

AN ASSESSMENT OF THE POTENTIAL CONTRIBUTIONS OF PORTABLE
DIGITAL IMAGING EQUIPMENT FOR OPTOMETRIC PRACTICES IN MICHIGAN

By

Natasha Nacole Potts

Elysia Marie Talaski

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ABSTRACT

Purpose: To determine whether there is an adequate demand for the Michigan College of Optometry (MCO) to operate a mobile ocular imaging van that would bring diagnostic technology to all areas of Michigan. *Background:* Automated digital imaging techniques have been proven as useful in diagnosing ocular disease in all types of individuals. Many studies have further determined the benefits of detecting ocular conditions by the use of digital equipment over contact fundus biomicroscopy performed by eye care professionals. Studies have also entertained that some ocular diseases, such as glaucoma, are better managed by digital technology for early detection of progression. *Methods:* Paper surveys containing 8 questions were distributed to 1600 licensed optometrists in Michigan. Also, an electronic survey was posted on the MCO website. The survey included questions regarding whether or not a vehicle containing digital imaging equipment would be utilized by optometric practices that lack certain technology. *Results:* Of the 202 returned surveys, 50% were in agreement that a digital imaging vehicle would be beneficial. *Conclusions:* By making this technology available locally to practitioners and practices on a periodic but timely basis, a mobile ocular imaging van would improve the ocular care to patients within Michigan who are not already conveniently provided with this imaging technology.

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INTRODUCTION:

Automated digital imaging techniques have been proven as useful in diagnosing ocular disease in all types of individuals. Many studies have further determined the benefits of detecting ocular conditions by the use of digital equipment over contact lens fundus biomicroscopy. In a 2002 eye study, 120 diabetic patients participated in an experiment comparing high-resolution stereoscopic digital fundus photography to contact lens biomicroscopy (CLBM) for the detection of clinically significant macular edema (CSME).¹ After excluding patients with cataracts, media obscuring opacities, and patients with physical and/or mental impairment who were unable to sit for fundus photography; it was concluded that retinal specialists detected more eyes with CSME using fundus photography over CLBM.¹ However, in the Early Treatment of Diabetic Retinopathy Study, more CSME was detected utilizing CLBM over fundus photography. As a result, CLBM continues to be the accepted standard for diagnosing CSME.¹ Despite the results, fundus photography incorporates many advantages over CLBM. High-resolution video display enables a much greater level of magnification to visualize small retinal details.¹ Fundus photography also allows for an unlimited and unobstructed examination of the retina without having to deal with any movement from the patient secondary to uncomfortable bright illumination for prolonged periods of time.¹ Nevertheless, fundus photography is an ideal educational tool for the patient allowing them to visualize the current effects as well as any progression and/or resolving ocular conditions. Lastly, nearly all visual software allows for accurate measurements of retinal distances calibrated to optic disc size which is essential in diagnosing CSME in diabetic

patients.¹ Studies have also entertained the fact that some ocular diseases, such as glaucoma, are better managed by digital technology for early detection of progression. In an United Kingdom study, the management of glaucoma within hospital practice was investigated through surveys. The purpose of the study was to determine the availability and use of certain technology within the management of glaucoma.² Out of the 1007 surveys sent to ophthalmologists, 469 were completed and analyzed, 30.7% were actual glaucoma specialist.² The results indicated that there was availability and use of automated perimetry (99.6%), disc photography (89.6%), and pachymetry (79.7%).² Heidelberg Retina Tomography (HRT) was one of the most commonly used imaging test for determining disc asymmetry, early glaucoma, as well as glaucomatous progression.² Other imaging technology inquired in the study were the Optical Coherence Tomography (OCT) in which 45.2% used and the GDx in which only 12.6% used.² The use of this technology is rapidly becoming the preferred practice pattern around the United States, but the expense of investing in this technology is precluding many practices and practitioners from using it.³ Therefore, many patients are being denied the benefits of this new but expensive technology. Mobile Glaucoma Solutions (MGS), the Technology Source and Mobile Diagnostics, is a nationwide mobile company that offers the newest instrumentation and trained technicians operating in 20 states throughout the Midwest and Southeast.³ Founder of MGS, John A. McCall Jr., OD, believes “that we’re one lawsuit away from these new imaging devices becoming standard of care.”³

METHODS:

Paper surveys were mailed to 1600 licensed optometrists within Michigan according to the MCO database in October 2008. Each mailing contained a survey, a consent form explaining our objectives, and a return, postage-paid envelope. The survey contained questions inquiring in which Michigan county the optometrist practices, whether they currently refer any patients out (and how far) for special ocular testing, and if they would find it more convenient to utilize services from an MCO ocular imaging van. We also asked how near and how often the imaging van would have to come to their area for referral consideration. Lastly, we wanted to know what type of equipment was in demand, and whether or not the practitioner was interested in utilizing MCO services for professional interpretation and/or the technical portion only. Completed surveys were returned between October and December 2008. See Appendix A for a copy of the survey and consent form that were administered.

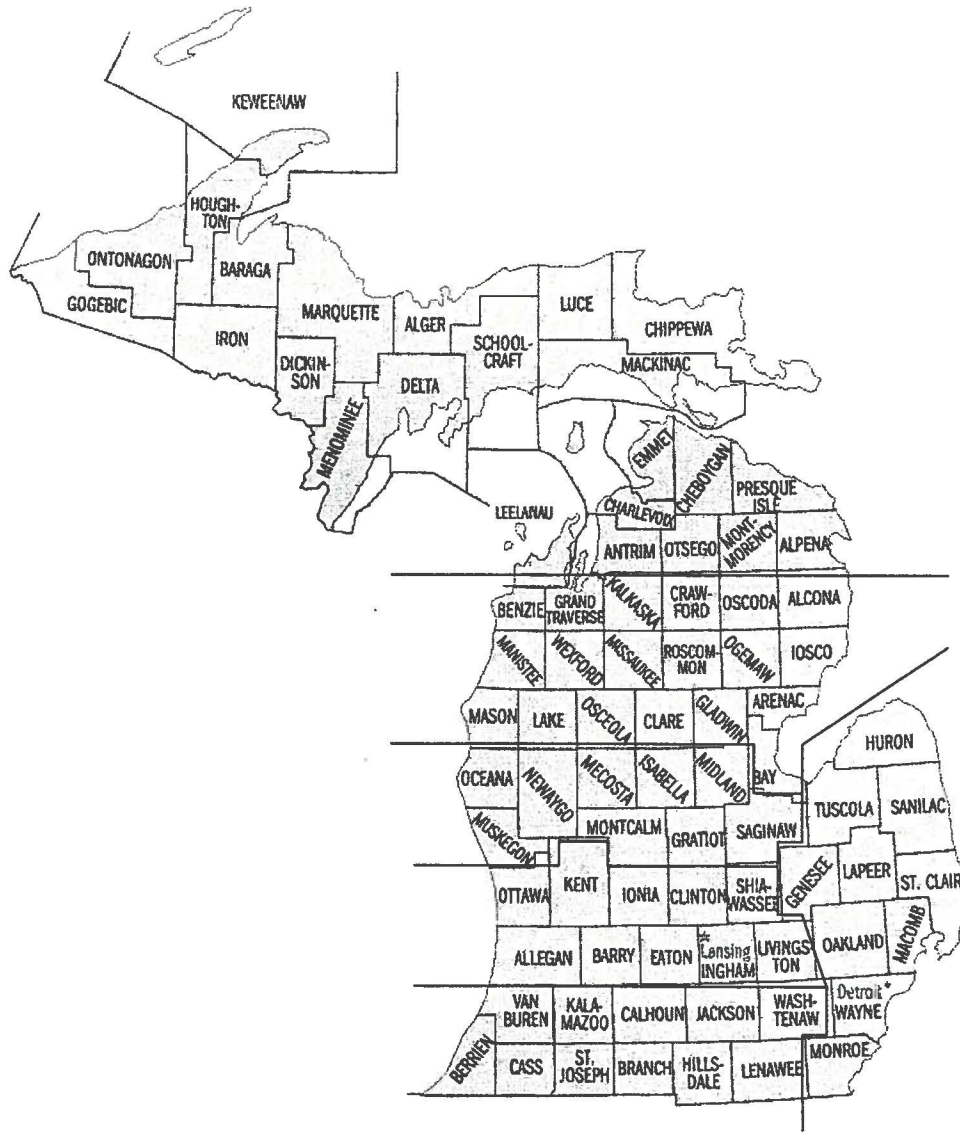
RESULTS:

Out of 1600 surveys sent to optometrists throughout the entire state of Michigan, 206 paper surveys were returned. In addition, 11 online surveys were completed yielding a total return rate of 217 (approximately 13.6%). Of the surveys returned, four came back from out of state indicating relocation of any OD that previously practiced in Michigan. Also, seven of the ODs chose to revoke their consent to participate in the study, three ODs surveyed were retired, and one was reported as deceased. As a result, 202 surveys were analyzed in this study. Of those 202 survey participants, 101 of the ODs said they would refer to a MCO ocular imaging van, 83 said they would not refer to

the van, and 18 were inconclusive.

Analysis revealed responses from ODs in 62 counties throughout Michigan. For the purpose of this study, Michigan will be thought of as divided into six sections (A-F). Section A is northern Michigan and includes the counties of Houghton, Baraga, Marquette, Dickinson, Schoolcraft, Chippewa, Leelanau, Emmett, Charlevoix, Otsego, Cheboygan, Presque Isle, and Alpena. Section B is mid-northern Michigan and includes the counties of Grand Traverse, Manistee, Mason, Wexford, Osceola, Clare, Roscommon, Crawford, Arenac, and Bay. Section C is mid-Michigan and includes the counties of Muskegon, Newaygo, Mecosta, Montcalm, Isabella, Midland, and Saginaw. Section D is southwest Michigan and includes the counties of Ottawa, Kent, Allegan, Barry, Ionia, Eaton, Clinton, Ingham, Shiawassee, and Livingston. Section E is southern Michigan and includes the counties of Berrien, Cass, Van Buren, Kalamazoo, St. Joseph, Calhoun, Hillsdale, Jackson, Lenawee, and Washtenaw. Section F is eastern Michigan and includes the counties of Tuscola, Sanilac, Genesee, Lapeer, St. Clair, Macomb, Oakland, Wayne, and Monroe. See page 5 for a map showing county locations. Appendix B contains charts showing the frequency of yes, no, and inconclusive responses within each county of the 6 sections of Michigan mentioned above.

Michigan County Map



*US Census Bureau⁴

Sections A-F were further analyzed by the cities in each county from which ODs responded yes to question four of the survey, which asked if the OD/practice in question would utilize an MCO ocular imaging van. Since our consent form asked the OD to include the city in which they practice, this would help to pin-point the specific areas which could potentially benefit from the equipment in the imaging van. Unfortunately many of the survey participants failed to include the consent form with their completed survey. As a result, the city/town in which they practice is unknown.

Questions five and six of the survey addressed the topic of making the van convenient for the OD and the patient. The majority of the survey participants agreed that the patient should only have to travel 6-10 miles or less to the van in order to keep it convenient. Most survey participants felt that the van should come to their area monthly and/or quarterly to ensure proper care and convenience for the patient. Refer to Appendix C for a table containing specific frequencies of “yes” responses from ODs practicing in specific cities, if known, and the distance and time frame that would be ideal for patient referral and convenience. The letter present before each county name indicates which section that city and county are located in. If ‘unknown’ is listed in the city column, this signifies a survey with which the consent form was not returned.

One of the final components of the survey asked the participating OD to indicate the equipment that may be needed for the care of their patient base. Survey participants were also asked to estimate the potential number of patients they would refer annually for the use of such equipment. Refer to Appendix D for a table representing these estimations as organized based on sections A-F. Sections A-F correspond to the divisions

of Michigan created for the purpose of this study as described in the results section. Some participants, however, only reported a potential need for the pieces of equipment but did not include an estimated number of patients. As a result, some of the numbers in the table may be underestimations of the equipment. It is also important to keep in mind that some of the cities are unknown. Equipment potentially worth the purchase for the imaging van according to the survey results included a Humphrey Visual Field Analyzer, Digital Retinal Camera, Digital Slit Lamp Camera, Pachymeter, Corneal Topographer, GDx, and OCT. Lastly, some participants requested that MCO only bill for the technical portion so they were left to interpret the results while others wanted MCO to bill both for the technical and professional portions and to have the interpreted results sent back to them. Other survey participants wanted the billing to be case dependent based on the situation.

DISCUSSION:

An MCO ocular imaging van would no doubt be a costly endeavor. However, careful planning, proper coordination, and some funding from organizations would help ensure the feasibility of this idea. The revenue generated by offering this service to many practices throughout Michigan would help the equipment pay for itself. Results from our survey express the need and desire for such equipment within rural areas of Michigan as well as urban areas. By making this technology available locally to practitioners and practices on a periodic but timely basis, a mobile ocular imaging van would improve the availability of and access to quality, state-of-the-art, ocular care to all patients around Michigan. This will benefit patients all over the state by providing better convenience for

proper optometric care.

For the purpose of this study, Michigan was divided into sections arbitrarily at county borders. There is room for modification to better determine which areas of the state would be worthwhile to travel to in order to maintain convenience for the patients being provided with this care. Implementation would require careful coordination of the areas to be traveled to and in what time-frame based on the survey responses. Advertisement of this new service will be important.

Survey results expressed a need for several pieces of equipment. Among the various equipment potentially worth the purchase for the imaging van is a pachymeter according to the survey results. A Pachmate® would be relatively inexpensive and would definitely pay for itself since it is typically performed as part of an initial glaucoma evaluation. Carl Zeiss has recently come out with the Cirrus OCT. Most of the OCTs that ODs currently own are the Stratus version, which is no longer the latest and greatest ocular coherence tomographer. Since the MCO does not currently own a Cirrus OCT at this time, implementing an imaging van containing this technology would allow the students to experience the use of this new, state-of-the-art technology. Although some ODs use OCTs for glaucoma management, others prefer using the GDx. When examining the number estimations from the survey results, it seems that both would be utilized widely by many referring ODs. Since the OCT can also be used for diagnosing and managing macular conditions, this would definitely be a great piece of equipment to have. As for retinal cameras, there are many options to choose from. These can be

useful for monitoring conditions for change and also for taking stereoscopic photos of a patient's optic nerve heads to better appreciate depth and cupping in optic nerves that appear suspicious. Even though the equipment varies between vehicles, MGS provides a GDxVCC (Carl Zeiss Meditec), Ocular Blood Flow Analyzer (Paradigm Medical), a pachymeter and a number of other Carl Zeiss Meditec products such as Humphrey Matrix perimeter, Visante OCT, Stratus OCT, and a Cirrus HD-OCT as standard.³

The billing element of the MCO imaging van needs careful consideration since it is one of the most important determinants of whether this implementation would be worthwhile. Two survey participants had suggestions regarding billing. One suggestion was to offer daily rental of the equipment because he/she had been offered this in the past by a similar service. The second similar suggestion was to bill the participating office based on an hourly rate and then have the office bill the patient or their insurance. This decision should be made based on which areas are worth traveling to for providing services and how the participating ODs prefer the billing system to work in order for them to refer the patients in need. MGS, bill for services depending on hours needed and services required.³ Some of the companies (as suggests in the survey) drop off the equipment and charge a rental fee, while others will supply a technician who operates the equipment for a set cost.³ MGS, will also bill to Medicare for technical component and allow the doctor to bill for the professional fee in some instances.³

Another factor to consider is the building of the new facility for MCO's educational institute. An ocular imaging van would be a great addition to provide fresh

new learning experiences for optometry students. Although the maximum funding has already been provided from the State of Michigan for the new MCO facility, there are organizations out there that would probably be willing to help with this thoughtful endeavor.

CONCLUSION:

The implementation of an ocular imaging van by the Michigan College of Optometry would be a great way to provide patients with the best optometric care in those areas of Michigan where it would be more convenient for patients than the current situation. It is important to keep this endeavor as cost-effective as possible by careful organization and coordination of the imaging van and its travel and destinations. With proper funding, this would be a great way to provide convenient state-of-the-art care to patients as well as providing interesting educational opportunities to optometry students at MCO.

REFERENCES

1. Rudnisky, CJ. Hinz, BJ. Tennant, MJS. Leon, AR. Greve, MDJ. (Feb 2002). High-resolution stereoscopic Digital Fundus Photography versus Contact Lens Biomicroscopy for the Detection of Clinically Significant Macular Edema. *Ophthalmology*. 109(2), 267-274.
2. Gordon-Bennett, PS. Ioannidis, AS. Papageorgiou, K. Andreou, PS. (Nov 2008). A survey of investigations used for the management of glaucoma in hospital service in the United Kingdom. *Eye*. 22(11), 1410-8.
3. Vasta, S. (August 1, 2008). "Mobile technology 'bridges gap' in standard of care: Companies providing diagnostic service bring the newest equipment to practices around the country." *Primary Care Optometry News*. Retrieved February 1, 2008 from <http://PCONwebsite.com> (I STILL NEED TO GET EXACT WEB ADDRESS)
4. US Census Bureau. (April 26, 2007). Map of Michigan Counties. US Census Bureau. Retrieved January 3, 2008 from <http://quickfacts.census.gov/qfd/maps/michiganmap.html>.

APPENDIX A

Survey and Consent Form

7. Which of the following equipment items would you like to have available in the van and estimate the number of patients that you might refer annually for each?

EQUIPMENT ITEM	USE?	ANNUAL PATIENT NUMBER
a. Automated visual field unit-	Yes	No _____
b. Digital retinal photography-	Yes	No _____
c. Digital slit lamp photography-	Yes	No _____
d. Pachymeter-	Yes	No _____
e. Corneal Topographer-	Yes	No _____
f. A-scan-	Yes	No _____
g. B-scan-	Yes	No _____
h. GDx-	Yes	No _____
i. OCT-	Yes	No _____
j. Other [please name]		

8. Would you prefer to have MCO bill for only the technical portion of the procedure and you bill for the professional interpretation yourself?
- MCO bill only for technical portion and send me the results
 - MCO bill for both the technical and professional portions and send me the results and the professional interpretation
9. Please use the following space to give us any written comments that you have concerning this project.

SUBJECT INFORMATION AND CONSENT FORM

You are invited to participate in a survey involving the use of digital imaging equipment in the assessment of ocular health. Conclusions from this survey will further determine whether or not there is a need for the Michigan College of Optometry (MCO) to sponsor a vehicle containing various technologies, so optometrists within certain areas of Michigan can refer patients for appropriate testing. You have been asked to participate because of your educational and professional backgrounds which are appropriate for inclusion.

This questionnaire has been developed to inquire the region in which you currently practice, and the common ocular conditions that the patients within your area have been diagnosed with. We also are interested in the types of equipment that you currently own/rent, and/or procedures that you must refer patients out for. Finally, we hope to obtain useful information towards what types of equipment you could benefit from within a mobile MCO imaging van, and how often you would utilize such services.

All information that is obtained in connection with this survey and that can be identified with you will remain confidential and will only be disclosed with your permission. By signing this document, you give us your permission to publish any information contained in the study only in the form of group data responses, where no identification of the individual is required.

You should be aware that there are no risks or anticipated benefits from participation in this study; however, we will be happy to inform you on the outcome at the conclusion of the research project.

Your decision whether or not to participate in this study is voluntary and will not prejudice your future relations with Michigan College of Optometry. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice. Likewise, the investigators can discontinue you from the study if you show non-compliance to protocol, if complications develop, or at the request of sponsoring organizations.

Complaints may be directed to Ethics Commissioner, Ferris State University, Big Rapids, MI 49307.

If you would like any more information, please feel free to contact fourth year optometry students: Natasha Potts @ (231) 903-8992 and Elysia Talaski @ (989) 954-9562; or project supervisor: Dr. Robert L. Carter @ (231) 591-2179 Michigan College of Optometry, Ferris State University, Big Rapids, Michigan.

CONSENT FORM AND ACKNOWLEDGEMENT

I, _____ of _____, Michigan, Optometrist, consent to participate in the above study and acknowledge that I have read and agree to the above conditions of participation.

Signature

Date

Name

REVOCATION OF CONSENT

I hereby wish to withdraw my consent to participate in the research project described above and understand that such withdrawal will not jeopardize my relationship with Michigan College of Optometry.

Signature

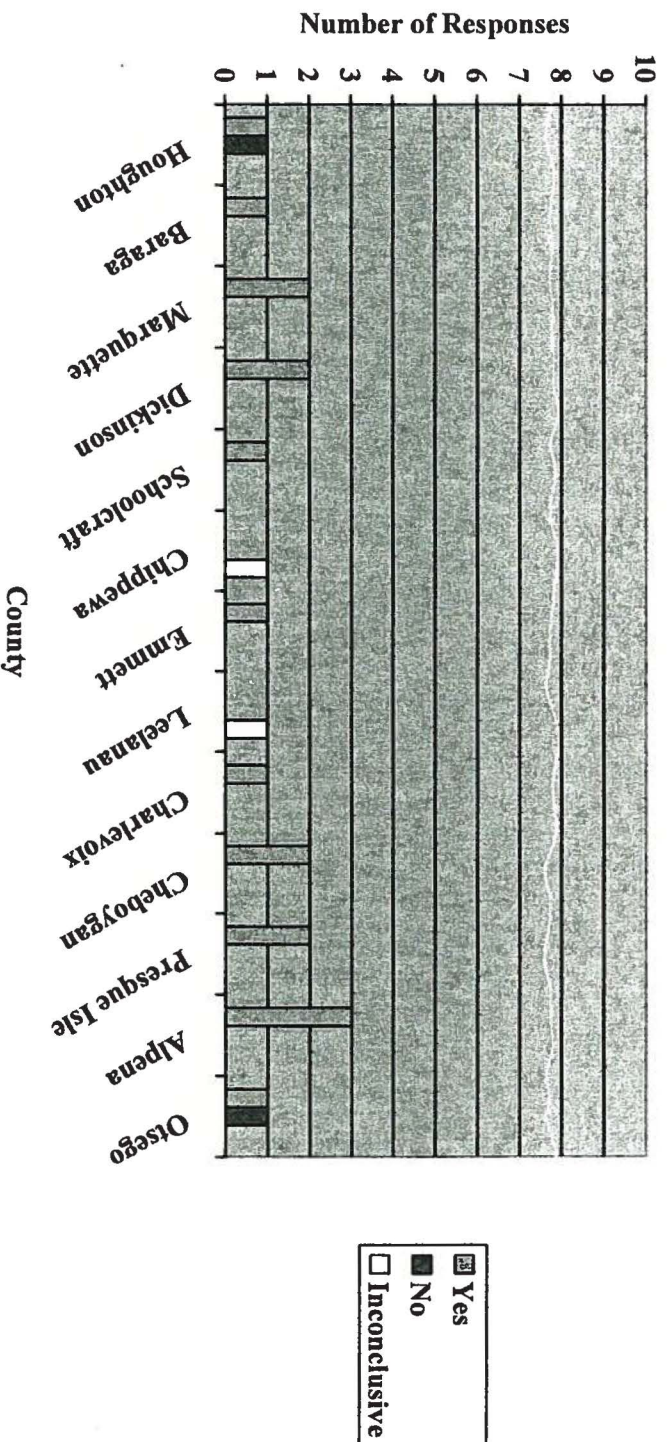
Date

Name

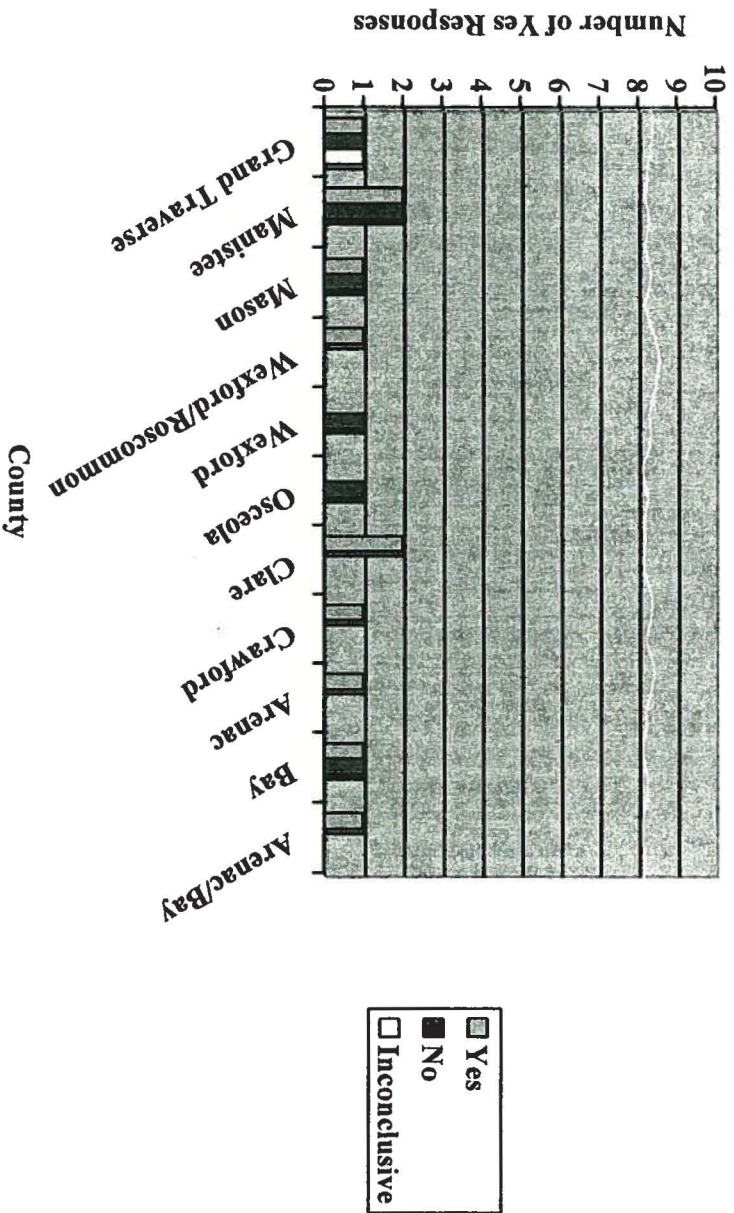
APPENDIX B

Northern Michigan, Mid-Northern Michigan, Mid-Michigan, Southwest Michigan,
Southern Michigan, and Eastern Michigan Charts

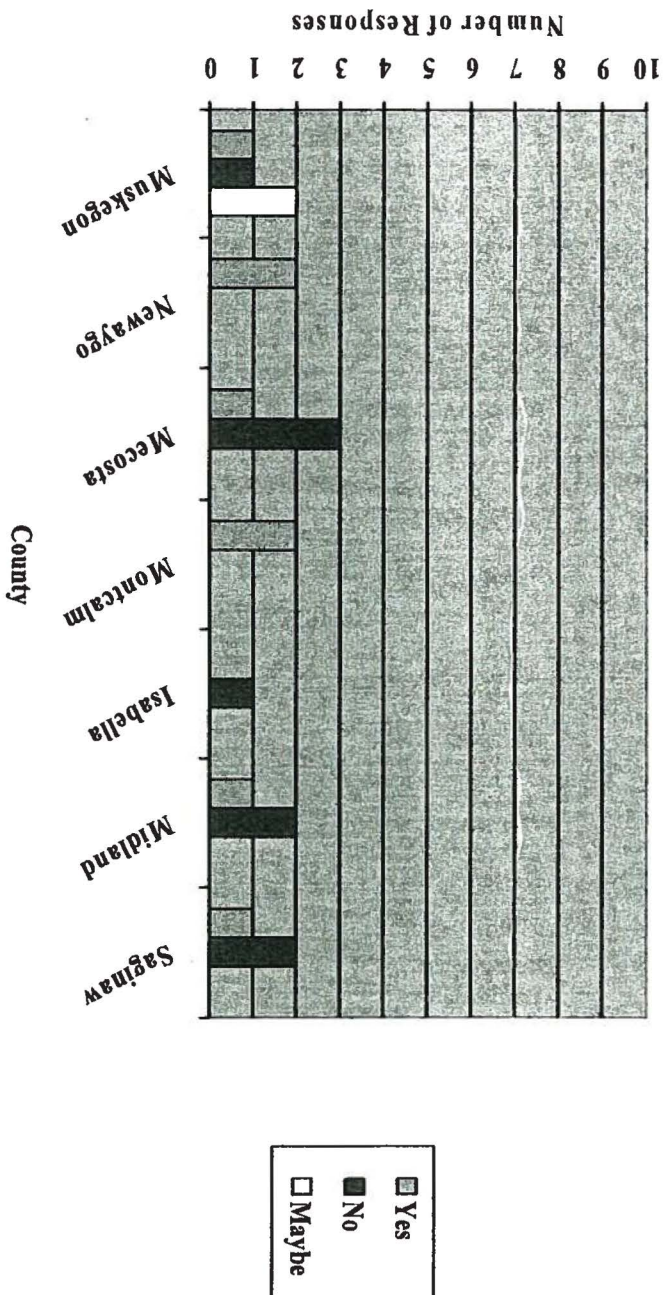
Northern Michigan



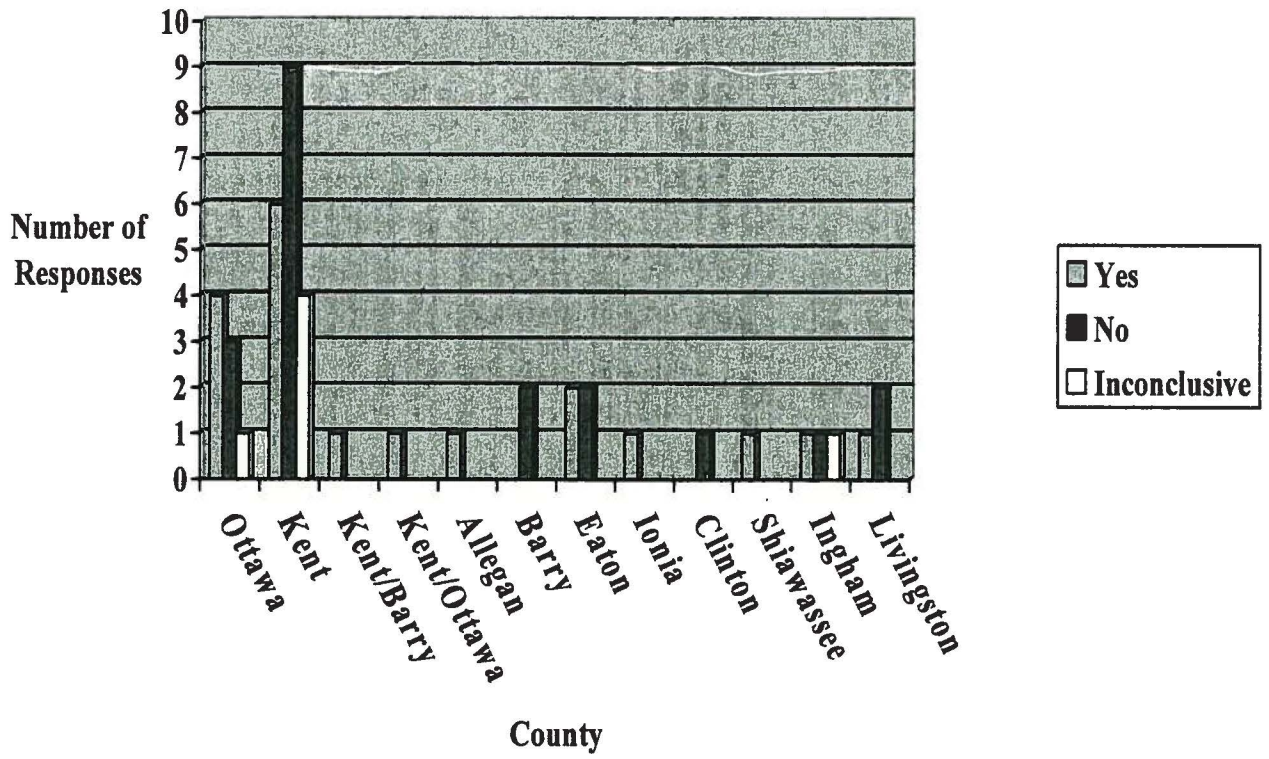
Mid-Northern Michigan



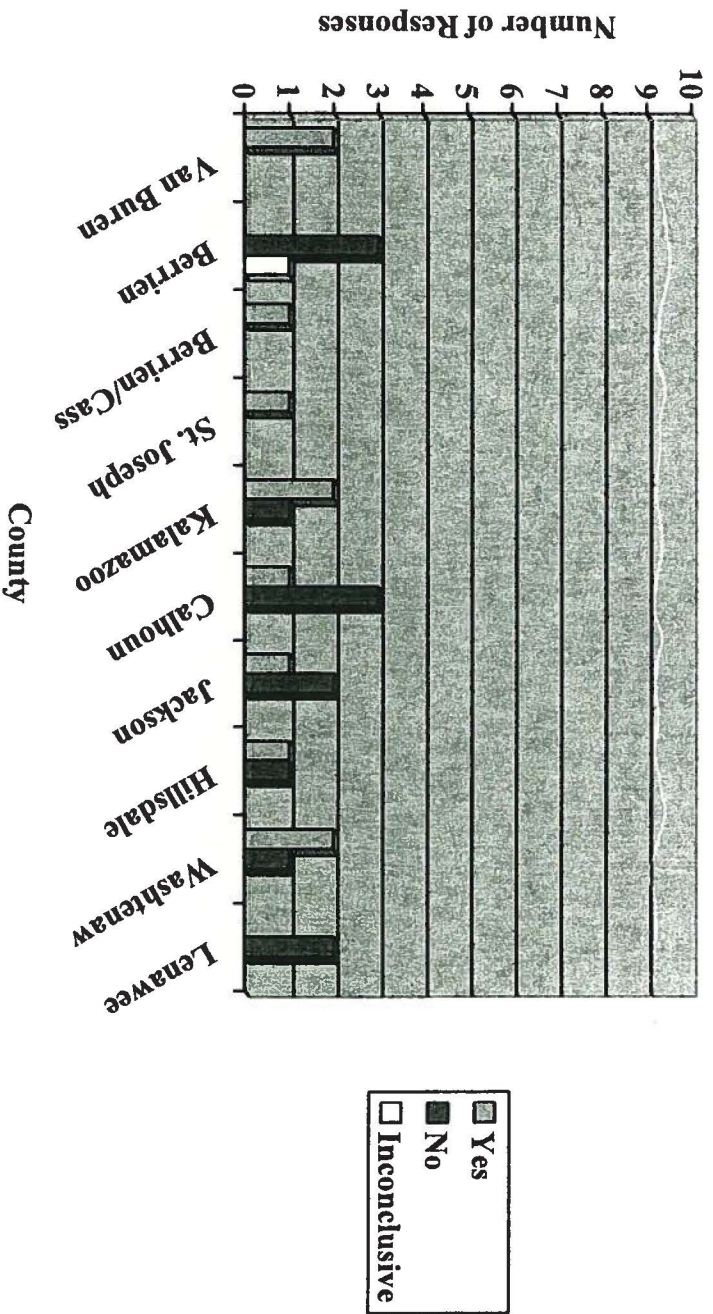
Mid-Michigan



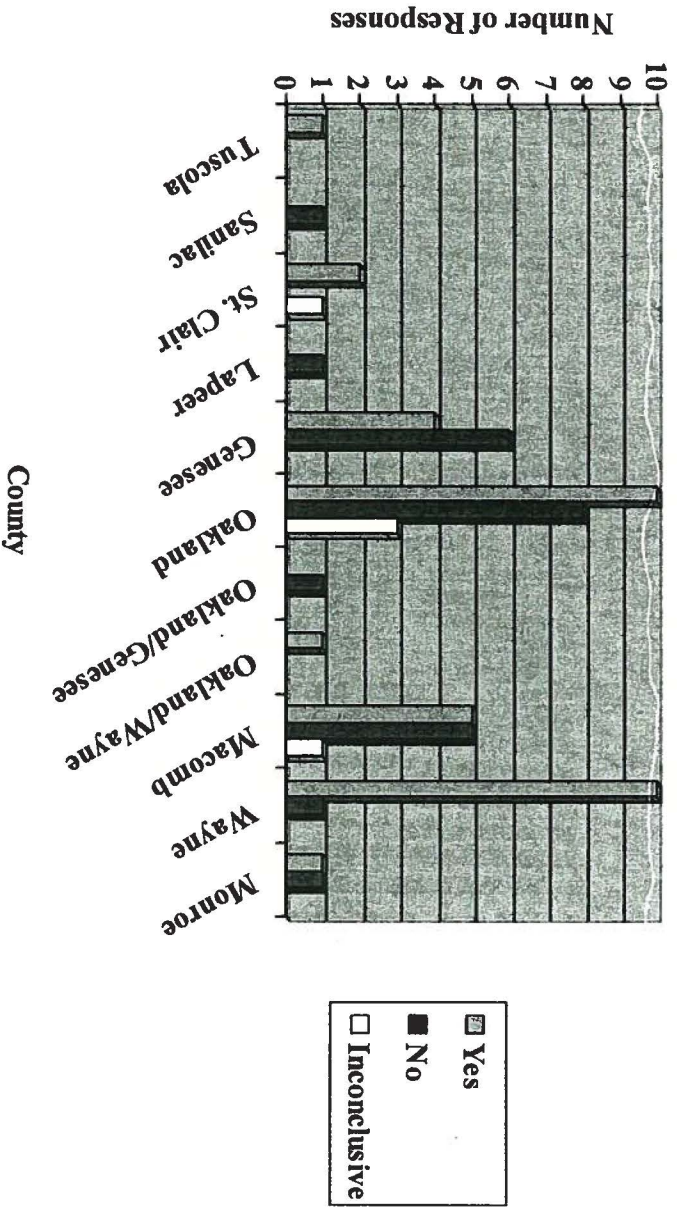
South-Western Michigan



Southern Michigan



Eastern Michigan



APPENDIX C

Convenience Factors Table

Convenience Factors				
County	City	Yes Responses	Optimum Travel distance	Frequency
A. Alpena	Alpena	2	6-10 11-20	Annual Monthly
	Unknown	1	0-5	Quarterly
A. Baraga	Unknown	1	0-5	Quarterly
A. Charlevoix	Unknown	1	6-10	Semi-Annual
A. Cheboygan	Cheboygan	2	11-20 0-5	Semi-Annual Monthly
A. Dickinson	Iron Mountain	1	0-5	Quarterly
	Norway	1	6-10	Semi-Annual
A. Emmet	Unknown	1	11-20	Monthly
A. Houghton	Unknown	1	0-5	Quarterly
A. Marquette	Unknown	1	21-30	Quarterly
	Marquette	1	6-10	Quarterly
A. Otsego	Gaylord	1	11-20	Monthly
A. Presque Isle	Rogers City	2	0-5 21-30	Semi-Annual Monthly
A. Schoolcraft	Unknown	1	0-5	Semi-Annual
B. Arenac	Standish	1	0-5	Semi-Annual or Quarterly
B. Bay	Unknown	1	6-10	Quarterly
B. Bay/Arenac	Kawkawlin	1	11-20	Semi-Annual
B. Clare	Clare	2	11-20 21-30	Both Monthly
B. Crawford	Unknown	1	0-5	Monthly
B. Grand Traverse	Unknown	1	6-10	Quarterly
B. Manistee	Manistee	2	21-30 6-10	Both Quarterly
B. Mason	Ludington	1	0-5	Monthly
B. Wexford/Roscommon	Traverse City	1	11-20	Quarterly
C. Mecosta	Big Rapids	1	6-10	Monthly
C. Midland	Unknown	1	0-5	Monthly
C. Montcalm	Unknown	1	11-20	Monthly
	Edmore	1	0-5	Quarterly
C. Muskegon	Springdale	1	6-10	Monthly
C. Newaygo	Fremont	2	6-10 6-10	Monthly Quarterly
C. Saginaw	Unknown	1	+/- 31	Quarterly
D. Eaton	Eaton Rapids	1	21-30	Monthly
	Charlotte	1	11-20	Quarterly
D. Ingham	Unknown	1	6-10	Monthly
D. Ionia	Belding	1	0-5	Semi-Annual

D. Kent	Wyoming	2	0-5 6-10	Both Quarterly
	Grand Rapids	2	6-10 6-10	Quarterly Monthly
	Kentwood	1	6-10	Quarterly
	Rockford	1	0-5	Quarterly
	Unknown	1	6-10	Monthly
D. Kent/Barry	Unknown	1	6-10	Monthly
D. Kent/Ottawa	Allendale	1	11-20	Monthly or Quarterly
D. Livingston	Howell	1	0-5	Quarterly
D. Ottawa	Ottawa	1	11-20	Quarterly
	Unknown	2	21-30 21-30	Both Quarterly
	Spring Lake	1	11-20	Monthly
D. Shiawassee	Unknown	1	11-20	Quarterly
E. Calhoun	Battle Creek	1	0-5	Monthly
E. Hillsdale	Hillsdale	1	21-30	Quarterly
E. Jackson	Jackson	1	11-20	Monthly
E. Kalamazoo	Kalamazoo	1	6-10	Monthly
	Springfield	1	6-10	Semi-Annual
E. St. Joseph	Sturgis	1	11-20	Semi-Annual
E. Van Buren	South Haven	2	21-30 11-20	Quarterly Monthly
E. Washtenaw	Unknown	1	11-20	Monthly
	Ann Arbor	1	6-10	Quarterly
F. Genesee	Fenton	1	11-20	Semi-Annual
	Davison	1	11-20	Monthly
	Unknown	2	11-20 0-5	Monthly Quarterly
F. Macomb	Shelby Twp	1	0-5	Monthly
	Chesterfield	1	0-5	Semi-Annual
	Sterling Heights	1	0-5	Monthly
	Farmington Hills	1	6-10	Monthly
	Unknown	1	6-10	Quarterly
F. Monroe	Unknown	1	0-5	Monthly
F. Oakland	Novi	1	0-5	Monthly
	Clarkston	1	11-20	Monthly
	Oxford	1	0-5	Monthly or Quarterly
	Farmington	1	0-5	Monthly
	Livonia	1	0-5	Monthly
	Waterford	1	0-5	Monthly
	Unknown	4	6-10 11-20	Quarterly Monthly

			0-5 0-5	Quarterly Quarterly
F. Oakland/Wayne	Unknown	1	6-10	Weekly
F. St. Clair	Port Huron	2	6-10 0-5	Quarterly Monthly
F. Tuscola	Unknown	1	11-20	Monthly
F. Wayne	Detroit	2	11-20 6-10	Both Monthly
	Farmington Hills	1	6-10	Monthly
	Dearborn Hgts	1	6-10	Quarterly
	Livonia	1	6-10	Quarterly
	Clinton Twp	1	11-20	Monthly or Quarterly
	Unknown	4	0-5 0-5 6-10 6-10	All Quarterly

APPENDIX D

Equipment Usage Analysis Table

Equipment Usage Analysis						
Section	A	B	C	D	E	F
<i>Humphrey Visual Field</i>	75	55	60	265	50	322
<i>Digital Retinal Photography</i>	174	65	175	255	50	745
<i>Digital Slit Lamp Photography</i>	56	40	62	25	25	619
<i>Pachymeter</i>	162	85	134	202	20	153
<i>Corneal Topographer</i>	107	75	81	89	177	327
<i>A-Scan</i>				20		85
<i>B-Scan</i>		8	6	15	11	110
<i>GDx</i>	475	260	162	493	340	640
<i>OCT (Stratus)</i>	433	235	118	607	434	422
Other: OCT (Cirrus)		40+				
HRT						3
Pentacam						25
Optos						500
Goldmann Visual Field						5
Optovue Fourier Domain OCT						400