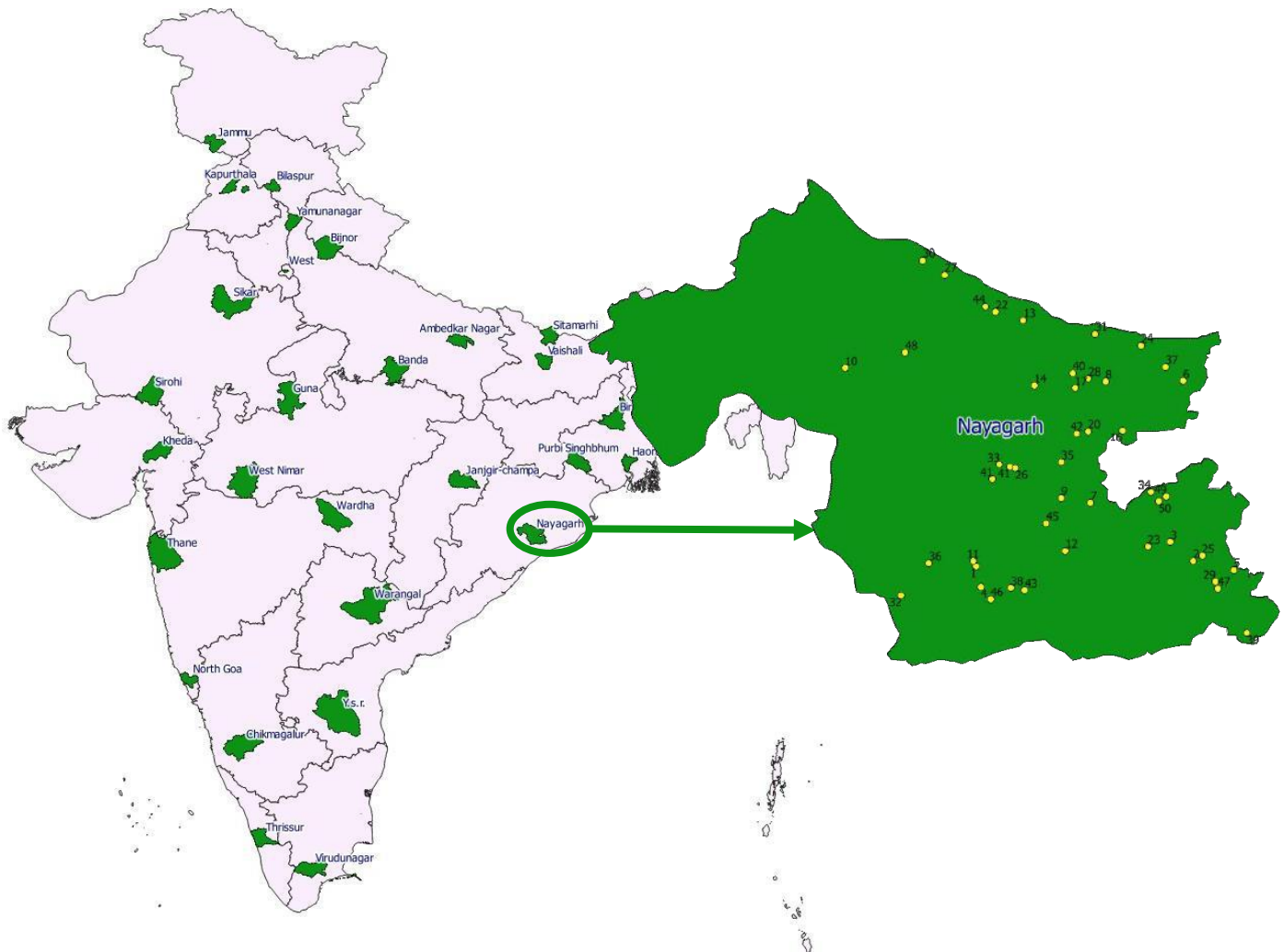


NPCB National Blindness Survey: 2015-2018

DISTRICT SUMMARY REPORT

Nayagarh, Odisha





NPCB National Blindness Survey: 2015-2018

DISTRICT SUMMARY REPORT

Nayagarh, Odisha

April 2017

Praveen Vashist, Suraj S Senjam, Vivek Gupta, Noopur Gupta,
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RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

SUMMARY REPORT

Date and time of report:

21-Sep-16

1:15:04PM

This report is for the survey area:

Nayagarh

Year and month when survey was conducted:

2016- 7 until 2016- 7

This report shows the most important results from all the other reports. The 95% confidence interval (95% CI) is based on the sampling error in cluster sampling. More detailed information is provided in the other reports.

1. Eligible persons, coverage, absentees and refusals

	Examined		Not available		Refused		Not capable		Total	
	n	%	n	%	n	%	n	%	n	%
Males	1,329	90.8%	123	8.4%	5	0.3%	7	0.5%	1,464	100.0%
Females	1,469	95.6%	53	3.5%	4	0.3%	10	0.7%	1,536	100.0%
Total	2,798	93.3%	176	5.9%	9	0.3%	17	0.6%	3,000	100.0%

2. Age and gender distribution of people examined in the sample

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59 years	425	32.0%	648	44.1%	1,073	38.3%
60 - 69 years	508	38.2%	482	32.8%	990	35.4%
70 - 79 years	244	18.4%	215	14.6%	459	16.4%
80+ years	152	11.4%	124	8.4%	276	9.9%
Total	1,329	100.0%	1,469	100.0%	2,798	100.0%

3. Sample prevalence of blindness, severe (SVI), moderate (MVI) and early (EVI) visual impairment - bilateral PVA

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Blindness	22	1.7 (1.0 - 2.3)	36	2.5 (1.6 - 3.3)	58	2.1 (1.5 - 2.6)
Severe VI	39	2.9 (1.9 - 4.0)	46	3.1 (2.2 - 4.1)	85	3.0 (2.3 - 3.8)
Moderate VI	194	14.6 (12.2 - 17.0)	208	14.2 (12.2 - 16.1)	402	14.4 (12.7 - 16.0)
Early VI	269	20.2 (18.1 - 22.4)	288	19.6 (17.6 - 21.6)	557	19.9 (18.4 - 21.4)
Functional Low Vision	19	1.4 (0.7 - 2.2)	21	1.4 (0.9 - 2.0)	40	1.4 (1.0 - 1.9)

4. Extrapolated magnitude of blindness, severe (SVI), moderate (MVI) and early (EVI) visual impairment - bilateral

PVA

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Blindness	1,389	1.3 (0.7 - 2.0)	2,099	2.3 (1.4 - 3.1)	3,489	1.8 (1.2 - 2.3)
Severe VI	2,520	2.4 (1.4 - 3.5)	2,821	3.0 (2.0 - 4.0)	5,341	2.7 (2.0 - 3.5)
Moderate VI	13,521	13.1 (10.7 - 15.4)	12,867	13.8 (11.8 - 15.8)	26,390	13.4 (11.7 - 15.1)
Early VI	19,636	19.0 (16.8 - 21.2)	18,577	19.9 (17.9 - 21.9)	38,210	19.4 (17.9 - 20.9)
Functional Low Vision	1,322	1.3 (0.6 - 2.0)	1,318	1.4 (0.8 - 2.0)	2,639	1.3 (0.9 - 1.8)

5. Blindness prevalence (PVA<3/60 in better eye) by age group

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
50 - 59 years	2	0.5 (0.0 - 1.1)	5	0.8 (0.1 - 1.4)	7	0.7 (0.2 - 1.1)
60 - 69 years	6	1.2 (0.1 - 2.2)	8	1.7 (0.6 - 2.7)	14	1.4 (0.6 - 2.2)
70 - 79 years	3	1.2 (0.0 - 2.5)	8	3.7 (1.1 - 6.3)	11	2.4 (1.0 - 3.7)
80+ years	11	7.2 (3.2 - 11.3)	15	12.1 (5.5 - 18.7)	26	9.4 (5.5 - 13.3)
All 50+ years	22	1.7 (1.0 - 2.3)	36	2.5 (1.6 - 3.3)	58	2.1 (1.5 - 2.6)

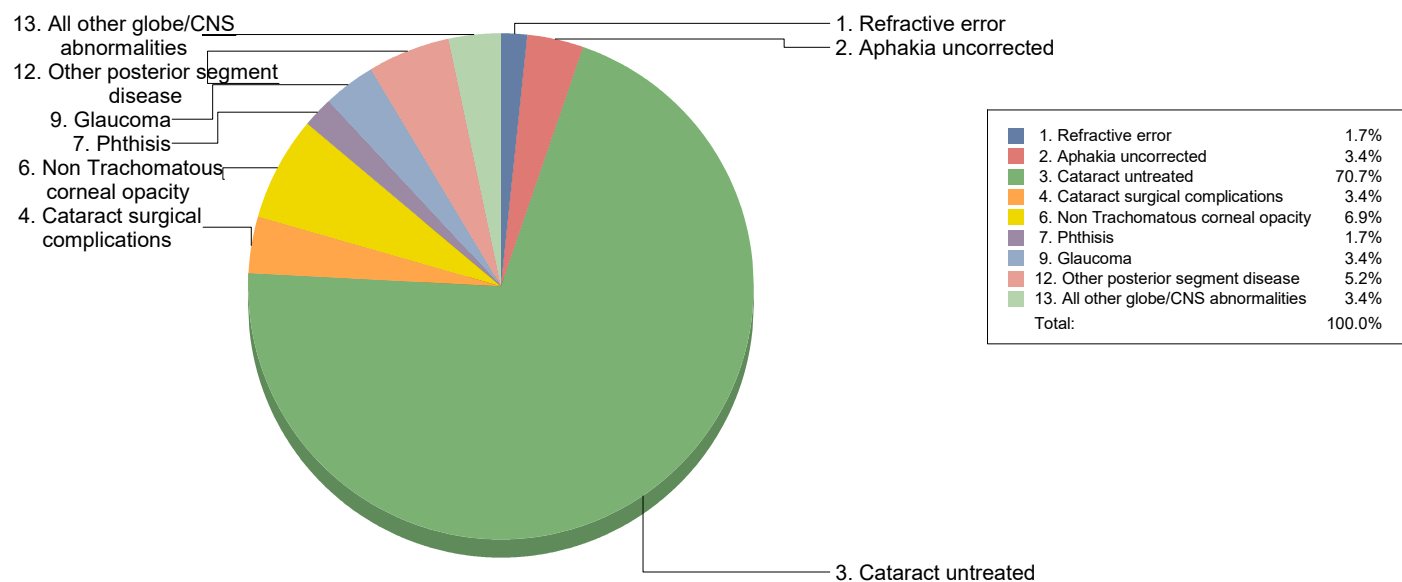
6. Principal cause of blindness, severe (SVI), moderate (MVI) and early (EVI) visual impairment in persons (PVA)

	Blindness		Severe VI		Moderate VI		Early VI	
	n	%	n	%	n	%	n	%
1. Refractive error	1	1.7%	2	2.4%	112	27.9%	502	90.1%
2. Aphakia uncorrected	2	3.4%	1	1.2%	4	1.0%	0	0.0%
3. Cataract untreated	41	70.7%	72	84.7%	240	59.7%	44	7.9%
4. Cataract surgical complications	2	3.4%	0	0.0%	9	2.2%	1	0.2%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	4	6.9%	0	0.0%	0	0.0%	0	0.0%
7. Phthisis	1	1.7%	1	1.2%	1	0.2%	0	0.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	2	3.4%	1	1.2%	2	0.5%	2	0.4%
10. Diabetic retinopathy	0	0.0%	0	0.0%	4	1.0%	0	0.0%
11. ARMD	0	0.0%	2	2.4%	2	0.5%	0	0.0%
12. Other posterior segment disease	3	5.2%	6	7.1%	25	6.2%	6	1.1%
13. All other globe/CNS abnormalities	2	3.4%	0	0.0%	3	0.7%	2	0.4%
Total	58	100.0%	85	100.0%	402	100.0%	557	100.0%

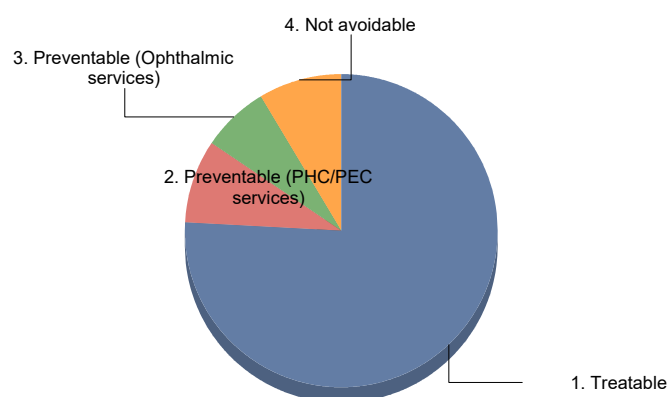
Blindness, SVI, MVI and EVI in persons by intervention category

A. Treatable (1,2,3)	44	75.9%	75	88.2%	356	88.6%	546	98.0%
B. Preventable (PHC/PEC services) (5,6,7,8)	5	8.6%	1	1.2%	1	0.3%	0	0.0%
C. Preventable (Ophthalmic services) (4,9,10)	4	6.9%	1	1.2%	15	3.7%	3	0.5%
D. Avoidable (A+B+C)	53	91.4%	77	90.6%	372	92.5%	549	98.6%
E. Posterior segment causes (8,9,10,11,12)	5	8.6%	9	10.6%	33	8.2%	8	1.4%

7. Graph: main cause of blindness in persons

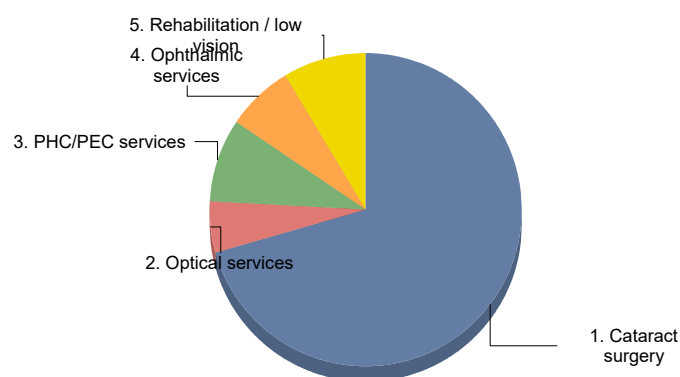


8. Graph: main category of blindness in persons



1. Treatable	75.9%
2. Preventable (PHC/PEC services)	8.6%
3. Preventable (Ophthalmic services)	6.9%
4. Not avoidable	8.6%
Total:	100.0%

9. Graph: action required to reduce blindness



1. Cataract surgery	70.7%
2. Optical services	5.2%
3. PHC/PEC services	8.6%
4. Ophthalmic services	6.9%
5. Rehabilitation / low vision	8.6%
Total:	100.0%

10. Cataract surgical coverage (persons) - percentage

	Males	Females	Total
VA < 3/60	82.8	78.9	80.7
VA < 6/60	75.3	64.5	69.4
VA < 6/18	48.6	41.0	44.7

11. Barriers to cataract surgery - bilateral VA<6/60 due to cataract

	n	Males %	n	Females %	n	Total %
Need not felt	0	0.0%	4	11.8%	4	7.5%
Fear	4	21.1%	8	23.5%	12	22.6%
Cost	11	57.9%	20	58.8%	31	58.5%
Treatment denied by provider	1	5.3%	0	0.0%	1	1.9%
Unaware treatment is possible	1	5.3%	0	0.0%	1	1.9%
Cannot access treatment	0	0.0%	0	0.0%	0	0.0%
Local reason	2	10.5%	2	5.9%	4	7.5%
Total	19	100.0%	34	100.0%	53	100.0%

12. Outcome after cataract surgery with available correction (eyes)

	Males		Females		Total	
	n	%	n	%	n	%
Very good: can see 6/12	42	28.8%	45	34.4%	87	31.4%
Good: can see 6/18	36	24.7%	24	18.3%	60	21.7%
Borderline: can see 6/60	34	23.3%	28	21.4%	62	22.4%
Poor: cannot see 6/60	34	23.3%	34	26.0%	68	24.5%
Total	146	100.0%	131	100.0%	277	100.0%

13. Outcome by type of cataract surgery with available correction (eyes)

	Non-IOL		IOL		Total	
	n	%	n	%	n	%
Very good: can see 6/12	0	0.0%	87	34.1%	87	31.4%
Good: can see 6/18	0	0.0%	60	23.5%	60	21.7%
Borderline: can see 6/60	3	13.6%	59	23.1%	62	22.4%
Poor: cannot see 6/60	19	86.4%	49	19.2%	68	24.5%
Total	22	100.0%	255	100.0%	277	100.0%

14. Cause of PVA<6/12 (good, borderline and poor outcome) after cataract surgery

	Selection		Surgery		Spectacles		Sequelae		Can see 6/12	
	n	%	n	%	n	%	n	%	n	%
Very good: can see 6/12	0	0.0%	0	0.0%	0	0.0%	0	0.0%	87	100.0%
Good: can see 6/18	2	3.7%	3	10.3%	53	80.3%	2	4.9%	0	0.0%
Borderline: can see 6/60	22	40.7%	16	55.2%	10	15.2%	14	34.1%	0	0.0%
Poor: cannot see 6/60	30	55.6%	10	34.5%	3	4.5%	25	61.0%	0	0.0%
Total	54	100.0%	29	100.0%	66	100.0%	41	100.0%	87	100.0%

RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

SAMPLE RESULTS - NOT ADJUSTED FOR AGE AND SEX

Date and time of report: 21-Sep-16 1:17:32PM

This report is for the survey area: Nayagarh

Year and month when survey was conducted: 2016- 7 until 2016- 7

The sample size of the RAAB is sufficient to provide an acceptable accuracy of the overall prevalence of bilateral blindness (best corrected VA <3/60). The accuracy of prevalence estimates for any subgroup is far less and caution should be taken in the interpretation of these data.

1. Eligible persons, coverage, absentees and refusals in survey

	Examined		Not available		Refused		Not capable		Total	
	n	%	n	%	n	%	n	%	n	%
Males	1,329	90.8%	123	8.4%	5	0.3%	7	0.5%	1,464	100.0%
Females	1,469	95.6%	53	3.5%	4	0.3%	10	0.7%	1,536	100.0%
Total	2,798	93.3%	176	5.9%	9	0.3%	17	0.6%	3,000	100.0%

2. Prevalence of blindness, severe (SVI), moderate (MVI) and early visual impairment (EVI) - all causes

	Males		Females		Total	
	n	% (95%CI)	n	% (95%CI)	n	% (95%CI)
Blindness - VA < 3/60 in the better eye with best correction or pinhole						
All bilateral blindness	16	1.2% (0.6-1.8)	27	1.8% (1.1-2.5)	43	1.5% (1.1-2.0)
All blind eyes	124	4.7% (3.8-5.5)	138	4.7% (3.7-5.7)	262	4.7% (4.0-5.4)
Blindness - VA < 3/60 in the better eye with available correction (presenting VA)						
All bilateral blindness	22	1.7% (1.0-2.3)	36	2.5% (1.6-3.3)	58	2.1% (1.5-2.6)
All blind eyes	153	5.8% (4.7-6.8)	174	5.9% (4.9-7.0)	327	5.8% (5.0-6.6)
Severe visual impairment (SVI) - VA<6/60 - 3/60 in the better eye with available correction						
All bilateral Severe VI	39	2.9% (1.9-4.0)	46	3.1% (2.2-4.1)	85	3.0% (2.3-3.8)
All Severe VI eyes	99	3.7% (2.7-4.7)	108	3.7% (2.9-4.5)	207	3.7% (3.0-4.4)
Moderate visual impairment (MVI) - VA<6/18 - 6/60 in the better eye with available correction						
All bilateral MVI	194	14.6% (12.2-17.0)	208	14.2% (12.2-16.1)	402	14.4% (12.7-16.0)
All Moderate VI eyes	439	16.5% (14.5-18.6)	458	15.6% (13.7-17.4)	897	16.0% (14.6-17.5)
Early visual impairment (EVI) - VA<6/12 - 6/18 in the better eye with available correction						
All bilateral EVI	269	20.2% (18.1-22.4)	288	19.6% (17.6-21.6)	557	19.9% (18.4-21.4)
All Early VI eyes	520	19.6% (17.8-21.4)	561	19.1% (17.2-21.0)	1,081	19.3% (18.0-20.6)

3. Prevalence of presenting VA<3/60, VA<6/60, VA<6/18 and VA<6/12 - all causes (cumulative categories)

	Males		Females		Total	
	n	% (95%CI)	n	% (95%CI)	n	% (95%CI)
Blindness - VA < 3/60 in the better eye with available correction (presenting VA)						
All bilateral blindness	22	1.7% (1.0-2.3)	36	2.5% (1.6-3.3)	58	2.1% (1.5-2.6)
All blind eyes	153	5.8% (4.7-6.8)	174	5.9% (4.9-7.0)	327	5.8% (5.0-6.6)
VA<6/60 in the better eye, with available correction (presenting VA)						
All bilateral cases	61	4.6% (3.4-5.8)	82	5.6% (4.3-6.8)	143	5.1% (4.2-6.0)
All eyes	252	9.5% (7.8-11.2)	282	9.6% (8.3-10.9)	534	9.5% (8.4-10.7)
VA<6/18 in the better eye, with available correction (presenting VA)						
All bilateral cases	255	19.2% (16.3-22.1)	290	19.7% (17.4-22.1)	545	19.5% (17.5-21.4)
All eyes	691	26.0% (22.9-29.1)	740	25.2% (22.9-27.5)	1,431	25.6% (23.5-27.6)
VA<6/12 in the better eye, with available correction (presenting VA)						
All bilateral cases	524	39.4% (36.1-42.8)	578	39.4% (36.3-42.3)	1,102	39.4% (36.9-41.8)
All eyes	1,211	45.6% (42.5-48.6)	1,301	44.3% (41.2-47.3)	2,512	44.9% (42.6-47.2)

4. Principal cause of blindness in persons: VA<3/60 in better eye with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	0	0.0%	1	2.8%	1	1.7%
2. Aphakia uncorrected	0	0.0%	2	5.6%	2	3.4%
3. Cataract untreated	16	72.7%	25	69.4%	41	70.7%
4. Cataract surgical complications	1	4.5%	1	2.8%	2	3.4%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	1	4.5%	3	8.3%	4	6.9%
7. Phthisis	1	4.5%	0	0.0%	1	1.7%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	1	4.5%	1	2.8%	2	3.4%
10. Diabetic retinopathy	0	0.0%	0	0.0%	0	0.0%
11. ARMD	0	0.0%	0	0.0%	0	0.0%
12. Other posterior segment disease	1	4.5%	2	5.6%	3	5.2%
13. All other globe/CNS abnormalities	1	4.5%	1	2.8%	2	3.4%
Total	22	100.0%	36	100.0%	58	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	16	72.7%	28	77.8%	44	75.9%
B. Preventable (PHC/PEC services) (5,6,7,8)	2	9.1%	3	8.3%	5	8.6%
C. Preventable (Ophthalmic services) (4,9,10)	2	9.1%	2	5.6%	4	6.9%
D. Avoidable (A+B+C)	20	90.9%	33	91.7%	53	91.4%
E. Posterior segment causes (8,9,10,11,12)	2	9.1%	3	8.3%	5	8.6%

5. Main cause of blindness in eyes - VA<3/60 with available correction, no pinhole

	n	Males %	n	Females %	n	Total %
1. Refractive error	0	0.0%	2	1.1%	2	0.6%
2. Aphakia uncorrected	3	2.0%	6	3.4%	9	2.8%
3. Cataract untreated	86	56.2%	113	64.9%	199	60.9%
4. Cataract surgical complications	5	3.3%	7	4.0%	12	3.7%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	15	9.8%	11	6.3%	26	8.0%
7. Phthisis	10	6.5%	4	2.3%	14	4.3%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	7	4.6%	10	5.7%	17	5.2%
10. Diabetic retinopathy	1	0.7%	0	0.0%	1	0.3%
11. ARMD	4	2.6%	2	1.1%	6	1.8%
12. Other posterior segment disease	15	9.8%	13	7.5%	28	8.6%
13. All other globe/CNS abnormalities	7	4.6%	6	3.4%	13	4.0%
Total	153	100.0%	174	100.0%	327	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	89	58.2%	121	69.5%	210	64.2%
B. Preventable (PHC/PEC services) (5,6,7,8)	25	16.3%	15	8.6%	40	12.2%
C. Preventable (Ophthalmic services) (4,9,10)	13	8.5%	17	9.8%	30	9.2%
D. Avoidable (A+B+C)	127	83.0%	153	87.9%	280	85.6%
E. Posterior segment causes (8,9,10,11,12)	27	17.6%	25	14.4%	52	15.9%

6. Principal cause severe visual impairment in persons: VA<6/60 - 3/60 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	2	5.1%	0	0.0%	2	2.4%
2. Aphakia uncorrected	0	0.0%	1	2.2%	1	1.2%
3. Cataract untreated	30	76.9%	42	91.3%	72	84.7%
4. Cataract surgical complications	0	0.0%	0	0.0%	0	0.0%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
7. Phthisis	1	2.6%	0	0.0%	1	1.2%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	1	2.6%	0	0.0%	1	1.2%
10. Diabetic retinopathy	0	0.0%	0	0.0%	0	0.0%
11. ARMD	2	5.1%	0	0.0%	2	2.4%
12. Other posterior segment disease	3	7.7%	3	6.5%	6	7.1%
13. All other globe/CNS abnormalities	0	0.0%	0	0.0%	0	0.0%
Total	39	100.0%	46	100.0%	85	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	32	82.1%	43	93.5%	75	88.2%
B. Preventable (PHC/PEC services) (5,6,7,8)	1	2.6%	0	0.0%	1	1.2%
C. Preventable (Ophthalmic services) (4,9,10)	1	2.6%	0	0.0%	1	1.2%
D. Avoidable (A+B+C)	34	87.2%	43	93.5%	77	90.6%
E. Posterior segment causes (8,9,10,11,12)	6	15.4%	3	6.5%	9	10.6%

7. Main cause of severe visual impairment in eyes - VA<6/60 - 3/60 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	7	7.1%	2	1.9%	9	4.3%
2. Aphakia uncorrected	0	0.0%	1	0.9%	1	0.5%
3. Cataract untreated	68	68.7%	91	84.3%	159	76.8%
4. Cataract surgical complications	2	2.0%	1	0.9%	3	1.4%
5. Trachomatous corneal opacity	1	1.0%	0	0.0%	1	0.5%
6. Non Trachomatous corneal opacity	1	1.0%	2	1.9%	3	1.4%
7. Phthisis	0	0.0%	0	0.0%	0	0.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	2	2.0%	0	0.0%	2	1.0%
10. Diabetic retinopathy	0	0.0%	0	0.0%	0	0.0%
11. ARMD	6	6.1%	0	0.0%	6	2.9%
12. Other posterior segment disease	11	11.1%	11	10.2%	22	10.6%
13. All other globe/CNS abnormalities	1	1.0%	0	0.0%	1	0.5%
Total	99	100.0%	108	100.0%	207	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	75	75.8%	94	87.0%	169	81.6%
B. Preventable (PHC/PEC services) (5,6,7,8)	2	2.0%	2	1.9%	4	1.9%
C. Preventable (Ophthalmic services) (4,9,10)	4	4.0%	1	0.9%	5	2.4%
D. Avoidable (A+B+C)	81	81.8%	97	89.8%	178	86.0%
E. Posterior segment causes (8,9,10,11,12)	19	19.2%	11	10.2%	30	14.5%

8. Principal cause moderate visual impairment in persons: VA<6/18 - 6/60 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	44	22.7%	68	32.7%	112	27.9%
2. Aphakia uncorrected	3	1.5%	1	0.5%	4	1.0%
3. Cataract untreated	124	63.9%	116	55.8%	240	59.7%
4. Cataract surgical complications	5	2.6%	4	1.9%	9	2.2%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
7. Phthisis	0	0.0%	1	0.5%	1	0.2%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	1	0.5%	1	0.5%	2	0.5%
10. Diabetic retinopathy	2	1.0%	2	1.0%	4	1.0%
11. ARMD	2	1.0%	0	0.0%	2	0.5%
12. Other posterior segment disease	11	5.7%	14	6.7%	25	6.2%
13. All other globe/CNS abnormalities	2	1.0%	1	0.5%	3	0.7%
Total	194	100.0%	208	100.0%	402	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	171	88.1%	185	88.9%	356	88.6%
B. Preventable (PHC/PEC services) (5,6,7,8)	0	0.0%	1	0.5%	1	0.3%
C. Preventable (Ophthalmic services) (4,9,10)	8	4.1%	7	3.4%	15	3.7%
D. Avoidable (A+B+C)	179	92.3%	193	92.8%	372	92.5%
E. Posterior segment causes (8,9,10,11,12)	16	8.3%	17	8.2%	33	8.2%

9. Main cause of moderate visual impairment in eyes - VA<6/18 - 6/60 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	109	24.8%	168	36.7%	277	30.9%
2. Aphakia uncorrected	2	0.5%	0	0.0%	2	0.2%
3. Cataract untreated	269	61.3%	231	50.4%	500	55.7%
4. Cataract surgical complications	12	2.7%	12	2.6%	24	2.7%
5. Trachomatous corneal opacity	1	0.2%	0	0.0%	1	0.1%
6. Non Trachomatous corneal opacity	6	1.4%	2	0.4%	8	0.9%
7. Phthisis	0	0.0%	0	0.0%	0	0.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	2	0.5%	1	0.2%	3	0.3%
10. Diabetic retinopathy	3	0.7%	4	0.9%	7	0.8%
11. ARMD	3	0.7%	1	0.2%	4	0.4%
12. Other posterior segment disease	27	6.2%	35	7.6%	62	6.9%
13. All other globe/CNS abnormalities	5	1.1%	4	0.9%	9	1.0%
Total	439	100.0%	458	100.0%	897	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	380	86.6%	399	87.1%	779	86.8%
B. Preventable (PHC/PEC services) (5,6,7,8)	7	1.6%	2	0.4%	9	1.0%
C. Preventable (Ophthalmic services) (4,9,10)	17	3.9%	17	3.7%	34	3.8%
D. Avoidable (A+B+C)	404	92.0%	418	91.3%	822	91.6%
E. Posterior segment causes (8,9,10,11,12)	35	8.0%	41	9.0%	76	8.5%

10. Principal cause early visual impairment in persons: VA<6/12 - 6/18 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	237	88.1%	265	92.0%	502	90.1%
2. Aphakia uncorrected	0	0.0%	0	0.0%	0	0.0%
3. Cataract untreated	28	10.4%	16	5.6%	44	7.9%
4. Cataract surgical complications	1	0.4%	0	0.0%	1	0.2%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
7. Phthisis	0	0.0%	0	0.0%	0	0.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	0	0.0%	2	0.7%	2	0.4%
10. Diabetic retinopathy	0	0.0%	0	0.0%	0	0.0%
11. ARMD	0	0.0%	0	0.0%	0	0.0%
12. Other posterior segment disease	2	0.7%	4	1.4%	6	1.1%
13. All other globe/CNS abnormalities	1	0.4%	1	0.3%	2	0.4%
Total	269	100.0%	288	100.0%	557	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	265	98.5%	281	97.6%	546	98.0%
B. Preventable (PHC/PEC services) (5,6,7,8)	0	0.0%	0	0.0%	0	0.0%
C. Preventable (Ophthalmic services) (4,9,10)	1	0.4%	2	0.7%	3	0.5%
D. Avoidable (A+B+C)	266	98.9%	283	98.3%	549	98.6%
E. Posterior segment causes (8,9,10,11,12)	2	0.7%	6	2.1%	8	1.4%

11. Main cause of early visual impairment in eyes - VA<6/12 - 6/18 with available correction

	n	Males %	n	Females %	n	Total %
1. Refractive error	469	90.2%	530	94.5%	999	92.4%
2. Aphakia uncorrected	0	0.0%	0	0.0%	0	0.0%
3. Cataract untreated	41	7.9%	21	3.7%	62	5.7%
4. Cataract surgical complications	3	0.6%	0	0.0%	3	0.3%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	1	0.2%	0	0.0%	1	0.1%
7. Phthisis	0	0.0%	0	0.0%	0	0.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	0	0.0%	2	0.4%	2	0.2%
10. Diabetic retinopathy	0	0.0%	0	0.0%	0	0.0%
11. ARMD	0	0.0%	0	0.0%	0	0.0%
12. Other posterior segment disease	4	0.8%	6	1.1%	10	0.9%
13. All other globe/CNS abnormalities	2	0.4%	2	0.4%	4	0.4%
Total	520	100.0%	561	100.0%	1,081	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	510	98.1%	551	98.2%	1,061	98.1%
B. Preventable (PHC/PEC services) (5,6,7,8)	1	0.2%	0	0.0%	1	0.1%
C. Preventable (Ophthalmic services) (4,9,10)	3	0.6%	2	0.4%	5	0.5%
D. Avoidable (A+B+C)	514	98.8%	553	98.6%	1,067	98.7%
E. Posterior segment causes (8,9,10,11,12)	4	0.8%	8	1.4%	12	1.1%

12. Prevalence of cataract with VA<3/60, VA<6/60, VA<6/18 and VA<6/12 - best corrected VA or pinhole

	Males		Females		Total	
	n	% (95%CI)	n	% (95%CI)	n	% (95%CI)
Cataract and VA<3/60 with best correction or pinhole						
Bilateral cataract	11	0.8% (0.4-1.3)	15	1.0% (0.5-1.5)	26	0.9% (0.6-1.3)
Unilateral cataract	58	4.4% (3.4-5.4)	69	4.7% (3.6-5.8)	127	4.5% (3.9-5.2)
Cataract eyes	80	3.0% (2.3-3.7)	99	3.4% (2.6-4.2)	179	3.2% (2.6-3.8)
Cataract and VA<6/60 with best correction or pinhole						
Bilateral cataract	19	1.4% (0.8-2.1)	33	2.3% (1.5-3.0)	52	1.9% (1.4-2.4)
Unilateral cataract	76	5.7% (4.4-7.2)	82	5.6% (4.6-6.8)	158	5.7% (4.8-6.7)
Cataract eyes	114	4.3% (3.4-5.2)	148	5.0% (4.1-6.0)	262	4.7% (4.0-5.3)
Cataract and VA<6/18 with best correction or pinhole						
Bilateral cataract	76	5.7% (4.3-7.1)	95	6.5% (5.3-7.6)	171	6.1% (5.2-7.0)
Unilateral cataract	111	8.4% (7.1-9.6)	115	7.8% (6.5-9.1)	226	8.1% (7.1-9.0)
Cataract eyes	263	9.9% (8.3-11.5)	305	10.4% (9.2-11.6)	568	10.2% (9.2-11.1)
Cataract and VA<6/12 with best correction or pinhole						
Bilateral cataract	183	13.8% (11.6-16.0)	176	12.0% (10.5-13.5)	359	12.8% (11.6-14.1)
Unilateral cataract	118	8.9% (7.2-10.6)	118	8.0% (6.6-9.5)	236	8.4% (7.2-9.7)
Cataract eyes	484	18.2% (15.8-20.6)	470	16.0% (14.5-17.5)	954	17.1% (15.7-18.4)

13. Sample prevalence of (pseudo)aphakia

	Males		Females		Total	
	n	% (95%CI)	n	% (95%CI)	n	% (95%CI)
Bilateral (pseudo)aphakia	34	2.6% (1.6-3.6)	33	2.3% (1.4-3.1)	67	2.4% (1.6-3.2)
Unilateral (pseudo)aphakia	78	5.9% (4.5-7.2)	65	4.4% (3.1-5.7)	143	5.1% (4.1-6.1)
(Pseudo)aphakic eyes	146	5.5% (4.2-6.8)	131	4.5% (3.3-5.6)	277	5.0% (3.9-6.0)

14. Cataract Surgical Coverage

	Males	Females	Total
Cataract Surgical Coverage (eyes) - percentage			
VA < 3/60	64.6	57.0	60.8
VA < 6/60	56.2	47.0	51.4
VA < 6/18	35.7	30.1	32.8
Cataract Surgical Coverage (persons) - percentage			
VA < 3/60	82.8	78.9	80.7
VA < 6/60	75.3	64.5	69.4
VA < 6/18	48.7	41.0	44.7

15. Number and percentage of first eyes and second eyes operated

	Males		Females		Total	
	n	%	n	%	n	%
First eyes	112	76.7	98	74.8	210	75.8
Second eyes	34	23.3	33	25.2	67	24.2

16. Uncorrected refractive error and uncorrected presbyopia

	Males		Females		Total	
	n	%	n	%	n	%
Total refractive errors	343	25.8	367	25.0	710	25.4
Uncorrected refractive errors	286	21.5	338	23.0	624	22.3
Uncorrected presbyopia	1,232	92.7	1,420	96.7	2,652	94.8

17. Persons with Functional Low Vision: BCVA<6/18 - PL+ in the better eye; incurable

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59	4	0.9	6	0.9	10	0.9
60 - 69	4	0.8	5	1.0	9	0.9
70 - 79	4	1.6	6	2.8	10	2.2
80+	7	4.6	4	3.2	11	4.0
Total	19	1.4	21	1.4	40	1.4

18. Principal cause of functional low vision in persons: BCVA<6/18 - PL+ in better eye, incurable

	Males		Females		Total	
	n	%	n	%	n	%
1. Refractive error	0	0.0%	0	0.0%	0	0.0%
2. Aphakia uncorrected	0	0.0%	0	0.0%	0	0.0%
3. Cataract untreated	0	0.0%	0	0.0%	0	0.0%
4. Cataract surgical complications	2	10.5%	3	14.3%	5	12.5%
5. Trachomatous corneal opacity	0	0.0%	0	0.0%	0	0.0%
6. Non Trachomatous corneal opacity	1	5.3%	3	14.3%	4	10.0%
7. Phthisis	1	5.3%	1	4.8%	2	5.0%
8. Onchocerciasis	0	0.0%	0	0.0%	0	0.0%
9. Glaucoma	2	10.5%	2	9.5%	4	10.0%
10. Diabetic retinopathy	1	5.3%	0	0.0%	1	2.5%
11. ARMD	2	10.5%	0	0.0%	2	5.0%
12. Other posterior segment disease	9	47.4%	11	52.4%	20	50.0%
13. All other globe/CNS abnormalities	1	5.3%	1	4.8%	2	5.0%
Total	19	100.0%	21	100.0%	40	100.0%

Intervention by this visual impairment

A. Treatable (1,2,3)	0	0.0%	0	0.0%	0	0.0%
B. Preventable (PHC/PEC services) (5,6,7,8)	2	10.5%	4	19.1%	6	15.0%
C. Preventable (Ophthalmic services) (4,9,10)	5	26.3%	5	23.8%	10	25.0%
D. Avoidable (A+B+C)	7	36.8%	9	42.9%	16	40.0%
E. Posterior segment causes (8,9,10,11,12)	14	73.7%	13	61.9%	27	67.5%

19. Persons with FLV and proportion of all persons in corresponding category of visual impairment with available correction

	Males		Females		Total	
	n	%	n	%	n	%
BCVA<3/60 - PL+	4	18.2	7	19.4	11	19.0
BCVA<6/60 - 3/60	5	12.8	2	4.4	7	8.2
BCVA<6/18 - 6/60	10	5.2	12	5.8	22	5.5
Total	19	7.5	21	7.2	40	7.3

RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

REASONS WHY PEOPLE, BLIND DUE TO CATARACT, HAVE NOT BEEN OPERATED

Date and time of report: 21-Sep-16 1:18:15PM

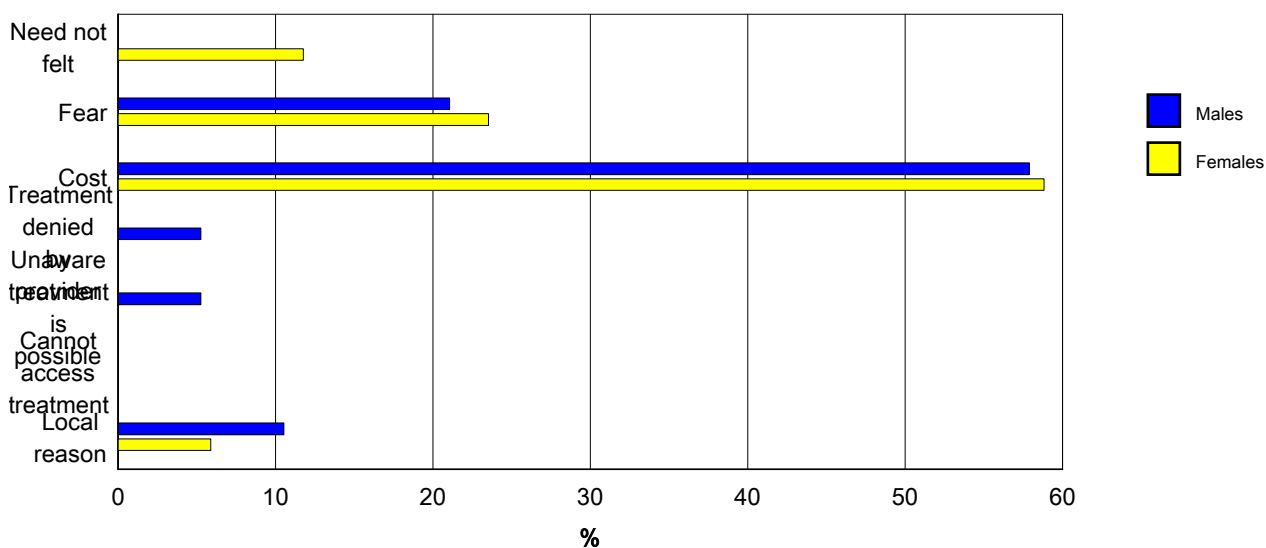
This report is for the survey area: Nayagarh

Year and month when survey was conducted: 2016- 7 until 2016- 7

RAAB is designed as a rapid procedure and there is not enough time during the RAAB to hold in-depth interviews why people blind from cataract have not yet been operated. Hence, the data on barriers should be regarded as an indication whether more detailed qualitative studies are required.

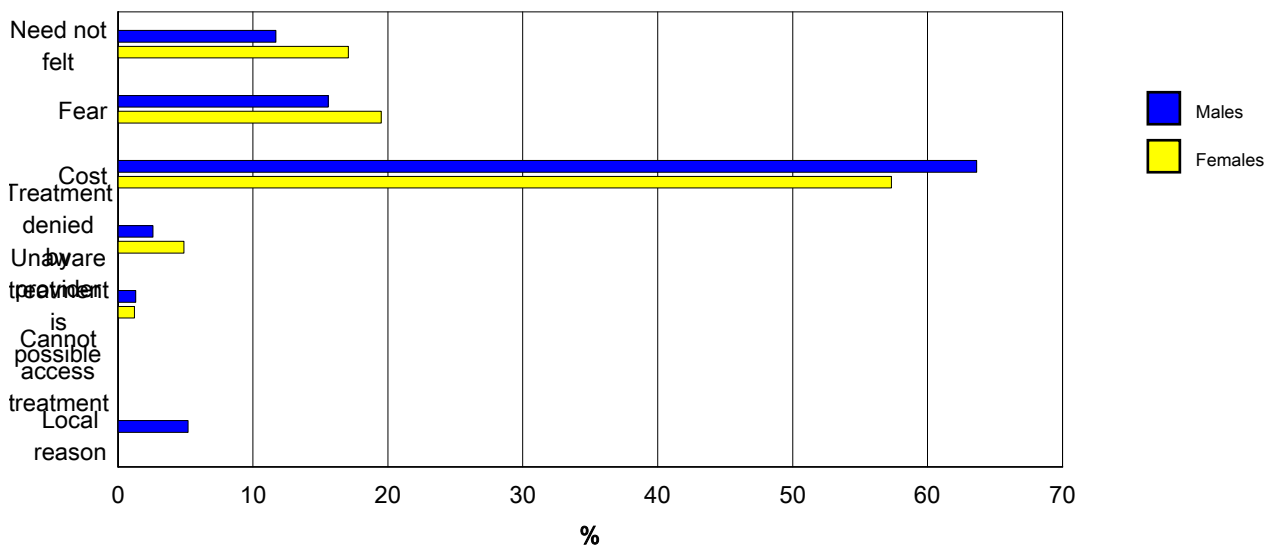
1. Barriers to cataract surgery in sample (bilateral BCVA<6/60 due to cataract)

	Males		Females		Total	
	n	%	n	%	n	%
Need not felt	0	0.0%	4	11.8%	4	7.5%
Fear	4	21.1%	8	23.5%	12	22.6%
Cost	11	57.9%	20	58.8%	31	58.5%
Treatment denied by provider	1	5.3%	0	0.0%	1	1.9%
Unaware treatment is possible	1	5.3%	0	0.0%	1	1.9%
Cannot access treatment	0	0.0%	0	0.0%	0	0.0%
Local reason	2	10.5%	2	5.9%	4	7.5%
Total	19	100.0%	34	100.0%	53	100.0%



2. Barriers to cataract surgery in sample (unilateral BCVA<6/60 due to cataract)

	Males		Females		Total	
	n	%	n	%	n	%
Need not felt	9	11.7%	14	17.1%	23	14.5%
Fear	12	15.6%	16	19.5%	28	17.6%
Cost	49	63.6%	47	57.3%	96	60.4%
Treatment denied by provider	2	2.6%	4	4.9%	6	3.8%
Unaware treatment is possible	1	1.3%	1	1.2%	2	1.3%
Cannot access treatment	0	0.0%	0	0.0%	0	0.0%
Local reason	4	5.2%	0	0.0%	4	2.5%
Total	77	100.0%	82	100.0%	159	100.0%



RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

VISUAL OUTCOME AFTER CATARACT SURGERY (LONG-TERM OUTCOME)

Date and time of report: 21-Sep-16 1:19:20PM

This report is for the survey area: Nayagarh

Year and month when survey was conducted: 2016- 7 until 2016- 7

The visual acuity of all subjects operated earlier is measured with available correction and with a pinhole. This report gives population based data on visual outcome, not specific for one surgeon or one hospital and with follow-up periods ranging from one month to several decades. When cataract surgery took place several years earlier, the chance of vision loss due to other causes than cataract increases. If the proportion of eyes with a visual outcome less than 6/60 is higher than 10%, research into the possible causes of poor visual outcome is indicated.

1. VA in operated eyes in sample with available correction (PVA)

	Non-IOL		IOL		Couching		Total	
	Eyes	%	Eyes	%	Eyes	%	Eyes	%
Very good: can see 6/12	0	0.0%	87	34.1%	0	0.0%	87	31.4%
Good: can see 6/18	0	0.0%	60	23.5%	0	0.0%	60	21.7%
Borderline: can see 6/60	3	13.6%	59	23.1%	0	0.0%	62	22.4%
Poor: cannot see 6/60	19	86.4%	49	19.2%	0	0.0%	68	24.5%
Total	22	100.0%	255	100.0%	0	0.0%	277	100.0%

2. VA in operated eyes in sample with best correction (BCVA)

	Non-IOL		IOL		Couching		Total	
	Eyes	%	Eyes	%	Eyes	%	Eyes	%
Very good: can see 6/12	1	4.5%	152	59.6%	0	0.0%	153	55.2%
Good: can see 6/18	3	13.6%	35	13.7%	0	0.0%	38	13.7%
Borderline: can see 6/60	6	27.3%	31	12.2%	0	0.0%	37	13.4%
Poor: cannot see 6/60	12	54.5%	37	14.5%	0	0.0%	49	17.7%
Total	22	100.0%	255	100.0%	0	0.0%	277	100.0%

3. VA in operated eyes in sample by years after surgery

	3 yrs postop		4 - 6 yrs postop.		7+ yrs postop		Total	
	Eyes	%	Eyes	%	Eyes	%	Eyes	%
Very good: can see 6/12	39	38.2%	26	31.3%	22	23.9%	87	31.4%
Good: can see 6/18	25	24.5%	19	22.9%	16	17.4%	60	21.7%
Borderline: can see 6/60	24	23.5%	20	24.1%	18	19.6%	62	22.4%
Poor: cannot see 6/60	14	13.7%	18	21.7%	36	39.1%	68	24.5%
Total	102	100.0%	83	100.0%	92	100.0%	277	100.0%

4. Age at time of surgery in males and females

	Males		Females		Total	
	Eyes	%	Eyes	%	Eyes	%
1 - 29	1	0.7%	0	0.0%	1	0.4%
30 - 39	2	1.4%	0	0.0%	2	0.7%
40 - 49	3	2.1%	4	3.1%	7	2.5%
50 - 59	25	17.1%	34	26.0%	59	21.3%
60 - 69	44	30.1%	56	42.7%	100	36.1%
70 - 79	54	37.0%	31	23.7%	85	30.7%
80+	17	11.6%	6	4.6%	23	8.3%
Total	146	100.0%	131	100.0%	277	100.0%

5. Place of surgery by sex

	Males		Females		Total	
	Eyes	%	Eyes	%	Eyes	%
Government Hosp.	124	84.9	114	87.0	238	85.9
Voluntary/charitable hospital	4	2.7	1	0.8	5	1.8
Private hospital	14	9.6	15	11.5	29	10.5
Eyecamp	4	2.7	1	0.8	5	1.8
Total	146	100.0	131	100.0	277	100.0

6. Post-op VA with available correction by place of surgery

	Gov. Hosp.		Vol. Hosp.		Priv. Hosp.		Eye camp		Total	
	Eyes	%	Eyes	%	Eyes	%	Eyes	%	Eyes	%
Very good: can see 6/12	71	29.8	3	60.0	12	41.4	1	20.0	87	31.4
Good: can see 6/18	46	19.3	2	40.0	11	37.9	1	20.0	60	21.7
Borderline: can see 6/60	58	24.4	0	0.0	3	10.3	1	20.0	62	22.4
Poor: cannot see 6/60	63	26.5	0	0.0	3	10.3	2	40.0	68	24.5
Total	238	100.0	5	100.0	29	100.0	5	100.0	277	100.0

7. Post-op presenting VA and causes of borderline and poor outcome

	Selection		Surgery		Spectacles		Sequelae		Can see 6/12		Total	
	Eyes	%	Eyes	%	Eyes	%	Eyes	%	Eyes	%	Eyes	%
Very good: can see 6/12	0	0.0	0	0.0	0	0.0	0	0.0	87	100.0	87	31.4
Good: can see 6/18	2	3.7	3	10.3	53	80.3	2	4.9	0	0.0	60	21.7
Borderline: can see 6/60	22	40.7	16	55.2	10	15.2	14	34.1	0	0.0	62	22.4
Poor: cannot see 6/60	30	55.6	10	34.5	3	4.5	25	61.0	0	0.0	68	24.5
Total	54	100.0	29	100.0	66	100.0	41	100.0	87	100.0	277	100.0

8. Proportion and type of surgery

	Males		Females		Total	
	Eyes	%	Eyes	%	Eyes	%
Non-IOL	9	6.2	13	9.9	22	7.9
IOL	137	93.8	118	90.1	255	92.1
Couching	0	0.0	0	0.0	0	0.0
Total	146	100.0	131	100.0	277	100.0

RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

INDICATORS BY SEX AND BY AGE GROUP - FINDINGS FROM SAMPLE

Date and time of report:

21-Sep-16

1:20:33PM

This report is for the survey area:

Nayagarh

Year and month when survey was conducted:

2016- 7 until 2016- 7

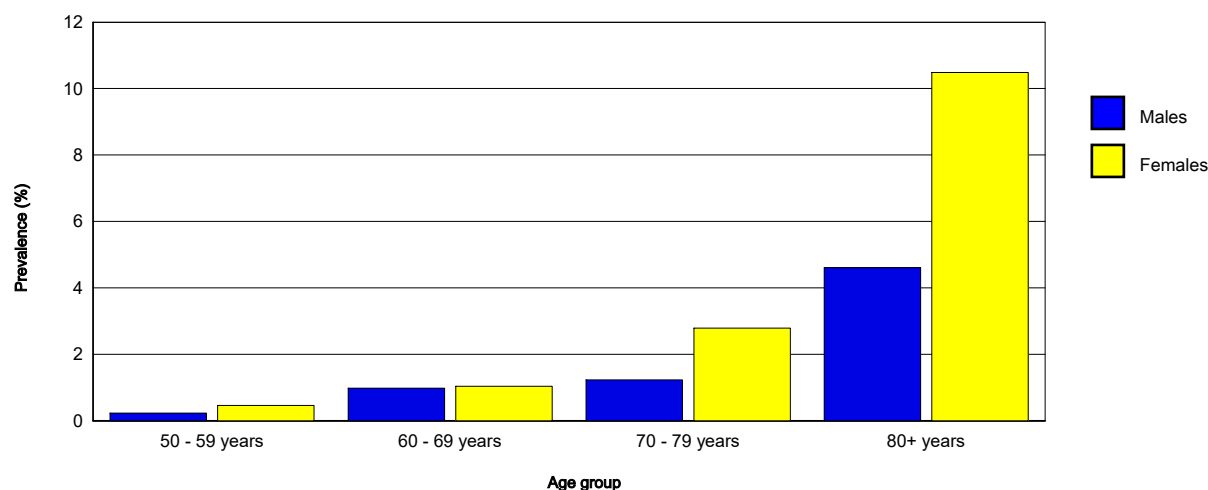
The sample size of the Rapid Assessment is sufficient to provide an acceptable accuracy of the overall prevalence of bilateral blindness (VA <3/60). The accuracy of prevalence estimates for any subgroup is far less and caution should be taken in the interpretation of these data. Confidence intervals for prevalence of various conditions can be calculated with menu Reports / Sampling error & Design Effect.

1. Age and sex distribution of people examined in the sample

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59 years	425	32.0%	648	44.1%	1,073	38.0%
60 - 69 years	508	38.2%	482	32.8%	990	35.5%
70 - 79 years	244	18.4%	215	14.6%	459	16.5%
80+ years	152	11.4%	124	8.4%	276	9.9%
Total	1,329	100.0%	1,469	100.0%	2,798	100.0%

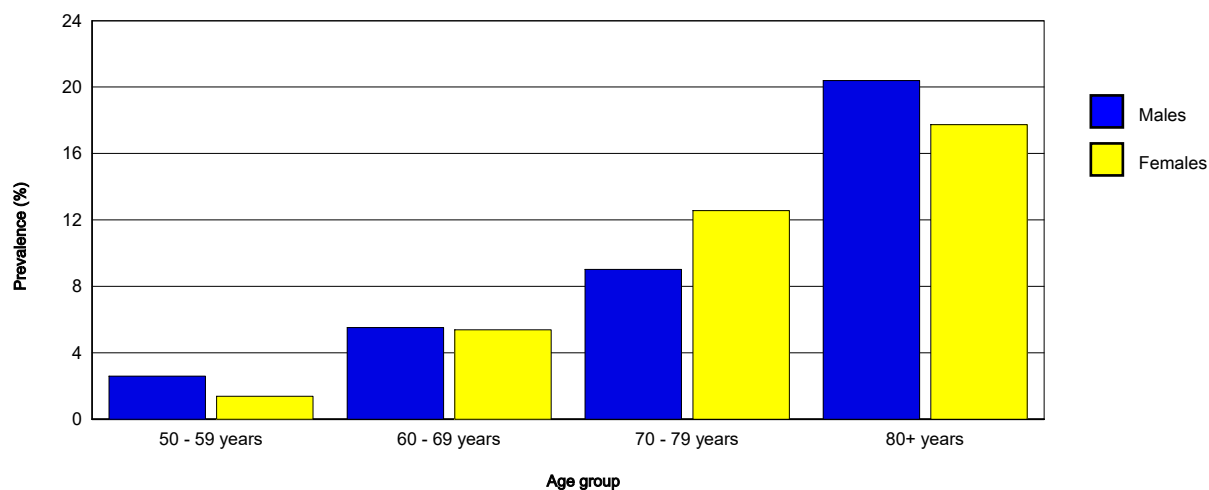
2. Prevalence of people with bilateral blindness - VA <3/60 in better eye with best correction

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59 years	1	0.2%	3	0.5%	4	0.4%
60 - 69 years	5	1.0%	5	1.0%	10	1.0%
70 - 79 years	3	1.2%	6	2.8%	9	2.0%
80+ years	7	4.6%	13	10.5%	20	7.2%
Total	16	1.2%	27	1.8%	43	1.5%



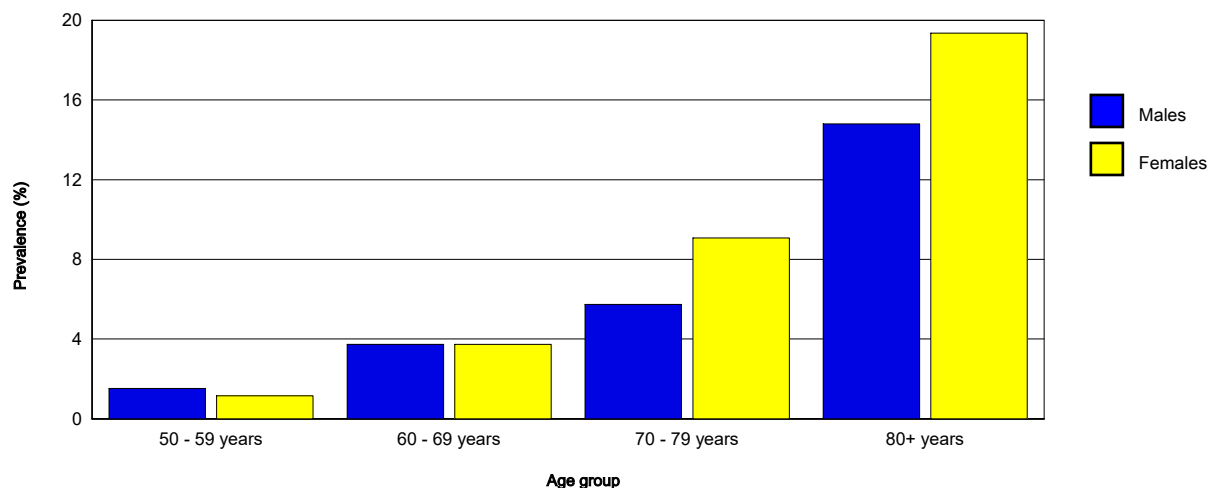
3. Prevalence of people with unilateral blindness - VA <3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	11	2.6%	9	1.4%	20	1.9%
60 - 69 years	28	5.5%	26	5.4%	54	5.5%
70 - 79 years	22	9.0%	27	12.6%	49	10.7%
80+ years	31	20.4%	22	17.7%	53	19.2%
Total	92	6.9%	84	5.7%	176	6.3%



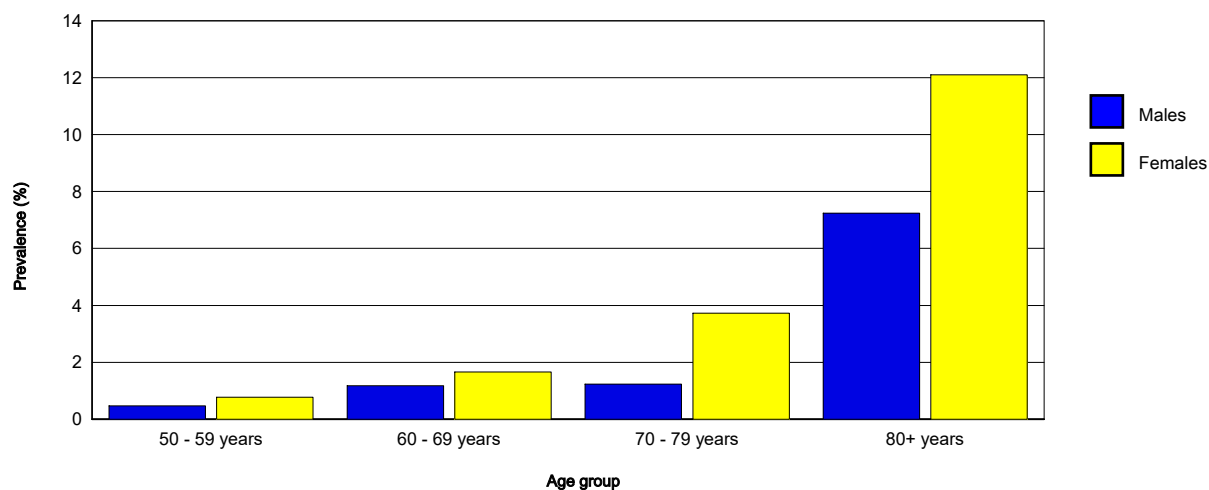
4. Prevalence of blind eyes - VA <3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	13	1.5%	15	1.2%	28	1.3%
60 - 69 years	38	3.7%	36	3.7%	74	3.7%
70 - 79 years	28	5.7%	39	9.1%	67	7.3%
80+ years	45	14.8%	48	19.4%	93	16.8%
Total	124	4.7%	138	4.7%	262	4.7%



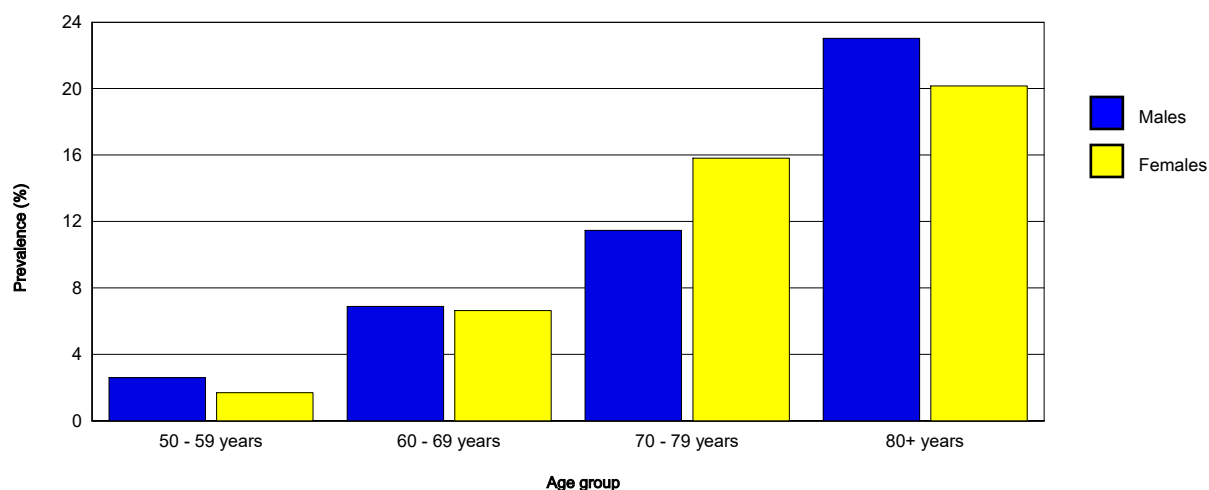
5. Prevalence of people with bilateral blindness - VA <3/60 in better eye with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	2	0.5%	5	0.8%	7	0.7%
60 - 69 years	6	1.2%	8	1.7%	14	1.4%
70 - 79 years	3	1.2%	8	3.7%	11	2.4%
80+ years	11	7.2%	15	12.1%	26	9.4%
Total	22	1.7%	36	2.5%	58	2.1%



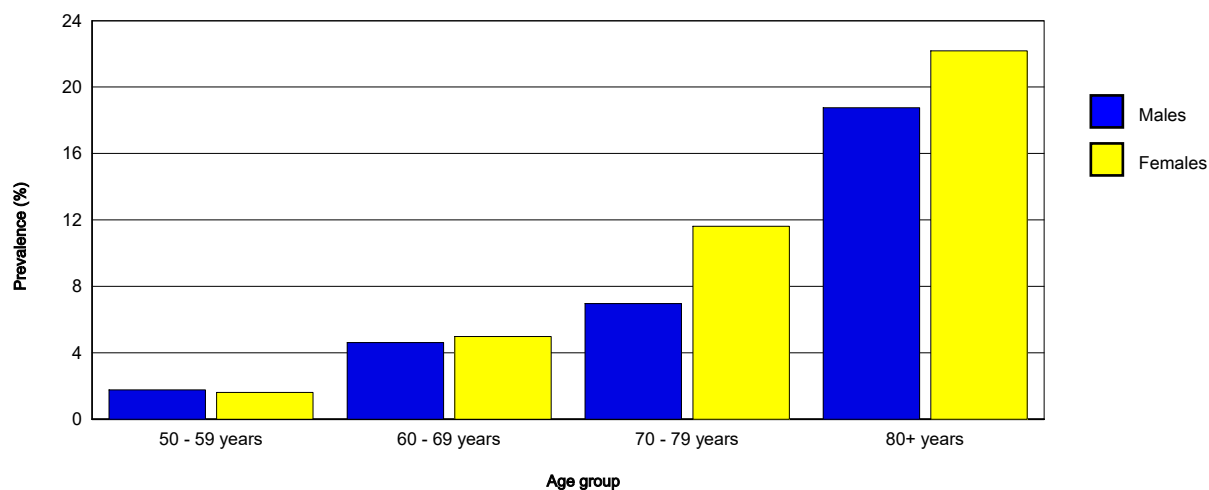
6. Prevalence of people with unilateral blindness - VA <3/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	11	2.6%	11	1.7%	22	2.1%
60 - 69 years	35	6.9%	32	6.6%	67	6.8%
70 - 79 years	28	11.5%	34	15.8%	62	13.5%
80+ years	35	23.0%	25	20.2%	60	21.7%
Total	109	8.2%	102	6.9%	211	7.5%



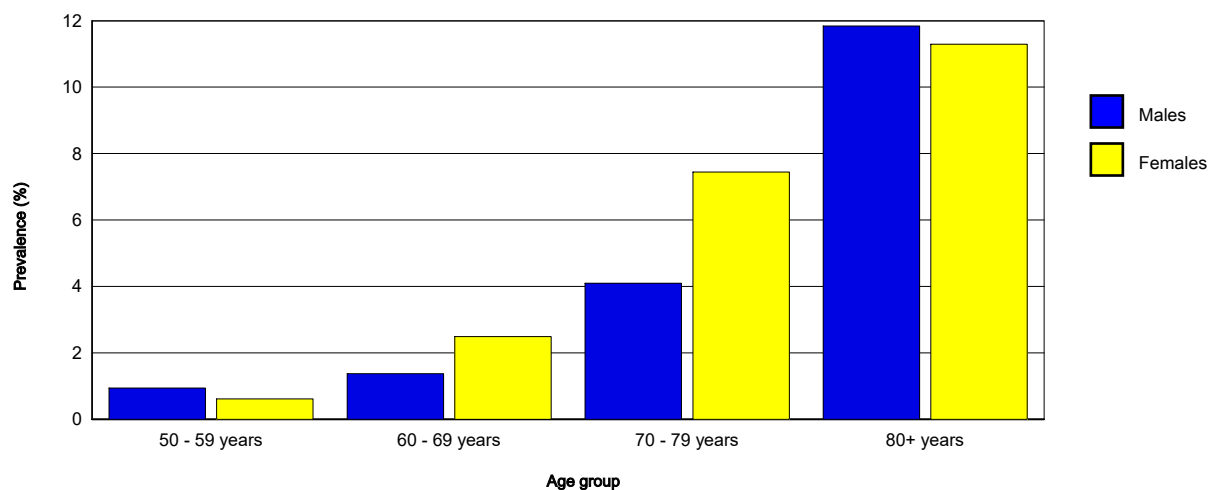
7. Prevalence of blind eyes - VA <3/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	15	1.8%	21	1.6%	36	1.7%
60 - 69 years	47	4.6%	48	5.0%	95	4.8%
70 - 79 years	34	7.0%	50	11.6%	84	9.2%
80+ years	57	18.8%	55	22.2%	112	20.3%
Total	153	5.8%	174	5.9%	327	5.8%



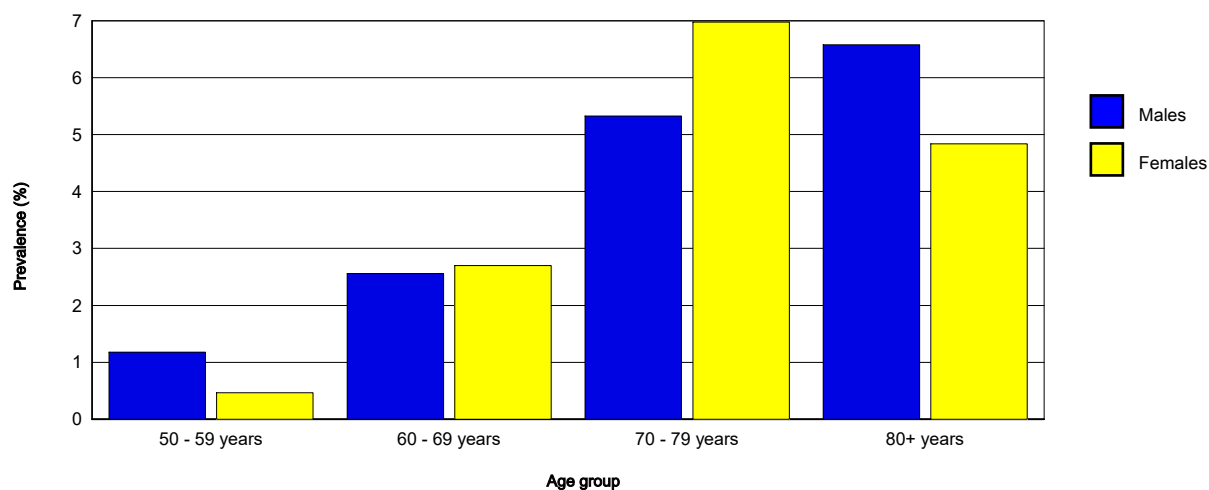
8. Prevalence of people with bilateral severe visual impairment - VA<6/60-3/60 in better eye with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	4	0.9%	4	0.6%	8	0.7%
60 - 69 years	7	1.4%	12	2.5%	19	1.9%
70 - 79 years	10	4.1%	16	7.4%	26	5.7%
80+ years	18	11.8%	14	11.3%	32	11.6%
Total	39	2.9%	46	3.1%	85	3.0%



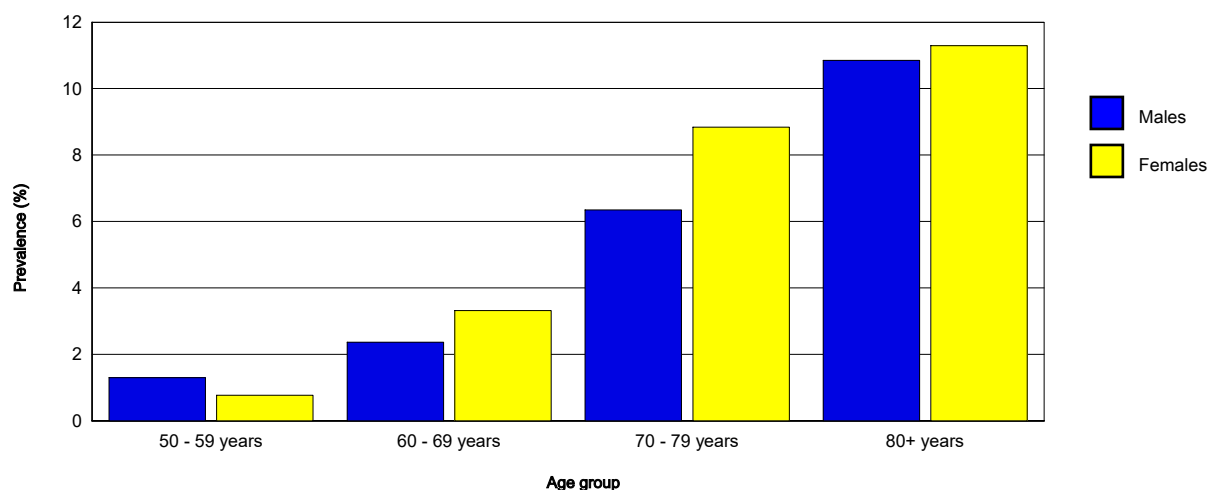
9. Prevalence of people with unilateral severe visual impairment - VA <6/60-3/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	5	1.2%	3	0.5%	8	0.7%
60 - 69 years	13	2.6%	13	2.7%	26	2.6%
70 - 79 years	13	5.3%	15	7.0%	28	6.1%
80+ years	10	6.6%	6	4.8%	16	5.8%
Total	41	3.1%	37	2.5%	78	2.8%



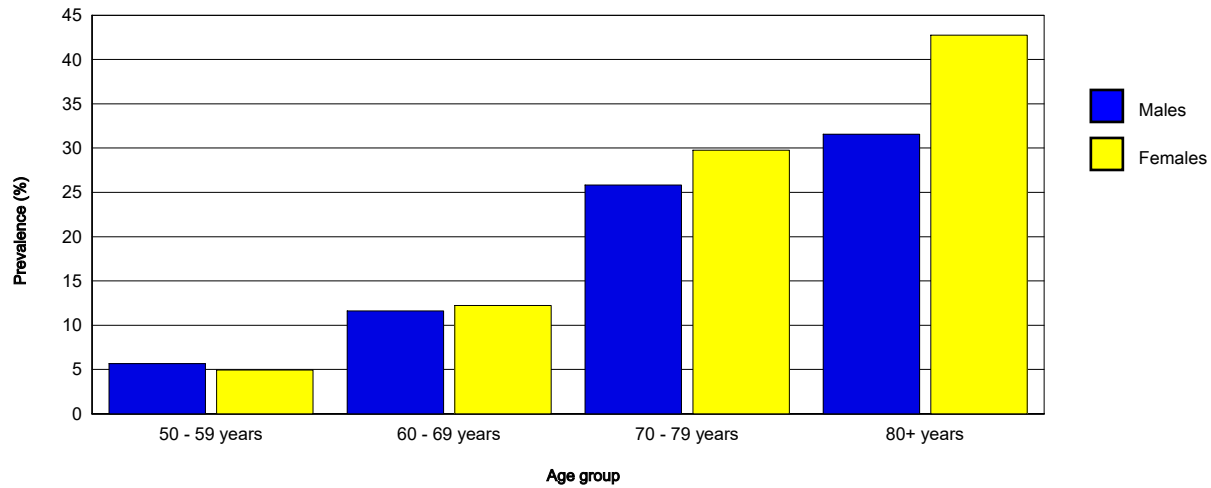
10. Prevalence of SVI eyes - VA VA<6/60-3/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	11	1.3%	10	0.8%	21	1.0%
60 - 69 years	24	2.4%	32	3.3%	56	2.8%
70 - 79 years	31	6.4%	38	8.8%	69	7.5%
80+ years	33	10.9%	28	11.3%	61	11.1%
Total	99	3.7%	108	3.7%	207	3.7%



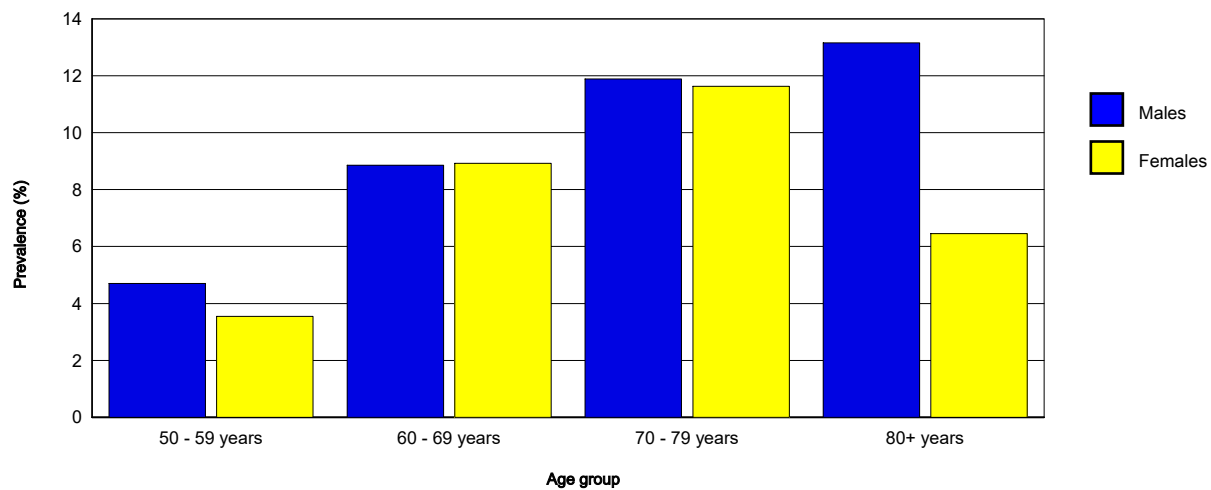
11. Prevalence of people with bilateral moderate visual impairment - VA <6/18-6/60 in better eye with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	24	5.6%	32	4.9%	56	5.2%
60 - 69 years	59	11.6%	59	12.2%	118	11.9%
70 - 79 years	63	25.8%	64	29.8%	127	27.7%
80+ years	48	31.6%	53	42.7%	101	36.6%
Total	194	14.6%	208	14.2%	402	14.4%



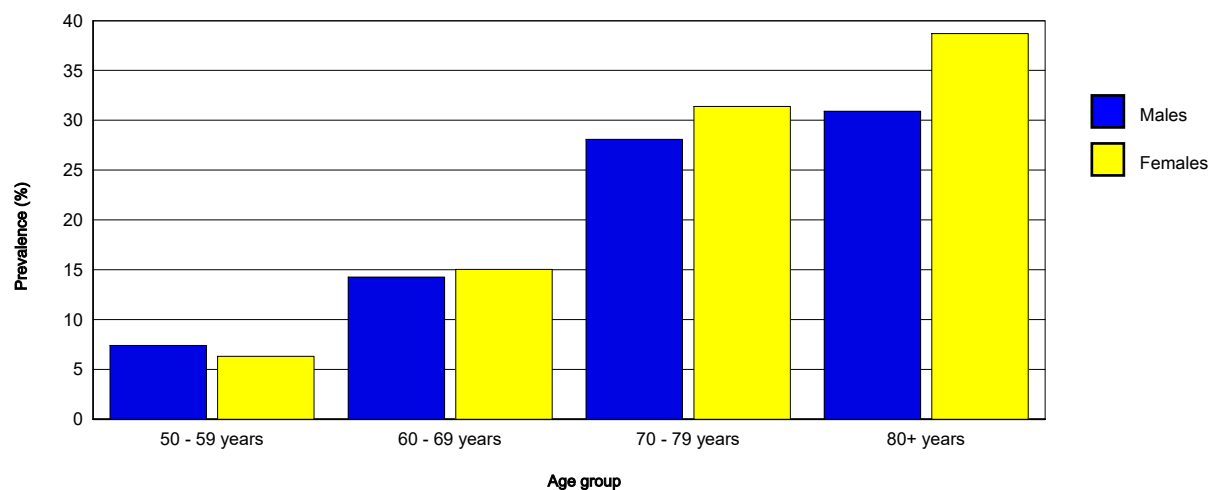
12. Prevalence of people with unilateral visual impairment - VA <6/18-6/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	20	4.7%	23	3.5%	43	4.0%
60 - 69 years	45	8.9%	43	8.9%	88	8.9%
70 - 79 years	29	11.9%	25	11.6%	54	11.8%
80+ years	20	13.2%	8	6.5%	28	10.1%
Total	114	8.6%	99	6.7%	213	7.6%



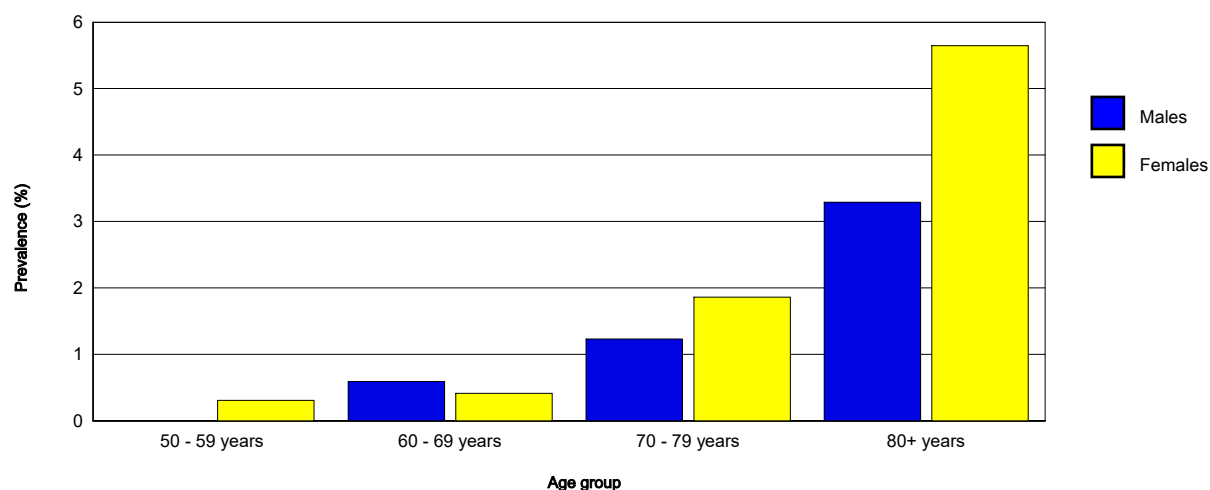
13. Prevalence of MVI eyes - VA<6/18-6/60 with available correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	63	7.4%	82	6.3%	145	6.8%
60 - 69 years	145	14.3%	145	15.0%	290	14.6%
70 - 79 years	137	28.1%	135	31.4%	272	29.6%
80+ years	94	30.9%	96	38.7%	190	34.4%
Total	439	16.5%	458	15.6%	897	16.0%



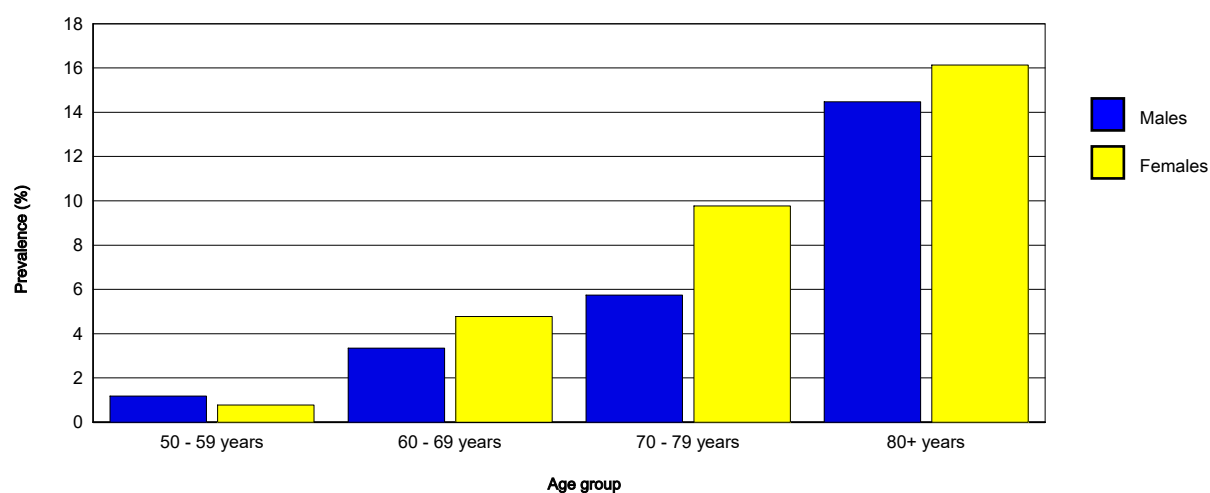
14. Prevalence of people bilateral blind due to cataract - VA<3/60 in better eye with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	0	0.0%	2	0.3%	2	0.2%
60 - 69 years	3	0.6%	2	0.4%	5	0.5%
70 - 79 years	3	1.2%	4	1.9%	7	1.5%
80+ years	5	3.3%	7	5.6%	12	4.3%
Total	11	0.8%	15	1.0%	26	0.9%



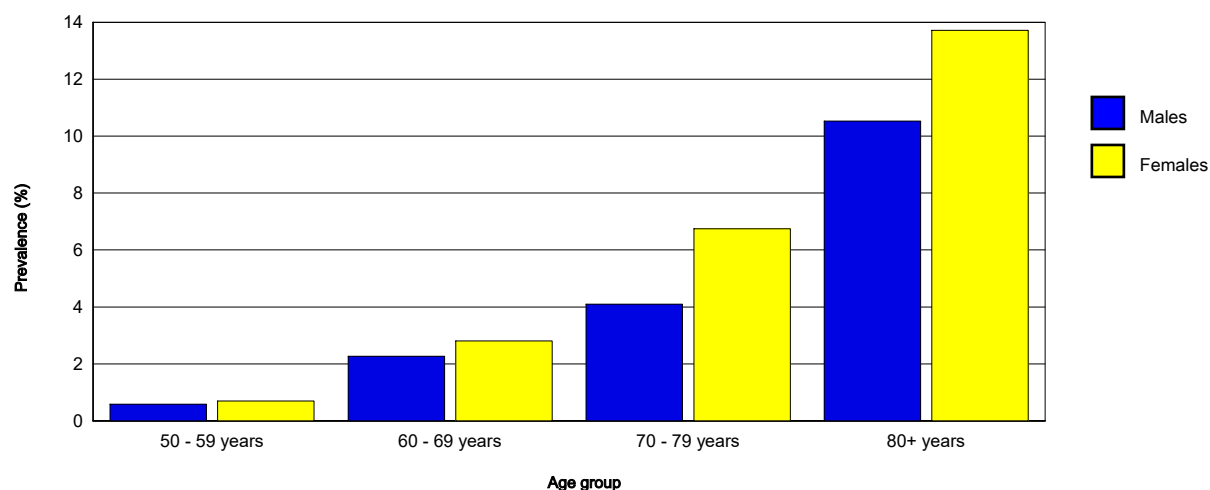
15. Prevalence of people unilateral blind due to cataract - VA <3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	5	1.2%	5	0.8%	10	0.9%
60 - 69 years	17	3.3%	23	4.8%	40	4.0%
70 - 79 years	14	5.7%	21	9.8%	35	7.6%
80+ years	22	14.5%	20	16.1%	42	15.2%
Total	58	4.4%	69	4.7%	127	4.5%



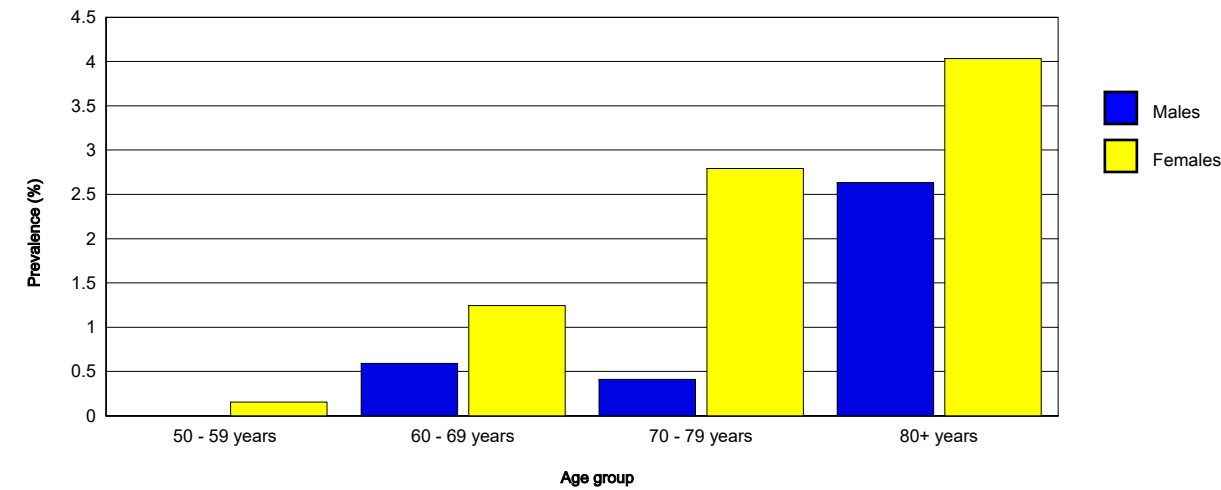
16. Prevalence of cataract blind eyes - VA <3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	5	0.6%	9	0.7%	14	0.7%
60 - 69 years	23	2.3%	27	2.8%	50	2.5%
70 - 79 years	20	4.1%	29	6.7%	49	5.3%
80+ years	32	10.5%	34	13.7%	66	12.0%
Total	80	3.0%	99	3.4%	179	3.2%



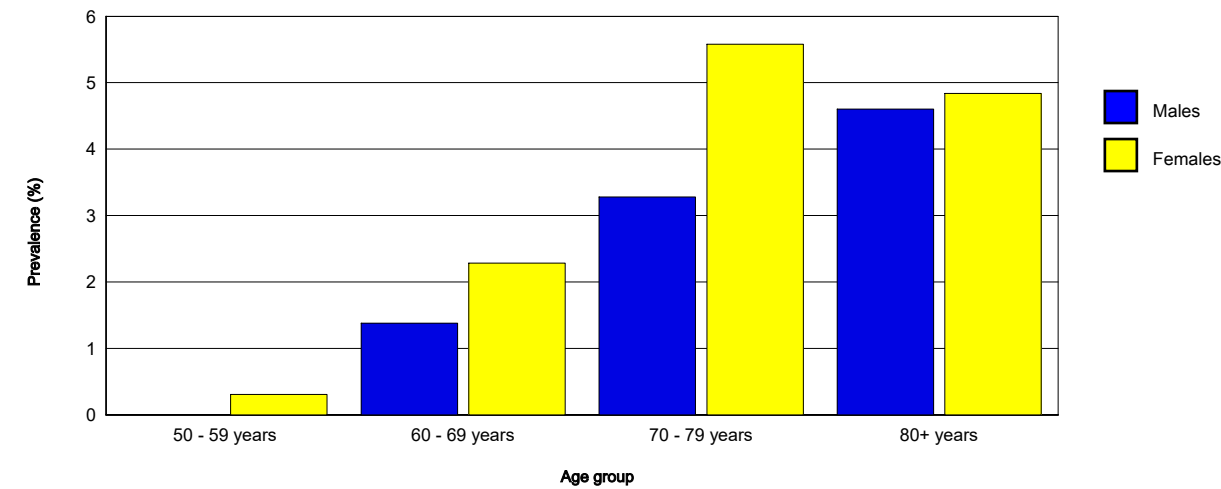
17. Prevalence of people with bilateral severe visual impairment due to cataract - VA <6/60-3/60 - best eye, best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	0	0.0%	1	0.2%	1	0.1%
60 - 69 years	3	0.6%	6	1.2%	9	0.9%
70 - 79 years	1	0.4%	6	2.8%	7	1.5%
80+ years	4	2.6%	5	4.0%	9	3.3%
Total	8	0.6%	18	1.2%	26	0.9%



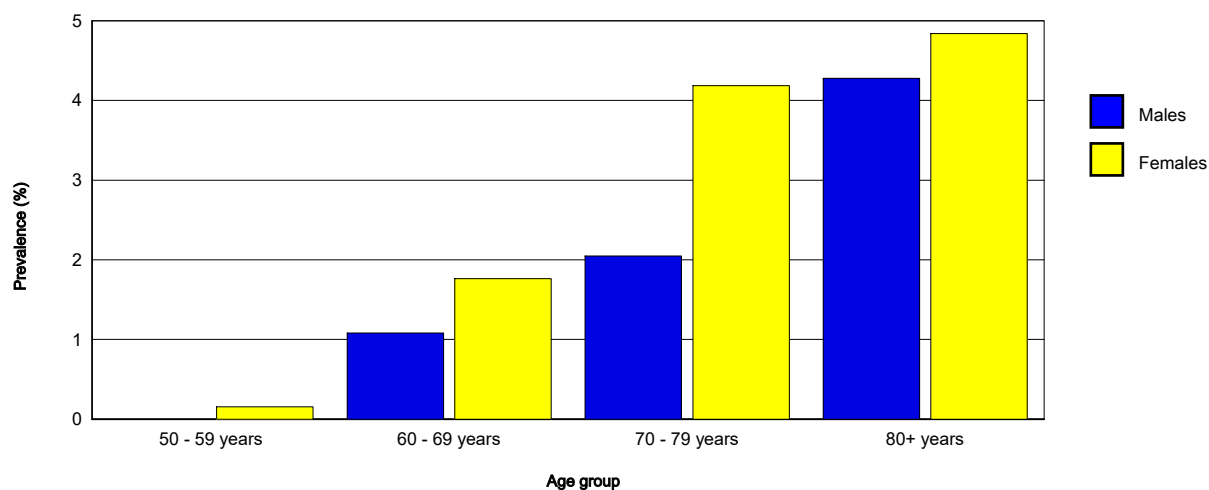
18. Prevalence of people with unilateral severe visual impairment due to cataract - VA <6/60-3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	0	0.0%	2	0.3%	2	0.2%
60 - 69 years	7	1.4%	11	2.3%	18	1.8%
70 - 79 years	8	3.3%	12	5.6%	20	4.4%
80+ years	7	4.6%	6	4.8%	13	4.7%
Total	22	1.7%	31	2.1%	53	1.9%



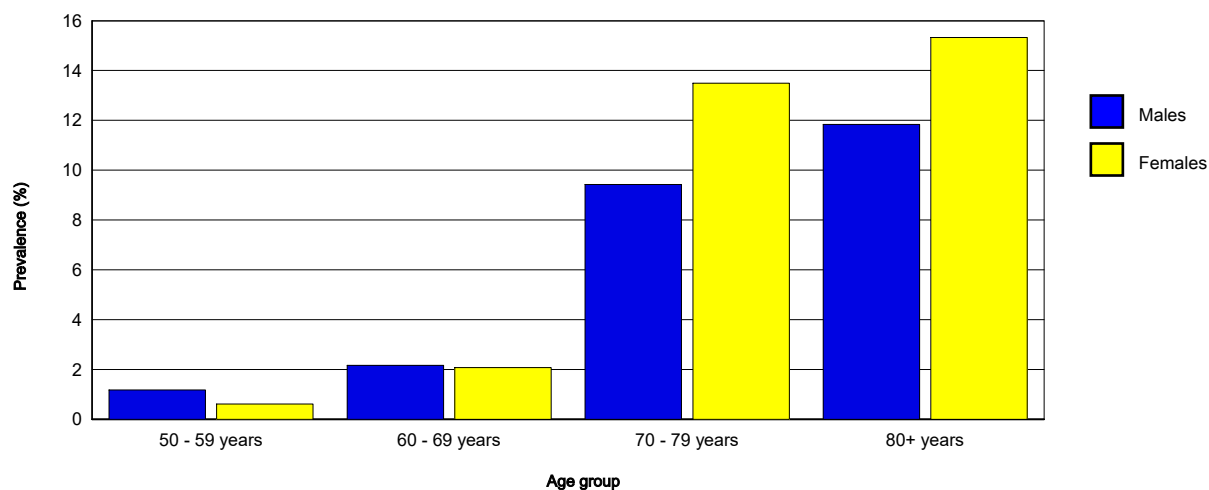
19. Prevalence of cataract SVI eyes - VA<6/60-3/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	0	0.0%	2	0.2%	2	0.1%
60 - 69 years	11	1.1%	17	1.8%	28	1.4%
70 - 79 years	10	2.0%	18	4.2%	28	3.1%
80+ years	13	4.3%	12	4.8%	25	4.5%
Total	34	1.3%	49	1.7%	83	1.5%



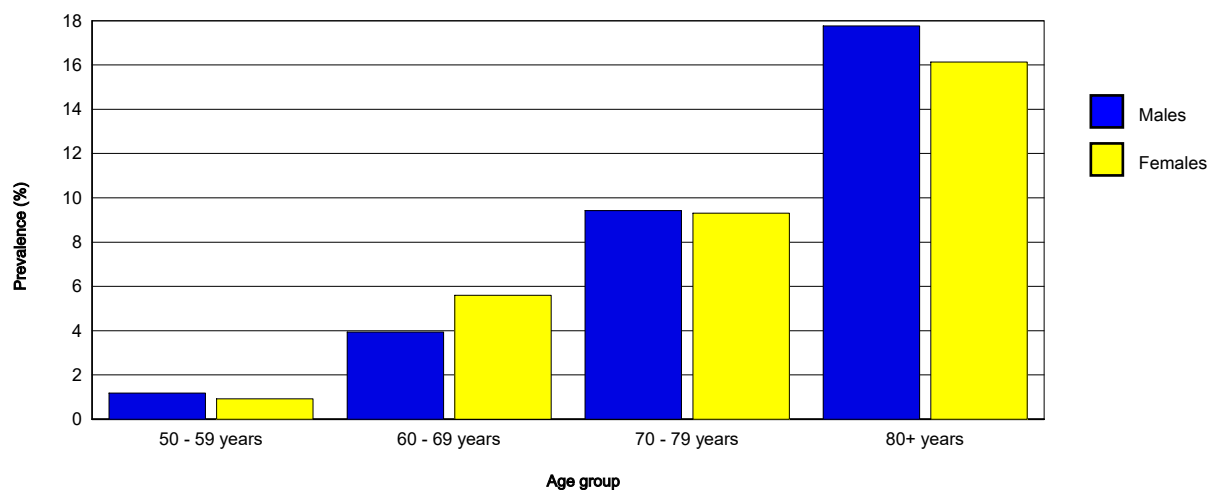
20. Prevalence of people with bilateral moderate visual impairment due to cataract - VA<6/18-6/60 - best eye, best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	5	1.2%	4	0.6%	9	0.8%
60 - 69 years	11	2.2%	10	2.1%	21	2.1%
70 - 79 years	23	9.4%	29	13.5%	52	11.3%
80+ years	18	11.8%	19	15.3%	37	13.4%
Total	57	4.3%	62	4.2%	119	4.3%



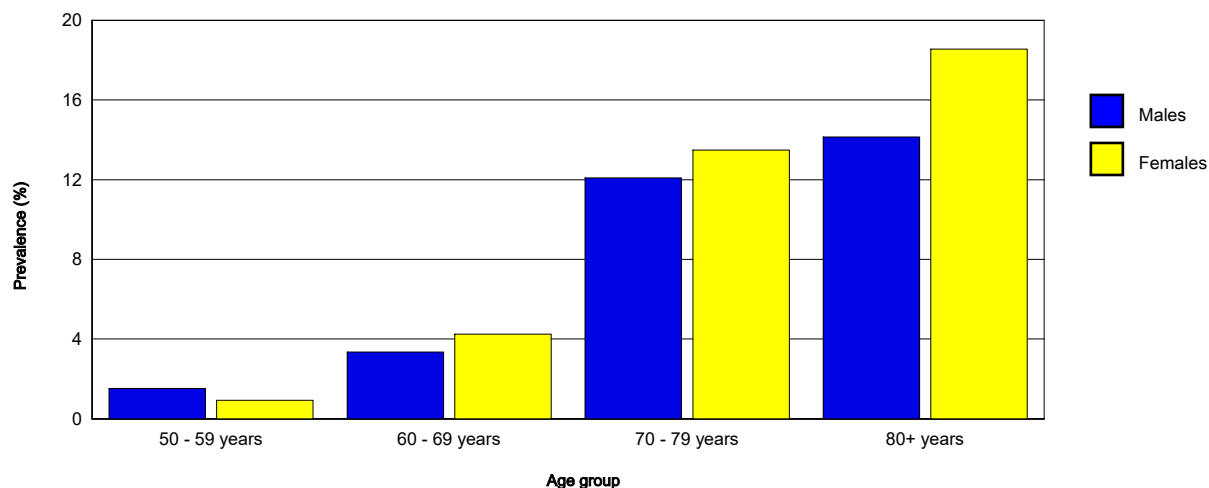
21. Prevalence of people with unilateral moderate visual impairment due to cataract - VA<6/18-6/60 best corrected

	n	Males %	n	Females %	n	Total %
50 - 59 years	5	1.2%	6	0.9%	11	1.0%
60 - 69 years	20	3.9%	27	5.6%	47	4.7%
70 - 79 years	23	9.4%	20	9.3%	43	9.4%
80+ years	27	17.8%	20	16.1%	47	17.0%
Total	75	5.6%	73	5.0%	148	5.3%



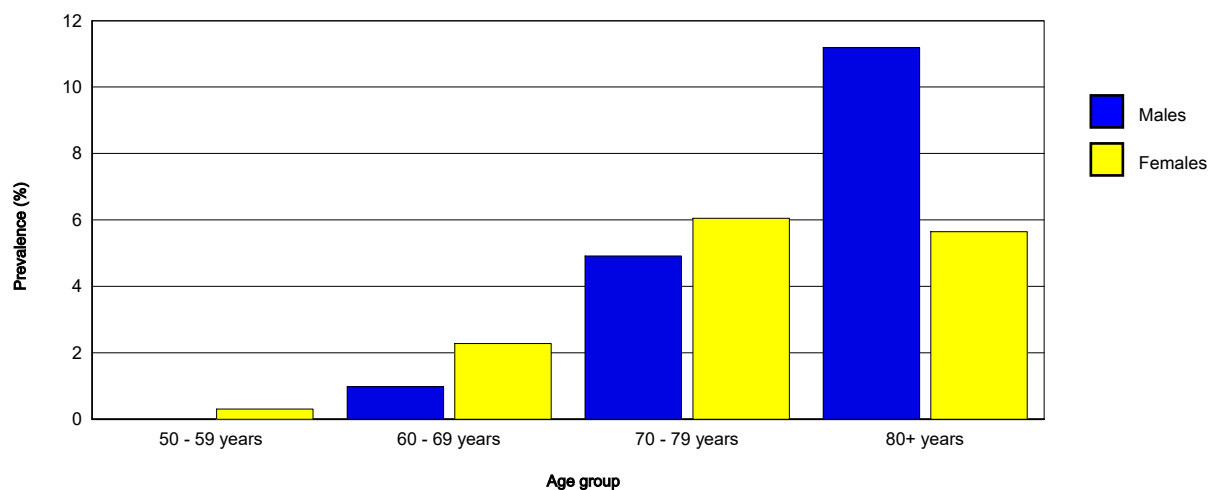
22. Prevalence of cataract MVI eyes - VA <6/18-6/60 with best correction

	n	Males %	n	Females %	n	Total %
50 - 59 years	13	1.5%	12	0.9%	25	1.2%
60 - 69 years	34	3.3%	41	4.3%	75	3.8%
70 - 79 years	59	12.1%	58	13.5%	117	12.7%
80+ years	43	14.1%	46	18.5%	89	16.1%
Total	149	5.6%	157	5.3%	306	5.5%



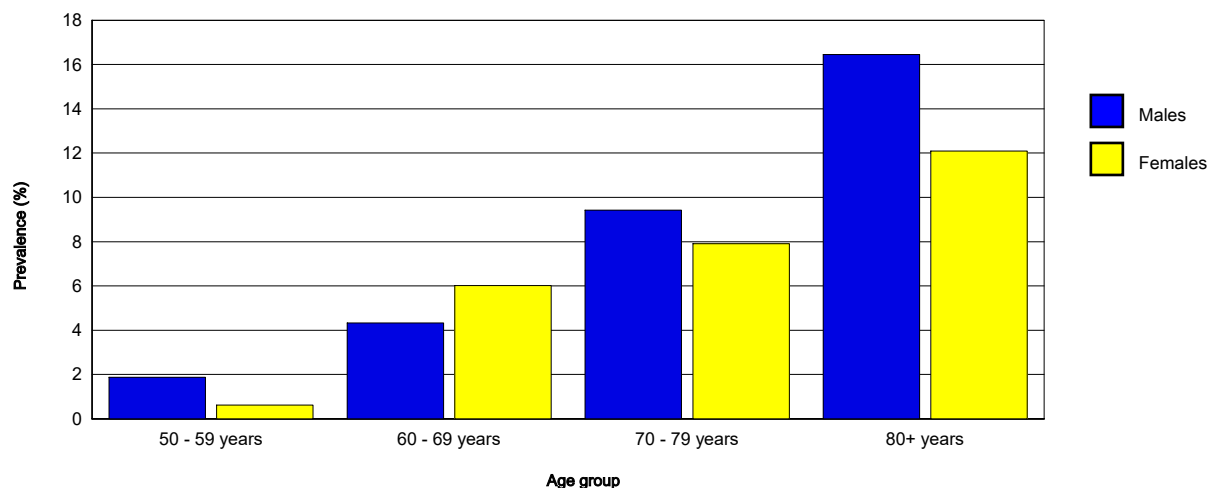
23. Prevalence of people with bilateral (pseudo)aphakia

	n	Males %	n	Females %	n	Total %
50 - 59 years	0	0.0%	2	0.3%	2	0.2%
60 - 69 years	5	1.0%	11	2.3%	16	1.6%
70 - 79 years	12	4.9%	13	6.0%	25	5.4%
80+ years	17	11.2%	7	5.6%	24	8.7%
Total	34	2.6%	33	2.2%	67	2.4%



24. Prevalence of people with unilateral (pseudo)aphakia

	n	Males %	n	Females %	n	Total %
50 - 59 years	8	1.9%	4	0.6%	12	1.1%
60 - 69 years	22	4.3%	29	6.0%	51	5.2%
70 - 79 years	23	9.4%	17	7.9%	40	8.7%
80+ years	25	16.4%	15	12.1%	40	14.5%
Total	78	5.9%	65	4.4%	143	5.1%



RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

AGE AND SEX ADJUSTED PREVALENCE AND ESTIMATED NUMBERS

Date and time of report:

21-Sep-16

1:23:07PM

This report is for the survey area:

Nayagarh

Year and month when survey was conducted:

2016- 7 until 2016- 7

The prevalence of blindness and visual impairment increases strongly with age and in most communities, females are more affected than males. Normally, the people examined in the sample should have the same composition by age and by sex as the total population in the survey area. When there is a difference, the prevalence for the survey area will also differ. Table 2 and 3 compare the composition in the sample with that of the survey area. By combining the age and sex specific prevalence with the actual population, the age and sex adjusted prevalence and the actual number of people affected in the survey area can be calculated. The 95% confidence interval, based on the sample error in cluster sampling, is also given.

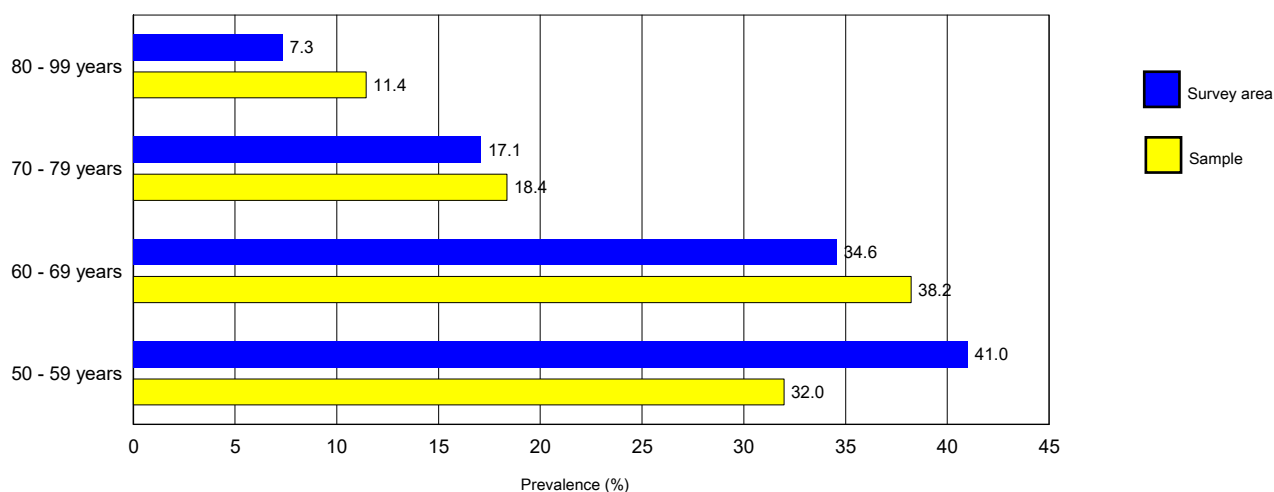
1. Age and sex distribution of people examined in the sample

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59 years	425	32.0%	648	44.1%	1,073	38.3%
60 - 69 years	508	38.2%	482	32.8%	990	35.4%
70 - 79 years	244	18.4%	215	14.6%	459	16.4%
80 - 99 years	152	11.4%	124	8.4%	276	9.9%
Total	1,329	100.0%	1,469	100.0%	2,798	100.0%

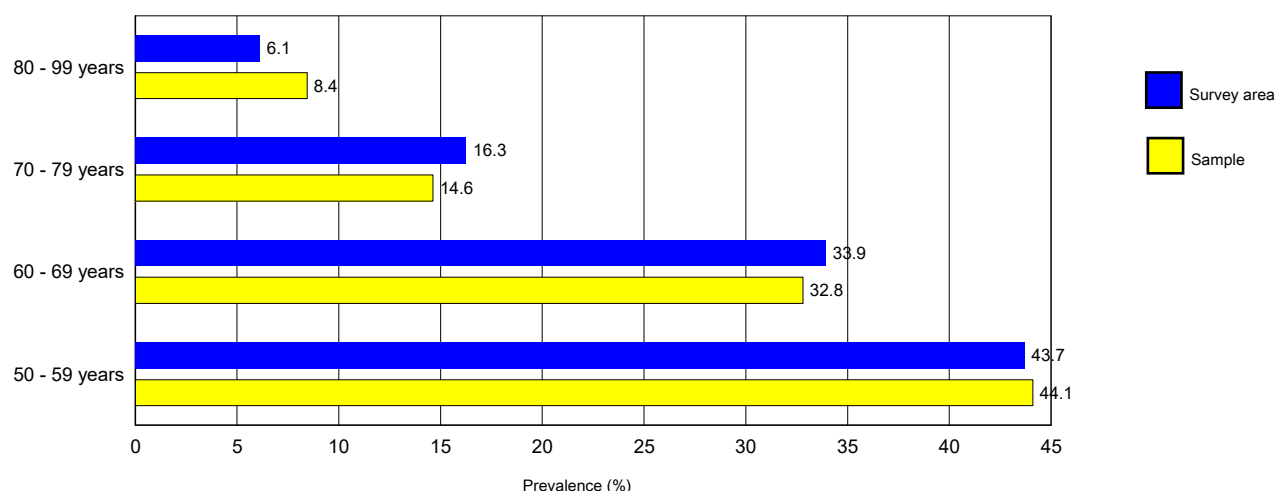
2. Total number of people aged 50+ in survey area

	Males		Females		Total	
	n	%	n	%	n	%
50 - 59 years	42,448	41.0%	40,844	43.7%	83,292	42.3%
60 - 69 years	35,790	34.6%	31,700	33.9%	67,490	34.3%
70 - 79 years	17,693	17.1%	15,197	16.3%	32,890	16.7%
80 - 99 years	7,606	7.3%	5,716	6.1%	13,322	6.8%
Total	103,537	100.0%	93,457	100.0%	196,994	100.0%

3. Proportion of males in total survey area and in sample



4. Proportion of females in total survey area and in sample



5. Adjusted results for all causes of blindness, severe (SVI), moderate (MVI) and early visual impairment (SVI)

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Blindness - VA < 3/60 in the better eye with best correction or pinhole						
All bilateral cases	1,020	1.0 (0.4 - 1.6)	1,541	1.6 (1.0 - 2.3)	2,561	1.3 (0.8 - 1.8)
All eyes	8,257	4.0 (3.1 - 4.8)	8,283	4.4 (3.5 - 5.4)	16,540	4.2 (3.5 - 4.9)
Blindness - VA < 3/60 in the better eye with available correction (presenting VA)						
All bilateral cases	1,391	1.3 (0.7 - 2.0)	2,097	2.2 (1.4 - 3.1)	3,488	1.8 (1.2 - 2.3)
All eyes	10,126	4.9 (3.9 - 5.9)	10,550	5.6 (4.6 - 6.7)	20,676	5.2 (4.4 - 6.1)
Severe visual impairment (SVI) - VA<6/60 - 3/60 in the better eye with available correction						
All bilateral cases	2,519	2.4 (1.4 - 3.5)	2,817	3.0 (2.0 - 4.0)	5,336	2.7 (1.9 - 3.5)
All eyes	6,689	3.2 (2.2 - 4.2)	6,712	3.6 (2.8 - 4.4)	13,401	3.4 (2.7 - 4.1)
Moderate visual impairment (MVI) - VA<6/18 - 6/60 in the better eye with available correction						
All bilateral cases	13,524	13.1 (10.7 - 15.4)	12,864	13.8 (11.8 - 15.8)	26,388	13.4 (11.7 - 15.0)
All eyes	31,146	15.0 (13.0 - 17.1)	28,672	15.3 (13.5 - 17.2)	59,818	15.2 (13.7 - 16.7)
Early visual impairment (EVI) - VA<6/12 - 6/18 in the better eye with available correction						
All bilateral cases	19,635	19.0 (16.8 - 21.2)	18,574	19.9 (17.9 - 21.9)	38,209	19.4 (17.9 - 20.9)
All eyes	38,436	18.6 (16.8 - 20.4)	36,127	19.3 (17.4 - 21.2)	74,563	18.9 (17.6 - 20.2)

6. Adjusted results for all causes of blindness, VA<3/60, <6/60 and <6/18 with available correction

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Blindness - VA < 3/60 in the better eye with available correction (presenting VA)						
All bilateral cases	1,391	1.3 (0.7 - 2.0)	2,097	2.2 (1.4 - 3.1)	3,488	1.8 (1.2 - 2.3)
All eyes	10,126	4.9 (3.9 - 5.9)	10,550	5.6 (4.6 - 6.7)	20,676	5.2 (4.4 - 6.1)
VA<6/60 in the better eye, with available correction (presenting VA)						
All bilateral cases	3,909	3.8 (2.6 - 5.0)	4,915	5.3 (4.0 - 6.5)	8,824	4.5 (3.6 - 5.4)
All eyes	16,816	8.1 (6.4 - 9.8)	17,261	9.2 (7.9 - 10.6)	34,077	8.6 (7.5 - 9.8)
VA<6/18 in the better eye, with available correction (presenting VA)						
All bilateral cases	17,433	16.8 (14.0 - 19.7)	17,780	19.0 (16.7 - 21.3)	35,213	17.9 (15.9 - 19.8)
All eyes	47,961	23.2 (20.1 - 26.2)	45,935	24.6 (22.3 - 26.9)	93,896	23.8 (21.8 - 25.9)
VA<6/12 in the better eye, with available correction (presenting VA)						
All bilateral cases	37,068	35.8 (32.4 - 39.2)	36,355	38.9 (35.9 - 41.9)	73,423	37.3 (34.8 - 39.7)
All eyes	86,398	41.7 (38.7 - 44.8)	82,060	43.9 (40.8 - 47.0)	168,458	42.8 (40.4 - 45.1)

7. Adjusted results for cataract and blindness, SVI, MVI and EVI (best corrected)

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Cataract and VA<3/60 with best correction or pinhole						
Bilateral cataract	679	0.7 (0.2 - 1.1)	864	0.9 (0.4 - 1.4)	1,543	0.8 (0.4 - 1.2)
Unilateral cataract	3,813	3.7 (2.7 - 4.7)	4,234	4.5 (3.5 - 5.6)	8,047	4.1 (3.4 - 4.8)
Cataract eyes	5,170	2.5 (1.8 - 3.2)	5,960	3.2 (2.4 - 4.0)	11,130	2.8 (2.2 - 3.4)
Cataract and SVI - VA<6/60 - 3/60 in better eye with best correction or pinhole						
Bilateral cataract	484	0.5 (0.1 - 0.8)	1,112	1.2 (0.8 - 1.6)	1,596	0.8 (0.6 - 1.1)
Unilateral cataract	1,182	1.1 (0.4 - 1.8)	845	0.9 (0.2 - 1.6)	2,027	1.0 (0.6 - 1.5)
Cataract eyes	2,151	1.0 (0.5 - 1.5)	3,069	1.6 (1.2 - 2.1)	5,220	1.3 (1.0 - 1.7)
Cataract and Moderate VI (MVI) - VA<6/18 - 6/60 in better eye with best correction or pinhole						
Bilateral cataract	3,843	3.7 (2.8 - 4.6)	3,836	4.1 (3.2 - 5.0)	7,679	3.9 (3.3 - 4.5)
Unilateral cataract	2,438	2.4 (1.2 - 3.5)	2,002	2.1 (1.2 - 3.1)	4,440	2.3 (1.5 - 3.0)
Cataract eyes	10,123	4.9 (3.8 - 6.0)	9,672	5.2 (4.3 - 6.0)	19,795	5.0 (4.4 - 5.7)
Cataract and Early VI (EVI) - VA<6/12 - 6/18 in better eye with best correction or pinhole						
Bilateral cataract	7,336	3.5 (2.1 - 4.9)	4,980	2.7 (1.8 - 3.6)	12,316	3.1 (2.3 - 4.0)
Unilateral cataract	800	0.4 (-1.1 - 1.9)	269	0.1 (-1.0 - 1.2)	1,069	0.3 (-0.7 - 1.2)
Cataract eyes	15,471	7.5 (5.9 - 9.1)	10,230	5.5 (4.4 - 6.5)	25,701	6.5 (5.6 - 7.4)

8. Adjusted results for cataract and VA<3/60, <6/60, <6/18 and <6/12 with best correction

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Cataract and VA<3/60 with best correction or pinhole						
Bilateral cataract	679	0.7 (0.2 - 1.1)	864	0.9 (0.4 - 1.4)	1,543	0.8 (0.4 - 1.2)
Unilateral cataract	3,813	3.7 (2.7 - 4.7)	4,234	4.5 (3.5 - 5.6)	8,047	4.1 (3.4 - 4.8)
Cataract eyes	5,170	2.5 (1.8 - 3.2)	5,960	3.2 (2.4 - 4.0)	11,130	2.8 (2.2 - 3.4)
Cataract and VA<6/60 with best correction or pinhole						
Bilateral cataract	1,163	1.1 (0.5 - 1.8)	1,975	2.1 (1.5 - 2.7)	3,138	1.6 (1.1 - 2.1)
Unilateral cataract	4,995	4.8 (3.6 - 6.0)	5,079	5.4 (4.1 - 6.8)	10,074	5.1 (4.3 - 5.9)
Cataract eyes	7,321	3.5 (2.6 - 4.4)	9,029	4.8 (3.9 - 5.8)	16,350	4.2 (3.5 - 4.8)
Cataract and VA<6/18 with best correction or pinhole						
Bilateral cataract	5,006	4.8 (3.6 - 6.0)	5,811	6.2 (5.2 - 7.2)	10,817	5.5 (4.7 - 6.3)
Unilateral cataract	7,433	7.2 (5.3 - 9.1)	7,081	7.6 (5.9 - 9.2)	14,514	7.4 (6.2 - 8.5)
Cataract eyes	17,446	8.4 (6.8 - 10.0)	18,703	10.0 (8.8 - 11.2)	36,149	9.2 (8.2 - 10.2)
Cataract and VA<6/12 with best correction or pinhole						
Bilateral cataract	12,341	11.9 (10.1 - 13.8)	10,790	11.5 (10.2 - 12.9)	23,131	11.7 (10.6 - 12.9)
Unilateral cataract	8,233	8.0 (5.0 - 10.9)	7,350	7.9 (5.6 - 10.1)	15,583	7.9 (6.1 - 9.7)
Cataract eyes	32,917	15.9 (13.5 - 18.3)	28,932	15.5 (14.0 - 17.0)	61,849	15.7 (14.3 - 17.1)

9. Adjusted results for aphakia and pseudophakia

	Males		Females		Total	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Bilateral (pseudo)aphakia	2,073	2.0 (1.0 - 3.0)	2,091	2.2 (1.4 - 3.1)	4,164	2.1 (1.3 - 2.9)
Unilateral (pseudo)aphakia	5,268	5.1 (3.7 - 6.4)	4,052	4.3 (3.1 - 5.6)	9,320	4.7 (3.7 - 5.7)
Eyes (pseudo)aphakia	9,413	4.5 (3.2 - 5.8)	8,234	4.4 (3.3 - 5.5)	17,647	4.5 (3.5 - 5.5)

10. Adjusted results for cataract surgical coverage

	Males	Females	Total
Cataract Surgical Coverage (eyes) - percentage			
VA < 3/60	64.5	58.0	61.3
VA < 6/60	56.3	47.7	51.9
VA < 6/18	35.0	30.6	32.8
Cataract Surgical Coverage (persons) - percentage			
VA < 3/60	85.7	82.5	84.1
VA < 6/60	79.7	69.2	74.1
VA < 6/18	53.7	45.9	49.8

RESULTS OF RAPID ASSESSMENT OF AVOIDABLE BLINDNESS

FINDINGS ON DIABETES AND DIABETIC RETINOPATHY

Date and time of report:

21-Sep-16

1:24:37PM

This report is for the survey area:

Nayagarh

Year and month when survey was conducted:

2016- 7 until 2016- 7

The diagnosis of diabetes is based on either a history of known diabetes, or, in case the person is not known with diabetes, on a random blood sugar of 200 mg/dl or higher.

1. Prevalence of known and newly diagnosed diabetes by age group and by gender

	Males		Females		Total	
	n	p (95% CI)	n	p (95% CI)	n	p (95% CI)
50 - 59	44	10.4% (7.0-13.7)	69	10.6% (8.2-13.1)	113	10.5% (8.4-12.6)
60 - 69	57	11.2% (8.1-14.4)	50	10.4% (7.8-13.0)	107	10.8% (8.8-12.9)
70 - 79	21	8.6% (5.3-11.9)	17	7.9% (4.8-11.0)	38	8.3% (5.6-11.0)
80+	13	8.6% (4.2-12.9)	8	6.5% (1.8-11.1)	21	7.6% (4.7-10.5)
All ages	135	10.2% (7.9-12.4)	144	9.8% (8.2-11.4)	279	10.0% (8.6-11.4)

2. Diabetics and random blood sugar level

		Males		Females		Total	
		n	%	n	%	n	%
All diabetics	Known diabetes	79	58.5%	80	55.6%	159	57.0%
	Newly diagnosed diabetes	56	41.5%	64	44.4%	120	43.0%
	Total	135	100.0%	144	100.0%	279	100.0%
Known diabetes	Bloodsugar <200 mg/dl	42	53.2%	44	55.0%	86	54.1%
	Bloodsugar >200 mg/dl	37	46.8%	36	45.0%	73	45.9%
	Total	79	100.0%	80	100.0%	159	100.0%

3. Treatment in people with known diabetes

	Males		Females		Total	
	n	%	n	%	n	%
No treatment	7	8.9%	7	8.8%	14	8.8%
Diet only	1	1.3%	3	3.8%	4	2.5%
Tablets	64	81.0%	69	86.3%	133	83.6%
Insulin	5	6.3%	1	1.3%	6	3.8%
Tablets + Insulin	1	1.3%	0	0.0%	1	0.6%
Other	1	1.3%	0	0.0%	1	0.6%
Total	79	100.0%	80	100.0%	159	100.0%

4. Last eye examination for DR among known diabetics

	Males		Females		Total	
	n	%	n	%	n	%
Never had eye examination for DR	73	92.4%	75	93.8%	148	93.1%
0-12 months ago	6	7.6%	4	5.0%	10	6.3%
13-24 months ago	0	0.0%	1	1.3%	1	0.6%
>24 months ago	0	0.0%	0	0.0%	0	0.0%
Total	79	100.0%	80	100.0%	159	100.0%

5. Prevalence of DR in diabetics and in entire sample

	N	Among diabetics p (95% CI)	Full sample p (95% CI)
Retinopathy grade			
No retinopathy (R0)	207	74.2% (67.9-80.5)	7.4% (6.1-8.7)
Background DR - mild (R1)	32	11.5% (7.8-15.1)	1.1% (0.8-1.5)
Background DR - observable (R2)	6	2.2% (0.5-3.8)	0.2% (0.1-0.4)
Background DR - referable (R3)	4	1.4% (0.1-2.8)	0.1% (0.0-0.3)
Proliferative DR (R4)	0	0.0% (0.0-0.0)	0.0% (0.0-0.0)
Ungradable DR (R6)	11	3.9% (1.8-6.0)	0.4% (0.2-0.6)
Any retinopathy	53	19.0% (14.1-23.8)	1.9% (1.4-2.4)
Maculopathy grade			
No maculopathy (M0)	222	79.6% (74.8-84.4)	7.9% (6.6-9.3)
Maculopathy - observable (M1)	8	2.9% (0.8-4.9)	0.3% (0.1-0.5)
Maculopathy - referable (M2)	5	1.8% (0.2-3.3)	0.2% (0.0-0.3)
Any maculopathy	38	13.6% (9.5-17.7)	1.4% (1.0-1.7)
Any retinopathy and/or maculopathy	64	22.9% (18.0-27.8)	2.3% (1.8-2.8)
Sight threatening DR (R4 and/or M2)	5	1.8% (0.2-3.3)	0.2% (0.0-0.3)
Any laser scars	25	9.0% (5.6-12.3)	0.9% (0.6-1.2)

6. Prevalence of any retinopathy and/or maculopathy by age and gender

	Males			Females			Total
	n	p (95% CI)	n	p (95% CI)	n	p (95% CI)	p (95% CI)
50 - 59	6	13.6% (3.0-24.3)	10	14.5% (5.8-23.2)	16	14.2% (7.3-21.0)	
60 - 69	7	12.3% (4.0-20.5)	14	28.0% (15.2-40.8)	21	19.6% (12.0-27.3)	
70 - 79	1	4.8% (0.0-14.0)	3	17.6% (0.0-36.0)	4	10.5% (1.1-20.0)	
80+	0	0.0% (0.0-0.0)	2	25.0% (0.0-56.5)	2	9.5% (0.0-22.4)	
All ages	14	10.4% (4.9-15.9)	29	20.1% (13.3-27.0)	43	15.4% (11.0-19.8)	

7. Prevalence of MVI, SVI and blindness among people with and without diabetes

	Persons with diabetes			Persons without diabetes		
	n	p (95% CI)	n	p (95% CI)	n	p (95% CI)
Normal vision	182	65.2% (59.6-70.9)	1,514	60.1% (57.6-62.6)		
Early VI	44	15.8% (12.1-19.5)	513	20.4% (18.7-22.0)		
Moderate VI	36	12.9% (8.7-17.2)	366	14.5% (12.8-16.2)		
Severe VI	8	2.9% (1.1-4.7)	77	3.1% (2.3-3.9)		
Blindness	5	1.8% (0.3-3.3)	35	1.4% (0.9-1.9)		

8. Causes of visual impairment among people with and without diabetes

	Blindness				Severe VI				Moderate VI				Early VI			
	DM		Non-DM		DM		Non-DM		DM		Non-DM		DM		Non-DM	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Refr. error	0	0%	3	6%	1	12%	2	2%	10	27%	106	28%	41	93%	461	89%
Cataract	7	77%	34	69%	6	75%	66	85%	20	55%	220	60%	3	6%	41	7%
DR	0	0%	0	0%	0	0%	0	0%	4	11%	0	0%	0	0%	0	0%
Other PSD	0	0%	5	10%	1	12%	8	10%	2	5%	27	7%	0	0%	8	1%
Other	2	22%	7	14%	0	0%	1	1%	0	0%	13	3%	0	0%	3	0%
Total	9	100%	49	100%	8	100%	77	100%	36	100%	366	100%	44	100%	513	100%