

## Supplementary Online Content

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**eTable 1.** Odds of distance vision impairment in low- and middle-income countries

**eTable 2.** Odds of near vision impairment in low- and middle-income countries

**eTable 3.** Odds of having had a recent eye exam in low- and middle-income countries

This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1.** Odds of distance vision impairment in low- and middle-income countries

	China		Ghana		India		Mexico		Russia		South Africa	
	UOR, (95% CI)	AOR <sup>a</sup> , (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)
<b>Age</b>												
50-59	reference		reference		reference		reference		reference		reference	
60-69	1.97 (1.61-2.41)		1.70 (1.27-2.28)		2.15 (1.68-2.76)		1.23 (0.66-2.30)		1.29 (0.79-2.12)		1.49 (1.02-2.18)	
70-79	5.90 (4.87-7.16)		2.32 (1.72-3.12)		3.64 (2.73-4.85)		2.17 (1.17-4.01)		2.02 (1.25-3.25)		1.95 (1.28-2.96)	
80+	16.68 (13.03-21.36)		3.74 (2.67-5.24)		5.89 (4.00-8.67)		3.72 (1.94-7.14)		3.57 (1.85-6.87)		1.76 (1.00-3.08)	
<b>Sex</b>												
Male	reference		reference		reference		reference		reference		reference	
Female	1.65 (1.45-1.89)	1.30 (1.12-1.50)	1.43 (1.16-1.76)	1.21 (0.98-1.50)	1.39 (1.13-1.72)	1.17 (0.94-1.45)	0.90 (0.65-1.25)	0.90 (0.64-1.26)	1.21 (0.90-1.63)	1.07 (0.79-1.46)	1.41 (1.05-1.91)	1.41 (1.01-1.97)
<b>Education</b>												
None	reference		reference		reference		reference		reference		reference	
Primary School not completed	0.41 (0.34-0.50)		0.45 (0.30-0.69)		0.77 (0.56-1.05)		0.90 (0.58-1.40)		0.72 (0.15-3.42)		0.81 (0.53-1.24)	
Primary School	0.29 (0.23-0.35)		0.59 (0.42-0.83)		0.76 (0.54-1.07)		0.80 (0.46-1.38)		1.78 (0.39-8.10)		1.02 (0.65-1.61)	
Secondary/ High School	0.16 (0.13-0.20)		0.28 (0.20-0.39)		0.44 (0.30-0.65)		0.28 (0.13-0.58)		0.65 (0.16-2.65)		0.60 (0.36-1.00)	
University or Post-Graduate	0.28 (0.18-0.44)		0.38 (0.20-0.74)		0.19 (0.09-0.40)		0.65 (0.27-1.57)		0.36 (0.08-1.61)		0.33 (0.14-0.79)	
<b>Wealth Index<sup>b</sup></b>												
Lowest quintile	3.37 (2.68-4.24)		2.40 (1.69-3.41)		2.06 (1.51-2.83)		2.05 (1.11-3.78)		2.63 (1.47-4.73)		1.83 (1.08-3.10)	
2	1.81 (1.42-2.32)		1.99 (1.37-2.91)		1.39 (1.02-1.90)		2.17 (1.17-4.02)		3.24 (1.83-5.73)		1.16 (0.68-2.00)	
3	1.51 (1.17-1.93)		1.70 (1.18-2.46)		1.56 (1.11-2.21)		1.73 (0.90-3.31)		4.62 (2.58-8.26)		0.90 (0.52-1.53)	
4	0.93 (0.71-1.21)		1.21 (0.83-1.78)		1.16 (0.86-1.56)		2.02 (1.05-3.88)		1.80 (0.97-3.35)		1.41 (0.83-2.40)	
Highest quintile	reference		reference		reference		reference		reference		reference	

<b>Food Insecurity</b>												
Ever	2.31 (1.22-4.37)	1.75 (0.95-3.24)	1.65 (1.31-2.07)	1.34 (1.06-1.71)	1.36 (1.04-1.77)	1.19 (0.89-1.59)	1.01 (0.67-1.51)	0.99 (0.65-1.49)	1.83 (1.01-3.32)	1.65 (0.92-2.96)	1.36 (0.96-1.93)	1.38 (0.97-1.97)
Never	reference		reference		reference		reference		reference		reference	
<b>Health Insurance</b>												
Yes	0.82 (0.66-1.02)	0.99 (0.79-1.26)	1.19 (0.96-1.48)	1.22 (0.97-1.53)	0.98 (0.63-1.51)	1.90 (1.16-3.09)	-	-	2.88 (0.30-27.89)	3.89 (0.30-49.91)	0.47 (0.30-0.76)	0.65 (0.41-1.04)
No	reference		reference		reference		reference		reference		reference	
<b>Health Access<sup>c</sup></b>												
Yes	1.27 (0.94-1.73)	1.34 (0.96-1.87)	1.07 (0.80-1.43)	1.15 (0.85-1.56)	1.28 (0.66-2.47)	1.62 (0.79-3.33)	0.51 (0.18-1.48)	0.55 (0.16-1.82)	0.87 (0.34-2.21)	1.09 (0.46-2.55)	0.45 (0.16-1.31)	0.72 (0.19-2.77)
No	reference		reference		reference		reference		reference		reference	
<b>Location</b>												
Urban	reference		reference		reference		reference		reference		reference	
Rural	1.34 (1.16-1.55)	1.14 (0.96-1.36)	1.59 (1.26-1.99)	1.23 (0.95-1.58)	1.14 (0.84-1.55)	0.98 (0.71-1.37)	1.01 (0.71-1.43)	0.93 (0.64-1.36)	0.93 (0.56-1.56)	0.90 (0.55-1.48)	0.98 (0.69-1.41)	0.84 (0.59-1.21)
<b>Disability<sup>d</sup></b>												
None	reference		reference		reference		reference		reference		reference	
Mild	2.17 (1.82-2.58)	1.44 (1.20-1.73)	1.12 (0.76-1.66)	0.99 (0.66-1.47)	1.73 (1.05-2.87)	1.50 (0.89-2.51)	1.17 (0.68-2.01)	1.05 (0.59-1.88)	1.23 (0.73-2.06)	0.96 (0.59-1.58)	0.94 (0.59-1.48)	0.87 (0.53-1.43)
Moderate	3.19 (2.62-3.87)	1.50 (1.21-1.86)	2.36 (1.70-3.27)	1.79 (1.27-2.52)	2.12 (1.40-3.23)	1.58 (1.03-2.44)	1.72 (1.10-2.71)	1.41 (0.88-2.25)	1.44 (0.86-2.41)	0.92 (0.56-1.52)	1.24 (0.82-1.87)	1.11 (0.71-1.73)
Severe	7.16 (5.70-8.99)	2.52 (1.94-3.27)	4.37 (3.16-6.06)	2.89 (2.03-4.13)	3.66 (2.41-5.54)	2.05 (1.33-3.18)	2.72 (1.68-4.39)	1.81 (1.08-3.04)	2.28 (1.30-4.00)	1.12 (0.62-2.02)	2.40 (1.54-3.73)	1.89 (1.18-3.01)
<b>Comorbidity<sup>e</sup></b>												
0	reference		reference		reference		reference		reference		reference	
1	1.48 (1.22-1.79)	1.18 (0.97-1.45)	1.07 (0.81-1.40)	1.10 (0.83-1.46)	1.14 (0.86-1.49)	1.06 (0.80-1.40)	0.85 (0.56-1.28)	0.80 (0.51-1.25)	1.56 (0.83-2.91)	1.13 (0.60-2.13)	1.49 (0.92-2.41)	1.75 (1.05-2.93)
2-8	2.15 (1.78-2.60)	1.34 (1.09-1.65)	1.59 (1.20-2.10)	1.52 (1.13-2.05)	1.51 (1.17-1.96)	1.30 (0.99-1.71)	1.07 (0.71-1.60)	1.05 (0.67-1.63)	2.07 (1.18-3.61)	1.27 (0.72-2.25)	1.65 (1.05-2.93)	2.00 (1.20-3.34)
<b>Memory<sup>f</sup></b>												
Poor	3.72 (3.00-4.60)	1.39 (1.10-1.75)	2.37 (1.75-3.21)	1.73 (1.26-2.38)	2.84 (1.94-4.17)	1.56 (1.02-2.37)	3.28 (1.82-5.89)	2.03 (1.06-3.87)	2.64 (1.60-4.33)	1.38 (0.77-2.48)	1.60 (1.05-2.45)	1.15 (0.72-1.82)
Fair	1.64 (1.28-2.09)	1.00 (0.78-1.30)	1.38 (1.01-1.90)	1.12 (0.81-1.56)	1.78 (1.21-2.63)	1.25 (0.83-1.88)	2.01 (1.08-3.75)	1.57 (0.81-3.07)	1.26 (0.75-2.13)	0.86 (0.48-1.56)	0.93 (0.58-1.50)	0.83 (0.49-1.40)
Good	1.35 (1.06-1.73)	1.06 (0.83-1.37)	1.07 (0.77-1.50)	1.00 (0.72-1.40)	1.28 (0.86-1.92)	1.05 (0.69-1.59)	2.24 (1.15-4.37)	2.03 (1.04-3.99)	0.95 (0.56-1.61)	0.84 (0.49-1.45)	1.08 (0.68-1.73)	1.10 (0.68-1.76)
Very Good	reference		reference		reference		reference		reference		reference	

<b>Married<sup>g</sup></b>												
Yes	reference		reference		reference		reference		reference		reference	
No	2.83 (2.43-3.29)	1.15 (0.97-1.37)	1.25 (1.01-1.55)	0.92 (0.74-1.15)	1.88 (1.52-2.34)	1.11 (0.88-1.40)	1.20 (0.85-1.70)	0.98 (0.68-1.42)	0.95 (0.66-1.36)	0.64 (0.43-0.95)	1.44 (1.04-1.99)	1.22 (0.86-1.74)
<b>Social Support<sup>h</sup></b>												
Low	1.29 (0.94-1.78)	1.00 (0.71-1.42)	1.57 (1.14-2.16)	1.19 (0.85-1.66)	1.16 (0.90-1.48)	0.86 (0.67-1.11)	1.22 (0.78-1.91)	0.97 (0.60-1.56)	0.69 (0.43-1.09)	0.63 (0.40-0.99)	1.06 (0.70-1.62)	0.98 (0.62-1.56)
High	reference		reference		reference		reference		reference		reference	
<b>Social Participation<sup>i</sup></b>												
Low	3.60 (2.91-4.46)	1.63 (1.28-2.09)	2.09 (1.66-2.63)	1.54 (1.20-2.00)	1.83 (1.48-2.26)	1.30 (1.04-1.63)	1.66 (1.08-2.56)	1.18 (0.74-1.89)	1.30 (0.84-2.01)	0.81 (0.51-1.28)	1.73 (1.21-2.47)	1.61 (1.10-2.36)
High	reference		reference		reference		reference		reference		reference	
<b>Recent Eye Exam<sup>j</sup></b>												
Yes	reference		reference		reference		reference		reference		reference	
No	1.20 (0.88-1.65)	0.99 (0.70-1.40)	0.72 (0.55-0.95)	0.59 (0.44-0.79)	1.22 (0.95-1.57)	1.06 (0.80-1.40)	1.05 (0.74-1.47)	0.98 (0.69-1.38)	1.23 (0.85-1.77)	1.10 (0.76-1.60)	1.01 (0.71-1.45)	0.87 (0.60-1.26)

VI: vision impairment; CI: confidence interval; UOR: unadjusted odds ratio; AOR: adjusted odds ratio.

- a) Adjusted odds ratios are adjusted for age, educational attainment and wealth
- b) Wealth index: modeled estimate of household assets and characteristics in each country divided into quintiles
- c) Health access: able to access healthcare when needed
- d) 12-item WHO Disability Assessment Schedule scores: <5%, None; 5-13%, Mild; >13-30%, Moderate; ≥30% Severe
- e) Number of comorbidities based on self-report and strongly suggestive symptoms
- f) Memory score based on number of words correctly recalled: 0-18, Poor; 19-22, Fair; 23-26, Good; ≥27 Very Good
- g) Married or cohabitating
- h) Social support scores: 0-1, Low; 2-4 High
- i) Social participation scores: 0-2 Low; 3-4, High
- j) Recent eye exam: within last two years

**eTable 2.** Odds of near vision impairment in low- and middle-income countries

	China		Ghana		India		Mexico		Russia		South Africa	
	UOR, (95% CI)	AOR <sup>a</sup> , (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)
<b>Age</b>												
50-59	reference		reference		reference		reference		reference		reference	
60-69	1.85 (1.66-2.07)		1.34 (1.09-1.64)		1.20 (1.02-1.42)		0.97 (0.64-1.47)		1.06 (0.73-1.55)		1.39 (1.08-1.79)	
70-79	2.80 (2.48-3.16)		1.65 (1.34-2.03)		1.40 (1.10-1.79)		1.11 (0.71-1.75)		1.67 (1.13-2.48)		1.23 (0.89-1.70)	
80+	4.68 (3.79-5.78)		3.12 (2.39-4.06)		1.40 (0.99-1.98)		0.84 (0.52-1.38)		3.75 (2.35-5.99)		1.43 (0.89-2.28)	
<b>Sex</b>												
Male	reference		reference		reference		reference		reference		reference	
Female	1.40 (1.28-1.52)	1.20 (1.09-1.31)	1.48 (1.26-1.73)	1.49 (1.26-1.75)	1.51 (1.30-1.76)	1.53 (1.29-1.81)	1.23 (0.93-1.63)	1.13 (0.85-1.51)	0.90 (0.71-1.14)	0.83 (0.65-1.05)	1.12 (0.90-1.39)	1.07 (0.84-1.35)
<b>Education</b>												
None	reference		reference		reference		reference		reference		reference	
Primary School not completed	0.68 (0.60-0.77)		0.84 (0.62-1.13)		1.09 (0.84-1.42)		0.94 (0.66-1.34)		1.92 (0.40-9.14)		1.03 (0.74-1.42)	
Primary School	0.50 (0.44-0.56)		0.75 (0.58-0.97)		0.95 (0.75-1.20)		0.76 (0.49-1.18)		1.99 (0.48-8.19)		0.85 (0.61-1.17)	
Secondary/ High School	0.31 (0.27-0.35)		0.66 (0.53-0.81)		0.74 (0.59-0.92)		0.70 (0.40-1.23)		1.27 (0.32-4.96)		0.74 (0.53-1.04)	
University or Post-Graduate	0.35 (0.28-0.46)		0.84 (0.52-1.35)		0.66 (0.47-0.93)		0.99 (0.56-1.74)		0.65 (0.16-2.69)		0.73 (0.40-1.31)	
<b>Wealth Index<sup>b</sup></b>												
Lowest quintile	1.75 (1.51-2.02)		1.29 (1.01-1.65)		1.08 (0.85-1.39)		1.41 (0.95-2.09)		1.53 (0.93-2.49)		0.91 (0.64-1.30)	
2	1.32 (1.14-1.53)		1.16 (0.90-1.50)		1.18 (0.93-1.50)		1.82 (1.19-2.79)		2.06 (1.31-3.23)		1.04 (0.73-1.49)	
3	1.12 (0.96-1.30)		1.22 (0.95-1.57)		1.11 (0.86-1.43)		1.45 (0.92-2.27)		1.90 (1.18-3.08)		1.01 (0.71-1.43)	
4	0.80 (0.69-0.93)		1.08 (0.84-1.40)		1.22 (0.96-1.54)		1.15 (0.74-1.80)		2.06 (1.22-3.48)		0.85 (0.58-1.23)	
Highest quintile	reference		reference		reference		reference		reference		reference	
<b>Food Insecurity</b>												
Ever	1.39 (0.85-2.30)	1.18 (0.72-1.95)	1.06 (0.89-1.25)	0.99 (0.83-1.19)	0.80 (0.64-0.99)	0.76 (0.60-0.97)	1.57 (1.10-2.25)	1.52 (1.05-2.19)	1.03 (0.66-1.62)	1.02 (0.64-1.62)	1.36 (1.05-1.76)	1.43 (1.08-1.88)
Never	reference		reference		reference		reference		reference		reference	

<b>Health Insurance</b>												
Yes	1.05 (0.90-1.22)	1.17 (1.00-1.37)	1.11 (0.94-1.30)	1.04 (0.87-1.23)	0.87 (0.62-1.23)	1.01 (0.71-1.43)	-	-	0.22 (0.07-0.68)	0.27 (0.10-0.70)	0.91 (0.69-1.21)	1.00 (0.72-1.38)
No	reference		reference		reference		reference		reference		reference	
<b>Health Access<sup>c</sup></b>												
Yes	1.17 (0.95-1.43)	1.17 (0.95-1.45)	0.94 (0.76-1.17)	0.94 (0.75-1.17)	0.99 (0.55-1.79)	1.04 (0.57-1.89)	2.29 (0.76-6.90)	2.14 (0.70-6.58)	0.76 (0.34-1.71)	0.83 (0.39-1.77)	1.06 (0.42-2.67)	0.71 (0.26-1.95)
No	reference		reference		reference		reference		reference		reference	
<b>Location</b>												
Urban	reference		reference		reference		reference		reference		reference	
Rural	1.58 (1.44-1.73)	1.55 (1.38-1.73)	1.14 (0.97-1.35)	1.05 (0.88-1.26)	0.94 (0.75-1.17)	0.88 (0.69-1.13)	1.05 (0.80-1.39)	1.02 (0.76-1.36)	0.73 (0.46-1.17)	0.71 (0.46-1.09)	1.05 (0.83-1.33)	1.05 (0.80-1.37)
<b>Disability<sup>d</sup></b>												
None	reference		reference		reference		reference		reference		reference	
Mild	1.57 (1.41-1.76)	1.28 (1.14-1.44)	1.34 (1.03-1.74)	1.28 (0.98-1.67)	0.99 (0.73-1.35)	0.95 (0.69-1.30)	1.11 (0.74-1.66)	1.07 (0.72-1.60)	1.18 (0.79-1.76)	0.99 (0.67-1.46)	1.23 (0.89-1.70)	1.14 (0.82-1.58)
Moderate	2.07 (1.81-2.38)	1.41 (1.22-1.62)	1.72 (1.37-2.16)	1.52 (1.20-1.92)	1.22 (0.92-1.61)	1.12 (0.83-1.50)	0.92 (0.65-1.30)	0.88 (0.62-1.24)	1.42 (0.93-2.17)	1.09 (0.72-1.64)	1.56 (1.16-2.09)	1.52 (1.11-2.09)
Severe	3.31 (2.70-4.05)	1.86 (1.49-2.33)	2.68 (2.13-3.38)	2.13 (1.66-2.73)	1.52 (1.14-2.03)	1.34 (0.98-1.83)	0.93 (0.64-1.36)	0.83 (0.56-1.24)	2.13 (1.33-3.42)	1.33 (0.83-2.14)	1.51 (1.10-2.08)	1.42 (1.01-2.01)
<b>Comorbidity<sup>e</sup></b>												
0	reference		reference		reference		reference		reference		reference	
1	1.35 (1.21-1.52)	1.21 (1.08-1.37)	1.22 (0.99-1.49)	1.21 (0.98-1.49)	0.98 (0.81-1.19)	0.96 (0.79-1.17)	0.82 (0.58-1.17)	0.74 (0.52-1.05)	1.64 (0.98-2.74)	1.34 (0.82-2.19)	1.11 (0.79-1.55)	1.15 (0.83-1.61)
2-8	1.85 (1.64-2.08)	1.46 (1.28-1.65)	1.80 (1.46-2.21)	1.69 (1.37-2.08)	1.06 (0.87-1.28)	1.00 (0.82-1.21)	0.82 (0.58-1.17)	0.74 (0.52-1.05)	2.40 (1.54-3.72)	1.70 (1.12-2.57)	1.42 (1.01-2.00)	1.42 (1.02-2.00)
<b>Memory<sup>f</sup></b>												
Poor	2.25 (1.99-2.55)	1.30 (1.13-1.50)	2.60 (2.05-3.28)	2.16 (1.69-2.76)	1.33 (1.04-1.71)	1.14 (0.87-1.49)	0.78 (0.48-1.28)	0.77 (0.46-1.31)	3.57 (2.34-5.46)	2.70 (1.74-4.19)	1.40 (1.03-1.91)	1.37 (0.98-1.92)
Fair	1.37 (1.20-1.57)	1.03 (0.90-1.19)	1.96 (1.53-2.50)	1.77 (1.38-2.26)	1.44 (1.12-1.86)	1.30 (1.00-1.69)	0.68 (0.40-1.17)	0.67 (0.38-1.18)	1.62 (1.05-2.50)	1.43 (0.94-2.16)	0.77 (0.56-1.05)	0.83 (0.60-1.16)
Good	1.10 (0.96-1.26)	0.97 (0.84-1.11)	1.29 (1.01-1.66)	1.24 (0.96-1.59)	1.14 (0.89-1.46)	1.07 (0.84-1.37)	0.60 (0.35-1.03)	0.62 (0.35-1.08)	1.52 (0.97-2.36)	1.45 (0.93-2.27)	0.93 (0.69-1.25)	0.91 (0.67-1.23)
Very Good	reference		reference		reference		reference		reference		reference	
<b>Married<sup>g</sup></b>												
Yes	reference		reference		reference		reference		reference		reference	
No	1.74 (1.55-1.96)	1.08 (0.95-1.23)	1.41 (1.20-1.65)	1.23 (1.04-1.46)	1.14 (0.95-1.37)	1.00 (0.83-1.21)	0.85 (0.63-1.15)	0.82 (0.60-1.10)	1.01 (0.75-1.37)	0.76 (0.56-1.04)	1.10 (0.88-1.39)	1.10 (0.87-1.41)

<b>Social Support<sup>h</sup></b>												
Low	1.00 (0.83-1.20)	0.90 (0.73-1.09)	1.34 (1.03-1.74)	1.21 (0.93-1.58)	1.14 (0.96-1.35)	1.07 (0.90-1.27)	0.84 (0.57-1.26)	0.82 (0.54-1.24)	1.05 (0.72-1.54)	0.99 (0.67-1.46)	1.21 (0.87-1.69)	1.17 (0.82-1.66)
High	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference
<b>Social Participation<sup>i</sup></b>												
Low	2.18 (1.80-2.63)	1.38 (1.13-1.68)	1.40 (1.17-1.67)	1.13 (0.93-1.36)	1.42 (1.20-1.68)	1.33 (1.12-1.58)	1.20 (0.81-1.77)	1.12 (0.76-1.64)	1.21 (0.81-1.81)	0.83 (0.57-1.23)	1.30 (0.98-1.73)	1.28 (0.95-1.72)
High	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference
<b>Recent Eye Exam<sup>j</sup></b>												
Yes	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference	reference
No	1.11 (0.91-1.35)	0.93 (0.76-1.15)	0.91 (0.73-1.13)	0.90 (0.72-1.12)	0.93 (0.76-1.14)	0.88 (0.72-1.09)	1.70 (1.29-2.24)	1.73 (1.32-2.27)	1.24 (0.92-1.67)	1.15 (0.85-1.55)	1.07 (0.81-1.40)	1.14 (0.86-1.53)

VI: vision impairment; CI: confidence interval; UOR: unadjusted odds ratio; AOR: adjusted odds ratio.

- a) Adjusted odds ratios are adjusted for age, educational attainment and wealth
- b) Wealth index: modeled estimate of household assets and characteristics in each country divided into quintiles
- c) Health access: able to access healthcare when needed
- d) 12-item WHO Disability Assessment Schedule scores: <5%, None; 5-13%, Mild; >13-30%, Moderate; ≥30% Severe
- e) Number of comorbidities based on self-report and strongly suggestive symptoms
- f) Memory score based on number of words correctly recalled: 0-18, Poor; 19-22, Fair; 23-26, Good; ≥27 Very Good
- g) Married or cohabitating
- h) Social support scores: 0-1, Low; 2-4, High
- i) Social participation scores: 0-2 Low; 3-4, High
- j) Recent eye exam: within last two years

**eTable 3.** Odds of having had a recent eye exam in low- and middle-income countries

	China		Ghana		India		Mexico		Russia		South Africa	
	UOR, (95% CI)	AOR <sup>a</sup> , (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)	UOR, (95% CI)	AOR, (95% CI)
<b>Age</b>												
50-59	reference		reference		reference		reference		reference		reference	
60-69	1.10 (0.88-1.38)		1.06 (0.84-1.35)		1.10 (0.90-1.34)		1.01 (0.69-1.50)		0.66 (0.46-0.95)		1.05 (0.79-1.39)	
70-79	1.25 (0.98-1.42)		1.33 (1.04-1.70)		1.09 (0.81-1.45)		0.86 (0.57-1.32)		0.57 (0.37-0.89)		1.46 (1.03-2.06)	
80+	0.66 (0.42-1.04)		1.30 (0.92-1.85)		0.78 (0.50-1.21)		0.72 (0.44-1.18)		0.40 (0.25-0.65)		0.85 (0.53-1.36)	
<b>Sex</b>												
Male	reference		reference		reference		reference		reference		reference	
Female	1.10 (0.92-1.31)	1.37 (1.14-1.65)	0.90 (0.74-1.08)	1.20 (0.97-1.48)	0.89 (0.74-1.06)	1.30 (1.06-1.60)	1.38 (1.06-1.80)	1.45 (1.11-1.89)	1.14 (0.81-1.61)	1.28 (0.95-1.73)	0.68 (0.54-0.86)	0.79 (0.61-1.04)
<b>Education</b>												
None	reference		reference		reference		reference		reference		reference	
Primary School not completed	1.31 (0.95-1.80)		0.82 (0.56-1.20)		1.34 (1.01-1.79)		1.23 (0.86-1.75)		0.67 (0.18-2.53)		1.74 (1.16-2.61)	
Primary School	1.85 (1.39-2.47)		1.28 (0.93-1.76)		1.55 (1.17-2.05)		1.52 (1.02-2.29)		0.58 (0.19-1.75)		1.71 (1.16-2.53)	
Secondary/High School	2.55 (1.97-3.29)		2.15 (1.71-2.71)		2.19 (1.71-2.81)		1.13 (0.60-2.11)		1.04 (0.35-3.09)		3.61 (2.47-5.29)	
University or Post-Graduate	5.63 (3.43-9.24)		5.70 (3.81-8.52)		4.82 (3.34-6.95)		3.09 (1.84-5.18)		1.15 (0.37-3.56)		8.13 (4.44-14.88)	
<b>Wealth Index<sup>b</sup></b>												
Lowest quintile	0.27 (0.20-0.35)		0.17 (0.12-0.24)		0.36 (0.27-0.50)		0.55 (0.35-0.86)		0.55 (0.35-0.85)		0.14 (0.09-0.20)	
2	0.45 (0.34-0.60)		0.31 (0.23-0.42)		0.48 (0.36-0.65)		0.62 (0.39-0.97)		0.67 (0.44-1.03)		0.35 (0.24-0.50)	
3	0.69 (0.52-0.91)		0.37 (0.28-0.50)		0.52 (0.38-0.70)		0.71 (0.44-1.16)		0.75 (0.47-1.19)		0.24 (0.17-0.36)	
4	0.72 (0.54-0.96)		0.46 (0.35-0.60)		0.65 (0.50-0.84)		1.01 (0.64-1.59)		0.99 (0.59-1.64)		0.52 (0.36-0.77)	
Highest quintile	reference		reference		reference		reference		reference		reference	
<b>Food Insecurity</b>												
Ever	0.95 (0.31-2.94)	1.28 (0.44-3.74)	0.72 (0.58-0.90)	1.14 (0.89-1.45)	0.47 (0.36-0.63)	0.63 (0.46-0.84)	0.55 (0.40-0.76)	0.61 (0.44-0.85)	1.23 (0.55-2.74)	1.27 (0.65-2.48)	0.40 (0.30-0.55)	0.62 (0.44-0.88)
Never	reference		reference		reference		reference		reference		reference	



<b>Health Insurance</b>												
Yes	1.28 (0.99-1.65)	1.10 (0.85-1.42)	2.09 (1.72-2.53)	1.57 (1.27-1.95)	2.88 (2.01-4.14)	1.74 (1.18-2.56)	-	-	1.94 (0.35-10.70)	1.91 (0.27-13.42)	2.39 (1.80-3.19)	1.77 (1.27-2.46)
No	reference		reference		reference		-		reference		reference	
<b>Health Access<sup>c</sup></b>												
Yes	0.95 (0.63-1.42)	0.94 (0.62-1.41)	1.73 (1.27-2.36)	1.53 (1.12-2.09)	0.97 (0.49-1.92)	0.84 (0.42-1.70)	0.87 (0.34-2.27)	0.80 (0.31-2.05)	0.36 (0.07-1.86)	0.40 (0.09-1.78)	0.76 (0.23-2.49)	0.93 (0.25-3.45)
No	reference		reference		reference		reference		reference		reference	
<b>Location</b>												
Urban	reference		reference		reference		reference		reference		reference	
Rural	0.30 (0.24-0.37)	0.43 (0.34-0.54)	0.44 (0.37-0.54)	0.68 (0.54-0.84)	0.57 (0.45-0.72)	0.74 (0.58-0.95)	0.58 (0.44-0.76)	0.63 (0.47-0.84)	0.75 (0.47-1.19)	0.70 (0.46-1.06)	0.44 (0.34-0.58)	0.69 (0.50-0.94)
<b>Disability<sup>d</sup></b>												
None	reference		reference		reference		reference		reference		reference	
Mild	1.17 (0.94-1.47)	1.46 (1.15-1.86)	0.97 (0.72-1.31)	1.12 (0.82-1.52)	0.86 (0.63-1.18)	1.01 (0.72-1.40)	1.14 (0.78-1.67)	1.37 (0.94-2.00)	2.00 (1.34-2.99)	2.17 (1.46-3.21)	0.64 (0.45-0.91)	0.58 (0.41-0.83)
Moderate	1.20 (0.90-1.59)	1.86 (1.36-2.56)	1.16 (0.89-1.50)	1.45 (1.09-1.92)	0.77 (0.58-1.03)	1.08 (0.80-1.45)	1.30 (0.92-1.85)	1.63 (1.13-2.33)	1.46 (1.02-2.08)	1.95 (1.32-2.87)	0.66 (0.48-0.92)	0.74 (0.53-1.05)
Severe	0.56 (0.35-0.90)	0.94 (0.56-1.57)	1.15 (0.88-1.51)	1.52 (1.11-2.08)	0.80 (0.60-1.07)	1.30 (0.95-1.78)	1.13 (0.77-1.64)	1.53 (1.02-2.30)	0.86 (0.57-1.28)	1.49 (0.93-2.37)	0.47 (0.33-0.67)	0.61 (0.41-0.91)
<b>Comorbidity<sup>e</sup></b>												
0	reference		reference		reference		reference		reference		reference	
1	1.10 (0.88-1.39)	1.09 (0.86-1.39)	1.21 (0.94-1.55)	1.04 (0.80-1.34)	1.19 (0.95-1.51)	1.17 (0.92-1.49)	1.86 (1.33-2.60)	1.90 (1.36-2.65)	1.06 (0.68-1.65)	1.29 (0.82-2.01)	0.85 (0.60-1.21)	0.75 (0.51-1.09)
2-8	1.56 (1.23-1.99)	1.55 (1.20-1.99)	1.39 (1.08-1.79)	1.23 (0.94-1.60)	1.33 (1.05-1.68)	1.38 (1.09-1.74)	2.28 (1.66-3.14)	2.38 (1.74-3.27)	1.72 (1.13-2.64)	2.48 (1.58-3.91)	1.01 (0.71-1.42)	0.94 (0.64-1.40)
<b>Memory<sup>f</sup></b>												
Poor	0.54 (0.42-0.69)	0.74 (0.56-0.98)	0.99 (0.75-1.30)	1.11 (0.82-1.49)	0.45 (0.35-0.60)	0.66 (0.50-0.88)	1.06 (0.67-1.68)	1.31 (0.82-2.10)	0.47 (0.32-0.69)	0.67 (0.44-1.01)	0.61 (0.43-0.86)	0.97 (0.65-1.46)
Fair	0.76 (0.59-0.98)	0.86 (0.66-1.12)	1.00 (0.76-1.32)	1.13 (0.84-1.52)	0.57 (0.43-0.75)	0.74 (0.56-0.99)	1.68 (1.05-2.67)	1.91 (1.18-3.09)	0.57 (0.38-0.86)	0.72 (0.48-1.09)	0.62 (0.44-0.88)	1.04 (0.68-1.58)
Good	0.78 (0.60-1.02)	0.84 (0.64-1.10)	1.12 (0.85-1.47)	1.19 (0.89-1.58)	0.61 (0.46-0.81)	0.67 (0.50-0.90)	1.83 (1.11-3.04)	1.91 (1.16-3.16)	0.74 (0.51-1.09)	0.82 (0.56-1.20)	0.53 (0.38-0.75)	0.77 (0.52-1.12)
Very Good	reference		reference		reference		reference		reference		reference	
<b>Married<sup>g</sup></b>												
Yes	reference		reference		reference		reference		reference		reference	
No	0.78 (0.61-0.98)	1.06 (0.82-1.38)	0.88 (0.73-1.06)	1.09 (0.88-1.35)	0.83 (0.67-1.03)	1.04 (0.83-1.31)	1.13 (0.85-1.49)	1.23 (0.92-1.64)	0.90 (0.67-1.21)	1.17 (0.87-1.58)	0.56 (0.43-0.72)	0.72 (0.54-0.95)

<b>Social Support<sup>h</sup></b>												
Low	0.63 (0.45-0.89)	0.72 (0.51-1.03)	0.84 (0.60-1.16)	1.01 (0.71-1.44)	0.77 (0.63-0.95)	0.90 (0.72-1.11)	1.24 (0.88-1.76)	1.27 (0.90-1.80)	0.83 (0.59-1.17)	0.88 (0.63-1.23)	0.89 (0.60-1.31)	0.98 (0.63-1.51)
High	reference		reference		reference		reference		reference		reference	
<b>Social Participation<sup>i</sup></b>												
Low	0.64 (0.42-0.98)	0.84 (0.54-1.32)	1.28 (1.03-1.58)	1.44 (1.13-1.84)	0.86 (0.71-1.04)	1.06 (0.87-1.29)	0.74 (0.53-1.05)	0.82 (0.58-1.17)	0.52 (0.37-0.74)	0.70 (0.49-0.99)	0.79 (0.57-1.08)	0.99 (0.70-1.39)
High	reference		reference		reference		reference		reference		reference	
<b>Vision Impairment<sup>j</sup></b>												
No VI	reference		reference		reference		reference		reference		reference	
Mild VI	0.81 (0.66-1.00)	0.87 (0.70-1.09)	1.20 (0.96-1.52)	1.12 (0.88-1.43)	0.97 (0.77-1.22)	1.03 (0.82-1.29)	0.78 (0.56-1.08)	0.72 (0.52-0.99)	0.81 (0.57-1.16)	0.89 (0.63-1.25)	0.80 (0.61-1.05)	0.79 (0.58-1.07)
Moderate VI	0.74 (0.55-1.00)	0.89 (0.63-1.25)	1.52 (1.06-2.18)	1.60 (1.09-2.35)	0.95 (0.74-1.23)	1.09 (0.83-1.43)	0.81 (0.56-1.16)	0.81 (0.57-1.17)	0.79 (0.53-1.18)	0.90 (0.61-1.33)	0.91 (0.60-1.37)	0.90 (0.61-1.33)
Severe VI or Blindness	0.63 (0.37-1.07)	0.90 (0.51-1.59)	1.32 (0.94-1.85)	1.67 (1.16-2.38)	0.80 (0.53-1.21)	1.04 (0.67-1.60)	0.65 (0.30-1.42)	0.78 (0.35-1.72)	0.61 (0.33-1.13)	0.74 (0.39-1.41)	1.20 (0.67-2.15)	1.52 (0.79-2.95)

VI: vision impairment; CI: confidence interval; UOR: unadjusted odds ratio; AOR: adjusted odds ratio.

- a) Adjusted odds ratios are adjusted for age, educational attainment and wealth
- b) Wealth index: modeled estimate of household assets and characteristics in each country divided into quintiles
- c) Health access: able to access healthcare when needed
- d) 12-item WHO Disability Assessment Schedule scores: <5%, None; 5-13%, Mild; >13-30%, Moderate; ≥30% Severe
- e) Number of comorbidities based on self-report and strongly suggestive symptoms
- f) Memory score based on number of words correctly recalled: 0-18, Poor; 19-22, Fair; 23-26, Good; ≥27 Very Good
- g) Married or cohabitating
- h) Social support scores: 0-1, Low; 2-4 High
- i) Social participation scores: 0-2 Low; 3-4, High
- j) Mild vision impairment: <6/12 and ≥6/18; moderate vision impairment: <6/18 and ≥6/60; severe vision impairment: <6/60 and ≥3/60; blindness: <3/60