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A Survey of Vision Screening Policy of Preschool Children in the United States

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Abstract. A state-by-state survey regarding preschool vision screening guidelines, policies, and procedures was conducted. Currently 34 states provide vision screening guidelines and 15 states require vision screening of at least some of their preschool-aged children. The Department of Public Health administers the programs in 26 states, the Department of Education in 13. A wide range of professional and lay personnel conduct preschool vision screenings, and nurses participate in the screening process in 22 states. Visual acuity is assessed in 30 states, eye alignment in 24 states, refractive error in eight states, and color vision in 10 states. A combination of screening tests is recommended in 24 states. Currently, 45 states do not require screening of all preschool children. Thus, although laws, guidelines, and recommendations exist in most states, many preschool-age children do not have access to vision screening programs. (*Surv Ophthalmol* 43:445–457, 1999. © 1999 by Elsevier Science Inc. All rights reserved.)

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Vision disorders are the fourth most common disability in the USA and are the most prevalent handicapping condition in childhood.¹¹ Important vision disorders in children include amblyopia, strabismus, significant refractive error, ocular disease, and color vision deficits. Early detection and treatment of these disorders are important to maximize a child's visual potential.^{5,8,11,21,29}

Vision screening has been recommended as a cost-effective way to identify children who would

benefit from further vision care,^{8,11,21} and, as a result, preschool vision screening has been mandated for many years as part of several federal programs, including the Early and Periodic Screening, Diagnosis, and Treatment Program,²³ Head Start,^{24,25} and Maternal and Child Health Crippled Children's Programs.²⁶ Today all major organizations concerned with children's eye care, including the American Academy of Ophthalmology,¹ the American Academy of Pediatrics,⁶ the American Association for Pe-

diatric Ophthalmology and Strabismus,² the American Optometric Association,²⁰ Prevent Blindness America,¹¹ the National Association of School Nurses,¹⁸ and the U.S. Public Health Service,²⁸ advocate vision screening of preschool children. In addition, Public Law 99-457 requires a statement about vision for each child entering an early intervention program.²⁷

Despite the many mandates and recommendations for vision screening of preschool children, implementation of preschool vision screening at the state level has lagged. In 1983 only Michigan and Minnesota had laws regarding vision screening of preschool children, and only California, Illinois, Louisiana, Michigan, Minnesota, New Hampshire, and Utah had substantial programs for preschool vision screening.⁸ At that time, it was estimated that only 21% of preschool children underwent screening for vision problems.⁸ In 1989–1990 the State Health Care Legislation Committee of the American Optometric Association conducted a survey of individual states' vision screening recommendations and found that only 16 states recommended or required vision screening of preschool children.³ Results of referral criteria were not included in the survey results. At about the same time, a study of private pediatric practices in the USA found that only 38% of 3-year-old children were screened for vision problems.³⁰

The purpose of this article is to provide an update regarding the vision screening policies of individual states. Data are based on a nationwide survey conducted by the Preschool Children's Vision Screening (PCVS) Study Group, which is composed of six academically based optometrists, a vision scientist, a biostatistician, and a nurse practitioner and coordinator from the Head Start program. The PCVS Study Group was established as an outcome of the 1994 Summer Invitational Research Institute in Bloomington, Indiana cosponsored by the American Academy of Optometry and the American Optometric Association. The purpose of the PCVS Study Group is to identify valid and efficient methods for vision screening of preschool children.

Survey Methods

Beginning in August 1996, a questionnaire and a letter requesting documentation concerning state screening policies and procedures were sent to the governmental office involved in vision screening in each state (including the District of Columbia, which is considered a state for purposes of this survey). States that did not provide written copies of state guidelines, regulations, laws, and screening manuals were sent a follow-up letter specifically requesting these items. Additional follow-up mailings and telephone calls were conducted, as needed. By August 1997, all states except Maine, Montana, North Caro-

lina, and the District of Columbia had responded. Information obtained from the 1989–1990 American Optometric Association survey³ was used for the nonresponding states.

Survey Results

Information received from each state regarding preschool vision screening is summarized in Table 1. The table also identifies the source of the information listed (e.g., response to our questionnaire, copy of state screening regulations, or copy of state screening manual). In constructing Table 1, we used the terminology provided by each state to describe screening tests and eligible screeners. As a result, the same test may be listed under different names for different states, e.g., Tumbling E versus Snellen E. To help the reader, we provide the following categorization of the vision tests listed in the table:

Picture tests for visual acuity: Allen Picture Cards/Allen Pictures/Allen Figures; Picture Chart/Picture Tests; Titmus Acuity Tester; LEA Single Symbol Book/LEA Cards/LEA Symbols; Lighthouse Cards; Blackhurst Picture Vision Test; Faye Symbols Chart; Peek-A-Boo, Efron Cards.

Tests in which child identifies orientation of a letter or picture: E Game/Illiterate E/Tumbling E/Snellen E; Michigan Preschool Slides/Michigan Vision Screener; Blackbird Screening; Modified Sjogren Hand/Hand Chart.

Letter acuity charts: HOTV; Snellen; Stycar; Sloan Letters.

Stereopsis tests: Random Dot E/RDE; Stereo Fly/Fly; Stereo Reindeer; Butterfly; Titmus Circles; Randot E.

Tests to measure ocular alignment using corneal light reflex: Hirschberg Test/Hirschberg; Corneal Light Reflex; Cover Light.

Color vision tests: Pseudoisochromatic plates/Ishihara/Isochromatic Test; Pease-Allen Color Test (PACT).

Assessment of refractive error: +2.50 Test/Plus Lens Test/Plus Lens/+2.00 Lens/+2.25 Lens (significant hyperopia suspected if visual acuity is preserved through plus lens).

Optometric examination: Includes ocular health examination, history and assessment of visual acuity, muscle balance, refraction, and evaluation for strabismus.

The data summarized in Table 1 indicate that 34 states currently have guidelines for preschool vision screening, one additional state (Virginia) has guidelines only for preschool children with disabilities, and another (Washington) has guidelines only for preschool children being evaluated for special education. Fifteen of the 34 states with guidelines require screening of preschoolers, whereas screening is voluntary in the other 19 states. In nine of the 15 states that require preschool vision screening, infor-

TABLE 1
Current State Guidelines for Preschool Vision Screening

State	Source of Information*	Current Preschool Guidelines	Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
AL	Q, R	No	No	K	NA	NA	NA	NA	Public Health
AK	Q, M	Yes	Yes	Birth and up	Observation Opacity Fix and follow Eye alignment VA	Red Reflex Hirschberg Test Cover Test Fix and Follow Illiterate E Snellen Allen Picture Cards HOTV	Voluntary	Nurses	Public Health
AZ	Q, M	Yes	Yes	Preschool	Distance and near VA Eye alignment	Snellen HOTV Tumbling E Allen Figures Lighthouse Test [†] Cover Test Hirschberg Test Stereopsis [†]	Voluntary	Discretion of school	Health
AR	Q, R, M	Yes	Yes	Preschool	Observation Distance VA Eye alignment	Tumbling E Allen Pictures Hirschberg Test Cover Test Michigan Preschool Slides [§] Blackbird Vision Screening Michigan Vision Screener Modified Sjogren Hand Test	Voluntary	Nurses Speech pathologists Special educators Volunteers	Education/ Health
CA	Q, R, M	Yes	Yes	Not specified	Distance VA	Snellen Illiterate E Chart Tumbling E Snellen Picture Chart HOTV Butterfly, Fly, Titmus Circles +2.50 Test Near Point Convergence Cover Test	Voluntary	Medical practitioners School nurses Certified employees	Education
CO	Q	Yes	No	3 and 4 years	History Observation Distance VA Eye alignment Hyperopia		Required	School nurses Health aides Teachers Vision teachers Trained screeners (No ODs)	Education

(Continued)

TABLE 1
Continued

State	Source of Information*	Current Preschool Guidelines	Written Referral Criteria	Age(s) Screened	Distance VA	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
CT	Q, R	Yes	Yes	Public school entry	Distance VA		Snellen	Voluntary	School nurses Assistants Trained volunteers	Education
DE	Q, R	Yes	No	Birth and up	Observation History VA Eye alignment Refraction VA	Optometric examination Timus Acuity Tester Snellen		Required	ODs Nurses Teachers Trained paraprofessionals Designated trained personnel	Public Health
DC	AOA	Yes	No	Pre-K	VA	Snellen Stycar HOTV		Required	School health aides Nurses Special screening teams	School Health Services ¹ Human Services [#] Health and Rehabilitative Services
FL	Q, R, M	Yes	Yes	Preschool	VA Tracking Eye alignment (optional) Color vision (optional) VA Eye alignment	Varies based on equipment and staff Tumbling E Snellen Picture Tests Corneal light reflex Snellen Cover light		Required		
GA	Q, R	Yes	No	Preschool	VA Eye alignment			Voluntary (within routine well-child care)	Hearing and vision technicians with audiologists	Health/School Health Services ¹
HI	Q, R	Yes	No	Preschool	Distance VA Eye alignment	Allen Picture Cards Snellen Cover light NA		Voluntary	Audiometric assistants	Health
ID	R	No	No	K	NA			NA	NA	Health and Welfare
IL	Q, R, M	Yes	Yes	3–5 years (1st year in licensed preschool setting)	Observation VA Hyperopia Color (optional) Eye alignment	Phoria tests, distance and near HOTV Snellen Tumbling E Plus Lens Test NA		Required	Dept. certified vision technicians	Public Health
IN	Q, R, M	No	Yes	K	NA			NA	NA	Education/Health

(Continued)

TABLE 1
Continued

State	Source of Information*	Q, R, M	Current Preschool Guidelines	Yes	No	Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
IA	Q, R, M	Yes	Yes	Infant Preschool	History Observation Distance VA Eye alignment	History ABC Form** LEA Single Symbol Book RDE	Voluntary	Trained personnel	Education			
KS	Q, R	No	No	5 years	NA	NA	NA	NA	Education			
KY	Q, M	Yes	Yes	Local district decision (3-6 years)	VA	Snellen E Game	Voluntary	Local decision	Education			
LA	Q, R	Yes	No	Preschool	Eye alignment	Hirschberg Cover Test	Voluntary	Certified eye health staff (trained by a certified orthoptist)	Health			
ME	AOA	Yes	No	Preschool	Not specified	Not specified	Required	School and local nurses	Not specified			
MD	Q	No	No	School entry	NA	NA	NA	Trained volunteers	Education			
MA	Q	Yes	No	Preschool	VA	LEA Cards	Voluntary	Nurses	Public Health			
MI	Q, R, M	Yes	Yes	3-5 years	Eye alignment VA	Stereopsis Tumbling E Lighthouse Cards† Blackhurst Picture Test Hirschberg Test Cover Test	Required	Trained technicians	Public Health			
MN	Q	Yes	No	3-5 years	VA	Not specified	Required	Nurses	Health			
MS	Q, R	Yes	Yes	3-5 years	Eye alignment Tracking Color vision VA Hyperopia Myopia	Hand chart or Snellen "E" for distance and near VA	Voluntary (required under certain conditions)	Trained volunteers Teachers School nurses Clinic nurses OD upon referral	Health			

(Continued)

TABLE 1
Continued

State	Source of Information*	Current Preschool Guidelines	Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
MO	Q, M	Yes	Yes	Birth-K	Distance VA Eye alignment Color vision Tracking	Snellen E Sloan Letters HOTV LEA Symbols Pseudoisochromatic plates Red reflex Pupillary response Hirschberg Alternate Cover Test Blink reflex	Voluntary	Nurses Teachers Parent educators	Health
MT	AOA	No	No	K	NA	NA	NA	NA	Health/Public
NE	Q	Yes	Yes	Preschool 3–4 years	VA Eye alignment (optional) Color vision (optional) Hyperopia (optional)	Snellen Pseudoisochromatic plates Plus lens Observation	Voluntary	School nurses Volunteer nurses Aides Teachers	Health
NV	Q	No	No	Elementary school age	NA	NA	NA	NA	Education/Human Resources [#] Public Health
NH	Q, M	Yes	Yes	3 1/2–6 years	VA Eye alignment Observation Tracking Pupils Fixation	Snellen E Lighthouse [†] Allen Pictures Cover test Pupils Fixation Hirschberg	Voluntary	Nurses Volunteers (for VA)	Public Health

(Continued)

TABLE 1
Continued

State	Source of Information*	Current Preschool Guidelines	Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
NJ	Q, R, M	Yes	Yes	3-4 years	VA Eye alignment Refractive error (optional) Color vision (optional) Stereopsis (optional)	Snellen E HOTV Faye Symbols Chart Allen Pictures Plus lens Worth 4 Dot Hirschberg Cover Test Several other suggested screening batteries	Voluntary (required for children in licensed child care centers)	NA	Education
NM	Q	No	No	K	NA	NA	NA	NA	Education/ Children's Medical Services Education
NY	Q, R, M	Yes	Yes	Preschool	"Evaluation of vision"	Not specified	Required	At discretion of pre-K director	Education
NC	AOA	No	No	K	NA	NA	NA	NA	Human Resources [#] Health
ND	Q	Yes	No	Preschool	VA—other areas vary based on school, public health units, etc.	Keystone Snellen E Chart Peek-A-Boo	Voluntary	PTA School nurses	Health
OH	Q	Yes	No	3-5 years	VA Eye alignment Observation Color vision	Snellen LEA HOTV Pseudoisochromatic plates +2.00 lens	Required	Volunteers ODs MDs	Health
OK	Q	No	No	K	NA	NA	NA	NA	Health
OR	Q, R, M	No	Yes	K	NA	NA	NA	NA	Education
PA	M	Yes	Yes	All children enrolled in pre-K classes	VA Hyperopia Color vision Observation	Snellen Tumbling E +2.25 lens Ishihara	Required	School nurses Technicians Teachers	School Health ¹

(Continued)

TABLE 1
Continued

State	Source of Information*		Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required		Eligible Screeners	Department or Division Administering Screening
	Q	R					Voluntary	Not specified		
RI			Yes	School entry	VA Eye alignment Color vision	Snellen Tumbling E HOTV Picture Tests Allen Figures LEA symbols Randot E	Voluntary	Not specified		Education/Health
SC	Q		No	0–4 years	VA Eye alignment	Isochromatic Test Tumbling E Lighthouse [†] HOTV Efon Cards ^{††} Cover test	Voluntary	Nurses		Education/Health
SD	Q	R	No	K	NA	NA	NA	NA	NA	Health
TN	Q		No	K	NA	NA	NA	NA	NA	Health/Education
TX	Q	R	No	4–5 years	Distance VA Eye alignment (optional)	Snellen E HOTV Tumbling E Hirschberg Cover/uncover	Required	Teachers Nurses Volunteers		Health
UT	Q	R, M	Yes	3 1/2–4 years	VA	Snellen E Allen Cards	Required	School nurse with trained volunteers (licensed health professionals providing vision care to private patients may not screen)		Health
VT	Q		No	K	NA	NA	NA	NA	NA	Not specified
VA	Q	R, M	No [‡]	K	NA	Not specified	Required only for children with disabilities	Nurse		Health/Education

(Continued)

TABLE 1
Continued

State	Source of Information*	Current Preschool Guidelines	Written Referral Criteria	Age(s) Screened	Areas Tested	Tests Used	Voluntary or Required	Eligible Screeners	Department or Division Administering Screening
WA	Q, R	No ^{§§}	Yes	K	NA	Snellen E	Required for special education only	Technicians Nonprofessional volunteers	Public Instruction
WV	Q, R	Yes	No	Preschool	VA Eye alignment	Snellen HOTV Allen Symbols Random Dot E	Required	Nurses Aides	Education/School Health Services and Health Education [†]
WI	Q	Yes	No	Preschool	Refractive state Eye alignment Color vision VA	Snellen E PACT Random Dot E	Voluntary	Teachers Nurses ODs	Public Instruction
WY	Q	No	No	NA	NA	NA	NA	NA	Education

* Source of information: Q = response to our questionnaire; R = copy of state screening regulations; M = copy of state screening manual; AOA = information from 1990 American Optometric Association (AOA) Bulletin.³

[†]Lighthouse symbols are an older version of the currently available LEA Symbol Test.

[‡]Stereopsis tests in Arizona = Random Dot E, Stereo Fly, Stereo Reindeer, and Worth 4 Dot Tests.

[§]Michigan Preschool Slides = E symbols pointing toward one of four pictures.

[¶]Blackbird Vision Screening = Child identifies direction bird is flying.

[‡]School Health Services are considered under the Department of Health for this paper.

[#]Human Resources or Services are considered under the Department of Health for this paper.

^{**}History ABC Form = History of appearance, behavior, and complaints form.

^{††}Efron cards = symbols acuity test constructed by local OD, PhD in Cayce, South Carolina.

^{‡‡}Screening required only for children with disabilities beginning at 2 years of age.

^{§§}Screening required only for children being evaluated for special education.

K = kindergarten; VA = visual acuity; PACT = Pease Allen Color Test; PTA = Parent-Teacher Association; RDE = Random Dot E; NA = not applicable.

TABLE 2
Summary of State-by-State Preschool Vision Screening Guidelines (for States With Guidelines)

State	Visual Acuity	Eye Alignment	Refractive Error	Color Vision
States requiring vision screening for all preschool-age children				
Delaware	Y	Y	Y	N
District of Columbia	Y	N	N	N
Florida	Y	O	N	O
Michigan	Y	Y	N	N
Minnesota	Y	Y	N	Y
Ohio	Y	Y	H	Y
States requiring vision screening for preschool-age children enrolled in school				
Colorado	Y	Y	H	N
Illinois	Y	Y	H	O
Maine	NS	NS	NS	N
New York	NS	NS	NS	N
Pennsylvania	Y	N	H	Y
Rhode Island	Y	Y	N	Y
Texas	Y	O	N	N
Utah	Y	N	N	N
West Virginia	Y	Y	N	N
States recommending but not requiring screening for preschool-age children				
Alaska	Y	Y	N	N
Arizona	Y	Y	N	N
Arkansas	Y	Y	N	N
California	Y	N	N	N
Connecticut	Y	N	N	N
Georgia	Y	Y	N	N
Hawaii	Y	Y	N	N
Iowa	Y	Y	N	N
Kentucky	Y	N	N	N
Louisiana	N	Y	N	N
Massachusetts	Y	Y	N	N
Mississippi	Y	N	Y	N
Missouri	Y	Y	N	Y
Nebraska	Y	O	H,O	O
New Hampshire	Y	Y	N	N
New Jersey	Y	O	H,O	O
North Dakota	Y	N	N	N
South Carolina	Y	Y	N	N
Wisconsin	Y	Y	Y	Y

Y = yes; N = no; NS = not specified; H = screening for hyperopia; O = optional.

mation provided by the state indicates that screening is required of "preschool children enrolled in a formal educational setting." We assume, therefore, that screening of all preschool children is required only in the other six states (Table 2). Among the 17 states without guidelines for preschool vision screening, all but two recommend or require vision screening when the child enters kindergarten (Table 3). Thus, the results presented in Tables 1 and 2 indicate that 45 states currently allow children who are at home with their parents, in home-based day care settings, or other unregulated centers to remain un-screened until they reach kindergarten.

Table 2 indicates that among the 34 states that have screening guidelines for preschool children, 30

screen visual acuity, 24 screen eye alignment (optional in four of these states), eight screen refractive error (optional in two of these states), and 10 screen color vision (optional in four of these states). Visual acuity alone is screened in six states; eye alignment alone is screened in one state. A combination of tests is used by 23 states, and in three states the aspect of vision to be screened is not specified. No state recommends using the modified clinical technique, which is a combination of tests to identify reduced visual acuity, significant refractive error, ocular disease, and eye misalignment.⁴ The modified clinical technique has been advocated for vision screening in school-age children,⁴ but is less useful for screening preschoolers.^{9,15}

TABLE 3

States Without Preschool Screening That Require or Recommend Screening in Kindergarten

States Requiring Kindergarten Screening	States Recommending Kindergarten Screening	States With No Kindergarten Screening
Idaho	Alabama	Nevada
Indiana	Montana	Wyoming
Kansas	New Mexico	
Maryland	Oklahoma	
North Carolina	Oregon	
Tennessee	South Dakota	
Vermont		
Virginia		
Washington		

As shown in Table 1, there is a considerable variability in the professional and educational background of personnel used in screening in different states. Nurses (school nurses and general nurses) were the most widely used type of personnel in screening, as they participate in preschool vision screening in 22 states.

The Department of Public Health administers vision screening programs in 26 states, and the Department of Education does so in 13 states. Ten states have joint sponsorship under both departments. In two states, information regarding sponsorship of screening could not be obtained.

Discussion

The results of our survey of state-by-state preschool vision screening guidelines indicate that there is little agreement across states as to the ages to be screened, the areas of vision to be evaluated, the tests to administer, or the personnel involved. Furthermore, although preschool vision screening guidelines exist for 34 states, screening is voluntary in 19 of the states and is required only for children enrolled in a formal preschool program in nine states. The few states that require screening of all children do not specifically describe how the screening program will be implemented to reach all children. Moreover, the vague language of the laws and guidelines in many states raises questions as to whether the screening program is actually required for all children. Thus, despite current laws and guidelines, which give the appearance that screening programs exist on a widespread basis, it appears that, in reality, there are many preschool children in the USA who are not screened for vision problems until they enter the educational system at age 5 or 6 years. Furthermore, the variability in usage of screening tests suggests that the effectiveness of vision screening, even when guidelines exist, differs from state to state. Six states test only visual acuity, which may detect a number of vision problems, including myopia and mod-

erate astigmatism, but may miss cases of significant hyperopia or abnormal binocular vision. Similarly, assessment of eye alignment alone, which is recommended in one state, may miss significant refractive error. Tests used for measurement of visual acuity vary widely from state to state, and many of the recommended tests, such as the Tumbling (Snellen) E or the Sjogren Hand Chart, may be difficult for preschool children, who often do not have a well-developed sense of directionality. Furthermore, most of the acuity tests used do not meet the standards established by the Committee on Vision⁷ for acuity charts.

TABLE 4

Suggested Components of a Preschool Vision Screening Program

Designed to detect children at risk for the following disorders: strabismus, amblyopia, significant refractive error, color vision deficits, ocular disease
Uses age-appropriate tests, each of which has been validated, normed, and shown to be reliable for detection of the targeted disorders when used by screening personnel
Includes parent education concerning vision disorders, screening, and the importance of follow-up
Has a clearly-written manual, which includes the following:
State regulations or laws governing vision screening
Purpose and rationale of screening program
Specific ages identified for screening/frequency of screening
Aspects of vision to be screened
Tests to be used and equipment needed
Required personnel, and training and certification procedures for personnel
Detailed instructions for performing testing
Modifications required for children with special needs
Recording, referral, and follow-up forms
Referral criteria
Procedures for providing results to parents
Vision referral follow-up, to ensure effectiveness of screening
Procedures for statewide implementations of program

These standards include logarithmic spacing between lines of letters, equal numbers of letters on each line, and equal relative spacing of letters on each line. The recently developed Lea Symbols Test (Precision Vision, Villa Park, IL, USA) meets these requirements, but only a few validation studies and normative data are available.

An alternative screening technique, photorefractometry or photoscreening, has been used to screen for refractive error and strabismus in large-scale screenings of preschool and young school-age children.^{10,12,16,17,19,22} However, results of initial validation studies have shown considerable variability in estimates of the sensitivity and specificity of the technique for preschool children.^{12,14,19} No state indicated adoption of photorefractometry as a required or recommended method for screening preschool-age children.

Several states (e.g., California, Iowa, Illinois, Michigan, Missouri, New Hampshire, New York, Ohio, Pennsylvania, and Utah) have well-developed screening manuals. Critical elements found in the manuals include the purpose and rationale for screening, defined objectives for the screening program, a description of personnel needs, detailed instructions for individual tests and for the overall screening session, recording forms for test results, referral criteria, and a protocol for notifying parents of screening results.

Based on these manuals and on information received from many of the remaining states, we have put together a list of components of a preschool vision screening program (Table 4). This list, as well as manuals from the states listed above, may assist individuals in designing local or statewide screening programs.

Conclusions

When a state establishes vision screening procedures for its children, it implies that the selected procedures effectively identify those children who do and do not require further examination. The results of the survey that we conducted indicate wide variability across states in the potential effectiveness of preschool vision screening programs. Some states have well-defined screening protocols that are likely to identify children who could benefit from comprehensive eye examinations. Other states recommend cursory screening protocols that depend on results of a single test, which may miss common vision problems. Finally, there are 15 states in which there are no guidelines for vision screening until children reach kindergarten, and two states in which preschool vision screening guidelines exist only for children with disabilities or children entering special education programs. Thus, although the American Academies

of Ophthalmology and Pediatrics, the American Association of Pediatric Ophthalmology and Strabismus, the American Optometric Association, the National Association of School Nurses, the Department of Health and Human Services, Prevent Blindness America, and the Public Health Service have recommended vision screening of preschool children, implementation of these recommendations at the state level is often less than optimal. Clearly there is a need for additional measures to heighten awareness of the importance of programs that will result in the effective detection and treatment of vision disorders in the preschool population.

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