The effects of familial intellectual disability on labour force participation and family income in Australia
There are about 450,000 people with intellectual disability in Australia.

Communication challenges place them at a social disadvantage, and they face difficulties entering the workforce.

Due to its life-long and hereditary nature, the social and economic impacts of intellectual disability can affect not only patients, but carers, their spouses, and family members.
Labour force and income

• Labour force participation rates refer to the proportion of a population who are employed or looking for work.

• Labour force participation is important to Australian socioeconomics and is key to social inclusion and financial independence.

• Factors contributing to a loss in labour force participation is important to the Australian economy.
A microsimulation model, IDMOD, was developed to investigate the economic and social costs of ID.

N=110 carers completed a comprehensive questionnaire for themselves, their spouses and their care recipients.

The work presented here is based on the data from the IDMOD microsimulation model.
• Individuals aged 16 to 64 years were each synthetically matched to 30 STINMOD counterfactual comparators by age and sex.

• Survey responses related to employment, income, health, family status and demographic characteristics were analysed.
Labour Force Participation

• Counterfactuals (CF) were generated for 91 primary carers aged 64 or younger.

• The odds (adjusted for age, gender, and education) of the carers being in the labour force was about 0.35 times that of the general population (P<0.001).

• Most of the carers were women (87.9%). The odds of female carers being in the labour force was 0.30 (P<0.001) times that of their matched CF. There was insufficient evidence of a significant difference among the men.
Labour Force Participation

CARER SPOUSES

• Counterfactuals were generated for the 66 carer spouses aged 64 or younger.

• There was limited evidence (OR 0.79; P=0.478) that the odds (adjusted for age, gender, and education) of carer spouses being in the labour force were different to the general population.

• There was limited evidence that the odds of being in the labour force were lower for women (0.41; P=0.172) than men (0.99; P=0.990) when compared to their matched CF.

• The odds of spouses being employed were 0.59 times that of the general population (P=0.059).
Labour Force Participation

PATIENTS

- A maximum of 3 ID care patients lived in each household.

- Counterfactuals were generated for the 98 patients aged 16 or over (between 16 and 60), the majority being male (85.7%).
  - Among the working ID patients, only 1 worked full-time.

- The odds (adjusted for age, gender, and household) of patients being in the labour force was 0.10 times that of the general population (P<0.001).

- The odds of female patients (0.07; P<0.001) being in the labour force were similar to the odds of male patients (0.08; P<0.001) when compared to their matched CFs.
Income

FIGURE 1: BOX AND WHISKER PLOT OF THE ANNUAL TOTAL (A) AND EMPLOYMENT (B) INCOMES ($AUD) OF ID CARERS, THEIR SPOUSES AND ID PATIENTS COMPARED TO THEIR MATCHED COUNTERFACTUALS.

- Across the three populations, the EPIC-ID total and employment income distributions are lower than their counterfactuals and have notably fewer or no outliers.
Non-zero incomes were log-transformed for a T-test comparison to the STINMOD counterfactuals.

<table>
<thead>
<tr>
<th>EPIC-ID Cohort</th>
<th>Income</th>
<th>T-Test P value (non-zero incomes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Total</td>
<td>▼ 0.001</td>
<td></td>
</tr>
<tr>
<td>Carer Employment</td>
<td>▼ 0.001</td>
<td></td>
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<tr>
<td>Carer Spouse Total</td>
<td>▼ 0.078</td>
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<tr>
<td>Carer Spouse Employment</td>
<td>▼ 0.013</td>
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<tr>
<td>Patient Total</td>
<td>▼ &lt;0.001</td>
<td></td>
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<tr>
<td>Patient Employment</td>
<td>▼ &lt;0.001</td>
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</tbody>
</table>
Key Associated Factors: Labour Force

- Carers
  - Carers with a tertiary education were more likely to be in the labour force \( (P=0.083) \).
  - Carers were 2.4 times \( (P=0.099) \) more likely to be in the labour force if they were caring for one ID child than if they were caring for two.

- Carer Spouses
  - Spouses with one ID child were over 4.5 times more likely to be in the labour force than if they had two ID children \( (P=0.05) \) and 7.8 times than if they had three ID children \( (P=0.04) \).

- Patients
  - Older patients were more likely to be in the labour force \( (P<0.001) \)
  - Male patients were 0.34 times more likely to be in the labour force than female patients \( (P<0.0001) \).
Key Associated Factors with Total Income

• Carers
  • Male carers (P=0.084) and carers with a higher interaction between the number of ID patients and ID severity (P=0.078) had higher non-zero total incomes.

• Patients
  • Older patients were more likely to have a higher (non-zero) total income (P=0.05).
COVID-19

• Carers
  • 17.1% carers have either had a reduction in working hours, income or lost their jobs.
  • Two of the 3 carers who’ve experienced a reduction in income have also accessed or intended to access their superannuation early due to financial issues.

• Carer Spouses
  • 14.3% experienced reduced working hours or income.

• Patients
  • 23.3% patients have experienced reduced working hours
  • 13.3% patients were unable to unable to go to work or access employment services.
Conclusions

• The effects of familial intellectual disabilities go beyond the patient.

• The findings serve as evidence to be used for Australian policy review and updates related to intellectual disabilities and employment.

• Australia can benefit from financial and employment support for families affected by intellectual disability.
Thank you

- Genetics of Learning Disability (GoLD)
- Genetic Alliance Australia
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- The South Eastern Area Laboratory Services (SEALS) Genetics Laboratory
- The Austrian Institute of Economic Research (WIFO)