	24/6/70	60/7/33	71/0/29	75/0/25
Herpes simples dendritic ulcer	53/5/42	53/6/41	33/7/60	86/0/14	75/0/25
Acanthamoeba	16/2/82	0/0/100	13/7/80	29/0/71	75/0/25
uch's endothelial dystrophy	65/2/33	65/6/29	53/0/47	71/0/29	100/0/0
Glaucoma					
Primary open angle	70/9/21	76/12/12	60/7/33	86/14/0	50/0/50
_ow-tension	49/9/42	65/12/23	20/7/73	71/14/15	50/0/50
Angle recession	21/7/72	35/6/59	0/7/93	29/14/57	25/0/75
Pigmentary	33/7/60	53/6/41	7/7/86	29/14/57	50/0/50
Steroid-response	47/7/46	53/12/35	33/0/67	57/14/29	50/0/50
Acute angle closure	16/9/75	6/12/82	7/7/86	43/14/43	50/0/50
Neovascular	5/7/88	6/6/88	0/7/93	0/14/86	25/0/75
Congenital	2/7/91	0/6/94	0/7/93	0/14/86	25/0/75
Anterior Uveitis					
Post trauma	72/2/26	71/0/29	67/0/33	86/14/0	75/0/25
_ens induced	37/5/68	47/0/53	20/7/73	43/14/43	50/0/50
Herpes virus induced	33/5/62	47/0/53	13/7/80	29/14/57	50/0/50
Postoperative	40/2/68	41/0/59	27/0/73	43/14/43	75/0/25
Chronic - nongranulomatous	58/2/40	53/0/47	60/0/40	71/14/15	50/0/50
Chronic - granulomatous	30/5/65	29/0/71	40/7/53	15/14/71	25/0/75

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(% of drugs comfortable using/	Total	Solo	OD Group	Corporate	Institutiona
Plan to use/ Will not use)	N=43	N=17	N=15	N=7	N=4
Topical Antibiotics	91/100/0	94/100/0	80/100/0	100/100/0	100/100/0
Topical antibiotic ointments	91/100/0	94/100/0	80/100/0	100/100/0	100/100/0
Fortified topical antibiotics	51/72/28	41/53/47	60/100/0	57/71/29	50/50/50
Topical steroids	88/100/0	94/100/0	73/100/0	100/100/0	100/100/
Topical mast cell stabilizers	91/100/0	94/100/0	80/100/0	100/100/0	100/100/
Topical NSAIDs	88/100/0	88/100/0	80/100/0	100/100/0	100/100/
Artificial tear solutions	91/100/0	94/100/0	80/100/0	100/100/0	100/100/
Topical beta blockers	79/86/14	88/88/12	73/87/13	86/100/0	50/50/50
Oral beta blockers	30/26/74	24/6/94	33/40/60	43/43/57	25/25/75
Carbonic anhydrase inhibitors	35/33/67	35/18/82	27/40/60	43/43/57	50/50/50
Oral antibiotics	53/33/67	53/12/88	47/40/60	71/57/43	50/50/50
Oral steroids	30/21/79	35/12/88	27/40/60	29/0/100	25/25/75
Topical direct acting miotic	84/93/7	88/94/6	80/100/0	86/86/14	75/75/25
Topical antivirals	72/88/12	82/94/6	47/73/27	86/100/0	100/100/
Topical sympathomimetics	58/67/33	94/100/0	13/53/47	43/0/100	100/100/
Cholinesterase inhibitors	84/91/9	82/82/18	80/100/0	86/86/14	100/100/
Oral hyperosmotics	56/60/40	65/53/47	33/60/40	86/86/14	50/50/50
Combo antibiotic/steroid topicals	86/100/0	94/100/0	73/100/0	86/100/0	100/100/
Topical antifungals	49/67/33	41/53/47	47/80/20	57/71/29	75/75/25
Diagnostic Options	***************************************				
(% of tests and procedures	Total	Solo	OD Group	Corporate	Institutiona
performed/order/referred)	N=43	N=17	N=15	N=7	N=4
CT scan	0/16/84	0/12/88	0/20/80	0/0/100	0/50/50
Flourescein angiography	2/23/75	0/24/76	0/27/73	0/14/86	25/25/50
MRI	2/12/86	0/12/88	0/13/87	0/0/100	25/25/50
Corneal scrapings	51/21/28	47/18/35	33/33/33	86/0/14	75/25/0
B-scan ultrasound	14/28/58	12/24/64	7/33/60	0/43/57	75/0/25
Seidel test	58/16/26	71/0/29	53/13/34	29/71/0	75/0/25
Automated visual fields	98/2/0	100/0/0	100/0/0	100/0/0	75/25/0
CBC	7/40/53	6/35/59	7/40/53	0/43/57	25/50/25
ESR	7/37/56	6/35/59	7/33/60	0/43/57	25/50/25
FTA-ABS	7/35/58	6/35/59	7/27/66	0/43/57	25/50/25
VDRL	7/37/56	6/35/59	7/33/60	0/43/57	25/50/25
Chest x-ray	5/21/74	0/18/82	7/20/73	0/29/71	25/25/50
Schirmer's	91/2/7	100/0/0	73/7/20	100/0/0	100/0/0
Pachymetry	16/37/47	24/35/41	7/33/60	0/43/57	50/50/0
Lumbar puncture	0/16/84	0/18/82	0/20/80	0/0/100	0/25/75
External/internal photography	72/19/9	65/18/17	66/27/7	86/14/0	100/0/0
Stereo photography	42/30/29	35/18/47	33/47/20	57/29/14	75/25/0
Tensilon test	12/21/67	12/18/70	7/20/73	14/29/57	25/25/50
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Drootice Enhance	mant	Total	Solo	OD Group	Corporate	Institutiona
Practice Enhance	************	N=43	N=17	N=15	N=7	N=4
1. % of patients rec	uring TPA'S			7		25
<2%		19	18	~~~~~	14	*****
2-6%	,	53	65	66	***************************************	25
6-10%	· · · · · · · · · · · · · · · · · · ·	26	17	27	43	25
10-20	%	0	0	0	0	0
>20%		2	0	0	0	25
2. % of doctor and s	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
spent with these p	atients.					
<2%		30	18	53	14	25
2-6%		53	65	40	58	50
6-10%	6	12	17	7	14	0 ·
10-20	%	5	0	0	14	25
>20%		0	0	0	0	0
3. Will TPA use requ	uire more staff?					
Yes		14	12	20	14	0
No		86	88	80	86	100
4. Will TPA use requ	uire more			u .		
staff training?						
Yes		88	94	87	100	50
No		12	6	13	0	50
5. Will TPA use requ	uire more space?					
Yes	i	30	18	27	86	0
No		70	82	73	14	100
6. Will TPA use requ	ire more equipme	ent?				
Yes		70	71	73	86	25
No		30	29	27	14	75
7. How much will TP		et				
income assuming	***************************************			•	····	
<2%	***************************************	28	24	47	0	25
2-6%		42	47	47	14	50
6-10%	6	26	24	6	71	25
10-20		2	5	0	0	0
>20%	***************************************	2	0	0	15	0

Mode of	Total	be treated : Solo	OD group	Corporate	Institutiona	
% willtreat/ OD refe		N=31	N=12	N=10	N=7	*************************
***************************************	птаг мо)	N=31	N=12	N=10	N=7	N=2
yelid		74/0/00	00/0/0	70 (0 (00	57/0/40	
richiasis		74/0/26	92/0/8	70/0/30	57/0/43	50/0/50
halazion		84/0/16	75/0/25	100/0/0	71/0/29	100/0/0
lordeolum		100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
ediculosis		68/0/32	83/0/17	50/0/50	86/0/14	100/0/0
Canaliculitis		23/0/76	25/0/75	20/0/80	14/0/86	50/0/50
reseptal cellulitits		10/0/90	8/0/92	0/0/100	0/0/100	100/0/0
llepharitits / meibomi	anitits	94/0/6	100/0/0	80/0/20	100/0/0	100/0/0
Conjuntiva						
cute conjunctivitis		100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
Chronic conjunctivitis		100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
piscleritits		94/0/6	100/0/0	80/0/20	100/0/0	100/0/0
cleritits		32/0/68	25/0/75	20/0/80	71/0/29	0/0/100
Subconjunctival hemor	rhage	100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
Conjunctival foreign bo		97/0/3	100/0/0	100/0/0	86/0/14	100/0/0
Conjunctival laceration		74/0/26	83/0/17	70/0/30	57/0/43	100/0/0
Cornea			00,0,11	10,0,00	3170713	100/0/0
Ory eye syndrome		100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
Corneal abrasions		100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
Corneal forgein bodies		87/0/13	100/0/0	70/0/30	86/0/14	100/0/0
Chemical burns		81/0/19	100/0/0	50/0/50	86/0/14	100/0/0
oxic keratitis		97/0/13	100/0/0	70/0/30	86/0/14	100/0/0
Superficial punctate ke	aratitic	100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
xposure keratopathy	STALILIS	100/0/0	100/0/0	100/0/0	100/0/0	100/0/0
Phlectenulosis		77/0/23	100/0/0	50/0/50	71/0/29	100/0/0
Band keratopathy		65/0/35	67/0/33	50/0/50	71/0/29	******************************
nfectious corneal ulce	-	71/0/29	75/0/25	· · · · · · · · · · · · · · · · · · ·		50/0/50
nterstitial keratitis	!	39/0/61	33/0/67	50/0/50 30/0/70	86/0/14	50/0/50
ungal keratitis		6/0/94	*************************	************************	43/0/57	50/0/50
lerpes simples dendrit	la ulase	29/0/71	0/0/100	20/0/80	0/0/100	0/0/100
Acanthamoeba	ic uicer		33/0/67	50/0/50	14/0/86	0/0/100
uch's endothelial dyst		0/0/100	0/0/100	0/0/100	0/0/100	0/0/100
	ropny	58/0/42	83/0/17	40/0/60	29/0/71	100/0/0
Glaucoma		10/2/07	17/0/75	10/0/00	0.70.71.00	
Primary open angle		10/3/87	17/8/75	10/0/90	0/0/100	0/0/100
.ow-tension		3/0/97	8/0/92	0/0/100	0/0/100	0/0/100
Angle recession		3/0/97	8/0/92	0/0/100	0/0/100	0/0/100
Pigmentary		10/0/90	8/0/92	20/0/80	0/0/100	0/0/100
teroid-response		13/3/84	17/8/75	20/0/80	0/0/100	0/0/100
cute angle closure		13/3/84	8/8/84	20/0/80	14/0/86	0/0/100
leovascular		0/0/100	0/0/100	0/0/100	0/0/100	0/0/100
Congenital		0/0/100	0/0/100	0/0/100	0/0/100	0/0/100
Interior Uveitis						
ost trauma		65/0/35	92/0/8	40/0/60	57/0/43	50/0/50
ens induced		32/0/68	42/0/58	10/0/90	43/0/57	50/0/50
lerpes virus induced	- 1	23/0/77	42/0/58	10/0/90	0/0/100	50/0/50
ostoperative		52/0/48	67/0/33	30/0/70	43/0/57	100/0/0
Chronic - nongranuloma		32/0/68	42/0/58	40/0/60	14/0/86	0/0/100
thronic - granulomatou	ıs	13/0/87	25/0/75	10/0/90	0/0/100	0/0/100

Pharmaceutical Treatment Opt	ions				
(% of drugs used / not used	Total	Solo	OD Group	Corporate	Institutiona
since TPA certification)	N=31	N=12	N=10	N=7	N=2
Topical Antibiotics	100/0	100/0	100/0	100/0	100/0
Topical antibiotic ointments	94/6	100/0	80/20	100/0	100/0
Fortified topical antibiotics	19/81	0/100	40/60	0/100	50/50
Topical steroids	94/6	83/17	100/0	100/0	100/0
Topical mast cell stabilizers	84/16	75/25	80/20	100/0	100/0
Topical NSAIDs	81/19	67/33	80/20	100/0	100/0
Artificial tear solutions	100/0	100/0	100/20	100/0	100/0
Topical beta blockers	13/87	33/67	0/100	0/100	0/100
Oral beta blockers	0/100	0/100	0/100	0/100	0/100
	10/90	25/75	0/100	0/100	
Carbonic anhydrase inhibitors			***		0/100
Oral antibiotics	3/97	0/100	0/100	0/100	50/50
Oral steroids	0/100	0/100	0/100	0/100	0/100
Topical direct acting miotic	35/65	25/75	30/70	57/43	50/50
Topical antivirals	26/74	25/75	30/70	14/86	50/50
Topical sympathomimetics	71/29	58/42	80/20	71/29	100/0
Cholinesterase inhibitors	35/65	25/75	60/40	29/71	0/100
Oral hyperosmotics	6/94	0/100	10/90	0/100	50/50
Combo antibiotic/steroid topicals	100/0	100/0	100/0	100/0	100/0
Topical antifungals	0/100	0/100	0/100	0/100	0/100
Diagnostic Options					
(% of tests and procedures	Total	Solo	OD Group	Corporate	Institutiona
performed/order/referred)	N=31	N=12	N=10	N=7	N=2
CT scan	0/6/94	0/8/92	0/0/100	0/0/100	0/50/50
Flourescein angiography	0/10/90	0/8/92	0/0/100	0/0/100	0/100/0
MRI	0/6/94	0/8/92	0/0/100	0/0/100	0/50/50
Corneal scrapings	10/16/74	0/25/75	0/10/90	14/14/72	100/0/0
B-scan ultrasound	0/13/87	0/8/92	0/10/90	0/0/100	0/100/0
Seidel test	58/0/42	67/0/33	50/0/50	43/0/57	100/0/0
Automated visual fields	65/23/12	83/0/17	60/30/10	57/29/14	0/100/0
CBC	0/23/77	0/25/75	0/10/90	0/29/71	0/50/50
ESR	0/23/77	0/25/75	0/10/90	0/29/71	0/50/50
FTA-ABS	0/23/77	0/25/75	0/10/90	0/29/71	0/50/50
VDRL	0/19/81	0/25/75	0/10/90	0/14/86	0/50/50
Chest x-ray	0/13/87	0/25/75	0/0/100	0/0/100	0/50/50
Schirmer's	94/0/6	100/0/0	90/0/10	86/0/14	100/0/0
Pachymetry	0/26/74	0/33/67	0/0/100	0/43/57	0/50/50
Lumbar puncture	0/0/100	0/0/100	0/0/100	0/0/100	0/0/100
External/internal photography	35/29/36	25/42/33	50/10/40	29/29/42	50/50/0
Stereo photography	16/32/52	0/42/58	30/10/60	14/43/43	50/50/0
Tensilon test	0/3/97	0/0/100	0/0/100	0/14/86	0/0/100

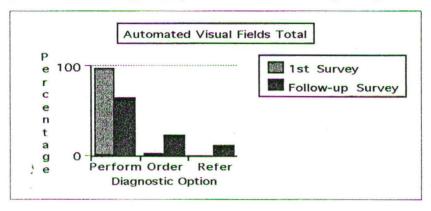
Practice Enhancement	Total	Solo	OD Group	Corporate	Institutional
1. % of patients requiring TPA's	N=31	N=12	N=10	N=7	N=2
<2%	19	0	10	57	50
2-6%	62	58	90	29	50
6-10%	19	42	0	14	0
10-20%	0	0	0	0	0
>20%	0	0	0	0	0
2. % of doctor and staff time					
spent with these patients					
<2%	48	42	50	57	50
2-6%	26	42	10	29	0
6-10%	26	16	40	14	50 ·
10-20%	0	0	0	0	0
>20%	0	0	0	0	0
3. Will TPA use require more staff?					
Yes	3	8	0	0	0
No	97	92	100	100	100
4. Will TPA use require more					
staff training?					
Yes	77	75	80	71	100
No	23	25	20	29	0
5. Will TPA use require more space?					
Yes	29	33	20	43	0
No	71	67	80	57	100
6. Will TPA use require more equipm	ent?				
Yes	55	75	40	57	0
No	45	25	60	43	100
7. How much has TPA use increased	net				
income?					
<2%	68	42	100	71	50
2-6%	26	42	0	29	50
6-10%	0	0	0	0	0
10-20%	6	16	0	0	0
>20%	0	0	0	0	0

An interesting discovery that was consistent between the surveys was the low rate of intraprofessional referrals among optometrists. The initial survey showed a zero to nine percent referral rate for the conditions listed. The follow-up survey showed that the only intraprofessional referrals made by those surveyed were in the area of glaucoma management, which has questionable legal aspects.

The initial survey showed that the doctors planned to use the pharmaceuticals under the TPA law extensively, as well as some pharmaceuticals that where not covered by the TPA law, such as oral medications. The follow-up survey revealed that the use of the TPA law covered pharmaceuticals was not as extensive as projected and the use of nonTPA covered medications was nearly nonexistent.

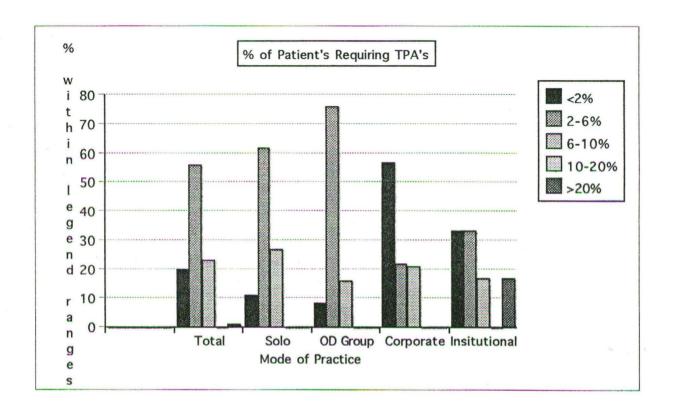
Diagnostic options also showed a significant difference between the surveys. In general, more tests were planned to be performed by the doctor than were shown to have been performed in the six month follow-up survey. In the initial survey, some doctors planned to perform their own blood work and such procedures as Tensilon testing. These findings did not present in the second survey.

There was also a drop in the percentage of doctors who planned to perform their own automated visual fields from 98% in the initial survey to just 65% in the follow-up survey. All practice modes showed a decline in this area, with corporate and OD group practitioners having the greatest decline.

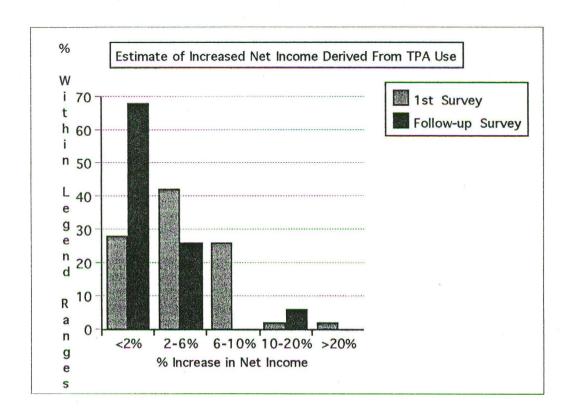


The percentage of patients estimated to need therapeutic pharmaceutical agents was comparable to the percentage stated in the follow-up survey. However, the revenue generated from these patients was significantly lower than the estimated amounts on the initial survey.

The following graph illustrates the average percentage of patients requiring TPA's considering both surveys and is broken down by mode of practice.



The graph below illustrates the difference between the expected income generation from therapeutic pharmaceutical agent use at the time of the continuing education course and the estimated net income generation after practicing with TPA's for six months. The initial survey illustrates an optimistic view of reimbursement for managing the conditions associated with TPA use. This percentage increase in net profit may rise in the future should the doctors surveyed learn methods to increase reimbursement from and/or for these patients.



The surveyed optometrists believed that TPA use would require more staff training, but would not increase the work load of the office staff sufficiently to result in the hiring of more staff members. The follow-up survey supported this belief. Approximately one half of the respodants from the follow-up survey bought new equipment due to TPA use. This is down slightly from the estimate of 70% on the initial survey.

Discussion:

The educational requirements and methods of practicing optometry have changed dramatically in the last thirty years. These surveys illustrate the varied expectations of a sample of optometrists with a wide range of experiences and education. The results of these surveys shows to what extent of the TPA law that this cross-section is planning to practice and areas in which optometry should strive to improve.

One glaring problem that these surveys brought to the fore, is the nearly nonexistent occurrence of intraprofessional referrals. This has been a problem for many years in optometry and appears to continue with the management of eye disease. Very few of the doctors surveyed planned to refer to another optometrist for conditions that could be treated under the current TPA law. Interestingly, the greatest number of intraprofessional referrals was related to the management of glaucoma, which is more difficult to treat than many of the other conditions surveyed and is of questionable legality at this time.

The significant difference between the attitude of the doctors at the time of the continuing education course and the six month follow-up survey in regards to pharmaceutical treatment may indicate that the doctors became empowered with their new knowledge at the time of the course, but became more cautious when they actually started to treat their patients. Future surveys may show a more aggressive stance taken by these doctors once they become comfortable treating eye disease.

The low rate of tests and procedures performed and ordered by the doctors surveyed illustrates that optometry is not yet fully integrated into the medical community. The profession of optometry could have a stronger stance in the managed care arena should a medical approach to optometry be taken and fewer tests and procedures be referred that optometrists could perform or

order directly.

There is significant potential for optometrists to increase their income through the treatment of conditions allowed by the TPA law. Optometry needs to increase public awareness of the ability of optometry to treat eye disease in order to increase net income while providing the public with a lower cost alternative to ocular disease management. Optometry also must work diligently to increase reimbursement by third party payers if we are to have a "piece of the managed care pie".

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