

Estimating life expectancy

VWA v Asixa Pty Ltd & Ors [2011] VSC 467

By Bree Knoester

INTRODUCTION

The issue of life expectancy and methods of predicting probable life expectancy were central to the case of *Victorian Workcover Authority v Asixa Pty Ltd & Ors* [2010] VSC 467 (Asixa).

THE FACTS

On 14 July 2006, Wally Hidalgo was 21 years old and working at the premises of Asixa. The second defendant, Simon Transport Pty Ltd, delivered a wooden crate containing a very large glass sheet to the premises. The glass was manufactured and packaged by the third defendant, CSR Viridian Ltd. Mr Hidalgo was required to move the crate via forklift. In the course of performing that task, Mr Hidalgo walked in front of the forklift and the crate slipped off the tines of the forklift and crushed him. He suffered a major hypoxic brain injury. The plaintiff (the VWA) made payments of compensation to Mr Hidalgo¹ because he was injured in the course of his employment. Mr Hidalgo remains in a persistent vegetative or potentially minimally conscious state. The VWA sought an indemnity from the defendants in respect of compensation paid and for future payments of compensation. In assessing the value of the future payments of compensation, the calculation and prediction of Mr Hidalgo's life expectancy was critical.

THE DEBATE – CALCULATING LIFE EXPECTANCY AND THE EFFECT OF THE QUALITY OF CARE

The life expectancy of an injured person is defined as the life expectancy of a group of people with similar disabilities and characteristics to the person in question. It is principally

a projection based on a comparable group and the mortality of that group.

In *Asixa*, the plaintiff argued that the level of care afforded to Mr Hidalgo was relevant to any prediction of life expectancy and should result in either adoption by the court of an increased life expectancy or the most optimistic prediction of life expectancy.

Since discharge from hospital in September 2007, Mr Hidalgo has lived at home with his parents and is cared for exclusively at home. At the time of the proceeding, he required and received 33 hours of attendant care every 24 hours in addition to significant care and input from his parents. Although not a party to the proceeding, Mr Hidalgo's father, as well as several of his carers, gave evidence of the highly organised, precise and detailed care given to Mr Hidalgo.

In his judgment, Justice Kaye found that 'the level of the care which is accorded to Wally is first class, and indeed quite exceptional'.

On the question of life expectancy, the plaintiff relied on the opinion of Professor Jane Hutton, professor in medical statistics at the University of Warwick, United Kingdom. The defendant relied on the opinion of Dr Robert Shavelle, expert statistician specialising in life expectancy. Dr Shavelle, together with Dr David Strauss, emeritus professor of statistics at the University of California, have published widely on life expectancy of individuals who have suffered catastrophic injuries. In calculating life expectancy, Strauss and Shavelle rely predominantly on data derived from the California Mental Retardation Database, which has information on individuals with disabilities who have received state-funded services. Professor

Hutton relies predominantly on information extracted from the Mersey Cerebral Palsy Register (MCPR), which contains medical data on a cohort of children born with cerebral palsy in the Merseyside and Cheshire areas from 1966 to 1989. Professor Hutton estimated Mr Hidalgo's probable life expectancy as being 22–31 years.

The defendant's primary criticism of Professor Hutton's cohort was that it was not sufficiently comparable to Mr Hidalgo and thus the estimated life expectancy based on that data should be adjusted downwards to accommodate the additional disabilities suffered by Mr Hidalgo, which were not suffered by the majority of the MCPR cohort. Most importantly, the evidence revealed that the MCPR cohort contained individuals who did not have significant bulbar dysfunction (which causes respiratory and swallowing problems) and therefore 'to that extent her cohort was not as significantly exposed to a principal risk of mortality as Wally Hidalgo'. However, the MCPR cohort did consist of subjects who were either blind or severely visually impaired – a factor which indicates severe neurological impairment and which is associated with an increased mortality rate.

Justice Kaye adjusted Professor Hutton's estimate of life expectancy to allow for the point of differentiation between her cohort and Mr Hidalgo. Justice Kaye also found that Professor Hutton should have applied a proportional life expectancy ratio, rather than a constant excess death ratio, in deriving the life table from which she estimated life expectancy. In short, a proportional life expectancy ratio takes into account that the excess death rate (the rate of deaths in a

particular group minus the rate of deaths of the normal population of the same age) increases with age and does not remain constant.

Dr Shavelle estimated Mr Hidalgo's life expectancy as 12 years. The plaintiff's primary criticism of Dr Shavelle's estimate was that he failed to take into account the time that had passed since Mr Hidalgo's injury (a positive predictor for survival) and made unnecessary downward adjustments. Nor did Dr Shavelle's estimate take into account the level of care given to Mr Hidalgo. After examining each of the studies on which Dr Shavelle relied to adjust the estimated life expectancy downwards, his Honour concluded that the estimate was too low and concluded that 'an appropriate adjustment of Dr Shavelle's computations should result in an estimated life expectancy of 14 years'.

Both the plaintiff and the defendants called evidence from medical practitioners who had made predictions on the question of life expectancy. The plaintiff's medical experts had also considered the effect of Mr Hidalgo's excellent care regime – as witnessed by them – on his life expectancy. The defendants' medical experts were cross-examined on their views as to the effect of care, such as that received by Mr Hidalgo, on their life expectancy estimates. The plaintiff called evidence from Dr Barry Rawicki, physician in rehabilitation medicine, and Dr Joan Tierney, general practitioner with a special interest in the area of acquired brain injury. Both practitioners assessed Mr Hidalgo in his home, viewed his level of care and gave opinions on life expectancy (37 and 21 years respectively). The defendant relied upon the opinions of neurologists who did not have the benefit of assessing Mr Hidalgo nor the same experience as Drs Rawicki and Tierney in 'the efficacy of care and treatment of the type provided to Wally Hidalgo'. Both Dr Rawicki and Dr Tierney considered that the care provided to Mr Hidalgo had significant beneficial effects on his life expectancy.

The challenge faced by the court was how to synthesise the statistical evidence with the neurological opinions and the evidence of the medical experts

who worked daily with patients similar to Mr Hidalgo and who had been able to assess Mr Hidalgo's condition and witness his care regime.

Justice Kaye found that the appropriate method of approaching the question of life expectancy was to base an estimate on statistical evidence and 'adjust it by giving appropriate weight to the exceptional quality of care given to Wally, and also to the anecdotal experience of Professor Rawicki and Dr Tierney'. Justice Kaye found no basis to reject the adjusted views (14 years and 18–19 years) of either statistical expert, nor to prefer one to the other.

THE OUTCOME

Justice Kaye concluded that the probable life expectancy of Mr Hidalgo was 20 years – adjusting the experts' range of 14 to 18 years upwards to allow for the 'exceptionally high quality of care provided to Wally'. Justice Kaye's approach is consistent with the method adopted by courts in similar cases where a combination of statistical analysis and the opinions of suitably qualified and experienced clinicians have been used to assess probable life expectancy.²

COMMENT

Most commonly, the issue of life expectancy arises in medical negligence cases and particularly those involving

infant plaintiffs. The epidemiological data and statistical evidence will remain a feature of those cases. Practitioners must understand the nature of the cohorts relied on by experts, such as Professor Hutton and Dr Shavelle, so as to independently analyse whether their client is adequately represented by that cohort. Similarly, practitioners must obtain detailed evidence as to the nature of their client's current care regime and medical condition so as to consider factors which support an increase in years of life on the statistical prediction.³ To this end, and as in *Asixa*, evidence of the quality of care provided by family members and in the home is essential. ■

Notes: **1** Payments representing income and medical and like expenses. **2** *Simpson v Diamond* [2001] NSCWSC 925; *Radovanovic v Cutter* [2004] ACTSC 9; *Hills v State of Queensland* [2006] QFC 244. **3** For example, history of respiratory infections, pressure sores, urinary tract infections, requirement for antibiotics, cough reflex, level of spasticity/tone, ability to swallow, etc. Consider also the need for treatment from dentists, dieticians, physiotherapists, rehabilitation physicians, orthotists and other allied health professionals.

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