

# HEALTH LITERACY, PATIENT AWARENESS & OPHTHALMOLOGY

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# OUTLINE

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Health Literacy Definition

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Scope of Health Literacy

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Patient Perspectives

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Implications and Outcomes


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Strategies to Address Low Health Literacy



# HEALTH LITERACY DEFINITION

“The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”<sup>1,2</sup>



Different from formal education.<sup>3</sup>

Health literacy is independently related to cognitive and sensory capabilities (e.g. vision), which can change as patients age.<sup>3,4</sup>

Health literacy is more strongly associated with health outcomes compared to formal education.<sup>5</sup>



# SCOPE OF HEALTH LITERACY

- Race/Ethnicity
  - Minorities have been found to be more likely to have low health literacy.<sup>6,7</sup>
  - 33% of Black Americans, 37% of Asian Americans, and 27% of Hispanic Americans have heard of glaucoma.<sup>8</sup>
  - 27% of Hispanics were aware of diabetic retinopathy.<sup>8</sup>
  - Highest rates of being unaware of any eye conditions found among Asian Americans (31%) and Hispanics (35%) .<sup>8</sup>
  - Non-English-speaking households with lower glaucoma awareness.<sup>9</sup>
  - Increased likelihood of being unaware of glaucoma found among Black Americans, Hispanics.<sup>10</sup>
- Socioeconomic Status
  - Lower SES associated with less eye disease knowledge.<sup>11</sup>
  - Low health literacy associated with inability to work, lower income, public insurance.<sup>12,13</sup>
    - 50% of urban glaucoma patients categorized as having poor health literacy and worse disease progression.<sup>13</sup>





## SCOPE OF DISEASE AWARENESS

- Awareness of eye diseases
  - 25% not aware of any eye diseases.<sup>8</sup>
  - Diabetic retinopathy (DR): 37% report awareness.<sup>8</sup>
  - Cataract: 66% report awareness.<sup>8</sup>
  - Glaucoma: 63% report awareness.<sup>8</sup>
  - Age-related macular degeneration (AMD): 51% report awareness.<sup>8</sup>
  - Low awareness of other blinding eye disease: retinal detachment (28%), angle closure glaucoma (15%), giant cell arteritis (5%), central retinal artery occlusion (5%).<sup>14</sup>



# SCOPE OF HEALTH LITERACY

- Eye disease understanding
  - Understanding of risk factors: 76% identified excessive sunlight/UV radiation, 58% identified ethnic heritage, and 54% identified smoking as risk factors.<sup>8</sup>
  - Glaucoma: 29% demonstrated understanding of disease<sup>9</sup>, 49% knew any treatment exists<sup>9</sup>, and 8% knew there are no early warning signs.<sup>15</sup>
  - Diabetic retinopathy: Among the 51% of adults that have heard of DR, only 11% knew there are no early warning symptoms.<sup>15</sup>



# SCOPE OF HEALTH LITERACY

## Traditional Education

- Higher level of education associated with common eye disease awareness.<sup>9,10</sup>
- Awareness of less common eye diseases not associated with education.<sup>14</sup>
- Higher formal education was also associated with exposure to more ocular health related information materials.<sup>16</sup>
- Poor health literacy associated with less educational attainment.<sup>13</sup>

## Age

- Eye disease awareness has been inversely associated with age<sup>10</sup> as is functional health literacy.<sup>17</sup>

## Eye Disease/Exam History

- Those with recent eye exam demonstrate more eye disease understanding.<sup>10</sup>
- No difference in cataract knowledge between those without cataracts and those having undergone cataract surgery.<sup>18</sup>
- Physicians may overestimate patients' health knowledge.<sup>19</sup>
- Limited health literacy associated with preferring physician-directed decision-making.<sup>20</sup>



## PATIENT PERSPECTIVES

- “If it isn’t broken, there is no need to fix it” commonly reported.<sup>21</sup>
- “I’ve never had an eye exam... I’ve never had problems with my eyes. The only time I had problems with my eyes was when my diabetes was really bad. And I didn’t know I had it [diabetes] then.”<sup>21</sup>
- Most common reason for not keeping follow-up visits was that their eye problem was “not serious enough”.<sup>22</sup>
- “Education is the key to taking action.”<sup>23</sup>
- “We hear about the heart, the lungs, kidneys, cancer, all of that, but we never hear about the eyes... we don’t know what we need to do to take care of our eyes...”.<sup>24</sup>





# IMPLICATIONS AND OUTCOMES

- Gaps
  - Groups at high risk for eye disease have less eye health knowledge and attend eye exams less often.<sup>5,8,9,10,25</sup>
- Adherence
  - In patients with open angle glaucoma, reading ability was associated with better medication adherence.<sup>26</sup>
  - Better health literacy associated with increased medication adherence.<sup>13,27</sup>
  - Eye health knowledge linked to eye exam attendance.<sup>28,29</sup>
- Outcomes
  - Poor health literacy associated with worse eye disease presentation and progression.<sup>13</sup>
  - Low health literacy associated with retinopathy among diabetics.<sup>30</sup>
- Cost
  - Low health literacy may lead to higher healthcare costs.<sup>31,32</sup>
- Satisfaction
  - Low health literacy associated with lower satisfaction with care.<sup>33</sup>



# STRATEGIES TO ADDRESS LOW HEALTH LITERACY

- National Initiatives
  - NEI: NEHEP 2020-2023<sup>15</sup>
    - Goal: “...work in collaboration with strategic partners to promote eye health as a public health priority and prevent vision loss through outreach and education”
    - Focus on high-risk groups
    - Program areas include diabetic eye disease, glaucoma, low vision, vision and aging, ¡Ojo con su visión! Eye Health for Hispanics/Latinos, and Write the Vision: Eye Health for African Americans
  - Healthy People 2020 Vision Objectives<sup>34</sup>
    - Recognizes that “educating and engaging families, communities, and the Nation is critical to ensuring that people have the information, resources, and tools needed for good eye health”



# STRATEGIES TO ADDRESS LOW HEALTH LITERACY

- Educational Interventions

- Randomized controlled trial (RCT) for improving DR exam, improved follow-up (OR 4.3) at 6 months. Three components: booklet, telephone education, and motivational/testimonial video.<sup>35</sup>
- Time spent with health education associated with receipt of eye exam.<sup>36</sup>
- 30-minute glaucoma educational intervention improved patient knowledge and follow-up likelihood.<sup>28,37</sup>
- Diabetes education sessions associated with increased DR screening adherence.<sup>38,39</sup>



## STRATEGIES TO ADDRESS LOW HEALTH LITERACY

- Online patient educational materials at “difficult” reading level, above reading level of average American.<sup>31</sup>
- Need for eye-health education materials to educate those with low literacy.<sup>41</sup>
- Medical student educational interventions.<sup>41,42</sup>
  - Potential to simultaneously educate future healthcare professionals and communities they serve on eye health





# KEY POINTS FOR PRIMARY CARE PROVIDERS

- Risk factors associated with underutilization of eye care services
  - Lower household income/lower socioeconomic status.<sup>43,44</sup>
  - African American race or Hispanic ethnicity.<sup>44</sup>
  - Trust<sup>44</sup>
  - Lower literacy level.<sup>44</sup>
  - Fair/poor vision.<sup>43</sup>
  - Unmarried.<sup>43</sup>
- Patient-reported reasons for eye care underutilization
  - Lack of symptoms<sup>43,44</sup> and unsure exam was needed.<sup>45</sup>
  - Cost<sup>43,45</sup>
  - Lack of insurance coverage.<sup>43,45</sup>
  - Unsure where to go.<sup>45</sup>
- Patient education
  - Preventable, blinding eye diseases may occur before symptoms<sup>43</sup>, patient education is key.<sup>44</sup>
  - Timely referrals: understand risk factors and recommended referral patterns for your patients
  - Primary care referrals associated with higher eyecare utilization.<sup>45,46</sup>
  - At least annual eye exams are recommended for those with Type 2 diabetes.<sup>47,48</sup>



# CONCLUSION



Those at high risk for eye disease are often those with lower eye health understanding



Lower eye health literacy is associated with lower adherence, worse outcomes, increased cost, and patient dissatisfaction



Important to assess your patients' understanding of their disease and treatment



Taking time to educate patients on eye disease has been shown to be beneficial



Ensure resources are available of an appropriate reading level



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