

The Hopkins Centre

Research for Rehabilitation and Resilience

Health service use, unmet need and obstacles as predictors of quality of life and psychological wellbeing after spinal cord injury

Borg D^{1,2}, Foster M^{1,2}, Legg M^{1,2}, Jones R^{1,2}, Kendall E^{1,2}, Fleming J³, Geraghty T^{1,2}

1 The Hopkins Centre, Menzies Health Institute Queensland, Griffith University, Brisbane, Australia

2 Division of Rehabilitation, Metro South Health Hospital and Health Service, Brisbane, Australia.

3 School of Health and Rehabilitation Sciences, University of Queensland, Brisbane, Australia.

Bold ideas. Better solutions.



Metro South Health



A joint initiative of the
Division of Rehabilitation, Metro South Health, and
Menzies Health Institute Queensland, Griffith University.

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Background

Access to health/rehab services after severe injuries is critical

(Siegert et al., 2014; Singh et al., 2017)

- Influence on recovery outcomes
- Unmet needs for services ↓ health status and ↑ disability (Morse et al., 2009; Krause & Saunders, 2009)

Rarely is access compressively studied...why?

- Complex construct (Levesque et al., 2013)
- Complexity of realised access → unmet needs, obstacles (Siegert et al., 2014; Singh et al., 2017)



Background

Service provider use (Siegert et al., 2014; Singh et al., 2017)

≠ needs for services are met

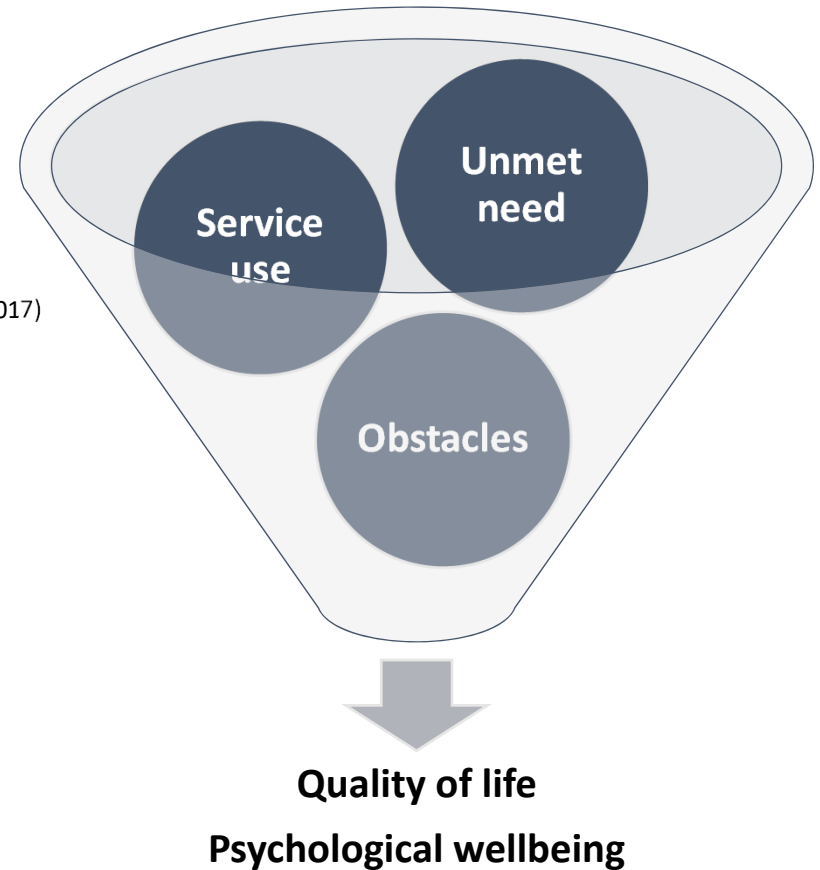
≠ no hardship accessing services

(e.g., transport and financial obstacles)

(Siegert et al., 2014; Singh et al., 2017)

Less considered

How does access relate to other aspects of life?



This study aimed to examine how service use, unmet need and obstacles related to QoL and psychological wellbeing.

Participants and design

n = 55

51 ± 18 years

Male 76% Female 24%

137 ± 92 day length of stay

Traumatic 62% Non-traumatic 38%

Longitudinal cohort design

12-month follow up (March 2017 to March 2018)



Discharge



6-months



12-months

Questionnaire measures

Access and support

- **Service use** (GP, medical specialist, nursing, allied health, 'other', rehospitalisation)
- **Unmet needs for services**

Service **obstacles** scale (SOS)

- Transportation, finances

Quality of life (EuroQol-5D-5L)

- EQ 'utility score', EQ VAS (0-100)

Psychological wellbeing (DASS-21)

- Depression, anxiety, stress



Data analysis

1

Service use change over time (Bayes factors, contingency tables)

2

Variable selection: identified potentially important predictors of QoL and psychological wellbeing via penalised regression (Lasso models)

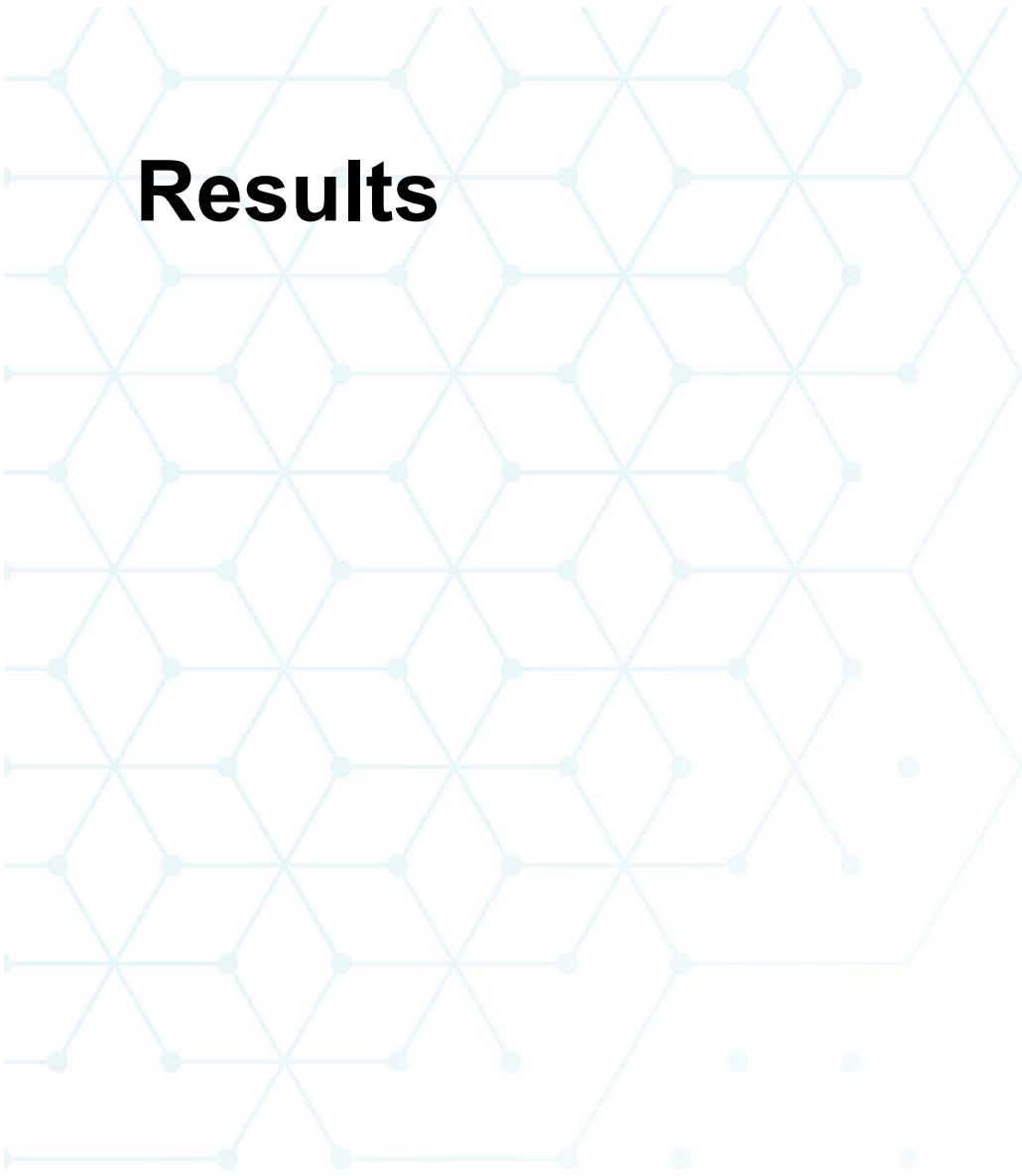
3

Fit a **'final' model** for QoL (Gaussian response) and psychological wellbeing measures (zero-inflated Poisson models)

Fixed factors: Time, trauma type, age, length of stay (days) and *any potentially important predictors*

Random intercept: each unique participant

Results



Access and support

	Time	6-months	12-months
Health care/rehabilitation provider use			
General practitioner		95	98
Specialist medical doctor		74	77
Nursing services		56	36 *
Allied health		97	79 **
Other		21	30
Rehospitalisation		54	62
Needed health care but did not receive it (i.e., unmet need)		18	36 *
Transportation is a major obstacle to getting enough help			
Disagree		62	61
Neutral/agree		39	39
Finances for rehabilitation services are a major problem			
Disagree		64	54
Agree		36	46

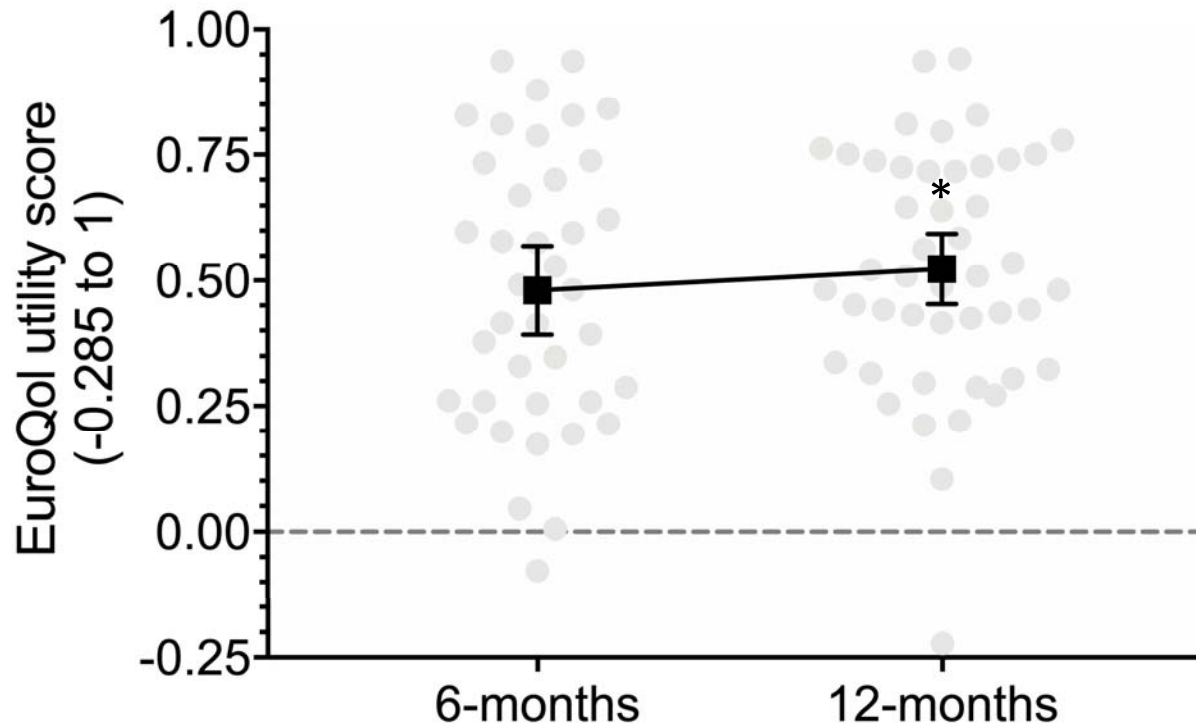
† Bayes factor (BF) is a ratio that contrasts the likelihood of the null hypothesis relative to the alternate hypothesis, given the data

* BF 1–3 indicates **‘weak’ evidence** of a change over time

** BF >3 indicates at least **‘strong’ evidence** of a change over time

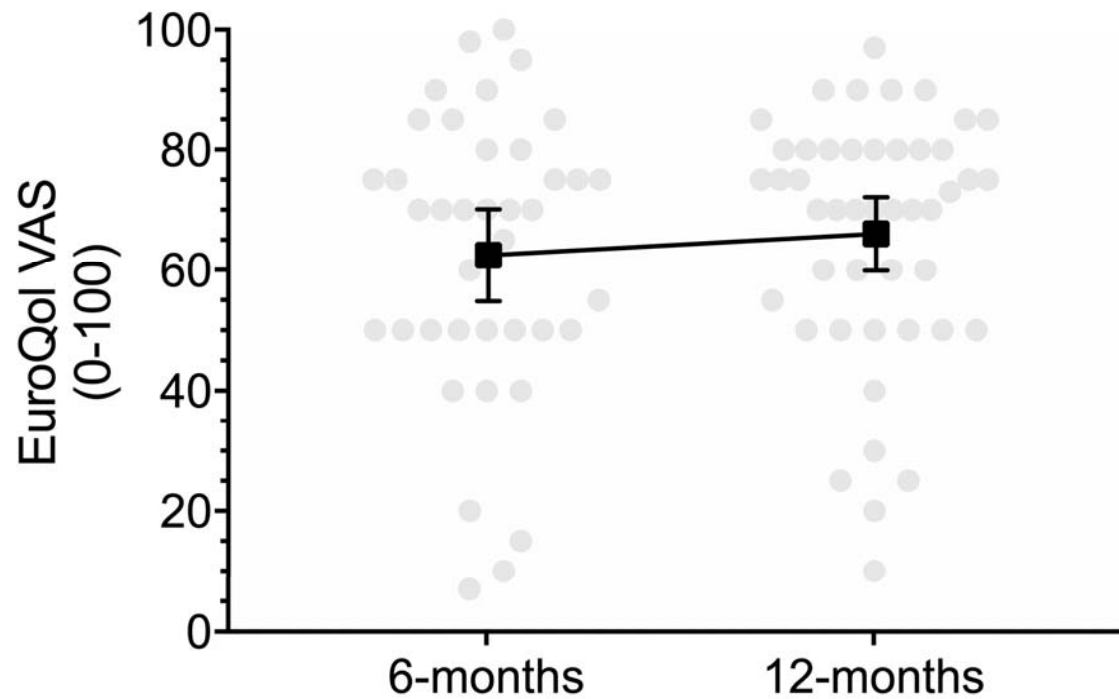
Quality of life

Variable	β [95% CI]
Longer LOS ↓	-0.112 [-0.176, -0.051]
Finances ↓	-0.095 [-0.166, -0.027]
Unmet need ???	-0.076 [-0.156, 0.003]



* statistically different to 6-months (MD [95% CI] = 0.069 [0.023, 0.117])

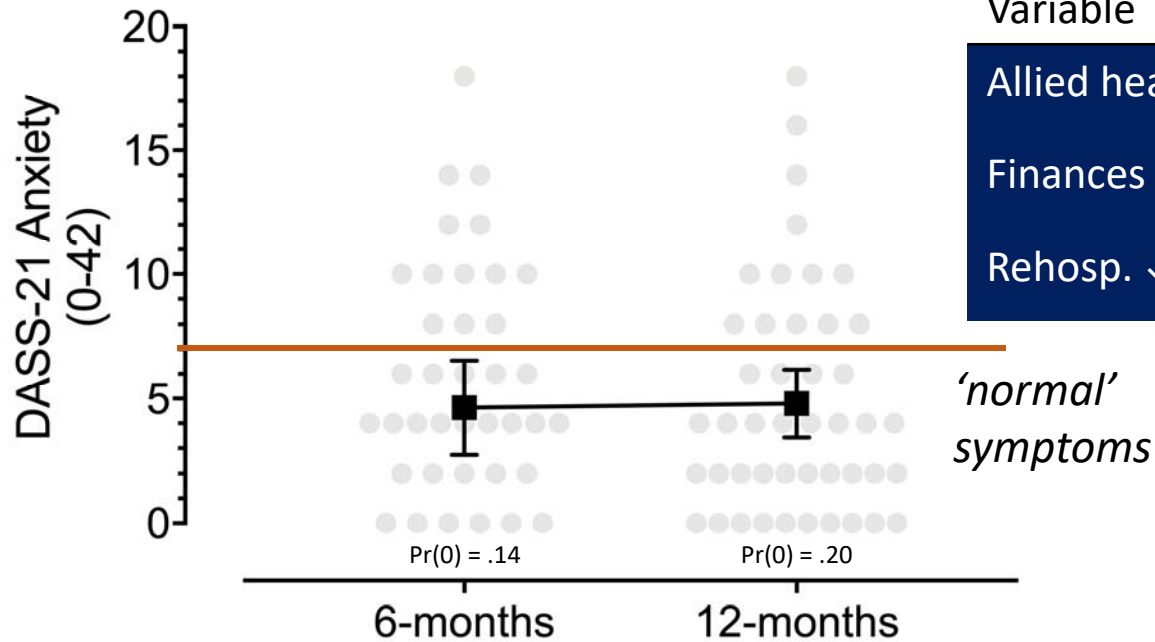
QoL: Perceived health status



Variable	β [95% CI]
Rehosp. ↓	-11.2 [-19.7, -2.2]

Psychological wellbeing

Anxiety



Variable	Odds ratio [95% CI]
Allied health ↑	2.48 [1.42, 4.44]
Finances ↑	1.63 [1.16, 2.23]
Rehosp. ↓	1.38 [1.02, 1.86]

Depression

9 [7, 11]

8 [6, 10]

no effects observed

Stress

8 [6, 10]

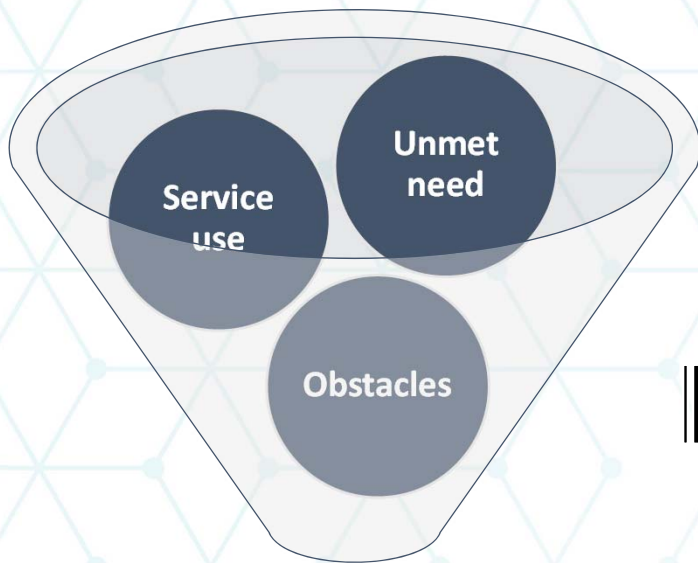
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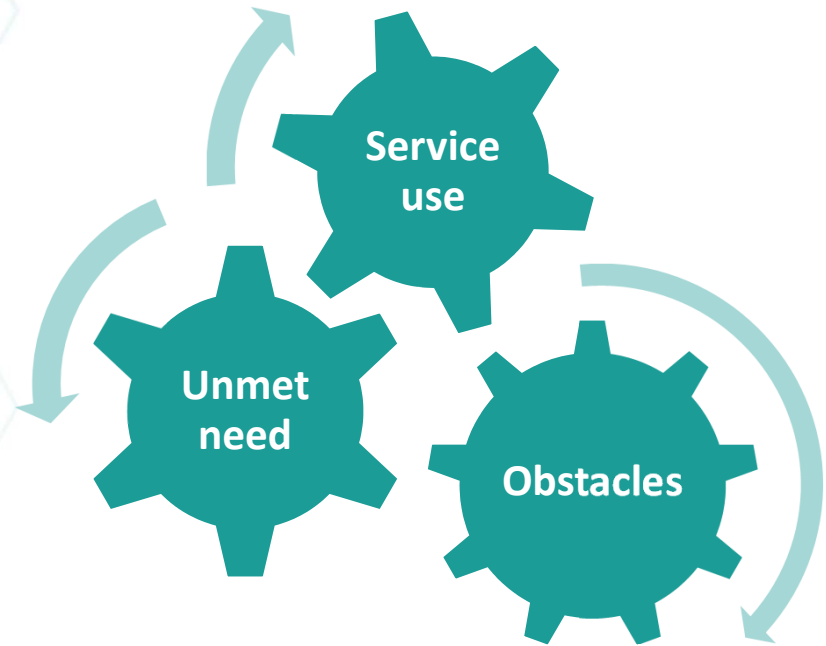
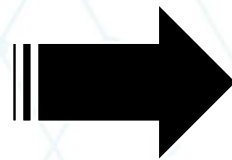
Summary

- Financial obstacles to accessing services were associated with ↓ quality of life and ↑ symptoms of anxiety
- Rehospitalisation associated with ↓ perceived health status and interestingly ↓ symptoms of anxiety
- Allied health service use associated with ↑ symptoms of anxiety

Conclusion



Quality of life
Psychological wellbeing



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Questions?

David Borg, PhD, AEP
✉ david.borg@griffith.edu.au

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