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School Vision Screening, Policies, Procedures, Practices.

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A three-part study provides supportive data to reinforce a request for revision of Pennsylvania's school vision screening standards in order to properly identify visually limited children. The school vision screening policies of 35 states are surveyed in nine tables, and the problems involved in screening practices are discussed. The reactions of 18 special educators to the county and city level vision screening programs in Pennsylvania are presented, along with the responses of 44 school nurses to a questionnaire concerning the vision screening practices and procedures in Chester County, Pennsylvania. The results of the study indicate the necessity of developing a modified clinical technique, combined with the Snellen Test and teacher observation. Copies of the questionnaire forms are included. (MK)

SCHOOL VISION SCREENING

Policies - Procedures - Practices

A Three-Phase Study
on School Vision Screening -
including various states' policies, opinions
of special educators of visually limited
children in Pennsylvania and local Chester
County school nurses' practices.

On February 22, 1967, a letter was written to the Pennsylvania Department of Health, asking for consideration of revisions in the present vision screening standards mandated by the State. (A copy of this letter is attached.)

A reply was received from the Pennsylvania Department of Health on March 7, 1967, suggesting that supportive data be forwarded to reinforce the request for revision of present vision screening policies.

This three-part study is an effort to provide the necessary supportive data requested. It will be noted that three entirely different but interrelated sources of data were utilized: 1) vision screening policy makers at State level for all fifty states, 2) special educators in the State of Pennsylvania who have contact with both visually limited children themselves and school health programs in general, and 3) local school nurses who are actually responsible for vision screening practices and procedures. It was felt that an informative sampling of the policies, procedures and opinions expressed by these three groups might possibly provide sufficient supportive data to reinforce this writer's own personal opinions.

As a means of expressing gratitude to the first two groups of people polled, copies of the applicable sections were sent to all those so requesting (most replies indicated that they wished to receive a copy of the pertinent data obtained). Since the questionnaires for the last group (school nurses) were not individually identified, it did not seem feasible to send copies to all nurses - it appeared adequate that a copy of that section was sent to the president of the local school nurses' group to be made public, if so desired, to all the school nurses in the group.

Various selected persons received copies of the complete study. Designation of these people was based on one or more of the following qualifications: 1) professional interest in school vision screening, 2) recognized activity in the area of improving vision screening standards and 3) professional occupations or positions which, the writer hopes, will result in the further reinforcement of the goals of this research. A list of these selected persons is attached.

It is urged that the recipients of this research report carefully consider the data included in the study, evaluate the information for themselves and take an active stand for better vision screening programs in the Pennsylvania public schools. It is only through collective action and voicing of many opinions that actual revisions may become possible. All who have contact in any way with visually limited children have a responsibility to strive toward optimum identification procedures; only if these children are found can they be helped to become well-adjusted, productive citizens - the real goal of education.

This report is hereby respectfully submitted for your perusal and consideration.

February 22, 1967

Pennsylvania Department of Health
P. O. Box 90
Harrisburg, Pa.

Dear Sirs:

I am responsible for the supervision and administration of a program of educational services for visually limited children in the Chester County Public Schools. I have been similarly employed in two other counties in Pennsylvania, and have a total of nearly twelve years of experience in this field of education. Based on this background and experience, I recognize that visually limited children must first be identified before they can be academically assisted: vision screening done in the schools must be accurate and adequate to fully identify the children who may profit from academic assistance or adaptations in their school curriculums.

I do not feel that accurate and adequate identification of these children is taking place in many schools in the state. Minimum vision screening standards have been established, with reasonable allowances for expanded vision screening programs. It has been my experience, however, that school nurses are often not even adhering to these minimum standards. Moreover, very few schools have attempted to expand their vision screening procedures, simply because it is optional.

There seems to be no argument with the fact that good vision is a vital factor in learning, but how can we even begin to academically assist children with poor vision (or complicating visual conditions) if we are not identifying them. We usually recognize the nearsighted child from the Snellen test results, the severely cross-eyed child from his abnormal appearance, possibly even the hyperope, if the "plus lens" test happens to have been administered and properly. But I am sure we are missing many types of visual conditions that are directly affecting the learning process, simply because our screening procedures are so minimal.

I believe it is long past time to take another look at our school vision screening standards in the State of Pennsylvania. It is my opinion that careful consideration should be given to several factors:

1. Is the School Nurse trained and qualified to do an adequate job of vision screening? And does she have the time?
2. Are we using the best techniques to screen vision on a mass basis?
3. What kinds of visual conditions are we actually identifying? What others should we be identifying?
4. What provisions are made for parent education (of vision screening techniques, referral standards, and follow-up procedures)?
5. Are we fully utilizing our available trained eye specialists (both ophthalmologists and optometrists), and have we educated them as to: why and how we screen, what we refer and how, what we are doing and can do educationally for the visually limited in the classroom?
6. Can we honestly say that we are identifying every visually limited child who needs help (with professional eye care and through adapted educational programs)?

We enlist the services of school physicians and school dentists in our school health programs. Are a child's eyes, probably his most vital learning tool, any less important than his teeth? If we are to adequately identify the child with abnormal or subnormal vision, then we will have to have a highly qualified person to do it: why not consider adding a "school eye specialist" to our corps of resource specialists?

Your attention is respectfully directed to a study on vision screening, done in the Orinda School District in California, 1954 through 1956. The results of this study were published in two forms, to my knowledge: completely in Vision Screening for Elementary Schools; The Orinda Study, by Henrik L. Blum, M.D., Henry B. Peters, O.D. and Jerome W. Bettman, M.D. (University of California Press); in summary form in an article titled "The Orinda Vision Study" by Henry B. Peters, O.D., Henrik L. Blum, M.D., Jerome W. Bettman, M.D., Frank Johnson, O.D. and Victor Fellows, Jr., M.D., (American Journal of Optometry and Archives of American Academy of Optometry, Foshay Tower, Minneapolis 2, Minnesota). I should like to quote from the latter:

> "The purpose . . . was to develop a vision screening program that (1) could be achieved in an average community and school system; (2) would find essentially all children with significant eye problems that most ophthalmologists and optometrists would agree needed to be under professional care, whether therapy was to be recommended or not; (3) would avoid or minimize a conflict of opinion in each professional group or between the eye professions, or between the schools and the eye professions; (4) would minimize the over-referral problem with its attendant costs and complaints."

The results of this study indicated the development of a modified clinical technique, combined with the Snellen test and teacher observation, as the most efficient means of accomplishing the goals stated by the study.

If serious thought is to be given to revision of vision screening standards in the State of Pennsylvania, perusal of the mentioned study would be most helpful in determining its applicability. Although I am primarily concerned with the educational implications of vision, I must depend on adequate referrals from vision screening programs to identify those children who can be helped academically (special materials and/or individualized instruction, adapted curriculums and/or environments, etc.). I cannot stand idly by and observe gross inadequacies in our present vision screening programs, resulting from minimal standards at the State level. I should, therefore, like to respectfully request that urgent and immediate attention be given to the revision of our present State standards for vision screening.

Respectfully yours,

Virginia E. Bishop (Mrs.)
Coordinator-Consultant
Vision Program Services
Chester County Public Schools

SELECTED PERSONS TO RECEIVE COPIES OF COMPLETE STUDY

PENNSYLVANIA DEPARTMENT OF HEALTH

J. Thomas Millington, M.D., Director
Bureau of Special Health Services
Pennsylvania Department of Health
P. O. Box 90
Harrisburg, Pa. 17120

Thomas W. Georges, Jr., M.D.
Secretary of Health
Pennsylvania Department of Health
P. O. Box 90
Harrisburg, Pa. 17120

Dr. Sabloff
Director of School Programs
Pennsylvania Department of Health
P. O. Box 90
Harrisburg, Pa. 17120

DEPARTMENT OF PUBLIC INSTRUCTION

Dr. L. Katherine Dice Reier
Director of Special Pupil Services
State Dept. of Public Instruction
Box 911
Harrisburg, Pa.

Miss Elinor Long
Director of Blind & Partially Sighted
State Dept. of Public Instruction
Box 911
Harrisburg, Pa.

CHESTER COUNTY OPHTHALMOLOGISTS

Dr. Richard Kent
17 S. Church Street
West Chester, Pa.

Dr. Paul Morgan
Virginia Avenue & Darlington Sts.
West Chester, Pa.

CHESTER COUNTY PUBLIC SCHOOLS OFFICE

Mr. Stanley K. Landis, Superintendent
Mr. Charles R. Keim, Jr., Asst. Superintendent
Mr. Paul Burrichter, Supervisor of Special Classes
Mr. V. J. Selvaggio, Supervisor of Special Classes
Dr. Lester N. Myer, Supervisor of Psychological Services

PENNSYLVANIA OPTOMETRIC ASSOCIATION

Mr. George Gottshalk
Administrative Director
Pennsylvania Optometric Assn.
218 North Street - Box 3312
Harrisburg, Pa. 17105

CHESTER COUNTY OPTOMETRISTS

Dr. Leonard Kanofsky
Professional Building
Kennett Square, Pa.

Dr. G. David Orr
336 East Lincoln Highway
Coatesville, Pa.

OTHERS

Mrs. Dorothy Ellis
R. D. #1 - Box 651
Glen Moore, Pa. 19343

SCHOOL VISION SCREENING POLICIES

IN VARIOUS STATES

Part I
of a Three-phase Study
on Vision Screening
Policies and Procedures

Statistics collected, compiled and evaluated by:

Mrs. Virginia E. Bishop, Coordinator-Consultant
Vision Program Services, Chester County Public Schools
West Chester, Pennsylvania 19380

1967

For twelve years, I have been actively engaged in teaching visually limited children. I am well aware of the high coorelation between vision and learning, and I am also cognizant of the problems involved in learning when a child's vision deviates to any degree from that accepted as normal. There are many and various solutions to these learning problems, depending on the individual child's visual needs (specialized teaching methods, adapted learning materials, adjusted school programs, use of kinesthetic and audio devices, etc.), but in order to provide these varied considerations to enable the visually limited child to achieve to maximum potential, it is first necessary to identify those children whose visual condition interferes in any way with learning.

It is my personal feeling that methods of identification should be of highest quality, adequate in scope, and receive due attention from all concerned in any way with visually limited children. Professional people in all related fields (educators, health administrators, and eye specialists) should be vitally, cooperatively, and actively engaged in planning for and providing efficient/effective methods of identifying children with academically handicapping visual conditions. We cannot expect a child to function at maximum potential level if he is deprived in any way of probably the most vital learning tool he possesses - his vision.

It is also my personal feeling that not enough attention is being given to adequate and accurate vision screening in schools. Too often, we expect untrained and inexperienced persons to identify even minimal but academically handicapping visual conditions. Moreover, we sometimes ignore degrees and types of visual conditions that cause real learning difficulties. We somehow expect the child to indicate to us his problems, when he may not even be aware that his vision is different than other children's.

It is true that my criticisms do not apply to all schools or school health programs, but my experience has been that too many situations exist for which my criticisms do apply. It was the purpose of this survey to determine what approaches to vision screening are in common practice. Though the questionnaires used were brief and not entirely comprehensive, the responses were enlightening. The data compiled will be used in a three-part study to be submitted to the Pennsylvania Department of Health (who, in Pennsylvania, establish the standards for school vision screening). The three parts of my study were aimed at: 1) the fifty states, to determine the various states' policies re: school vision screening, 2) thirty-four existing programs of educational services to visually limited children in Pennsylvania public schools, eliciting opinions and comments re: present state mandated vision screening procedures and 3) sixty-five public school nurses in my own county, attempting to evaluate actual local practices in school vision screening.) (You have received only that portion of the study which applies to your participation in this research.)

In this age of computers, it seems that statistics are the only acceptable means of bringing to the attention of the appropriate personnel the need for revision of existing standards. It is hoped that the accompanying data will in some way serve this purpose.

Grateful appreciation is extended to all those who assisted with this study. It is through the active cooperation and interest of professional people that improvements in education will occur, and that programs for exceptional children will receive maximum consideration and implementation.

May 3, 1967.

INTRODUCTION

The responses from the states were gratifying, both in quantity and quality. Thirty-five states responded; many sent accompanying literature describing their own policies and procedures. It was indeed professionally reassuring to know that so many states are actively interested in this vital subject. It is hoped that all who participated in this study will be able to utilize at least some part of the compiled data in the improvement or implementation of their own school vision screening.

Since answers for the first nine questions could be graphically represented, this procedure was used for these items. The responses to the last question, and the space for commenting, were presented in narrative form, as the data reported was generally varied, verbal and sometimes lengthy.

Where blanks occur in each chart, indications are that the state either chose not to answer that particular question or did not respond at all to the entire survey.

A summary is added as a final conclusion. This summary includes the writer's own opinions and personal conclusions, based on the results of the survey. The reader should, of course, analyze the facts for himself, but it is hoped that the reader's conclusions will agree, at least in part, with the writer's.

Any survey has value only if it precipitated new ideas, proves theories or suggests change. It is fervently hoped that this study accomplishes all three goals, and that vision screening programs in all participating states will be re-evaluated in light of these findings. We are, after all, working toward a common goal - that of identifying those children who need special help to achieve to maximum potential, and of providing this help, in whatever form it may take for each child.

QUESTIONNAIRE FORM USED

March 8, 1967

To: State Departments of Public Instruction
From: Mrs. Virginia Bishop, Coordinator-Consultant, Vision Program, Chester Co., Pa.
Re: School Vision Screening Standards

I am interested in comparing the approach to school vision screening used in the various states. It would be most helpful to me, in making this comparative study, t have the data listed below. If your Dept. of Public Instruction does not handle thes policies, please refer this questionnaire to the appropriate department. I should appreciate hearing from you on or before April 15, at which time I plan to compile my information into a summary analysis. Thank you, in advance, for your interest and cooperation.

1. Is your policy re: school vision screening: State mandated ___
   Up to the local district ___
   Other (describe) _____
2. Does your state require that every child's vision be tested in school:
   Annually ___ Only during certain grades ___ (state which grades: _____)
   Only as needed ___ Not required by the State ___ Other: _____
3. Who does the actual vision screening in the schools? School nurse ___
   Teacher ___ Volunteer ___ Eye Specialist (Ophthalmologist ___ Optometrist ___
   Combination of any of the above (state which) _____
   Other (explain) _____
4. What school vision tests are generally required? (list) _____
5. What other school vision tests are suggested? (list) _____
6. Is there any State reimbursement for vision screening devices and/or personnel? (including Snellen charts, plus lenses, miscellaneous devices, school nurses, special consultants, eye specialists, etc) ___yes ___no
   If yes, to what extent: _____
7. Are your school nurses supervised at State level? ___yes ___no
8. Are professional vision specialists represented at State level for establishment of school vision screening standards? Ophthalmologists only ___ Optometrists only ___
   Both ___ Neither ___
9. Do you have educational consultative services for children identified as visually limited (those children whose visual condition interferes with learning, and who need special materials and/or adaptive school programs)? State level only ___
   County level only ___ Local level only ___ Combination of above (state which) ___
   Other (describe) _____
10. Are you satisfied that most or all school children with visual problems in your state are being adequately identified? ___yes ___no If no, why not _____

If your state were in a position to initiate, revise or implement its present school vision screening standards, what would be your procedure in attacking this problem? (Be brief, but specific:) _____

I will be happy to share my findings with you if you so desire. To whom and where should I mail it? _____

Please return this questionnaire to: Mrs. Virginia Bishop, Coordinator-Consultant
Vision Program Services, Ches. Co. Public School
County Office Bldg., New & Market Streets
West Chester, Pa. 19380

(1)

QUESTION: Is your policy re: school vision screening: State mandated, Up to local district, or other?

STATE	State Mandated	Up to local District	Other
Alabama			
Alaska			
Arizona		X	
Arkansas		X	
California	X		
Colorado		X	
Connecticut	X		
Delaware	X		
Florida			
Georgia		X	Through Health Dept.
Hawaii	X		
Idaho		X	
Illinois			
Indiana	X		
Iowa		X	
Kansas	X		
Kentucky			Recommended, but not required
Louisiana			
Maine	X		
Maryland			
Massachusetts	X		
Michigan		X	
Minnesota		X	By volunteer groups
Mississippi			Recommended by Education & Health Depts.
Missouri	X		
Montana			
Nebraska		X	
Nevada	X	X	
New Hampshire		X	
New Jersey		X	
New Mexico			
New York	X		
North Carolina	X		
North Dakota		X	
Ohio		X	
Oklahoma			
Oregon	X		
Pennsylvania	X		
Rhode Island			
South Carolina		X	With Recommendations from State Health Supvr.
South Dakota			
Tennessee			
Texas			
Utah	X		
Vermont	X		
Virginia	X		
Washington			
West Virginia		X	
Wisconsin		X	
Wyoming		X	

(2)

QUESTION: Does your state require that every child's vision be tested in school: Annually, Only during certain grades (which), Only as needed, Not required by State, or Other?

STATE	Annually	Only during certain grades (which)	Only As needed	Not Required by the State	Other
Alabama					
Alaska					
Arizona				X	
Arkansas				X	
California		K,1,3,5,7,9,11,13			
Colorado	X				but doesn't really happen
Connecticut	X				
Delaware	X				
Florida					
Georgia		1,4,7 (suggested)		X	
Hawaii	X				
Idaho				X	
Illinois					
Indiana		1,3,8			
Iowa				X	
Kansas					At least every 2 yrs. recommend
Kentucky		1-6		X	
Louisiana					
Maine	X				
Maryland					
Massachusetts	X				
Michigan				X locally	employed visio.
Minnesota				X	tech. of Health Dept.
Mississippi					Twice first year
Missouri	X				
Montana					
Nebraska	X				
Nevada		X			
New Hampshire				X	
New Jersey				X	A few districts employ
New Mexico					ophthal. or optometris
New York	X				
North Carolina	X				
North Dakota		1,3,6,9 new admissions,			X Vision testing done
Ohio		spec. referrals			but not mandated
Oklahoma					
Oregon	X				
Pennsylvania	X				
Rhode Island					
South Carolina				X	but recommended
South Dakota					
Tennessee					
Texas					
Utah	X				
Vermont		1,2,3,5,7,9 or 10			
Virginia	X				
Washington					
West Virginia				X	
Wisconsin				X	
Wyoming	X				

(3)

QUESTION: Who does the actual vision screening in the schools? School nurse, Teacher, Volunteer, Eye specialist (ophthalmologist, optometrist), Combination of above, or Other?

STATE	School Nurse	Teacher	Volunteer	Eye Specialist		Combination	Other
				Ophth.	Optom.		
Alabama							
Alaska							
Arizona	X		X			nurse-volunteer	
Arkansas	X		X			nurse-volunteer	/mobile
California	X	X			X	nurse-teacher-optom.	unit
Colorado	X		X			nurse-volunteer pub.health nur	
Connecticut	X	X	X			nurse-teacher-volun. Conn. Soc for prev. blindness	
Delaware	X						
Florida							
Georgia	X	X	X	Isch.dis.		teach.a/o nurse or vol.a/o nur	
Hawaii		X				Pub.Health nurse rescreens fai	
Idaho	X	X				nurse-teacher	ures
Illinois							
Indiana	X		X	sometimes	sometimes	nurse-volun,-eye specialist	
Iowa	X	X	X		X		
Kansas		X				person desig. by school board	
Kentucky		X	X			pub.health nurse or	(varies)
Louisiana						teacher, volunteer	
Maine	X	X(mostly)	X			nurse-teacher volunteer	
Maryland							
Massachusetts	X	X				nurse teacher	
Michigan	X	X				nurse-teacher/ volun. initiat	
Minnesota	X		X			nurse-volun. nurses continu	
Mississippi		X	X			teacher-volunteer	
Missouri	X			X	X	nurse-eye specialists	
Montana		/verifies/					
Nebraska	X(mostly)	Xacuity	X			nurse-teacher-volunteer	
Nevada	X	X				nurse-teacher	
New Hampshire	X						
New Jersey	X						
New Mexico							
New York	X	X				nurse-teacher	
North Carolina		X				teach.screens,nurse follows-up	
North Dakota		X	X			teach.volunteer Pub.Health nur	
Ohio	X						
Oklahoma							
Oregon	X	X				nurse-teacher nurse re-screen	
Pennsylvania	X						
Rhode Island							
South Carolina	X		X			nurse-volunteer	(varies)
South Dakota							
Tennessee							
Texas							
Utah	X	X	X			nurse-teach-volun.	(varies)
Vermont	X	X	X			nurse-teacher-volunteer	
Virginia	X	X(mostly)				nurse-teacher	
Washington							
West Virginia	X	X	X	very seldom		nurse-teacher-volunteer	
Wisconsin	X	X	X			nurse-tchr-vol. vol.	does ini. screening
Wyoming	X	X		X		nurse-tchr-ophthalmologist	

(4 & 5)
QUESTION: What school vision tests are generally required (list)?
What school vision tests are suggested (list)?

STATE	Some Form of Snellen	Telebinocular	Titmus	Orthorater	Mass Vision Test	Plus Lens	Other	None
Alabama								
Alaska								
Arizona.	O					O	Howart chart	X
Arkansas					O			X
California	X							
Colorado	X							O
Connecticut	X							O
Delaware	O						Diskan Testing App.	
Florida								
Georgia	X		O		O			
Hawaii	X							O
Idaho	X			O				
Illinois								
Indiana	X							O
Iowa	O	O						X
Kansas	X						Or equivalent	
Kentucky	X							O
Louisiana								
Maine	(used)				(sometimes)			X
Maryland								
Massachusetts					X			O
Michigan						O	Vis.acuity, phoria	X
Minnesota	X	Cover test, Hirschberg			Cornea	Reflection or Worth 4-dot		O
Mississippi	X					O		
Missouri							Varies	
Montana								
Nebraska							Local option	
Nevada								
New Hampshire								XO
New Jersey	O	O	O		O		Atlantic City	
New Mexico								
New York	X					O(in 1st grade)		
North Carolina	X						(some use machines)	
North Dakota								X
Ohio	X						(near vision tests)	
Oklahoma								
Oregon	X							O
Pennsylvania	X					O	convergence test sug.	
Rhode Island								
South Carolina	(rec.)							O
South Dakota								
Tennessee								
Texas								
Utah	X							O
Vermont			X		O			
Virginia	(mostly used)O		O		O			X
Washington								
West Virginia	X	X						
Wisconsin	O						hyperopia;tchr.nurse /observ./	
Wyoming	X							O

X - Required
O - Suggested

(6)

QUESTION: Is there any State reimbursement for vision screening devices and/or personnel? (including Snellen charts, plus lenses, misc. devices, school nurses, special consultants, eye specialists, etc.) (yes or no) If yes, to what extent?

STATE	No	Yes	Extent
Alabama			
Alaska			
Arizona	X		
Arkansas	X		
California	X		
Colorado	X		
Connecticut		X	Snellen Charts
Delaware	X		
Florida			
Georgia	X		
Hawaii	X		
Idaho	X		
Illinois			
Indiana	X		
Iowa		X	Snellen charts
Kansas		X	occasionally
Kentucky		X	Snellen charts and purchase of eyeglasses
Louisiana			
Maine		X	Snellen charts
Maryland			
Massachusetts	X		
Michigan		X	State Health Dept. provides consultants, some materials
Minnesota		X	Consultants from State Health Dept.
Mississippi	X		
Missouri	X		
Montana			
Nebraska	X		
Nevada	X		
New Hampshire			Title I Project in remedial reading
New Jersey	X		
New Mexico			
New York	X		
North Carolina		X	Charts - school health funds used
North Dakota	X		
Ohio	X		
Oklahoma			
Oregon	X		
Pennsylvania		X	educa. materials; Dept. Health may reimb. for screening equi if approved
Rhode Island			
South Carolina	X		
South Dakota			
Tennessee			
Texas			
Utah		X	Snellen charts and special consultants
Vermont	X		
Virginia	X		
Washington			
West Virginia	X		
Wisconsin	X		
Wyoming	X		

(7)

QUESTION: Are your school nurses supervised at State level? (yes or no)

STATE	Yes	No	Comments
Alabama			
Alaska			
Arizona		X	
Arkansas	X		
California		X	
Colorado		X	
Connecticut	X		
Delaware	X		
Florida			
Georgia		X	
Hawaii		X	no full-time school nurses
Idaho	X		
Illinois			..
Indiana	X		
Iowa	X	X	This reply indicated both a yes and a no answer.
Kansas		X	except informal relationship to State Dept. of Health
Kentucky	X		Public Health Nurse
Louisiana			
Maine		X	
Maryland			
Massachusetts	X		
Michigan	X		when doing vision screening
Minnesota		X	
Mississippi		X	
Missouri		X	
Montana			
Nebraska	X		but only for professional competence
Nevada	X		
New Hampshire		X	consultant service only
New Jersey		X	
New Mexico			
New York	X		
North Carolina	X		
North Dakota		X	
Ohio	X		
Oklahoma			
Oregon		X	
Pennsylvania	X		State Dept. of Health
Rhode Island			
South Carolina	X		
South Dakota			
Tennessee			
Texas			
Utah	X		
Vermont		X	
Virginia		X	
Washington			
West Virginia		X	
Wisconsin	X		Public Health Nurses
Wyoming		X	Counselled with

(8)

QUESTION: Are professional vision specialists represented at State level for establishment of school vision screening standards? (ophthalmologists only, optometrists only, both, neither)

STATE	Ophthal-mologists only	Optom-etrists only	Both	Neither	Comments
Alabama					
Alaska					
Arizona				X	
Arkansas				X	
California				X	
Colorado			X		Consultative basis
Connecticut			X		Separate consultative services
Delaware	X				
Florida					
Georgia				X	
Hawaii				X	We are trying- our optometrists are eager.
Idaho				X	
Illinois					
Indiana				X	
Iowa			X		
Kansas	X				Dept.of Soc. Welfare has cons. ophthal
Kentucky	X				
Louisiana					
Maine				X	Not actually on an ongoing basis
Maryland					
Massachusetts	X				
Michigan				X	Standards est. by State Health Dept.
Minnesota	X				
Mississippi				X	
Missouri				X	
Montana					
Nebraska				X	
Nevada				X	
New Hampshire				X	
New Jersey				X	
New Mexico					
New York					
North Carolina				X	
North Dakota	X				Consultation
Ohio				X	
Oklahoma					
Oregon				X	They cannot agree
Pennsylvania				X	Consultation only
Rhode Island					
South Carolina				X	
South Dakota					
Tennessee					
Texas					
Utah	X				
Vermont				X	
Virginia				X	
Washington					
West Virginia				X	
Wisconsin			X		Medical Board State level; some M.D. & OD locally
Wyoming				X	

(9)

QUESTION: Do you have educational consultative services for children identified as visually limited (those children whose visual condition interferes with learning, and who need special materials and/or adaptive school programs)? (State level only, County level only, local level only, combination (which), other)

STATE	State Level only	County Level only	Local Level only	State and Local	Other
Alabama					
Alaska					
Arizona			X		
Arkansas	X				
California	X				
Colorado				X	
Connecticut				X	
Delaware				X	
Florida					
Georgia					State, County, local (9 systems)
Hawaii	X				
Idaho					General Special Education Consultant
Illinois					
Indiana				X	
Iowa					State, some County, a few local
Kansas	X		X		Reimbursed at State level for spec. tchrs.
Kentucky	X				
Louisiana					
Maine				X	State, but community coverage also
Maryland					
Massachusetts					With Dept. of Education
Michigan					State, County, local
Minnesota				X	
Mississippi				X	
Missouri	X				
Montana					
Nebraska				X	
Nevada	X				
New Hampshire					Dept. Health & Welf. Div. of Adm. Dept. of Educ.
New Jersey			X		
New Mexico					
New York					State, County and local
North Carolina				X	
North Dakota					State Health Dept., State DPI, Sch. for Blin
Ohio					
Oklahoma					
Oregon	X				2 largest cities prov. consult.part pd. by
Pennsylvania					State, County, local /State funds
Rhode Island					
South Carolina	X				
South Dakota					
Tennessee					
Texas					
Utah	X				
Vermont	X				
Virginia	X			X	Services provided by Va. Comm.for Vis. Handi.
Washington					
West Virginia	X				
Wisconsin					State, County, local
Wyoming	X				

QUESTION: Are you satisfied that most or all school children with visual problems in your state are being adequately identified (yes or no)? If not, why not?

Nine states felt that their visually limited children were adequately identified; twenty-six states did not feel that these children had been adequately identified. A listing of the reasons given follows.

1. Inadequate and inaccurate vision screening programs, inefficiently carried out.
2. Inadequate amount of instructional materials for partially sighted children.
3. Youngsters are not all identified.
4. Only approximately 80% of the counties do adequate vision screening.
5. There are inadequate personnel for screening and referral at local level.
6. Lack of personnel and services at local levels.
7. We are not finding the incidence indicated by the National Society for the Prevention of Blindness; presently doing a careful spot-study of incidence.
8. We will never reach perfection.
9. Testing and reporting is not as often and complete as would be desirable.
10. Twelve of our counties have no public health nurses.
11. There is too much variation in the degree of skill with which testing is done.
12. Children are not identified early enough, except in "Head Start" programs.
13. We still need to identify many more visually handicapped needing services.
14. Depends on local interest and opportunity.
15. We need a full-time state consultant in the area of vision screening.
16. Coverage of screening is not complete.
17. Present screening procedures lack meaning without standardized procedures.
18. No one has taken the initiative to initiate a sight conservation program.
19. Vision screening is uneven across the state.
20. Any general screening program will miss kids.
21. Lack of funds.
22. We should continue to attempt to improve amblyopia screening for ages 3-5.
23. Not enough personnel adequately trained in identification.
24. Our program is limited to gross screening due to lack of funds and staff.
25. Amblyopia is missed.
26. We need personnel.

An un-numbered question was added at the end of the survey. Space was given for brief but specific answers. The question was worded as follows: If your state were in a position to initiate, revise, or implement its present school vision screening standards, what would be your procedure in attacking this problem? It is encouraging to note that thirty-two of the returned thirty-five questionnaires chose to answer this item, indicating real interest in progressive improvements in vision screening practices. The answers are listed following, in the order that the questionnaires were received.

1. There needs to be a state committee of school nurses and other professional people.
2. Require examinations for all school children annually.
3. I need further study on this point...
4. Develop a screening program for each grade level; develop an educational definition of vision loss; mandate that schools provide special educational provisions for children found to be having difficulty in school because of vision loss.
5. Statewide screening; medical diagnosis; provisions for meeting educational needs of visually handicapped children; trained teachers; facilities, etc.
6. Strengthen preschool testing (school tests too late for amblyopia); better training of teachers for awareness of visual problems and symptoms; near vision testing for grade four on.
7. Would not change procedure.
8. Screening done annually by competent persons (school nurse, public health nurse, trained volunteer); final reports acted upon, rather than just filed.
9. Try to devise a system of vision screening for preschool children.
10. Hire a Sight Conservation Consultant.
11. Every school should have screening, done by someone prepared to do it; adequate number of ophthalmologists available for referral services.
12. Service should be part of prevention of blindness and services to visually handicapped; specific standards and methods should be required and some means established for carrying them out.
13. Have committee representation (many disciplines that are health and health related); formulate plans for this need, implementation, etc.
14. Preschool vision screening at all available centers; some legislation to enforce the referral program.
15. A traveling unit, staffed with qualified personnel, to tour state for vision screening purposes.
16. Division of Special Education should reimburse nurses to upgrade services.
17. Employ a State consultant to devote full-time to all of the detail involved in encouraging adequate vision screening and follow-up; emphasize preschool vision screening.
18. Try to make some sense out of medical and optometric standards.
19. We are currently setting up an organization to coordinate all preschool screening so that there is no duplication and so that all areas are covered.
20. Establish a training clinic for all examiners; standardize methods and procedure for the entire state, eliminating local option; make follow-up and referral mandatory, both to professional care and central state agency; increase state participation; establish direct state control.
21. Set up a planning committee of personnel from health departments and educational departments and professionals; survey the problem; make recommendations for establishing a state directed program.

22. I would keep Snellen testing and observation; possibly add plus sphere test. would conduct in-service training to teach our vision screening program (why it is, what it is, and the limitations) with emphasis on conscientious observation throughout the school year of child for symptoms of physical defects, including visual functioning.
23. More trained volunteers for vision screening in schools, and trained volunteers for children aged 3-5.
24. Probably would revamp the statutes, making school vision screening mandatory at the local level.
25. We are in the process of comprehensive evaluation of present services; it is expected that some changes of procedure may result.
26. The position of a school nurse-consultant is imminent; she will be sent for training, and will then spend several years getting a good screening program going; we are also trying to involve our ophthalmologists.
27. Work closely with eye doctors in establishing standards that they believe should be used for referral.
28. Instigate a preschool and kindergarten screening program, with follow-up where indicated.
29. Set up a model, adequate program; also explain possible modifications or additions to basic program.
30. Plan workshops on screening in conjunction with the Dept. of Health to train nurses and teachers in various counties to stimulate regular procedures at local level.
31. Employ a consultant to assist us to develop a program.
32. Intensive in-service education to all school nurses and faculty on the relationship of learning and vision.

SUMMARY AND ANALYSIS

The problems involved in vision screening practices appear varied and many. In my estimation, they might be briefly stated as follows (roughly corresponding to the numbered questions):

1. Only seventeen states reporting mandate school vision screening at state level - every state should require it.
2. Only fifteen states reporting required annual screening - this, too, should be a must for all states.
3. Thirty states utilize school nurses for screening purposes; twenty-four states enlist teachers for screening; eighteen utilize volunteer help; only five states used ophthalmologists and/or optometrists; two states utilized public health nurses. Vision screening should be performed by qualified, trained personnel - the ideal arrangement might be initial mass screening done by properly trained school nurses, with follow-up, clinical type screening of questionable "passes" and all failures by eye specialists.

4&5. Only nineteen states required the use of some form of the Snellen Test (considered by most experts to be the best single method for mass screening); although other tests were suggested by some states, no state mandated a test for hyperopia in addition to the Snellen procedure, and only a few states seemed at all concerned with muscle imbalances, color blindness, depth perception, limited fields, or astigmatism (to name only a few fairly easily recognizable but academically handicapping visual conditions). Mass screening, coupled with clinical assistance by eye specialists, would more thoroughly identify and refer many more visual conditions than just myopia and hyperopia.

6. Twenty-five states allow some type of state reimbursement for vision screening devices and personnel, but this reimbursement was generally quite limited. States should at least partially reimburse for screening equipment, part-time services of eye specialists, and even to the extent of some special academic materials.
7. Only eighteen states indicated supervision of school nurses at state level. To encourage consistent school nursing practices throughout any state, it would seem mandatory to have some kind of state supervision.
8. Only eleven states had any representation of eye specialists at state level for suggesting standards. It would seem that since eye specialists are responsible for follow-up care and treatment of referrals, that they should have some voice in suggesting standards of referrals and methods for achieving them. It is recognized that there is some disagreement between the two professional fields represented by eye specialists, but certainly some progress in the direction of a cooperative effort should be imminent and feasible.
9. Fourteen states provide educational services for visually limited children at state level only; none have services at county level only; three have services at local level only; ten have services at both state and local levels, but only six states indicated some services at all three levels. It is somewhat appalling to me that so few states take the second, but probably the most important, step in this area of vision - that of attempting to educate these visually limited children after they are identified.
10. The fact that such a large number of states were dissatisfied with their identification of children indicates a general awareness of this problem. The major causative factor appeared to be a lack of trained personnel,

resulting in inacurrate screening procedures and practices. A two-fold solution might be an answer to this problem: the establishment of adequate, state-mandated standards, and the provision of trained personnel to carry out these standards. Perhaps, some provision in nursing education is necessary to insure adequate training of school nurses in the area of school vision screening. It might also be feasible to include provisions in the field of teacher education, to prepare classroom teachers in the area of recognizing behavior symptoms of visual problems, so that the teachers could make reasonably accurate referrals for detailed screening by school nurses and/or eye specialists. (It is not felt that classroom teachers should be responsible for actual screening; they should simply be able to make intelligent observations of their children as a basis for referral to more trained personnel for screening.)

The last, un-numbered, question was included to encourage constructive thought on the part of each state. Apparently, it met its goal, for many of the comments indicated serious consideration of feasible solutions to the apparent problems encountered in school vision screening. Had I, personally, been asked to answer this question, my statements would have been somewhat as follows:

1. Gather together representatives of the various involved professions (eye specialists, health officials, and educators).
2. Agree on a consistent approach to school vision screening: outline procedure, equipment and personnel to be used; favor some type of mass screening (feasibly the Snellen test and plus lens test), done by the school nurse, coupled with further clinical screening by eye specialists for questionable "passes" and all failures of the mass screening; outline referral standards in some detail.
3. Make annual vision screening of all children state mandated.
4. Distribute a brochure to all school nurses and eye specialists, describing testing procedures and referral standards in detail.
5. Require that referrals be followed-up with a professional eye examination, and that the eye specialist relay any pertinent data to the school nurse for her records.
6. Maintain supervisory and consultative personnel at State level, to assure and ascertain optimum programs, both in the area of vision screening and that of educational services.
7. Mandate educational services at all levels for those visually limited children who need special programs and/or materials (both in the public schools and at the institutional level); staff and equip these services efficiently and effectively.
8. Re-evaluate periodically (perhaps every three years) the effectiveness of the total programs in the area of vision (screening and education). Revise and improve whenever and whereever feasible or necessary.

In this manner, it is felt that an adequate, progressive program to screen and educate visually limited children could be initiated, implemented and maintained. If we do not take action at professional levels, we cannot expect our visually limited children to become well-adjusted, productive citizens. This is the goal of education, and the means to achieve this end is in the hands of those who establish policies, at state, local and personal levels. It is our duty and responsibility to establish policies that will provide optimum opportunities for all visually limited children everywhere.

REACTIONS FROM COUNTY/CITY LEVEL

VISION PROGRAMS IN PENNSYLVANIA

Part II
of a Three-phase Study
on Vision Screening =
Policies and Procedures

Statistics collected, compiled and evaluated by:

Mrs. Virginia E. Bishop, Coordinator-Consultant
Vision Program Services, Chester County Public Schools
West Chester, Pennsylvania 19380

1967

QUESTIONNAIRE FORM USED

March 8, 1967

TO: All known Programs for Visually Limited Children in Pennsylvania
FROM: Mrs. Virginia Bishop, Coordinator-Consultant, Vision Program, Chester County, Pa.
RE: School Vision Screening Standards

I am becoming increasingly aware, as I believe you must be, too, of many areas of inadequacies in our present state mandated school **visual** screening standards. I believe we are in a position (if this survey should so indicate) to urge revision of these standards at State level. In order to bring this matter to the attention of the proper persons at State level, there must be supportive data to back such a request. Your cooperation in completing and returning the information below would assist me in preparing such a report. Please be candid in your comments - I plan to use no names of people or Counties in my report, simply a compilation of data. I am interested in a consensus of opinion among we who deal directly with the children identified by vision screening. If I could receive your reply on or before April 15, I shall, if so indicated, prepare a summary of the information and forward it to Harrisburg soon after. Thank you for your interest and cooperation.

1. Are you aware of the Pennsylvania Standards for School Vision Screening? yes ____ no ____
2. Do you feel these standards are adequate? yes ____ no ____ If no, briefly why not? _____
3. If you, personally, were in a position to revise the present standards, what changes would you make? _____
4. Do you feel that school nurses are adequately trained and best qualified to do school vision screening? yes ____ no ____ Do you feel that school nurses generally give (or have) sufficient time to do quality vision screening? yes ____ no ____
5. Roughly how many of your schools have a pre-school vision screening program? All ____ Most ____ Many ____ A few ____ None ____
6. Do any outside groups (volunteers, Ass'n for the Blind, etc.) assist with school vision screening in any of your schools? yes ____ no ____ If yes, name the groups: _____
7. How do your schools actually perform vision screening?
   Most adhere to only minimum State standards _____
   Most have expanded their programs beyond State minimum standards _____
   Only a few have expanded their programs beyond State minimum standards ____
   About "half and half" ____
   Many do not even adhere to minimum standards ____ A few do not adhere to minimum standards ____ None adhere to minimum standards ____
8. Do you feel that eye specialists could and should be involved in school vision screening (much as the school physician assists with physicals)? yes ____ no ____
9. If eye specialists were to become involved in school vision screening, which would you prefer? Ophthalmologists only ____ Optometrists only ____ Both ____
10. Do you feel your local eye specialists would cooperate in such a program? Ophthalmologists ____ Optometrists ____ Both ____ Neither ____
11. What types of vision conditions do you feel present school vision screening procedures generally miss? (list) _____

12. Do you feel parents should receive more information about: school vision screening techniques ____ referral standards ____ Follow-up procedures ____ Other: _____

13. Do you feel, in general, that your local eye specialists are cognizant of school vision screening procedures and are aware of what is available educationally for those children who need help? Ophthalmologists ____ Optometrists ____ Both ____ Neither ____

14. Do you feel present vision screening procedures in your schools have adequately identified those children who need special materials and/or adapted school programs? All children identified ____ Most children identified____ Many unidentified ____ A few unidentified ____ Unknown ____

Please feel free to comment on this topic as you wish: _____

_____

(use reverse side, if necessary)

If you wish to receive a copy of the compiled data from this survey, indicate to whom and where it should be sent: _____

_____

Return this to: Mrs. Virginia Bishop, Chester County Schools, Co. Office Building, New and Market Streets, West Chester, Pa. 19380

It was disappointing to note that only eighteen replies (including one completed for Chester County) were received from thirty-four existing programs of educational services to visually limited children in Pennsylvania public schools. It is not known why about half of these programs chose not to participate in this survey; either the personnel involved were simply too busy to complete even such a brief questionnaire, or they were not professionally interested in the topic under study. The writer chooses to assign the first reason for such poor cooperation, as it seems impossible to believe that professional persons engaged in educational services for visually limited children are not concerned with the very procedures that identify children for their programs.

Though the responses were not as great in number as hoped for, the returns that were received were comprehensively and carefully answered. Some general conclusions may be drawn from these responses, though no attempt should be made, or is made, to indicate that these conclusions are optimum sampling of opinion statewide. Therefore, data will be presented roughly corresponding to question numbers, and in a fair amount of detail. Where a conclusion seems evident, it is stated; the writer's opinions are also included wherever applicable .

It is hoped that each reader will draw his own conclusions, will formulate opinions, and will have profited from this study's compiled information. Perhaps if enough professional people are reached, either directly by this data or through the influence of a reader of this study, some active considerations will be given to improving vision screening standards in the State of Pennsylvania. If we do not concern ourselves as educators with identification procedures of visually limited children, we cannot even hope to provide optimum programs of educational services; those children who are not identified cannot be helped to learn to the extent of their potential. It is the duty and responsibility of every person concerned with the education of visually limited children to try to improve vision screening standards; the purpose of this survey was to collect information pertinent to vision screening policies and practices, in the anticipation that the Pennsylvania Department of Health might consider revising or implementing its present state mandated standards.

Grateful appreciation is extended to those few who chose to assist in this study. The interest shown by these professional people was most reassuring, and it is hoped that they feel, after having read this summary, that their time was well spent.

All eighteen responses were aware of the Pennsylvania Standards for School Vision Screening, though only seven replies indicated that the standards were felt to be adequate. Eleven responses suggested a variety of reasons for inadequacies in the standards. These explanations are listed following, in the order received:

1. Not complete enough; not done by eye specialists.
2. Neglects reading need.
3. Many children with slight problems not found.
4. Not followed-up as a check.
5. Do not reach all children early enough.
6. Ophthalmologists or optometrists are not involved.
7. "Pass-Fail" gives no specific information, especially to us who teach these children.
8. Standards do not specify the actual physical manipulation of testing.
9. Should be more comprehensive re: all vision problems.
10. No stipulations for preschool and kindergarten children.
11. Depends on the child and the interpretation.

The general indication seems to be that present standards are not comprehensive enough to thoroughly identify.

All but three replies suggested changes in the present state mandated visior screening standards; these changes are listed as follows:

1. Eye examination should be required by an eye specialist.
2. Eye specialists should participate in screening.
3. Include specific reading-distance tests.
4. Eliminate E charts and use machines.
5. Preschool examinations or screening by other than volunteer agencies (who don't recognize other differences than far vision).
6. Better training of nurses for screening; budget and compulsion to obtain helps.
7. Make it mandatory for nurses to list specific visual acuity for each child.
8. Testing should be done in the nurse's office, with controlled lighting and actual twenty-foot distances; two persons should work together - one to cover letters and one to record responses.
9. Need binocular vision testing.
10. Two examinations per year, with an ophthalmologist or optometrist present.
11. Mandatory preschool eye examinations by physician or clinic.
12. Check for convergence in kindergarten and first grade.
13. Involve ophthalmologists and/or optometrists in screening.
14. Better training of school nurses.
15. Other tests used in addition to Snellen.

It was interesting to note that four replies specifically suggested the involvement of eye specialists in school vision screening procedures; it is the strong feeling of the writer that eye specialists could and should be involved in some way in school vision screening (much as the school physician cooperated in physical examinations and the school dentist in dental examinations).

Twelve replies felt that school nurses are adequately trained and best qualified to do school vision screening; six responses indicated that they are not. Interestingly, however, only six areas felt that the school nurse gives or

has sufficient time to do quality vision screening; twelve areas replied to the contrary. It is my personal feeling that school nurses could be adequately trained and best qualified, but many times are not, because no specific training in conducting vision screening was ever given in their nurses training; the usual method of learning to do vision screening is that a new school nurse learns from another nurse, or (reads) "the manual". Obviously, there is much variety in approach and actual procedure. It is my experience that most nurses attempt to adhere to what they understand as minimum standards, but rarely have sufficient time allotted to do a thorough, consistent job of actual screening. Most nurses do only the Snellen distance test; a few do the plus lens follow-up test, but interpret the State Manual to suggest the plus lens test during grades 1 - 3 (the Manual says that the greatest majority of cases of hyperopia occur in the grade range 1 - 2; although this is true, the Manual does not clarify the fact that finding this high percentage in these grades may be quite normal, a developmental factor of the eye itself; the greatest need for hyperopia identification is in the grades beyond 1 and 2, where hyperopia may be a real academic handicap, if present. The State Manual is rather vague on this point, and school nurses generally do not understand the need for plus lens testing beyond grade 3.)

Only one County area indicated that all schools conducted a preschool vision screening program; two Counties said that most schools did preschool screening; one County stated that many schools conducted screening at preschool level; nine areas reported that a few schools engaged in preschool screening; and five responses indicated no preschool vision screening programs at all. This is an area of screening open for development and one which seems of vital importance. Many types of visual conditions, if diagnosed prior to school enrollment, could be treated or cared for before the child possibly loses a full year of educational instruction. Expansion of preschool vision screening programs, or a mandated preschool eye examination on a private basis, seems imperative and reasonable.

Eight responses indicated the assistance of one or more outside groups in school vision screening; ten replies stated no volunteer help available or used. It is of interest to note that six of the eight affirmative replies indicated that their local branch of the Pennsylvania Association for the Blind was the cooperating agency involved. Perhaps, resources for assistance in many areas (in addition to the Association for the Blind) are as yet untapped, and might be enlisted, especially at the preschool level. It is important to add, however, that these volunteer groups need to be carefully trained and oriented; if this is not observed, more harm than good may result; untrained persons may not only miss identifiable cases, but could refer needlessly some children who are simply uncooperative during testing, or even unable (retarded, for instance) to respond.

Nine of all the responses indicated that most schools adhered only to minimum State standards; four other areas said a few of their schools had expanded their vision screening programs beyond the mandated minimums. One County felt that their vision screening programs were about equally divided between minimum and expanded programs; only three Counties indicated that most of their screening programs were expanded. Three areas felt that a few schools were operating substandard vision screening programs. This wide variation in procedures should indicate the need for the establishment of higher quality standards at State level, making them mandatory, and extending supervision to see that standards are met.

Thirteen replies were in favor of involving eye specialists in school vision screening; three were not; two responses chose not to answer this question. One area preferred the assistance of ophthalmologists only; one preferred optometrists only; sixteen replies indicated that both types of eye specialists should be involved. However, only one area felt that ophthalmologists would definitely cooperate in such involvement; three areas suggested that ophthalmologists might cooperate. Seven replies thought that their optometrists would cooperate. Nine areas felt that both types of eye specialists would cooperate; only one reply felt that neither would cooperate. It appears that most people would like to involve eye specialists in school vision screening, with preference as to ophthalmologist or optometrist varied (it is presumed also dependent on the availability of each profession locally). However, only about half of the responses felt that this desire could really become actuality. It appears that cooperation between the two eye specialist professions must precede inclusion in any program of school vision screening; if this could be accomplishe. at State level, the precedent established might favorably affect participation at local levels.

Sixteen of the responses listed visual conditions felt to be generally missed by school vision screening. These were:

1. Color blindness
2. Muscle imbalances; strabismus
3. Depth perception
4. Cataracts
5. Astigmatism
6. Amblyopia
7. Reading fusion and visual-motor performance
8. Hyperopia
9. Pathology problems
10. Perceptual difficulties
11. Focus problems of children who have good far vision
12. Glaucoma
13. Borderline referral cases in general
14. Convergence
15. Double-vision

(Each condition is listed only once; actually, many responses listed several conditions; The most repeated conditions were: hyperopia, muscle imbalances, astigmatism, amblyopia, and perceptual problems.) Although some of these visual conditions cannot reasonably be expected to be identified in mass vision screening many of them could be if eye specialists were involved.

Seven areas felt that parents should be more informed about vision screening techniques; two replies said they should not. Eight responses wanted parents more informed about referral standards; again, two areas felt parents need not be more informed of this factor. Only eleven replies indicated that parents needed more information on follow-up procedures. One reply indicated that parents should better understand the relationship of vision and learning skills; another area felt that parents should understand the differences in kinds of eye specialists. A wide variety of opinion was expressed in this question, and no comprehensive conclusions are readily apparent. The writer feels that parents should and could be informed of all steps in vision screening practices, but especially

in the area of follow-up (since this part of the screening procedures particularly involves parental cooperation). Perhaps, parent groups, PTA's, and similar organizations should plan to include a presentation of this general topic some time early during each school year, hopefully conducted by the school nurse(s) serving that particular school area.

Fourteen areas felt that their local eye specialists were generally aware of both school vision screening procedures and educational services available (three responses felt that opthalmologists were better informed; one felt that the optometrists were more aware; and ten replies indicated cognizance on the part of both groups). Three areas believed their eye specialists were not well enough informed of vision screening practices and educational services. One reply indicated that some of each group of eye specialists were well informed, but that it depended largely on the individuals involved. It would seem that a positive public relations approach to the local eye specialist professions might favorably influence general cooperation of these professional people in school programs, both in the area of screening and that of available educational services

Surprisingly enough, after having given answers as enumerated above, two counties still felt that all visually limited children in their areas had been adequately identified. Seven responses felt that most of these children had been found; one reply said a few were thought to be unidentified; seven areas felt that many children were missed; one County did not know or chose not to estimate. The indications of the preceding questions appeared to point in the direction of incomplete identification (as is felt by the writer in this local area). It is not clearly understood how any area could state that all visually limited children are or have been identified when criticisms of screening procedures and practices preceded this conclusion. Possibly referral and follow-up practices were uncommonly thorough, even though screening itself was minimal in scope. Whatever these few cases may be, the general indication seemed to be that there are at least some children being missed in school vision screening. This fact alone should encourage serious consideration of up-dating present screening standards, for the waste of productive talent and/or potential ability of any visually limited child is unnecessary. We can educate these children if we can find them.

The space allotted for commenting was utilized by only eight areas, but the statements made are worthy of inclusion in this report. They are as follows:

1. Nurses' training and experience is insufficient for accurate/adequate testing and identification; it varies from nurse to nurse.
2. Some pupils are not "missed", but are not referred early enough.
3. Many school nurses don't and won't accept that a child has a severe problem; nurses are not familiar with terms and procedures for helping these children.
4. (From a "two-county" area) one county has interested and cooperative eye specialists; the reverse is true in the other county.
5. Snellen chart is adequate for myopia referrals...
6. Perhaps an ophthalmologist could examine first graders.
7. Better in-service programs for nurses would make them better aware of their responsibilities to children; I would also like to see a report of all children referred by the nurse to be sent to the County Office - a way to be sure the nurse is actually doing vision screening at all.

8. (Although this comment is somewhat of a personal nature, it is included to indicate favorable opinion on this study.) Much good luck with this project - it is quite an undertaking - glad you are doing it.

Even though the general response to this study was somewhat limited, it is felt that there was enough evidence of dissatisfaction with present vision screening standards and practices to warrant consideration at State level.

Grateful appreciation is extended to those who did respond; it is hoped that positive action at State level will result, for the general improvement of vision screening standards and practices in Pennsylvania.

REPORTED VISION SCREENING PRACTICES

AMONG SCHOOL NURSES IN CHESTER COUNTY, PENNSYLVANIA

Part III
of a Three-phase Study
on Vision Screening
Policies and Procedures

Statistics collected, compiled and evaluated by:
Mrs. Virginia E. Bishop, Coordinator-Consultant
Vision Program Services, Chester County Public Schools
West Chester, Pennsylvania

1967

The response to this survey was better than anticipated; forty-four of a possible sixty-five nurses sent replies. Perhaps the reason for such response was that no nurse or school district was identified; the nurses may have felt more free to express themselves, knowing that they were not specifically identified. It is hoped that an additional reason for the cooperative attitude is the general interest on the part of school nurses for improvement of local health programs, vision screening in particular.

Though there were a few discrepancies noted, most nurses answered the questions carefully and completely. Several items, it will be noticed, indicated poor interpretation of terminology by the respondee. Where blanks occurred in the replies, they are so noted.

Evaluative procedure used is as follows: answers were represented numerically, corresponding to question numbers. The only exceptions were questions 26 and 27, which are represented graphically. A general summary, including personal opinion, follows the statistical data.

It is indeed reassuring to find that so many nurses are sincerely attempting to do what they feel is expected of them in vision screening. The main general fault in procedure and practice seems to be in the variety of interpretations of standards. Perhaps the blame should be placed jointly on lack of preliminary training/experience of nurses, and on somewhat vague directives in the State Manual (hereafter referred to as "the Manual"). Whatever the reasons for any inaccuracies, it is of vital importance that the weaknesses be corrected, so that maximum consistency of practice may result and that adequate identification of visually limited children occurs.

QUESTIONNAIRE FORM USED

March 10, 1967

TO: All School Nurses in Chester County Public Schools
FROM: Mrs. Virginia Bishop, Coordinator-Consultant, Vision Program Services
RE: Vision Screening Programs

I am interested in information and opinions about the present school vision screening programs in Chester County. It would be of great value to me if you, as a school nurse, could find a minute to assist me with this study. You will notice that there is no space for you to sign your name or school; I need data and opinions and am not concerned with identifying you or your school. (The number code at the top simply indicates to me which questionnaires were elementary or secondary, and how many that were sent are returned.) I would greatly appreciate your reply on or before April 15, as I hope to be able to compile your information into an analytical report by the end of April. Thank you for your cooperation and for your interest in the constant improvement of our Program.

1. Do you have available to you a copy of "Guide for School Nursing Services in Pennsylvania" (Penna. Dept. of Health)? yes ____ no ____
2. Do you use some form of the Snellen Chart in your school vision screening prograr yes____ no____ If no, do you use a chart similar to but other than the Snellen Chart? yes____ no____ State name of it or where obtained _____
3. Is your acuity chart: flat (linen or cardboard)____ self-illuminated____ projected____ other (describe) _____
4. If you use a flat chart, do you illuminate it for testing purposes? yes____ no____
5. Indicate the top line included on your acuity chart: 20/70____ 20/100____ 20/200____ (if top line is less than 20/70, what is it? _____)
6. Indicate the bottom line included on your acuity chart: 20/30____ 20/20____ 20/15____ (if bottom line is less than 20/15, what is it? _____)
7. Do you, in any way, darken the room used during testing? yes____ no____
8. Have you, at any time, used a light meter to measure the following:
   light from or on the chart: yes____ no____
   light in the room during testing: yes____ no____
9. Which of the following do you usually use to indicate individual symbols or letters during testing? pointer____ finger____ "peep cards"____ other (explain)_____
10. If you use a 20' chart, has the testing distance been measured exactly at any time? yes____ no____
11. Where do the pupils stay during testing? Stand behind 20' measurement_____ Stand in front of 20' measurement____ Seated, back legs of chair on 20' measurement____ Seated, back legs of chair behind 20' measurement _____ Seated, back legs of chair in front of 20' measurement _____
12. How does the pupil occlude each eye? With his own hand____ Disposable cards ____ Same card used all pupils ____ Card held by volunteer ____ Other (explain)_____
13. Do you usually test pupils already wearing glasses: with glasses on ____ without glasses on ____ both ways ____
14. Do you have a set of plus lenses? yes ____ no____ Do you borrow a set as needed? yes____ no____
15. Which category range best applies to your actual use of the plus lenses?
    grades 1-3____ grades 4-6____ grades 7-9____ grades 10-12____
    grades 1-6____ grades 7-12____ all grades____ only in specific cases ____
    other (explain) _____

16. Indicate the terms you use to indicate passing or failure of the plus lens test: _____ _____

17. If a pupil already wears glasses, do you use the plus lenses: with glasses on ___ without glasses on ____ both ways ____

18. Do you administer any type of test for any of the following (if so, state name of or describe the test you use): muscle imbalances _____
CONVERGENCE _____
fusion _____
DEPTH PERCEPTION _____
color blindness _____
ASTIGMATISM _____
limiting fields _____
EYE DOMINANCE _____
other _____

19. Do you send a notice of some type to parents of pupils who failed your vision screening tests? yes ___ no ___

20. Do you, in some way, follow-up those notices for which you receive no reply from the pupil's family? yes ___ no ___ If yes, check applicable procedure(s): personal pupil contact ____ another notice to the family ____ personal letter to the family ____ phone call to the family ____ home visit ____ other (describe) _____

21. Approximately (estimate) when in the school year do you complete your vision screening? within first month ____ before Thanksgiving ____ before Christmas ____ before Easter ____ by the end of the school year ____ varies year to year ____

22. Do you secure and file reports from eye specialists when indicated (especially for those children in the 20/70 or worse range)? yes ____ no ____ try to ____

23. Do you feel your local eye specialists are generally cooperative in returning adequate reports of vision examinations? Ophthalmologists: yes ____ no ____ Optometrists: yes ____ no ____ Clinics: yes ____ no ____

24. Do you think your teachers are able to or are referring suspected eye problems to you for screening? yes ____ no ____ If no, do you have any opinion as to why not? _____

25. Do you feel that your parents are generally cooperative about securing eye care for pupils you refer as not having passed your screening? All of them ____ most of them ____ about half of them ____ less than half of them ____ few or none of them ____

26. Estimate, if possible, approximately what percent of children in your school area do not "pass" your present vision screening tests: _____

27. Of these children who do not "pass", estimate approximately what percent receive eye care as follows: family eye specialist (private) _____ Clinic _____ other financial assistance _____ no eye care received _____

28. Do you feel that your present program of school vision screening is adequately identifying pupils with handicapping visual conditions? yes ____ no ____

29. Do you feel there should be any changes in presently mandated vision screening standards? yes ____ no ____ If YES, what kinds of changes would you suggest?:

_____

_____

30. Do you have any criticisms of or suggestions for improving the services of the Vision Consultants from the County Office? (Please be candid - we should like to know if there is any way we could better serve your program.) _____

_____

_____

Please feel free to comment as you wish: _____

_____

_____

_____

Return this questionnaire on or before April 15, 1967 to:

Mrs. Virginia E. Bishop, Coordinator-Consultant
Vision Program Services, Chester County Schools
County Office Building - New & Market Streets
West Chester, Pa. 19380

1. (Have available a copy of "Guide for School Nursing Service in Pennsylvania")
   yes: 41, no: 2, (one reply left this item blank)

GENERAL EQUIPMENT

2. (Some form of the Snellen Chart used)
   yes: 43, no: 2, (one reply stated both yes and no)

   (If no, what chart used)
   Goodvue with Illiterate E: 1
   Goodlite: 3
   (obviously, at least one nurse has listed more than one chart used)

3. Flat or cardboard chart: 9 self-illuminated: 40, projected: 3
   (obviously, again, some nurses must have or use more than one kind of chart

4. (If flat chart used, is it illuminated for testing purposes)
   yes: 9, no: 1, (someone probably meant that they "switched on the chart";

5. (Top line of chart)
   20/70: 0, 20/80: 2, 20/100: 28, 20/200: 20
   (again, some nurses must have or use more than one chart)

6. (Bottom line of chart)
   20/30: 0, 20/20: 17, 20/16: 1, 20/15: 23, 20/10: 3
   (no numerical discrepancies here)

LIGHTING

7. (Room darkened in any way)
   yes: 28, no: 19, (a few nurses said both yes and no)

8. (Light meter used to measure)
   Light from or on chart: yes: 3, no: 39
   Light in room during testing: yes: 3, no: 36
   (a few nurses left this item partially or wholly blank)

PROCEDURE FOR BASIC SNELLEN

9. (Used to indicate individual symbols or letters)
   pointer: 21, finger: 0, "peep cards": 19, other: 3 use pen or pencil
   (3 use nothing - assume pupil reads symbols in order)
   (2 nurses must use different procedures on different occasions)

10. (Testing distance of 20' measured exactly at any time)
    yes: 44, no: 0
    (one nurse said she measures it every year)

11. (Placement of pupil for testing)
stand behind line: 20 (assume toes on line)
stand on line: 3
stand in front of line: 17 (assume heels on line)
seated, back legs of chair on line: 6
seated, back legs of chair behind line: 2
seated, back legs of chair in front of line: 0
(one blank response; one reply said "depends on height of children; several nurses appear to use differing procedures at different times)

12. (Occlusion by . . .)
pupil's own hand: 5, disposable cards: 29, same card used by all pupils: 5, card held by volunteer: 4
other: large spoon: 2, paper cup: 3, paper cups: 1, papers: 1
plastic occluder: 1, glasses frame with occluder: 1
(some nurses use varying procedures)

13. (pupils tested . . .)
with normal correction worn: 35, without normal correction on:2"sometimes"
both ways: 13 checks and 7 "sometimes"
(some nurses checked more than one item)

PLUS LENS PROCEDURES

14. (Have a set of plus lenses) yes: 35, no: 9
(Borrow a set as needed) yes: 1, no: 7

15. (Grade range of actual use)

grades 1-3: 18	grades 1-6: 5	all grades: 2
grades 4-6: 3	grades 7-12: 1	only in special cases: 2
grades 7-9: 2	other: new pupils: 3	K-4 & as needed 5&6: 1
grades 10-12: 3	grades 1&2: 1	
	upon need or request: 1	

(three replies indicated no lenses or had never used them)

16. (Terms used)
Fail or pass: 19, pass only: 7, fail only: 4
(several nurses who use the lenses left this item blank; one nurse said "I do not have pupils under 4th grade")

17. (pupils tested . . .)
with normal correction worn: 21, without normal correction on: 4,
both ways: 3
(one nurse said neither)
(seven nurses who use plus lenses left this item blank; one nurse said "I was told if they already wear glasses, you do not need to use diopter lenses")

OTHER TESTS USED

18. Muscle imbalances: 1 yes, 1 sometimes, one uses "vision tester machine," one has pupil follow penlight or pencil with his eyes, one uses the telebinocular on fails & 1st grade
Convergence: 2 yesses, 1 said she moves her hand in and out
Fusion: 0
Depth perception: 0
Color Blindness. 1 uses Ishihara, another uses this test for original entries and transfers only; Dvorine-Pseudo Isochromatic Plates used by 3 nurses; 3 yesses, 1 "to a degree", one has the child name the red-green lines on the Snellen chart, one said "red-green for kindergarten and 1st grade; another uses the telebinocular on fails and 1st grade
Astigmatism: one nurse tests for this by having the child follow a pencil or finger from some specified distance in toward the child's nose (she is obviously testing for convergence, but does not know it)
Limited fields: 0
Eye dominance: one nurse uses the telebinocular on fails and 1st grade
Other: one nurse wrote "observation" in this blank

FOLLOW-UP

19. (Notice sent) yes: 44, no: 0

20. (Followed-up?) yes: 44, no: 0
(applicable procedure used)
personal pupil contact: 24 and 1 "occasionally"
another note to family: 12
personal letter to family: 8
phone call to family: 40 and 1 "occasionally"
home visit: 17 and 1 "sometimes"
other: 2 nurses said they notified the teacher in anticipation of a parent-teacher conference; another nurse said she uses whichever method is appropriate and gets action; another nurse indicated resorting to Child Care, if all other methods fail.

MISCELLANEOUS DATA

21. (Approximately when screening completed)
within first month: 0, before Thanksgiving: 8, before Christmas: 13 and 1 "1 try", before Easter: 15 and 1 "generally", by the end of the school year: 4 and 1 "always", varies year to year: 18

22. (Eye reports secured and filed)
yes: 36, no: 0, try to: 7 (One nurse left this item blank)

23. (Cooperation of eye specialists)
Ophthalmologists: yes: 31, no: 11 (two blanks)
Optometrists: yes: 40, no: 3 (one blank)
Clinic: yes: 17, no: 8 (many do not use Clinic services)

24. (Teachers able to and are referring for screening)
yes: 44, no: 0

25. (Parent cooperation in general)
all: 5, most: 37, half: 2, less than half: 0, few or none: 0

26 & 27. (follow in chart form)

28. (Pupils adequately identified?)
yes: 33, ?: 2, no: 6 (three blanks)

29. (Changes in standards needed?)
yes: 9, ?: 1, no: 25 (nine blanks)
Kinds of changes suggested:

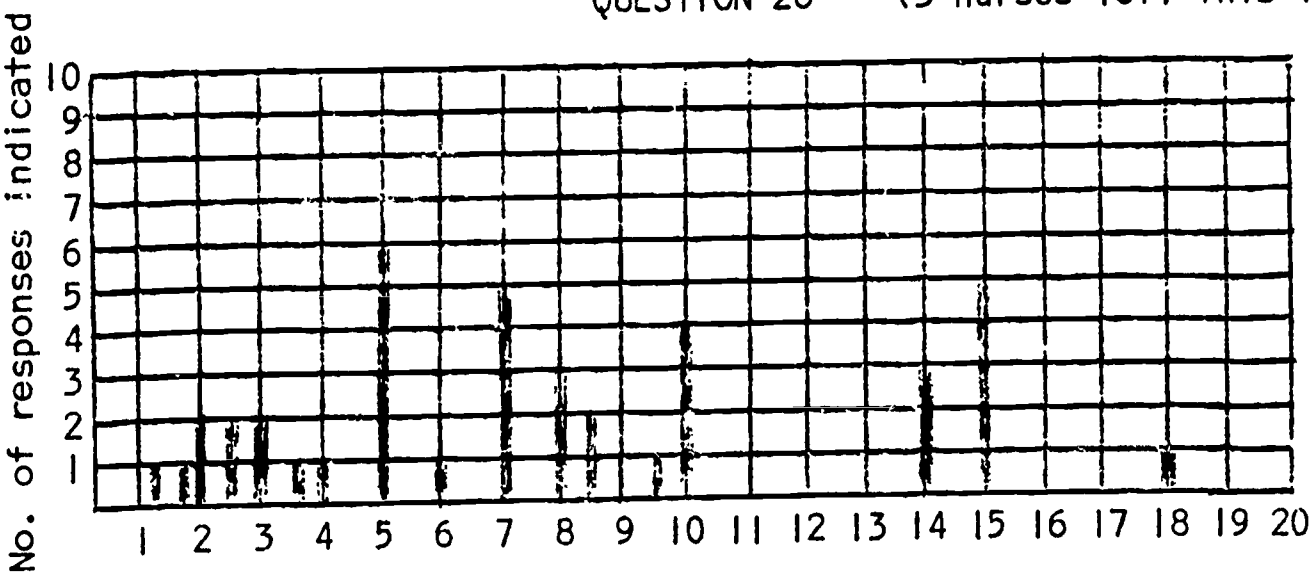
1. All children need Ishihara.
2. At high school, Snellen E each year not adequate.
3. Simple tests for astigmatism, convergence and fusion.
4. Would like vision testing machine to control environment (light and distance) and to lessen the percent of over-referral; to be used statewide; or employ vision technician to do all the testing.
5. Suggest vision tester - more accurate and takes half the time.
6. 20/50 failure is inadequate.
7. Visual perception, however, this may not be the nurse's job.
8. Some method for testing visual perception.
9. I'm not sure.
10. School nurse is to screen, not diagnose; no time for more elaborate testing.
11. More stress on finding amblyopia; more adequate testing for astigmatism; feel Snellen chart tests are vague and inaccurate; too many different systems and interpretations, leaving room for error and chance of mistakes.
12. Should be some other method to re-check Snellen failures - maybe a machine to avoid over-referrals.
13. If done properly, most eye defects found; also if teachers observe and report.
14. Some way to recheck Snellen failures.
15. What about an M.D. exam at grade 5?
16. What about preschool vision testing programs? Could be a part of preschool registration, mandated if it has real value; if done before school starts, correction could be had before school begins and more time could be given to upper grade testing earlier in the school term.
17. Each new school nurse should have a thorough briefing on proper eye testing, as this is not covered in any college or nursing course.
18. Many problems exist in visual perception rather than visual acuity - this could be a program I would feel is necessary to help children with this perception problem.
19. Promote adult education - parents do not get eye exams for children until required by the school, even though the child has complained to the parents.
20. Are there other tests that should be done (as for question 18)?
21. Need better cooperation M.D.-wise; need also to know to what extent child is to wear correction (reading only or what?).

(These statements are direct quotes from the survey forms.)

30. Criticisms for improving the services of the Vision Consultants from the County Office. (again, these are direct quotes from the survey forms.)
    1. Seven nurses indicated no criticism by stating "none", "no" or "I have none".
    2. Very satisfactory
    3. All contacts with vision consultants very helpful - a service most efficient and effective.
    4. Please see that the nurse has a copy of any information you receive from the M.D.
    5. I'm very well pleased with the service we receive - I feel they do a good job.
    6. By working with nurse as well as guidance counselor. (Judging from postmark location and secondary level indications, believe this is a nurse who has personnel problems within her own school.)
    7. All are cooperative.
    8. Good job for time and personnel allotted to this job.
    9. Please do not make blanket, critical statements about our screening procedure without having made personal evaluation (again, from postmark and answers, believe this may be the nurse to whom I made the suggestion that pupils should stand with heels, not toes, on 20' line..

(The space used for personal commenting was utilized in a few cases - these comments were included in the above last group, as they were too few to separate in a new section.)

QUESTION 26 (3 nurses left this item blank)



National Society for Prevention of Blindness suggests that 1 child in 200 has a vision loss (1 child in 500 has a handicapping loss). 1/2% of school population should fail screening - note above data.....

The statistics for Question 26 were represented on the chart as closely as possible.

QUESTION 27 (3 nurses did not answer Question 27 at all.)

% failures	8%	8.6%	5%	7%	-6%	7%	14.2%	2%	15%	7%	5%	1¼%	5%	3½%	5.3	15%	9-10%	5%	1½%	2%	8%
% private care	3%	81%	4%	4%	90%	90%	60%	2%	13%	1%	4½%	1%	80%	3%		90%	70 to 90%	100%	99%		7+%
% clinic care		18%			1-2%					2%	½%		1%		4.3		1%			1%	
% other financial assistance	1%			3%		7%	6%			2%			2%				10 to 15%				
% no care received	4%	1%	1%	1%		3%	34%		05%	2%	few			½%	1%		very few			1%	

10

% failures	10%	-3%	10%	14%	2-3%	5%	2.7%	-8%	8½%	7%	10%	6½7%	15%	10%		15%	2-3%	18%	15%	4%	
% private care	most	all	✓	most	all	most	almost all	90%	4½%	95%	75%	4%	50%	8%	4%	13%	3%	35%	95%	41 children	
% clinic care				some		2-3%		1%	4%	5%	1%		very few		2%	2%		20%			
% other financial assistance						few		9%			.1%	1%	35%	1%			2%		5 child.	6 children	
% no care received				very few					5½%		25%	2%	15%	1%	1%		few	45%	10 child.	8 children	

Statistics for Question 27 were quoted; obviously there are discrepancies, vaguely interpreted data and incomplete answers. The reader must judge for himself what conclusions to draw.

SUMMARY AND CONCLUSIONS

All but two nurses have available a copy of "Guide for School Nursing Services in Pennsylvania." It is not known how much this manual is actually used, and by how many nurses, but at least it seems to be generally available.

The majority of replies stated that some form of the Snellen Chart is in use; most types are self-illuminated. The specific lines included on the chart varied (20/200 or 20/100 being generally the top line, and 20/20 or 20/15 the bottom line). It is the personal feeling of the writer that the 20/200 line should be included, simply because the legal definition of blindness is 20/200 in the better eye, corrected. When an educator has available no other eye report than that obtained by school vision screening (and this does happen occasionally) it is important to know that the child sees at all, or may even be eligible for academic and/or financial assistance at State or Federal levels. Of course, a complete examination by an eye specialist is requested and required, but it helps the vision consultant and classroom teacher to know "where to begin" visually with the child in daily classroom activities until such examination is completed. Incidences have been actually reported to the writer of nurses who reported acuity as 20/0 simply because the child could not read a 20/100 line at twenty feet. There have also been actual instances of nurses who reported an acuity as 20/100, even though the child could not read this line at twenty feet; there was no other larger line to try! It is recognized that screening acuity results are only indicative of deviation from normal, and not diagnostic in scope, but the fact remains that there are and will be children for whom no other acuity data will be available; in addition, there are often time gaps between screening and follow-up care - the educator sometimes cannot afford to wait this long for a medical report before beginning special instruction or adaptive programs.

Although many nurses do darken the room used for vision testing, only three of the forty-four replies had ever measured the light (either from or on the chart, or in the room) with a light meter. (The Manual specifically states that this should be done.) Where illumination is such a vital factor, it seems essential that it be accurate, measured and optimum.

Most nurses use either a pointer of some kind or "peep cards" for indicating individual letters or symbols. Three nurses simply permit the pupil to read the symbols or letters, presumably in order. It is felt that "peep cards" are the best method, since they 1) leave no room for error as to which symbol or letter is indicated, 2) discourage memorization of the chart by pupils who are waiting to be tested, and 3) permit the nurse to indicate symbols or letters in whatever order or sequence she wishes (including the repetition of any questionably identified symbols or letters). The Manual is not concise or exact on this point, so nurses interpret freely as to individual procedures.

Commendably, all nurses used exact twenty foot testing distances, however, the placement of the pupil on the "twenty foot line" varied considerably. Though the Manual is exact on this point, there were still twenty nurses who have pupils' toes on the line, if standing, and two nurses who have chair legs behind the line, if pupils are seated. This seems like a small

factor, but it could make a difference of as much as a foot in testing distance. The Snellen Chart is calibrated for exactly a twenty foot distance.

Most nurses are using disposable cards for occluding; some use spoons, paper cups, and a few have special occluders. Appallingly enough, five nurses use the same card for all pupils, and five nurses have the pupil occlude with his own hand. The Manual suggests a 3 x 5 occluder, but simple health precautions should suggest that it not be the same for all pupils, much less the pupil's own hand.

The majority of nurses test children already wearing glasses with their correction on (as prescribed by the Manual). Thirteen nurses tested both with and without normally worn corrective lenses, and nine nurses follow this procedure occasionally. It is personally felt that it might be helpful for the nurse to be aware of the difference in a child's vision with and without normal correction. In the event that lenses are lost or broken, the nurse then has some understanding of how urgently the glasses are needed, and how visually handicapped he will be until the lenses are repaired or replaced. This factor could be interpreted to the classroom teacher for academic program adjustments in the interim.

Thirty-six nurses have or borrow a set of plus lenses; seven nurses do not have or borrow these lenses. Actual use of the lenses varied, but the majority of incidence of use was in grades 1-3. This directive is vaguely stated in the Manual. It is the personal feeling of the writer that the Manual has inadvertantly misled the nurses; highest incidence of hyperopia is in the early grades, but probably due to normal visual development. Cases of hyperopia occurring beyond grade three are the problematic ones, and also the ones not usually found. Plus lens testing should be clearly indicated in addition to grades 1-3, but especially for the grade range beyond third grade.

Reporting procedures for failure of the plus lens test varied, but generally were stated as "pass-fail". Because of the nature of this test, recording of results may be difficult (to "pass", the pupil must not read; to "fail", he can read). It is felt that clinical assistance on the part of eye specialists might more adequately identify and record hyperopic tendencies.

Very few nurses actually tested for other than myopia and hyperopia. Muscle imbalances, convergence and color blindness tests were the most common additions to the suggested procedures, though even these were limited in number. One nurse even thought she was testing for astigmatism with a convergence test. Only one nurse reported that observation entered into her testing procedure. Obviously, very few nurses have expanded their vision screening programs beyond minimum State standards.

The area of follow-up appeared to be the strongest point in all vision screening programs reported. All nurses stated that a notice of failure was sent to parents, and all nurses indicated one or more types of follow-up procedures, when no reply was forthcoming from the parents. Although these procedures varied in form, sufficient indications of adequate follow-up are reported. The point in question in the writer's mind is how much of this

follow-up actually takes place. Many instances are recalled from personal experience where nurses complain of poor parent cooperation, although forty-two nurses reported that all or most parents cooperate with follow-up care or treatment.

The second most common complaint from school nurses has been, in my experience, the lack of cooperation of eye specialists in returning eye examination data. Thirty-six nurses stated that they had adequate eye reports returned to them for their records, and a very large percentage of the replies indicated cooperation from eye specialists and Clinic services. If such lack of cooperation on the part of eye specialists has been such a common complaint from nurses, why, then, was it not indicated in this survey?

No nurse completed vision screening within the first month of each school year; a few finished before Thanksgiving, but most dragged vision screening up as far as Easter (and a few beyond). If an intensive vision screening program, with assistance from eye specialists could be instituted the first month of each school year, fewer children might academically lose the greatest part of a school year. Hearing screening is adequately accomplished (in Chester County) during the first month of each school year - why not vision screening as well?

All nurses felt that their teachers are and are able to refer children with suspected eye problems for immediate screening. It is not known how this is possible, since no provisions are presently known in teacher education programs to prepare a classroom teacher to observe symptoms of visual difficulties. Perhaps each nurse feels she has sufficiently oriented her teachers, or perhaps the general level of professional teaching staff is better trained in this area than presumed. In any case, it may be feasible to mandate either 1) orientation programs of teachers by school nurses, to alert them for observation of visual symptoms or 2) special provisions made in undergraduate teacher education programs to accomplish this same goal.

The percentage of failures in school vision screening programs ranged from 1¼% to 18% (see graphic representation). (The National Society for the Prevention of Blindness says that one in two hundred children [or .5%] might be expected to have some visual problem. Based on an approximate Chester County public school pupil population of 60,000, there should be three hundred of these children reported - in actuality, there are less than two hundred. Some discrepancy is evident somewhere, and it is believed to be in the identification procedures and referral standards.) Nurses indicated that, of the failures, most received private eye care or financially assisted care, with very few being uncared-for. The statistics were most difficult to evaluate, since figures for Question 27 did not always agree with those in Question 26 (though the questions were felt to be clearly worded). Nurses apparently are not mathematically oriented; more than a few chose to verbalize rather than numerically state their estimates.

It is interesting to note that thirty-five nurses felt that their visually limited children had been adequately identified; only six felt that they had not.

Twenty-five nurses felt that present vision screening standards were adequate and needed no change; ten responses believed changes should be made. Nine nurses left this item blank. (A list of the suggested changes was included in the numerical response report.) It is the feeling of the writer that many of those nurses who did not want changes made responded in this manner because they anticipated additional work for themselves if changes were to be made. In actuality, their work would be no greater (and possibly even less) if eye specialists were to assist in vision screening; the school nurse would still only handle the mass general screening, and the eye specialist would be involved with the questionable "passes" and all failures; the eye specialist might even feasibly do all the screening for kindergarten and first graders. In this manner, a more accurate/adequate identification of visual problems could occur with no greater responsibility on the school nurses than they presently have. The only major change affecting the school nurses (and proposed by the writer) would be adequate State supervision of screening programs, to ascertain that mandatory standards <u>are</u> met with consistency and accuracy.

No evaluation is made regarding the last question and the space for comments, as it is felt the statements speak for themselves.

In conclusion, it might be stated that considerable work and time was involved in the preparation of this study. It is hoped that the data presented will, in some small way, suggest the need for improvement of vision screening standards in Pennsylvania public schools. If professional people involved in policy implementations are encouraged to at least consider this request, then the goals of this study have been met. Any action taken at State level to improve present standards will be gratefully appreciated.