



The Finnish Register of Visual Impairment Annual Statistics 2021

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Table of contents

<i>What is the Finnish Register of Visual Impairment?</i>	<i>3</i>
<i>Annual Statistics 2021</i>	<i>5</i>
Table 1. Gender	5
Table 2. Age groups	5
Figure 1. Age groups.....	6
Figure 2. Age and gender.....	7
Table 3. Principal diagnoses of Visual Impairment by age groups	7
A. AGE GROUP 0 - 17 YEARS.....	7
B. AGE GROUP 18 - 64 YEARS.....	8
C. AGE GROUP 65+ YEARS	8
Figure 3 Principal Diagnoses of Visual Impairment.....	9
Table 4. Multiple Impairment and diabetes	9
Table 5. Age at onset of Visual Impairment.....	10
Table 6. Categories of Visual Impairment by WHO´s definition.....	10
Figure 4 Categories of Visual Impairment by WHO´s Definition with Finnish Modification	11
Table 7. Native Language	12
Table 8. Family Status in Age Groups.....	12
Table 9. Main Type on Activity	13
Figure 5. Level on Education.....	14
Table 10. Level of Education.....	14

What is the Finnish Register of Visual Impairment?

The purpose of the Finnish Register of Visual Impairment is to study the incidence of visual impairment in Finland. The Register serves as a basis for preventive measures and treatment of visual impairment, as well as for planning of rehabilitation and other special services for persons with visual impairment. In addition, the Register provides research material on ophthalmological diseases and visual impairment. It also aims to promote and support research in the field.

The Register is maintained by the Finnish Federation of The Visually Impaired and is subject to the National Institute for Health and Welfare (THL). The National Board of Health established the Register in 1983. The operation of the Register is regulated by the Act (552/2019) on secondary use of social and health data. Health care authorities, institutions and personnel are, under the above-mentioned Act, responsible to forward to the Register such information on persons with visual impairment as is specified in the Decree.

Notification of visual impairment

Notification must be made by a specialist in ophthalmology or the ophthalmological unit of a hospital. Notification must be made if the corrected visual acuity is permanently less than 0.3 in the better eye of the patient, or if the person must for some other reason be considered comparable with a person with permanent visual impairment as described above.

Data on the Register

A notification form is used to compile personal data of persons with visual impairment and to record information on the nature (diagnoses), severity (visual acuity and visual field) and aetiology of the impairment, on multiple impairments and on the patient's visual ability in relation to reading and moving about. In connection with the updating of records, the Central Population Records provide information on the mother tongue, marital status and possible date of death of persons with visual impairment. The Central Statistical Office reports the cause of death.

Information compiled in the Finnish Register of Visual Impairment is confidential. Information concerning an individual with a visual impairment is not released to an outsider without the approval of the National Research and Development Centre for Welfare and Health.

Maintenance of the Register

A central goal of the Register is to compile as comprehensive as possible a data base on visual impairment in order to serve those interested. Special statistics are drawn up on the basis of records compiled in the Register. Central statistics illustrating the profile of visual impairment can be found in the statistical section of the annual report released by the Register.

Promotion of research on visual impairment

The Register promotes research on visual impairment by providing special statistics based on its records, and bibliographical references to researchers and students. In addition, the Register surveys study subjects related to visual impairment, maintains contacts with researchers in the field, takes part in joint research projects and international activities, and organizes research seminars.

Administration, personnel and contact addresses

The Register operates on the premises of the Finnish Federation of the Visually Impaired in Helsinki. Register staff:

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Annual Statistics 2021

The register has gathered information about the visually handicapped for 39 years (1.1.1983-). It is estimated that there are 50,000 - 60,000 visually impaired people in Finland (the population is 5,5 million). The register contains information on 61 979 v.i. persons, of whom 17 664 were alive (31.12.2021). 1,800 - 2,000 new registrations are made annually. New entries received in the past few years have not changed the profile of visual impairment formed on the basis of the register. It can be assumed that the register contains a representative sample of those v.i.'s who have been using ophthalmological health care services in Finland since the year 1983.

Our register is not complete, we are on sample basis. Therefore, the main distributions describing the registered persons are presented in the following tables as relative frequencies (%-distributions).

Table 1. Gender

Registered visual impairment in Finland
in 2021 (total and new registrations)

	Total %	New 2021 %
Female	60,0	63,0
Male	40,0	37,0
Total	100,0	100,0
N	17 664	1476

Table 2. Age groups

Registered visual impairment in Finland
in 2021 (total and new registrations)

Age	Total %	New 2021 %
0 - 14	2,4	1,6
15 - 24	3,8	0,5
25 - 34	5,0	1,2
35 - 44	4,9	1,2

45 – 54	6,0	1,4
55 – 64	8,2	2,9
65 – 74	11,8	9,3
75 – 84	20,8	32,5
85 +	36,9	49,3
Total	100.0	100.0
N	17 664	1 476
0 - 17	3,5	3,5
18 - 39	10,2	2,7
40 - 64	16,7	4,8
65 - 84	32,6	39,9
85 +	37,0	47,8
Mean age	79	84

Figure 1. Age groups

New registrants in Finland in 2021 (N = 1 476)

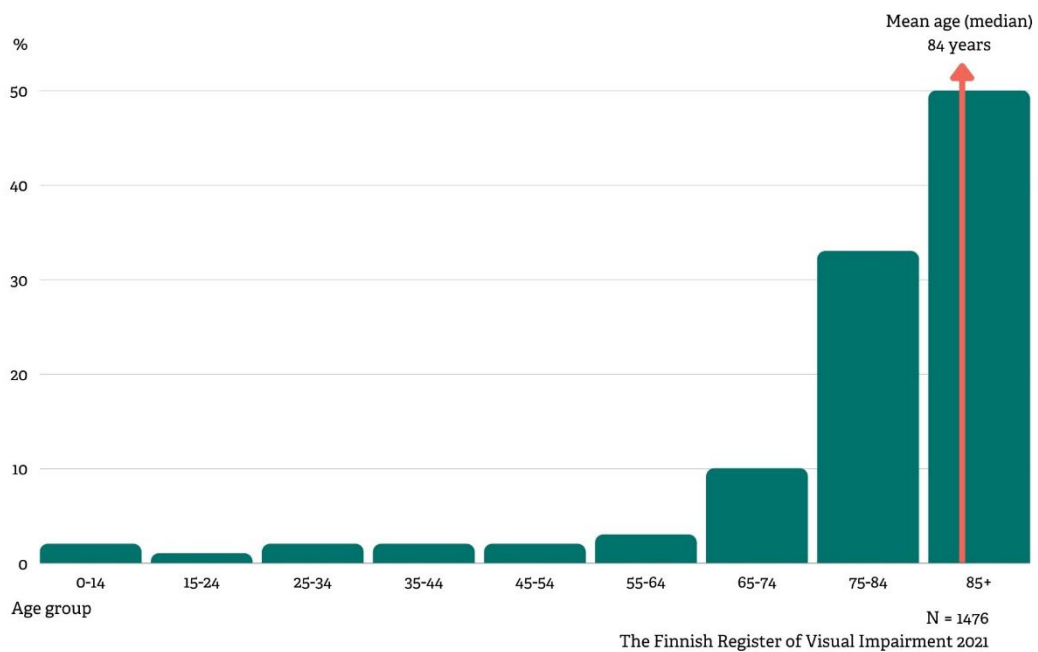


Figure 2. Age and gender

All registrants in Finland in 2021

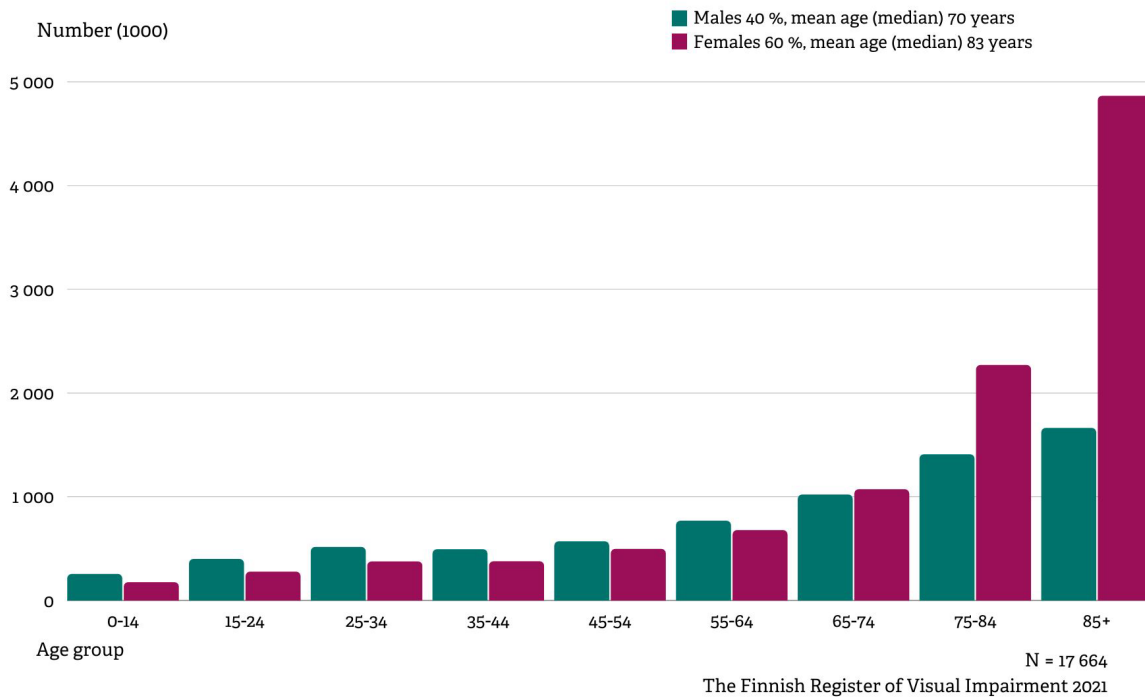


Table 3. Principal diagnoses of Visual Impairment by age groups

Registered visual impairment in Finland in 2021, total distribution and new registrations

A. AGE GROUP 0 - 17 YEARS	Total %	New 2021 %
Disorders of optic nerve and visual pathways	29,9	25,0
- cortical blindness	16,1	3,6
Congenital anomalies of eye	22,4	17,9
Hereditary retinal dystrophies	7,1	3,6
Amblyopia NUD	10,9	17,9
Albinism	3,4	3,6
Nystagmus	2,3	3,6
ROP, retinopathy of prematurity	5,7	7,1

Disorders of refraction and accomodation	5,7	7,1
Strabismus etc.	2,1	0,0
Other diagnoses	10,5	10,6
0 - 17 years total (total N = 616, new cases N = 28)	100.0	100.0
	Total %	New 2021 %
B. AGE GROUP 18 - 64 YEARS		
Hereditary retinal dystrophies	21,0	19,2
Disorders of optic nerve and visual pathways	20,6	17,3
- optic atrophy	10,8	9,6
Congenital anomalies of eye	13,2	2,9
Amblyopia NUD	2,5	7,7
Diabetic retinopathy	5,7	6,7
Visual field defectes, other vis. disturbances (excl amblyopia)	3,5	4,8
ROP, retinopathy of prematurity	3,5	0,0
Glaucoma	3,2	13,5
High myopia (myopia maligna)	7,8	1,9
Disorders of choroid	2,8	4,8
Nystagmus (Irregular eye movement)	2,3	0,0
Amaurosis NUD	1,9	4,8
Disorders of cornea	1,8	4,8
Other diagnoses	10,2	11,6
18 - 64 years total (total N = 4 755, new cases N = 104)	100.0	100.0
	Total %	New 2021 %
C. AGE GROUP 65+ YEARS		
AMD, Age-related macular degeneration	57,9	74,0
Glaucoma	10,8	12,4
Hereditary retinal dystrophies	2,8	1,2
Disorders of optic nerve and visual pathways	6,1	0,7
Diabetic retinopathy	0,5	0,1
Amblyopia NUD	1,6	1,0
Disorders of cornea	2,5	1,7
Retinal hole	1,4	0,4
High myopia (myopia maligna)	2,6	0,5
Retinal vascular occlusion	1,7	0,8
Other diagnoses	12,1	7,2

65+ years total (total N = 12 293, new cases N = 1 344) **100.0** **100.0**
Coding manual for Medical Eye Services, 1980, Based on ICD-9

Figure 3 Principal Diagnoses of Visual Impairment

Registered visual impairment in Finland in 2021 (N = 17 664)

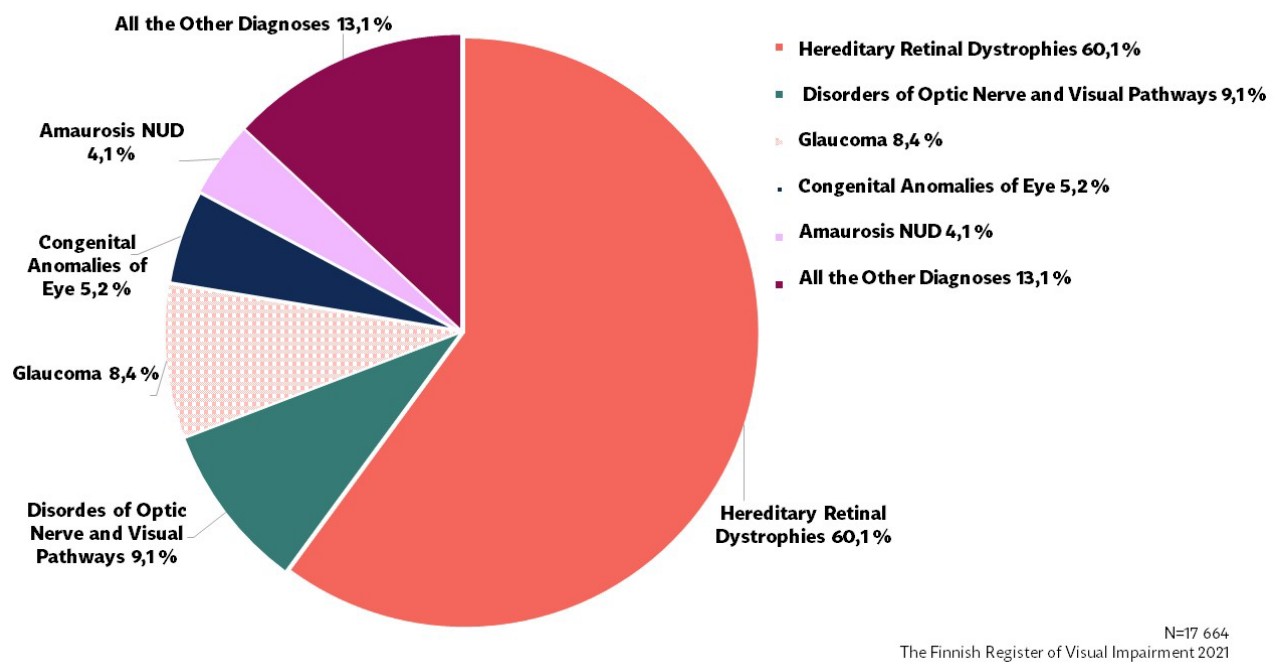


Table 4. Multiple Impairment and diabetes

Registered visual impairment in Finland in 2021
(total and new registrations)

	Total %	New 2021 %
Diabetes	9,2	15,8
Hearing	6,0	6,5
Learning disabilities	5,2	0,7
Mobility	4,5	2,1

CP, Cerebral Palsy	2,5	0,2
N	17 664	1 476

Table 5. Age at onset of Visual Impairment

Registered visual impairment in Finland in 2021
(total and new registrations)

	Total %	New 2021 %
0	10,1	0,5
1 – 17	5,1	0,7
18 – 39	7,0	0,8
40 – 64	9,6	1,6
65+	32,7	39,6
Unknown/not reported	35,5	56,9
Total	100.0	100.0
N	17 664	1 476

Table 6. Categories of Visual Impairment by WHO's definition

Registered visual impairment in Finland in 2021 (N = 17 664)

	Visual acuity	Visual field (°)	Total %	New 2021 %
1 Moderate low vision	less than 0.3 → ≥ 0.1		59,4	70,8
2 Severe low vision	less than 0.1 → ≥ 0.05		10,8	9,6
low vision, not specif			3,0	0,3
Low vision total	less than 0.3 → ≥ 0.05		73,3	80,6

3 Profound low vision	less than 0.05 \rightarrow \geq 0.02	less than 20°	10,3	6,4
4 Near-total blindness	less than 0.02 \rightarrow 1/ ∞	less than 10°	8,7	4,1
5 Total blindness	0		2,2	0,4
blindness not specified			0,4	0,0
Blindness total	less than 0.05	less than 20°	21,5	10,9
9 Unknown (Other)			5,2	8,5
Total			100.0	100.0
N			17 664	1 476

Figure 4 Categories of Visual Impairment by WHO's Definition with Finnish Modification

Registered visual impairment in Finland in 2021 (N = 17 664)

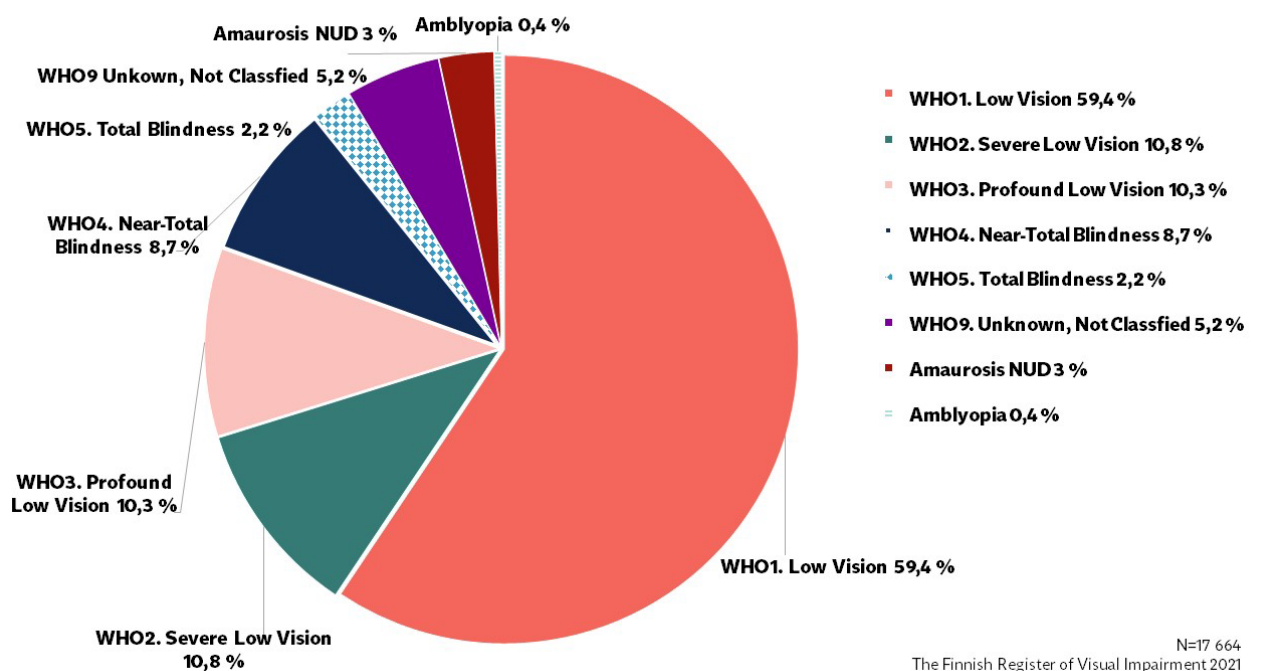


Table 7. Native Language

Registered visual impairment in Finland in 2021
(total and new registrations)

	Total %	New 2021 %
finnish	90,6	90,1
swedish	5,8	7,0
russian	0,6	0,4
sami	0,0	0,1
english	0,1	0,0
arabic	0,2	0,1
other, unknown/not reported	2.7	2.3
Total	100.0	100.0
N	17 664	1 476

Table 8. Family Status in Age Groups

Registered visually impaired 15 – 64 years old persons % in Finland according to National Census in 2018%

	Age group					
	0 - 14 y	15 - 24 y	25-44 y	45-64 y	65 y+	Total
A	95.8	59.2	15.5	3.6	0.0	7.0
B	-	7.9	33.5	47.8	34.2	34.0
C	-	27.8	43.1	44.2	61.2	54.1
D	4.2	5.0	7.9	4.5	4.5	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

A	Child in a family	Not belonging to families
B	Spouse, partner, mother/father	Unknown, institutionalised population

Table 9. Main Type on Activity

Registered visually impaired 15 - 64-year-old persons in Finland according to National Census in 2018 compared with the whole population

	Registered visually impaired persons %	Whole population %
Fully employed	24.8	72
Partially employed	15.6	
Unemployed	3.2	7
Students	3.3	
Pensioners	50.0	
Other or unknown	1.9	21
Total	100.0	100.0
N (the registered visually impaired persons in this study)	4 747	

Figure 5. Level on Education

Registered visually impaired 15 - 64 year old persons in Finland according to National Census in 2018 compared with the whole population

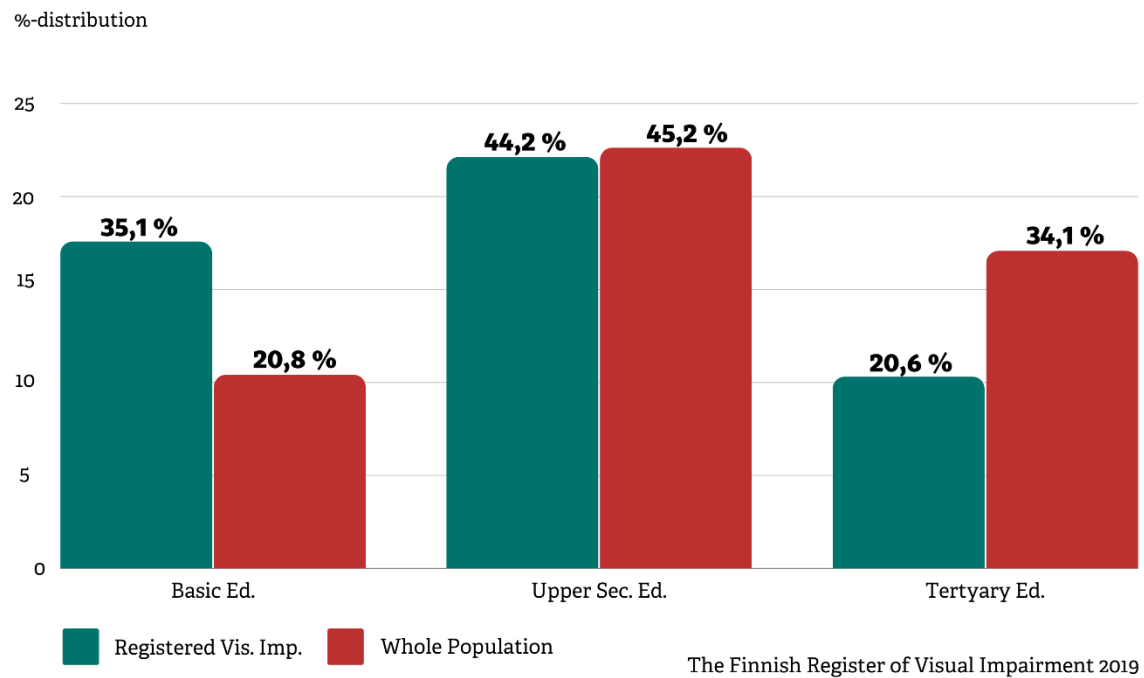


Table 10. Level of Education

Registered visually impaired 15 - 64 years old persons in Finland according to National Census in 2018 compared with the whole population

Level of education (1)	The duration of education	Regist.vis.imp. % 2018	Whole population % 2018
Basic education	up to 9 years	35.1	20.8
Upper secondary educ.	10 - 12 years	44.2	45.2
Tertiary education	13 years +	20.6	34.1

Total	100.0	100.0
N (the registered visually impaired persons in this study)	4 747	0

(1) The Finnish Standard Classification of Education