Rapid Assessment of Avoidable Blindness (RAAB) is a standardised survey methodology. It measures the magnitude and causes of visual impairment and the extent to which services are reaching different groups of people.

**What did we do in this study?**

In March 2022, we conducted two RAABs in the Fatick and Kaolack regions of Senegal to assess the prevalence and causes of blindness and visual impairment. The results were compared to similar RAABs conducted in the same regions in 2010 to assess how eye health status and service coverage has changed.

**How did we do it?**

In each region we aimed to randomly select 2,000 people aged 50 years and over, as this is the age group where most visual impairment occurs. We examined participants’ eyes and asked them about eye health and eye health-seeking behaviour. We also collected data on household relative wealth using the Senegal Equity tool and difficulties in functioning using the Washington Group Short-Enhanced Disability module.

Data was collected using a mobile application, and the statistics were analysed using Stata software. Many of the results were adjusted for age and sex to account for the differences between the national population and the people who participated in the survey.

Here is some information about the participants:

- 1,784 participants in Fatick and 1,771 participants in Kaolack were examined
- The mean age of participants was 64 years in Fatick and 63 years in Kaolack.
- 61.8% of the participants in Fatick and 64.3% in Kaolack were female.
- Compared to the national population of Senegal, the study participants were relatively better-off, with 56% in Fatick and 59% in Kaolack belonging to the two wealthiest quintiles, and only 16% in Fatick and 18% in Kaolack belonging to the two poorest quintiles.
- 12.1% of the participants in Fatick and 9% in Kaolack had difficulties in at least one functional domain and 6.8% and 4.6%, respectively, had functional difficulties other than seeing.

**Key messages**

Despite a reduction in the prevalence of blindness since the last survey, an aging population means that visual impairment remains a significant public health problem, with more than one in five people aged over 50 living with some level of visual impairment.

Despite improvements in access to cataract surgical services since 2010, an estimated 2,474 people in Kaolack and 4,751 people in Fatick are currently either blind or severely visually impaired due to cataract, and inequalities exist, particularly for women and people with non-visual functional difficulties. It is important that the eye health services focus their efforts on the districts with the highest prevalence of blindness, as well as difficult to reach population groups.

**More information**

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Key findings: Fatick and Kaolack regions

- In Fatick, the prevalence of blindness among people aged 50+ years is now 4.3%, which is slightly down from 6.4% in 2010. In Kaolack, the prevalence is now 3%, down from 6.5% in 2010.

- The prevalence of severe visual impairment (SVI) remains unchanged at 2.7% in Fatick. The prevalence of SVI has decreased slightly in Kaolack, from 3.5% in 2010 to 2.4% in 2022.

- The prevalence of blindness varied within the regions, from 1.1% in Diofior district to 7.1% in Sokone district in Fatick and from 3.1% in Nioro du Rip district to 5.3% in Guinguineo district in Kaolack.

- Untreated refractive error is responsible for 12.5% of moderate visual impairment in Fatick and 10.4% in Kaolack. Since 2010, untreated refractive error has decreased from 28% in Fatick and 35% in Kaolack.

- The quality of visual outcomes among operated eyes improved significantly between 2010 and 2022. The proportion of those with presenting “good” vision increased from 35.5% to 47.8%, and best-corrected “good” vision increased from 41.3% to 61%. The same trend was observed in Kaolack. The proportion of those with presenting “good” vision increased from 28.7% to 52.1%, and best-corrected “good” vision increased from 38.7% to 63%.

- Since 2010, cataract surgical coverage (CSC) increased in both regions. In Kaolack, the overall CSC increased by 17.4% but the increase was greater among men, from 68.9% to 89%. For women, CSC increased from 53.3% to 64.2% widening the gender gap from 15% to 25%.

- In Fatick, the overall CSC increased by 12.4%. In this region, in 2010, CSC among women was slightly higher than among men (57% vs 51.3%). Since then, CSC increased by 26.6% among men but only by 6.6% among women, reversing the gender imbalance in favour of men.

Sample prevalence of blindness in Fatick and Kaolack by health district

Unoperated cataract remains the main cause of all blindness and visual impairments in Fatick and Kaolack regions.

Main causes of blindness in Fatick

- Surgical complication 4.3%
- Other corneal opacity 6.5%
- Glaucoma 7.6%
- Trachoma 9.8%
- Unoperated cataract 66.3%

Main causes of blindness in Kaolack

- Other corneal opacity 7.8%
- Glaucoma 18.8%
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CSC, Fatick region

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>51.3%</td>
</tr>
<tr>
<td>2022</td>
<td>77.9%</td>
</tr>
<tr>
<td>2010</td>
<td>57.9%</td>
</tr>
<tr>
<td>2022</td>
<td>63.6%</td>
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</tbody>
</table>

CSC, Kaolack region

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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</tr>
<tr>
<td>2022</td>
<td>89%</td>
</tr>
<tr>
<td>2010</td>
<td>53.3%</td>
</tr>
<tr>
<td>2022</td>
<td>64.2%</td>
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</table>

Good visual outcomes Fatick

<table>
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<tr>
<th>Presenting</th>
<th>Best corrected</th>
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</thead>
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<tr>
<td>2010</td>
<td>35.5%</td>
</tr>
<tr>
<td>2020</td>
<td>41.3%</td>
</tr>
<tr>
<td>2010</td>
<td>28.7%</td>
</tr>
<tr>
<td>2020</td>
<td>38.7%</td>
</tr>
</tbody>
</table>

Good visual outcome Kaolack

<table>
<thead>
<tr>
<th>Presenting</th>
<th>Best corrected</th>
</tr>
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<tbody>
<tr>
<td>2010</td>
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<tr>
<td>2020</td>
<td>51.2%</td>
</tr>
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Key findings: Fatick and Kaolack regions

In Fatick, the prevalence of blindness among people aged 50+ years is now 4.3%, which is slightly down from 6.4% in 2010. In Kaolack, the prevalence is now 3.0%, down from 6.5% in 2010.

Prevalence of blindness in Fatick

- 6.4% in 2010
- 4.3% in 2022

Prevalence of blindness in Kaolack

- 6.5% in 2010
- 3.0% in 2022

The prevalence of severe visual impairment (SVI) remains unchanged at 2.7% in Fatick. The prevalence of SVI has decreased slightly in Kaolack, from 3.5% in 2010 to 2.4% in 2022.

Prevalence of SVI in Fatick

- 2.7% in 2010
- 2.7% in 2022

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