

Estimating the societal cost of heroin dependence in an Australian population engaged in treatment

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BACKGROUND

- Opioid use disorder is a public health concern in Australia and internationally.¹
- High mortality rates, increased risk of physical/mental health comorbidities and social issues contribute to a high personal and societal cost.^{2,3,4}
- Little is known about the societal cost of heroin dependence in an Australian context.

METHOD

- Data was obtained from the NSW component of the Australian Treatment Outcome Study, a longitudinal cohort study which began in 2001.⁵
- 600 individuals who were heroin dependent at baseline were interviewed at five time points – baseline, 12 months, 24 months, 36 months and 11 years.
- Resource use was determined from the interviews and was multiplied by unit costs to estimate the annual healthcare costs, productivity costs, crime costs and other costs. Table 1 shows the costs that were included.
- The monetary value of premature mortality was calculated using the value of a statistical life year method.⁶
- Sensitivity analyses were conducted, in which the mean ATOS annual sample costs were extrapolated to three different Australia wide heroin dependent populations.

RESULTS

- The annual mean societal cost of heroin dependence for the ATOS sample over the 11 years was A\$139,213 (95% CI 127142, 151284), which included healthcare costs (A\$10,000), lost productivity costs (A\$23,082), crime costs (A\$73,172) and other costs (A\$34,576).
- Healthcare costs, productivity costs, crime costs and other costs trended downwards over the five waves. Table 2 presents the specific results of the costs from baseline to 11 years.
- Crime was the highest cost contributor (52%), followed by heroin drug (22%) and lost productivity (16%). Figure 1 shows the distribution of the mean annual per person costs.
- The estimated number of life years lost over the 11-year study period due to heroin equalled 2,703 years, which approximates to a monetary value of premature death of \$213 million.

OBJECTIVE

The study aimed to determine annual per person societal costs of heroin dependence in an Australian population and to understand how these costs change over time.

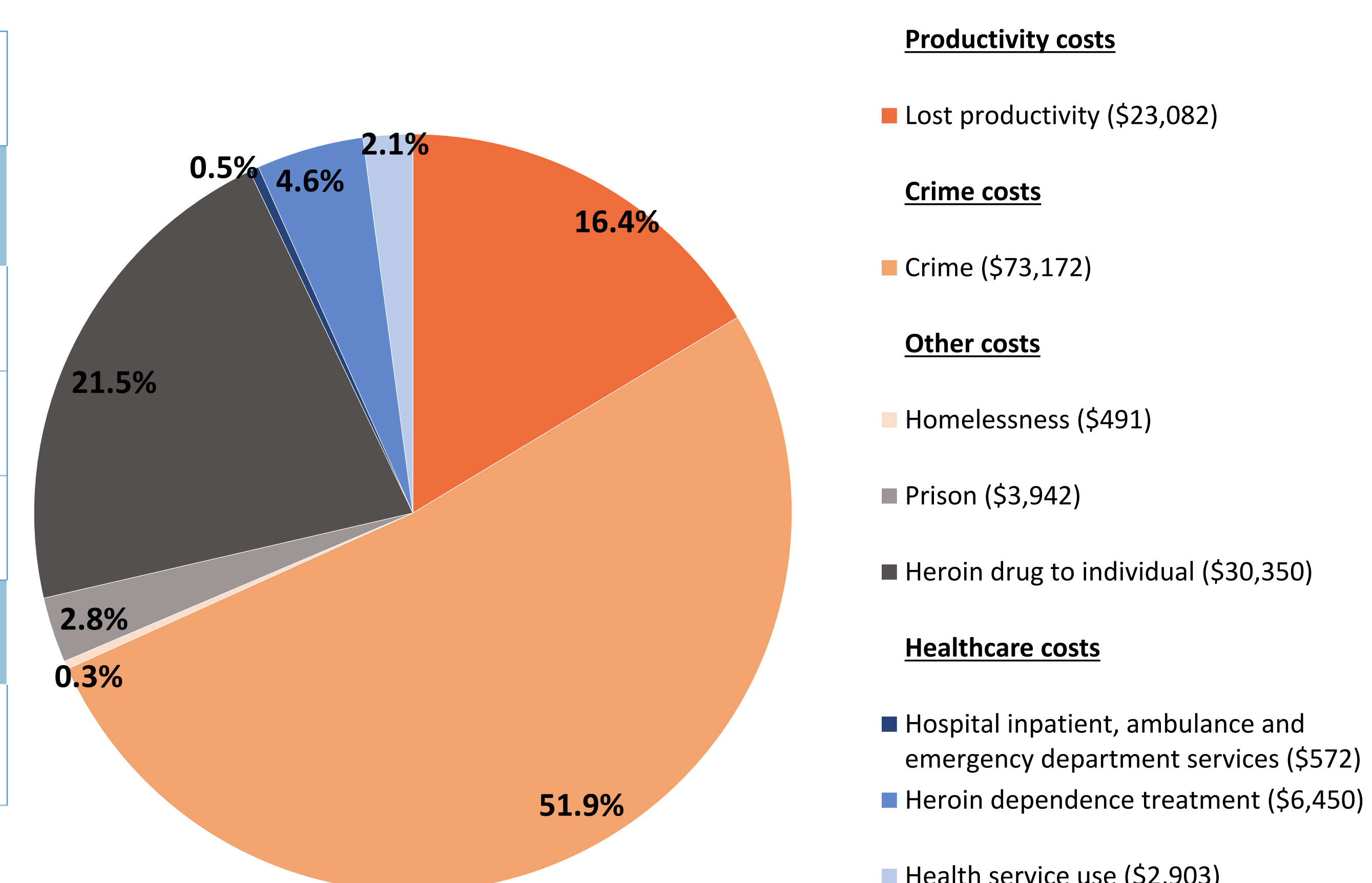
Table 1. Included costs and categories

Healthcare costs		Productivity costs	Crime costs	Other costs
Health service use costs	Heroin dependence treatment costs			
- General practitioner	- Inpatient detoxification	- Lost productivity due to unemployment	- Property crime	- Homelessness
- Hospital outpatient	- Residential rehabilitation	- Lost productivity due to illegal activity	- Drug dealing	- Cost of heroin
- Specialist doctor	- Methadone	- Lost productivity due to premature death	- Fraud	- Prison sentence
- Psychologist	- Outpatient withdrawal		- Violent crime	
- Psychiatrist	- Buprenorphine maintenance/withdrawal			
- Counsellor	- Naltrexone maintenance			
- Social worker	- Drug and alcohol counselling			
- Alcohol/drug worker				
- Radiology				
- Blood/urine test				
- Medication				
- Hospital admission				
- Emergency admission				
- Ambulance				
- Naloxone				

Table 2. Yearly mean costs per person in AUD

	Healthcare costs (95% CI) Standard error (SE)	Crime costs (95% CI) Standard error (SE)	Productivity costs income loss (95% CI) Standard error (SE)
Baseline	12,917 (11712, 14123)	237,474 (209246, 265702)	34,041 (32732, 35350)
12-month	12,588 (11455, 13662)	66,796 (51861, 81731)	30,326 (29078, 31573)
24-month	8,210 (7486, 8934)	38,693 (26080, 51305)	18,066 (16941, 19190)
36-month	7,926 (7178, 8674)	31,639 (20663, 42614)	15,844 (14823, 16865)
11 year	8,587 (7798, 9376)	26,241 (17436, 35046)	21,447 (20214, 22680)
Mean annual costs of the 5 waves	10,000 (9386, 10615)	73,172 (62,550, 83795)	23,082 (22027, 24138)

Figure 1. Breakdown of the mean annual societal costs over the 5 waves



CONCLUSION

- The significant societal cost of heroin dependence emphasises the importance of providing resources and attention to heroin dependence.
- All costs trended downwards from baseline to 11 years in this ATOS cohort, indicating that treatment for heroin dependence plays a role in reducing societal costs associated with heroin dependence.
- The cost of crime and heroin to the individuals contributed to over 70% of the total costs, highlighting that the illicit nature of the illness contributes to the high societal costs.

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