



Post-traumatic stress disorder, substance use and depression: preventable morbidity among injured New Zealanders

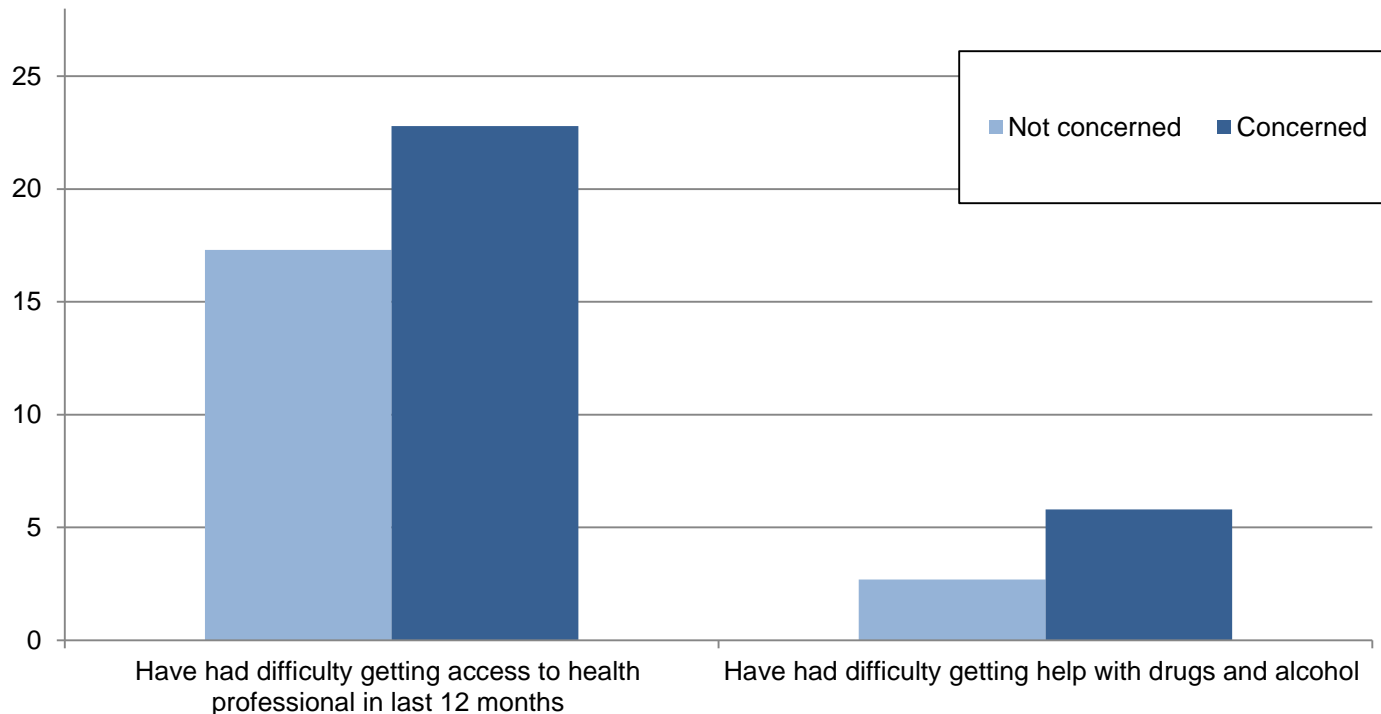
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Bottom line:

**THEY WANT MORE
TIME WITH YOU!**

National Youth2000 surveys: 30% of current drinkers report being worried about their drinking or having tried to cut down



Students who were worried or had tried to cut down (ie, concerned about their drinking), students of Maori and Pacific ethnic groups, and students from more deprived neighbourhoods,

were significantly more likely to report having difficulties accessing health care and support for alcohol and substance use problems.

The defining characteristic of a traumatic event is its capacity to provoke **fear, helplessness, or horror** in response to the threat of injury or death.

R Yehuda, NEJM 2002

PTSD diagnosis: response of a person so exposed includes (for at least 1 month):

- Unwanted (**intrusive**) recollections of the event
- **Avoidance** of reminders of the incident
- Symptoms of **hyper-arousal**



Challenges with research to date...

- Marked variability in 12-month prevalence estimates of PTSD in previous studies
 - study populations, medico-legal & compensation context, measures, follow-up rates
- Studies examining predictors of PTSD generally focus on specific contexts
 - (e.g., ED, trauma centre, ICU, psych out-patients)
- Healthcare experiences as predictors of PTSD has received minimal attention

POIS Research questions

- How common is PTSD 12 months following injury in this large cohort of ACC claimants?
- Which personal and pre-injury health and lifestyle characteristics, and factors relating to the injury itself predict the presence of PTSD at 12 months post-injury?
- Do health care experiences early in the course following injury influence the presence of PTSD at 12 months?
- Are these relationships meaningfully different among hospitalised and non-hospitalised ACC claimants?

Study base

- ACC entitlement claimants
- NZ residents 18-64 years
- Exclusions:
 - Sensitive claims
 - Self-harm
 - Responses only available from proxies



Study respondents

Baseline interview
(3 months post-injury)
N=2856



Interview 12 months
n=2282 (80%)

- 20% Maori
- 8% Pacific
- 92% paid employment
- 25% hospitalised (>3hrs at ED or admitted) within 7 days of injury
- 48% pre-existing chronic condition

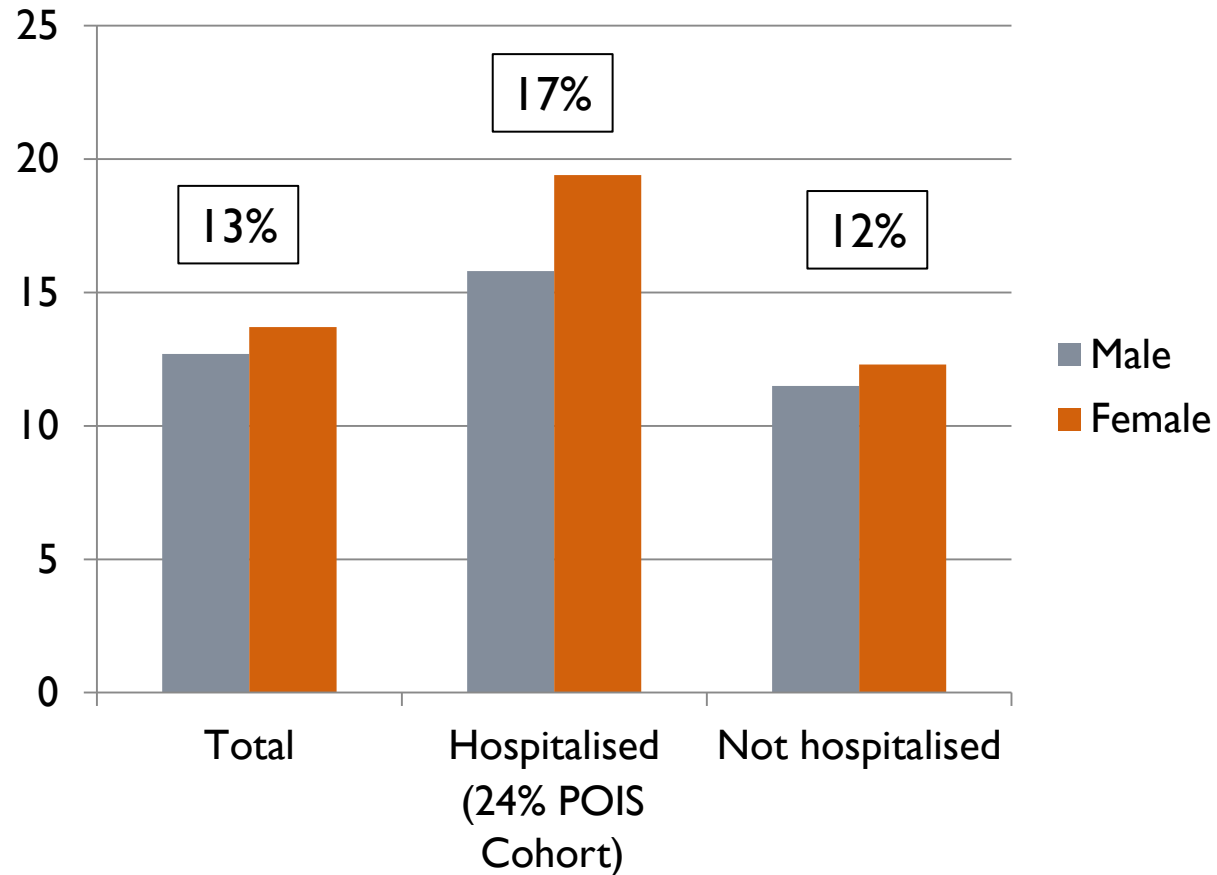
Those loss to follow-up more likely to be
(based on baseline interview):

- Younger, male, Maori
- Live with non-family members
- Distressed (Kessler 4+)

Analyses

- PTSD at 12 months (Impact of Events Scale ≥ 27)
- Potential predictors: socio-demographic, lifestyle, pre-injury health, injury-related factors, health care experiences
- Parallel analyses investigated predictors of PTSD in hospitalised and non-hospitalised survivors (multivariable Poisson regression models)

Prevalence (%) of PTSD at 12 months



Difference in prevalence of PTSD
in hospitalised and non-
hospitalised: $p=0.24$

Socio-demographic factors Adj RR (95% CI)

	Hospitalised	Not hospitalised
	p: 0.03	p: 0.59
Female (cf. male)	1.60 (1.05-2.46)	0.92 (0.68-1.25)
Ethnicity (ref: sole NZ Europ)		
Māori	1.67 (0.71-2.62) p: 0.17	1.00 (0.62-1.38) 1.00
Pacific	3.22 (1.08-5.37) p: 0.04	1.67 (0.75-2.59) 0.15
Other (non-Euro/Maori/Pacific)	2.09 (1.19-3.67) p: 0.01	1.17 (0.78-1.76) 0.45
Financial security (next 10 yrs)	p: 0.002	p: 0.14
Secure (ref)		
Fairly secure	0.90 (0.49-1.64)	0.77 (0.54-1.09)
Fairly insecure	1.47 (0.75-2.90)	1.19 (0.78-1.80)
Insecure	2.55 (1.30-5.01)	0.95 (0.56-1.63)
Not significant	Age, educational level, migrant status, adequacy of pre-injury household income, living arrangement	

Pre-injury health & lifestyle Adj RR (95% CI)

	Hospitalised	Not hospitalised
Drinking level (risk)	p: 0.81	p: 0.002
Non-drinker or low risk (ref)		
Medium risk	1.20 (0.69-2.07)	1.48 (1.05-2.10)
High risk	1.09 (0.56-2.15)	2.21 (1.40-3.50)
Smoking	p: 0.12	p: 0.02
Yes (cf. Non-smoker)	1.53 (0.90-2.61)	1.47 (1.06-2.03)
Depressive episode (12 mo pre-injury)	p: 0.005	p: 0.95
Yes (cf. No)	2.22 (1.27-3.88)	0.99 (0.68-1.44)
Not significant	Illicit drug use, overall health before injury, pre-existing chronic illness, physical activity, self-efficacy, optimism, spirituality, sense of community, sleep adequacy, satisfaction with social relationships	

Injury-related factors

Adj RR (95% CI)

	Hospitalised	Not hospitalised
Assault (cf. non-intentional)	1.41 (0.65-3.07) p: 0.39	2.25 (1.17-4.34) p: 0.02
Perceived threat to life Yes (cf. No)	2.48 (1.54-4.00) p: <0.001	1.66 (1.01-2.75) p: 0.047
Expectations of recovery (cf. recovered)		
Will get better soon	0.44 (0.11-1.79)	1.94 (1.06-3.52) p: 0.005
Will get better slowly	0.88 (0.26-2.95)	1.62 (0.97-2.73)
Don't know future course	1.02 (0.28-3.78)	2.68 (1.55-4.62)
Will never get better	4.93 (1.12-21.73)	2.24 (1.11-4.52)
Not significant	Injury severity, Pain and discomfort at recruitment, Perceived threat of disability, Got better sooner than expected,	

Health service factors

Adj RR (95% CI)

	Hospitalised	Not hospitalised
Enough time to discuss problems No (cf.Yes)	p: 0.004 2.74 (1.37-5.50)	p: 0.26 1.26 (0.85-1.88)
Enough information to make decisions No (cf.Yes)	p: 0.04 1.73 (1.04-2.86)	p: 0.08 1.42 (0.95-2.12)
Encouraged to participate in decisions No (cf.Yes)	p: 0.004 0.42 (0.23-0.76)	p: 0.49 1.13 (0.80-1.59)
Not significant	Encouraged family to be involved Pre-injury: trouble in accessing health care	

In summary...

- 17% of hospitalised & 12% of non-hospitalised ACC claimants had symptoms suggestive of PTSD
- Predictors of PTSD in hospitalised participants:
 - female gender, pre-injury depressive symptoms
 - perceived threat to life, expectations of non-recovery from injury and financial insecurity
 - not having enough time to discuss or make decisions in healthcare encounters
- Predictors in non-hospitalised participants:
 - Smoking and risky drinking (pre-injury)
 - Assault as the mechanism of injury, perceived threat to life, expectations of non-recovery from injury
- Injury severity was not a predictor of PTSD.



- **Limitations:**

- Exclusions (study likely to underestimate PTSD)
- Used research instrument, not diagnostic tool
- 20% of cohort lost to follow-up

- **Strengths:**

- Wide spectrum of injury, hospitalised and not
- Broad range of potential predictors investigated
- Context: No-fault universal compensation

Summary

- 1 in 7 ACC claimants have PTSD symptoms 12 months after injury (important impacts)
- Several predictors identifiable early provide opportunities for intervention, including substance use, depression, not enough information or time with service providers



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