

Marissa Shields and Anne Kavanagh

Vision Australia: Report on the Analysis of the Survey of Disability, Ageing, and Carers [SDAC] Data

10 April 2018

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# Overview

## What is this report?

This report provides a plain language summary of the findings of the analysis of 2009, 2012, and 2015 Survey of Disability, Ageing, and Carers [SDAC]. The Appendix, which contains a glossary, provides more detail on the definitions of key variables.

## What is the Survey of Disability, Ageing, and Carers?

The Survey of Disability, Ageing, and Carers is a comprehensive population-based survey conducted throughout Australia by the Australian Bureau of Statistics every 3-4 years. Approximately 75,000 Australians of all ages and from rural and urban areas are included in each survey. The survey targets three population groups for data collection: people with disability, people aged 65 and older, and people who care for those who have a disability, long term health condition, or are aged 65 and older. The SDAC measures the prevalence of disability in Australia and the need for support of older people and those with disability. It also provides a demographic and socio-economic profile of older individuals, carers, and individuals with disability compared with the general population.

To ascertain disability status, the SDAC uses a 152-question disability module based on the International Classification of Functioning, Disability, and Health [ICF]. The ICF views disability and functioning as the outcome of interactions between health conditions and contextual factors, such as the external environment. Therefore, disability may arise through the impairment itself, activity limitations, and/or participation restrictions. 1

[1 World Health Organization. (2002). *Towards a common language for functioning, disability, and health*: ICF (The International Classification of Functioning, Disability, and Health). Geneva.]

## What have we done?

Data from the 2009, 2012, and 2015 Survey of Disability, Ageing and Carers were combined to achieve an adequate sample size on which to base conclusions on. Because SDAC samples different groups of individuals each survey, it was unnecessary to treat the data as longitudinal and we were able to use it as cross-sectional data. Analyses included individuals of working age, between 15 and 64 years. When relevant, analyses are presented separately for those aged 15-39 years and those aged 40-64 years.

We have defined vision loss as sight problems which are not corrected by glasses or lenses, including total loss of sight. When completing the disability module of the SDAC, respondents were asked if they had any loss of sight. If the respondent did, and reported they were unable to see normally when wearing glasses or contact lenses, they were considered to have vision loss. It is important to note that individuals reporting vision loss may also have reported other, additional impairments. Due to a small sample size, we were unable to restrict the analysis to individuals with vision loss only.

Labour force outcomes are classified as employed, unemployed, or not in the labour force [NILF]. Individuals were employed if they were working full or part time. People who were unemployed were not working, but were actively seeking full or part time work at the time of the survey. Individuals are said to be participating in the labour force if they are either employed or unemployed. Individuals who are NILF were neither employed nor unemployed.

Table 1 and Figures 1-7 in the body of this report are survey weighted, permitting generalizations to be made about the population of individuals with vision loss. Survey weighted results have been adjusted to accommodate the sampling strategy of a survey (e.g. account for differences in selection based on geographic area). These results are presented as a proportion with a 95% confidence interval, which indicates the uncertainty of the true population proportion estimate.

Tables 2-9 in the Appendix present the observed data, from which the survey weighted data in the body of the report was calculated. The observed data is presented as the number of people in the sample, and the percentage of the total number of people in the sample. These numbers are not generalizable to the population and merely reflect the data observed in the study.

## Summary of Research Findings

Over half of individuals with vision loss experienced at least one other additional impairment, indicating a substantial amount of comorbidity among this population. Although the proportion of young people (15-39 years) reporting additional impairments was smaller than those in the older age group (40-64), a high degree of comorbidity was observed in both age groups. These comorbidities were associated with labour market outcomes. Individuals with vision loss only experienced higher labour force participation, reported fewer employment restrictions, and were less likely to be permanently unable to work compared to individuals with vision loss and other impairments. People with vision loss in addition to other impairments were more likely to be not in the labour force, that is, not employed and not looking for work/unemployed. Individuals with vision loss and other impairments were also more likely to consider themselves permanently unable to work, and to have more employment restrictions if they were able to work. For individuals with vision loss who did experience employment restrictions, restrictions relating to the job itself, including the type of job, changing jobs, or getting a preferred job, were the most commonly reported. The proportion of individuals reporting other employment restrictions varied according to the number of additional impairments.

## Recommendations

The SDAC data illustrates that the proportion of NILF is high among individuals with vision loss. What is less clear are the reasons behind the low level of labour force participation. A significant proportion of individuals with vision loss who are NILF consider themselves to be permanently unable to work, although it is unclear why they are unable to work, or if anything can be done to facilitate labour force participation.

Further research into individuals with only vision loss, or specific impairment types in addition to vision loss, may shed more light on the circumstances surrounding the interaction between comorbidity, vision loss, and employment. This information may better inform interventions targeted toward helping individuals with vision loss, as well as other impairments, gain meaningful, well-supported employment.

## Limitations

Analysis of SDAC data illustrated that comorbidity alters labour force participation among people with vision loss. However, due to a small number of individuals reporting vision loss within the age range of interest, we were unable to restrict the sample to individuals with vision loss only. As individuals experienced a wide variety of additional impairments, we were also unable to analyse employment outcomes by specific type of additional impairment. Finally, as a result of the small sample size, there are wide confidence intervals for some of the outcome estimates, indicating greater uncertainty as to the true proportion of individuals with vision loss experiencing the outcome.

# Demographics of the Sample

The table below shows the characteristics of those who reported vision loss and those who did not report any impairment. Those with vision loss were more likely to be male (54.5%) and in the older age group, 40-64 years (67.0%). Individuals with vision loss were more likely to be in the second and third quintiles of income (Quintile 2: 35.6%; Quintile 3: 22.5%) and were much less likely to be in the fourth and fifth quintiles of income (Quintile 4: 13.7%; Quintile 5: 12.9%). Observed data, from which these survey weighted proportions were calculated, is presented in Table 2 in the Appendix.

Table Demographics of the sample, survey weighted

**By Sex**

| Sex | With Vision Loss *%* | With Vision Loss *95% CI* | Without any Impairment % | Without any Impairment *95% CI* |
| --- | --- | --- | --- | --- |
| Male | 54.5 | 50.7, 58.3 | 50.2 | 49.9, 50.5 |
| Female | 45.5 | 41.7, 49.3 | 49.8 | 49.5, 50.2 |

**By Age**

| Age | With Vision Loss *%* | With Vision Loss *95% CI* | Without any Impairment % | Without any Impairment *95% CI* |
| --- | --- | --- | --- | --- |
| 15-39 | 33.0 | 29.5, 36.8 | 55.5 | 55.2, 55.8 |
| 40-64 | 67.0 | 63.2, 70.5 | 44.5 | 44.2, 44.8 |

**By Income Quintiles**

| Income Quintiles | With Vision Loss *%* | With Vision Loss *95% CI* | Without any Impairment % | Without any Impairment *95% CI* |
| --- | --- | --- | --- | --- |
| Quintile 1 (Lowest Income) | 15.3 | 12.6, 18.6 | 22.7 | 22.4, 23.0 |
| Quintile 2 | 35.6 | 31.7, 39.7 | 9.8 | 9.6, 10.0 |
| Quintile 3 | 22.5 | 19.1, 26.2 | 18.7 | 18.4, 19.0 |
| Quintile 4 | 13.7 | 11.1, 16.9 | 23.8 | 23.5, 24.1 |
| Quintile 5 (Highest Income) | 12.9 | 10.3, 15.9 | 25.0 | 24.7, 25.3 |

# Description of Comorbidity

There is a high degree of comorbidity among individuals with vision loss, especially among individuals in the 40-64-year-old age group. 50% of individuals with vision loss aged 15-39 had vision loss only, while approximately 35% of individuals aged 40-64 with vision loss reported it as their only impairment. Only 12% of individuals aged 15-39 reported one other condition in addition to vision loss; that is, two impairments total. Approximately 15% of individuals aged 40-64 had one other impairment in addition to vision loss. Nearly 40% of those aged 15-39 had vision loss in addition to at least 2 other impairments, and 50% of individuals aged 40-64 reported experiencing at least 2 other impairments in addition to vision loss. Observed data, from which this survey weighted data was calculated, can be found in the Appendix in Table 3.

Figure : Number of impairments experienced by individuals with vision loss, by age group, survey weighted

As shown in Figure 2, physical restrictions were by far the most predominant restriction among individuals with vision loss in both age groups, with over 50% of those aged 40-64 and nearly 40% of those aged 15-39 reporting them. A greater proportion of individuals in the younger age group reported experiencing sensory impairments, such as hearing or speech difficulties, or intellectual impairments in addition to vision loss. Individuals in the older age group reported a greater proportion of psychosocial or head injury, stroke, or acquired brain injury impairments. Table 4 in the Appendix presents the observed data on which this survey weighted graph is based.

Figure : Other impairment types experienced by individuals with vision loss, by age group, survey weighted

# Labour Force Outcomes

Figure 3 shows that individuals reporting vision loss had poorer labour force outcomes than individuals without any impairment. Less than half of individuals with vision loss reported being employed, as compared with nearly 80% of individuals without any impairment. Approximately 5% of individuals with vision loss and individuals without any impairment were unemployed: that is, actively looking for work and available to start work. However, individuals experiencing vision loss were substantially more likely to report not being in the labour force (NILF, e.g. on income support, student, retired, etc.) compared to individuals without any impairment. In sum, over 50% of individuals with vision loss were not employed (either unemployed or NILF), as compared with only 20% of individuals without any impairment. Observed data for this figure can be found in Table 5 in the Appendix.

Figure : Labour force status among individuals with vision loss and individuals without any impairment, survey weighted

The majority of individuals reporting vision loss, regardless of current labour force status, report having employment restrictions. Approximately 65% of individuals aged 15-39 with vision loss have a restriction, and 70% of individuals aged 40-64 have a restriction. Observed data can be seen in Table 6 in the appendix.

Figure : Proportion of individuals with vision loss who have employment restrictions, by age group, survey weighted

Individuals reporting at least one other impairment in addition to vision loss were more likely to have employment restrictions. Just over 40% of individuals with only vision loss have employment restrictions. This increases to 75% of individuals with vision loss, as well as one additional impairment, reporting employment restrictions. 90% of individuals with vision loss plus at least two other impairments have employment restrictions. Observed data can be found in Table 7 in the Appendix.

Figure : Proportion of individuals with vision loss who have employment restrictions, by number of impairments, survey weighted

All individuals who reported an impairment on the SDAC were asked about the type(s) of employment restrictions they experienced, if any. Figure 6 shows the types of restrictions reported by individuals with vision loss. The most commonly reported restrictions across all number of impairments were related to the job itself, including the type of job, changing jobs, or getting a preferred job. Individuals with impairments in addition to vision loss were also more likely to report needing flexible/fewer hours or increased time off. Less than 10% of individuals with vision loss and other impairments reported needing special equipment or workplace arrangements; or additional assistance or supervision in the workplace. The confidence intervals for these estimates are wide, indicating a large degree of uncertainty as to the true proportion of individuals with vision loss and other impairments who experience these restrictions. Observed data for this graph is located in Table 8 in the Appendix.

Figure : Workplace restrictions among individuals with vision loss, by number of impairments, survey weighted

Over half of individuals with vision loss were not in the labour force. A majority of these individuals reported at least one other impairment in addition to vision loss. Individuals who were NILF and reported increasing amounts of impairments in addition to vision loss were substantially more likely to report being permanently unable to work. Just over 40% of NILF individuals with only vision loss reported they were permanently unable to work, while nearly 60% of NILF individuals with one other impairment in addition to vision loss were unable to work. Over 80% of individuals with 2 or more impairments in addition to vision loss were permanently unable to work. Observed data for Figure 6 can be found in Table 9 in the Appendix.

Figure : Ability to work among not in the labour force individuals with vision loss, by number of impairments, survey weighted

# Appendix

## Glossary

**Employment Restrictions:** Individuals with a disability were asked what, if any, employment restrictions they had, regardless of labour force status. Possible restrictions fell into the following groups:

*Job*: Restricted in type of job; difficulty changing jobs or getting a preferred job.

*Hours*: Restricted in number of hours; need for time off from work (at least one day per week).

Need for employer-provided equipment and/or special arrangements.

Need for support person at work; need for ongoing supervision or assistance.

Instead of stipulating an employment restriction, individuals could select they were permanently unable to work or had no employment restrictions.

**Income:** Income is computed based on weekly cash income per person.

| **Qu****intile** | **$ Value Range** |
| --- | --- |
| Quintile 1 | <0-223 |
| Quintile 2 | 224-450 |
| Quintile 3 | 451-843 |
| Quintile 4 | 844-1,344 |
| Quintile 5 | 1,345+ |

**Labour Force Status:**

 *Employed*: Individuals were considered employed if they were working full or part time.

*Unemployed*: Individuals who were not working and were looking for full- and/or part-time work were considered unemployed.

 *Not in the Labour Force*: Individuals who were neither employed nor unemployed.

**Other Impairments:** The number of impairment types an individual experienced was computed. Individuals who experienced vision impairment had only one type of impairment.

**Other Impairment Types:** Several main disability groups were assessed, including sensory and speech; intellectual; physical restriction; psychosocial; head injury, stroke, or acquired brain injury. More specifically, disability types included loss of sight, loss of hearing, speech difficulties, breathing difficulties, chronic or recurring pain or discomfort, blackouts, seizures or loss of consciousness, difficulty learning or understanding things, incomplete use of arms or fingers, difficulty gripping or holding things, incomplete use of feet or legs, nervous or emotional condition, restriction in physical activities or work, disfigurement or deformity, mental illness, memory problems or periods of confusion, social or behavioural difficulties, head injury, stroke, or other acquired brain injury.

**Vision Loss:** Vision loss is defined as individuals who experience loss of sight which is not corrected by glasses or lenses. This may include individuals with no sight. Individuals may have other impairments in addition to vision loss.

## Observed Data

Table : Characteristics of the sample

**By Sex**

| **Sex** | **With Vision Loss n, (%)** | **Without any Impairment n,(%)** |
| --- | --- | --- |
| Male | 427 (54.0) | 53,153 (49.3) |
| Female | 364 (46.0) | 54,763 (50.8) |

**By Age**

| **Age** | **With Vision Loss n, (%)** | **Without any Impairment n,(%)** |
| --- | --- | --- |
| 15-39 | 238 (30.1) | 57, 263 (53.1) |
| 40-64 | 553 (69.9) | 50,653 (46.9) |

**By Income Quintiles**

| **Income Quintil****es** | **With Vision Loss n, (%)** | **Without any Impairment n,(%)** |
| --- | --- | --- |
| Quintile 1 | 103 (15.3) | 19,615 (21.9) |
| Quintile 2 | 233 (34.6) | 8,580 (9.6) |
| Quintile 3 | 149 (22.1) | 16,434 (18.4) |
| Quintile 4 | 96 (14.2) | 21,359 (23.9) |
| Quintile 5 | 93 (13.8) | 23,549 (26.3) |

Table : Number of impairments experienced by individuals with vision loss

| **Age Group** | **1 (only vision) n** | **1 (only vision) %** | **2 (vision +1) n** | **2 (vision +1) %** | **3 or More (vision + 2 or More) n** | **3 or More (vision + 2 or More) %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15-39 | 122 | 51.3 | 29 | 12.2 | 87 | 36.6 | 238 | 100.0 |
| 40-64 | 181 | 32.7 | 86 | 15.6 | 286 | 51.7 | 553 | 100.0 |
| Total | 303 | 38.3 | 115 | 14.5 | 373 | 47.2 | 791 | 100.0 |

Table : Other types of impairments experienced by individuals with vision loss

| **Age Gro****up** | **Sensory n** | **Sensory %** | **Intellectual n** | **Intellectual %** | **Physical Restriction n** | **Physical Restriction %** | **Psychological n** | **Psychological %** | **Head Injury n** | **Head Injury %** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **15-39** | 33 | 13.9 | 49 | 20.6 | 91 | 38.2 | 40 | 16.8 | 31 | 13.0 |
| **40-64** | 81 | 14.7 | 68 | 12.3 | 318 | 57.5 | 108 | 19.5 | 93 | 16.8 |
| **Total** | 114 | 14.4 | 117 | 14.8 | 409 | 51.7 | 148 | 18.7 | 124 | 15.7 |

Table : Labour force outcomes, by age group

**Labour Force Outcomes among Individuals with Vision Loss**

| **Age** **Group** | **Employed n** | **Employed %** | **Unemployed n** | **Unemployed %** | **Not in Labour Force n** | **Not in Labour Force %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15-39 | 136 | 57.1 | 19 | 8.0 | 83 | 35.5 | 238 | 100.0 |
| 40-64 | 228 | 41.2 | 19 | 3.4 | 306 | 55.3 | 553 | 100.0 |
| Total | 364 | 46.0 | 38 | 4.8 | 389 | 49.2 | 791 | 100.0 |

**Labour Force Outcomes among Individuals without any Impairment**

| **Age G****roup** | **Employed n** | **Employed %** | **Unemployed n** | **Unemployed %** | **Not in Labour Force n** | **Not in Labour Force %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15-39 | 43,311 | 75.6 | 3,071 | 5.4 | 10,881 | 19.0 | 57,263 | 100.0 |
| 40-64 | 42,071 | 83.1 | 1,183 | 2.3 | 7,399 | 14.6 | 50,653 | 100.0 |
| Total | 85,382 | 79.1 | 4,254 | 3.9 | 18,280 | 16.9 | 107,916 | 100.0 |

Table : Employment restrictions among individuals with vision loss, by age group

| **Age Gro****up** | **Has Employment Restrictions n** | **Has Employment Restrictions %** | **Doesn’t Have Employment Restrictions n** | **Doesn’t Have Employment Restrictions %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- |
| 15-39 | 155 | 65.1 | 83 | 34.9 | 238 | 100.0 |
| 40-64 | 391 | 70.7 | 162 | 26.3 | 553 | 100.0 |
| Total | 546 | 69.0 | 245 | 31.0 | 791 | 100.0 |

Table : Employment restrictions among individuals with vision loss, by number of impairments

**Presence of Employment Restrictions among Individuals with Vision Loss by Number of Impairments**

| **Number of Imp****airments** | **Has Employment Restrictions n** | **Has Employment Restrictions %** | **Doesn’t Have Employment Restrictions n** | **Doesn’t Have Employment Restrictions %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- |
| Vision Loss Only | 128 | 42.2 | 175 | 57.8 | 303 | 100.0 |
| Two Impairments | 85 | 73.9 | 30 | 26.1 | 115 | 100.0 |
| Three+ Impairments | 333 | 89.3 | 40 | 10.7 | 373 | 100.0 |
| Total | 546 | 69.0 | 245 | 31.0 | 791 | 100.0 |

Table : Workplace restrictions experienced by all individuals with vision loss, by number of impairments

| **Number of Impair****ments** | **Job: Changing, type, preferred n** | **Job: Changing, type, preferred %** | **Hours/Time Off n** | **Hours/Time Off %** | **Special Equipment or Arrangements n** | **Special Equipment or Arrangements %** | **Support Person, Assistance, Supervision n** | **Support Person, Assistance, Supervision %** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vision Loss Only** | 93 | 35.1 | 25 | 17.7 | 24 | 36.4 | 10 | 22.7 |
| **Two Impairments** | 54 | 20.4 | 29 | 20.6 | 10 | 15.2 | 7 | 15.9 |
| **Three + Impairments** | 118 | 44.5 | 87 | 61.7 | 32 | 48.5 | 27 | 61.4 |
| **Total** | 265 | 100.0 | 141 | 100.0 | 66 | 100.0 | 44 | 100.0 |

Table : Ability to work among NILF individuals with vision loss, by number of impairments

Number of Impairments and Permanently Unable to Work Among NILF Individuals with Vision Loss

| **Number of Imp****airments** | **Can Work n** | **Can Work %** | **Permanently Unable to Work n** | **Permanently Unable to Work %** | **Total n** | **Total %** |
| --- | --- | --- | --- | --- | --- | --- |
| One (Vision Only) | 43 | 58.1 | 31 | 41.9 | 74 | 100.0 |
| Two (Vision +1) | 20 | 40.8 | 29 | 59.2 | 49 | 100.0 |
| Three+ Impairments | 37 | 13.9 | 229 | 86.1 | 266 | 100.0 |
| Total | 100 | 25.7 | 271 | 77.0 | 389 | 100.0 |



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