

# Emergency Preparedness Survey of People with Disability in Australia



J. Chang<sup>a</sup>, M. Morris<sup>b</sup>, A. Bradstreet<sup>c</sup>, D. Dominey-Howes<sup>a</sup>, G. Llewellyn<sup>a</sup> & M. Villeneuve<sup>a</sup>

<sup>a</sup>The University of Sydney

<sup>b</sup>Fire and Rescue NSW

<sup>c</sup>Rural Fire Service

## Aim

A national survey was administered via telephone and online between October 2020 to March 2021 to:

1. profile the **level of preparedness, capabilities and support needs** of Australians with disability in emergencies; and
2. examine the relationships between the various explanatory variables (e.g., sociodemographic characteristics, type of impairments, activity limitations, perceived general health, and perceived emergency risks) and outcome variables.

## Data analysis

- ✓ Descriptive statistical analysis was applied to explore frequencies, mean/median values, and standard deviations.
- ✓ Regression modellings, such as linear, binary logistic and ordered logistic regressions, were conducted to assess the associations between the explanatory variables and outcome variables.
- ✓ Variables that emerged as significant ( $p < 0.25$ ) in univariate analyses were then evaluated in multivariate analyses.
- ✓ The final models were derived using backwards stepwise selection techniques requiring 0.05 level of significance.

## Results n = 138

### Participant characteristics

- 68.1% females (range age 44); 21.0% males (mean age 55)
- 55.8% had restriction in physical activities/work (Figure 1).
- Difficulty in walking: 77.5%, remembering or concentrating (64.0%), self-caring (45.7%), seeing (43.8%), communicating (37.7%), hearing (27.7%).
- 71.7% could not live without their aids/equipment for three days; 46.5% of them needed electricity to power their aids/equipment
- 34.3% had a paid support worker, 48.6% had an informal carer, 9.5% had an assistance animal.
- 30.4% lived alone.
- 57.3% were from NSW, 23.9% VIC, 9.4% QLD.
- 42.8% had a bachelor's degree or above.
- 31.2% from areas of high socio-economic status (SEIFA 9 or 10), 13.0% low SEIFA 1 or 2.
- 37.7% were employed.
- 17.4% had annual income less than \$20k.
- 41.3% were NDIS participants.
- Mean score of self-rated health was 2.8 (min = 1, max = 5)
- Perceived emergency risk within the next five years: pandemic (84.8%), heatwave (73.2%), housefire (73.2%), bushfire (71.0%).

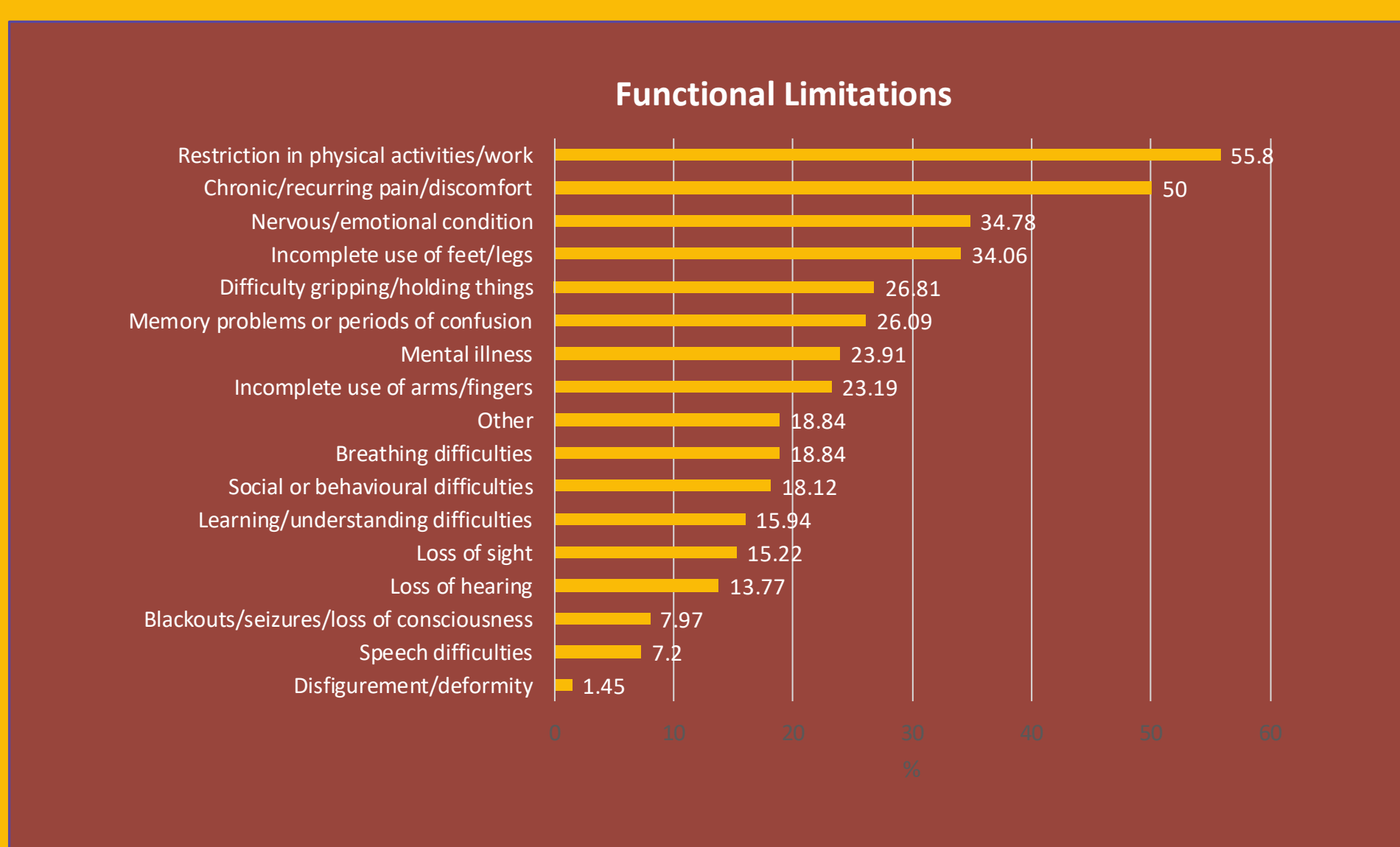


Figure 1. Functional Limitations

## Emergency information

Respondents (65.9%) identified **Fire and State Emergency Services** as sources of information on how to prepare for and respond to an emergency. **Radio stations** such as ABC Emergency (60.9%), **mobile apps** (60.1%), and **local council or emergency services websites** (60.0%) were the most common channels to obtain timely emergency information or disaster warnings.

## Level of emergency preparedness

Level of emergency preparedness was assessed by asking whether respondents (or their household members) had taken any of the listed actions to prepared for an emergency event. **Safely storing important documents** and **working out how to get timely emergency information** were the most common preparedness actions. Least common were **making a backup plan for support workers** and **having a home generator**, despite electricity being required to operate essential equipment needed by nearly a half of the respondents. Our regression analysis showed that emergency preparedness was negatively associated with **self-reported mental illness** ( $p = 0.000$ ) and positively associated with **perceived bushfire risk** ( $p = 0.004$ ).

## Emergency plan

60.3% ( $n = 82$ ) of respondents had an emergency plan. The most common motivator for planning is to **improve chances of survival**. The most common demotivator is **not knowing how to prepare**. Having an emergency plan was positively associated with **perceived bushfire risk** with the next five years ( $p = 0.004$ ) and **time spent on voluntary work** ( $p = 0.036$ ), but negatively associated with **living alone** ( $p = 0.019$ ).

## Willingness-to-pay

Respondents who were **employed** ( $p < 0.001$ ), **having an assistance animal** ( $p = 0.001$ ), **spending more time caring for others** ( $p = 0.005$ ), or **living in regional areas** ( $p = 0.041$ ) were willing to pay more for formal assistance with emergency planning. The adjusted mean willingness-to-pay amount was **AUD\$268.4** (SD = AUD\$299.5).

## Self-rated capabilities in dealing with emergency scenarios

**Shelter-in scenario:** Following a severe storm in your neighbourhood, the debris from trees and homes has blocked all roads. The State Emergency Services will be supporting clean up, but it is going to take 7 days before you can get out or any service providers can get to you. You are safe at your home, but services have been shut off (electricity, gas, water) and you cannot buy any water, food, personal hygiene products or some essential supplies that you need to replenish

Capability score of dealing with the *shelter-in scenario* was 2.7 in average (out of 5), which was associated with **ability of self-care** ( $p = 0.001$ ), **having an informal carer** ( $p = 0.004$ ), **remoteness** ( $p = 0.021$ ) and **level of emergency preparedness** ( $p = 0.022$ ).

**Evacuation scenario:** Emergency services have issued an evacuation order and you need to evacuate within 12 hours. You don't drive and you don't have access to a vehicle. Public transportation services have stopped operating and it is difficult to get taxi or Uber that is accessible. The temporary evacuation shelter that your local council operates is overcrowded, noisy, and not accessible for your level of support needs.

Capability score of dealing with the *evacuation scenario* was 2.2 in average (out of 5), which was associated with **(not) having a paid support worker** ( $p < 0.001$ ), **having an emergency plan** ( $p = 0.001$ ) and **perceived bushfire risk** within the next five years ( $p = 0.026$ ).

## Conclusions

Perceived bushfire risk was significantly associated with emergency preparedness. This study indicated a strong need for preparedness planning tailored to individual support needs.