By Anna Walsh

LIFE EXPECTANCY
Curent thinking

For the catastrophically injured plaintiff, the issue of life expectancy is one that must be addressed in order to maximise the recovery of future losses. It is a critical element in the calculation of damages because *'a significant underestimate, for example, could leave a plaintiff without adequate care at a critical later point in his or her life. A significant overestimate, on the other hand, could result in a windfall to others.'*[1]

It is important that practitioners have a current knowledge of the approaches taken by the courts in deciding this issue of life expectancy. This article adopts a practical focus and refers to four cases where life expectancy has been addressed by the courts; discusses the experts qualified for the parties; the approaches taken by the experts in arriving at their opinion on a plaintiff's life expectancy; and the courts' assessment of the evidence and their findings.

As a starting point, it is important to note that in using life expectancy tables, the High Court has confirmed (in *Golden Eagle International Trading Pty Limited & Ors & Zhang & Anor*[2]) that projected rather than historical life tables are appropriate as they represent the best evidence available. Where a plaintiff has an injury that may negatively impact on their life expectancy, it is helpful to consider the best evidence rule regarding what evidence may impact positively or negatively on the plaintiff's life.

SIMPSON v DIAMOND

A number of medical negligence cases involving birth trauma leading to cerebral palsy have been required to address this issue of evidence impacting on life expectancy. The seminal 2001 case of *Simpson v Diamond & Anor*[3] is well worth reading because of the extensive evidence that was adduced on this issue and the care the trial judge took in assessing the different approaches by the parties. While there were a number of appeals in this case, the initial decision deals best with life expectancy.

Here, the plaintiff was a 22-year-old woman suffering from dystonic cerebral palsy. Aspects of her medical condition thought to be positive for a longer life expectancy included being in relatively good health, free from illness, no seizures since the age of three, normal renal function, no urinary tract infections, the ability to shift her weight in a wheelchair and therefore reduce the risk of pressure sores, a history of coping well with swallowing food and saliva, a good diet and blood pressure, and being of normal intelligence with a great deal of drive and determination and insight into what might pose risks to her mortality. The negatives, though, were noted to be risk of choking while feeding due to poor swallowing mechanism, potential respiratory problems due to aspiration, a risk of overwhelming pneumonia and the fact that the ageing process might affect her chest muscles and therefore her respiratory mechanism.

The plaintiff had six experts who commented on life expectancy: a neurologist; a rehabilitation specialist; a respiratory physician; a statistician; an epidemiologist, who was both a statistician and medical doctor with a background in paediatrics; and an actuary. The plaintiff's starting point for the enquiry was to ask whether there was any specific reason to suppose that the she would die early and, if so, how early.[4] This plaintiff contended that the answer did not lie in statistics, but rather by having regard to the body of expert clinical evidence assembled on the plaintiff's behalf.

The defendant's experts were a rehabilitation physician and a neurologist and statistician, Dr Shavelle. The defendant's approach to life expectancy was that it is a question best answered first by examining acceptable statistical material to identify whether or not the plaintiff is at risk of mortality; secondly, to customise a life table for the plaintiff based on their statistician's database; and, thirdly, making allowances in the plaintiff's favour on account of some of the other evidence from expert witnesses.[5] The defendant's expert, Dr Shavelle, used the survival experience of a Californian population. He opined that the plaintiff would live a further 33.3 years as opposed to the 60.8 years which other Australian women of her age could expect.[6]

The plaintiff's arguments against a sole reliance on statistics were that they were no substitute for sound clinical assessment and did not provide the appropriate measure for estimating survival; there was no one database relied upon by the defendant's experts with the plaintiff's precise characteristics, and very few who closely resembled her; there was criticism of the systems employed in the compilation of the database and the data itself; and there was the risk that the statistician could make a mistake as a result of the supply of incorrect information or as to the variable characteristics of the plaintiff in reaching normal points. The plaintiff's epidemiologist, Dr Staines, stated that:

> 'while it seems plausible that Ms Simpson will live fewer years than her non-disabled counterparts rather than more, because of the multiple sources of uncertainty, it is not clear to me that any useful estimate of Ms Simpson's own life expectancy can be made in statistical terms. In this circumstance an estimate made on the basis of an individual assessment, by a person with suitable clinical experience would be useful.'[7]

The trial judge reviewed each of the expert's opinions in some detail. In respect of the defendant's statistical evidence, Whealy J noted:

> '...the criticism of Dr Shavelle's method is plainly correct at least so far as it relates to an individual like Calandre. An endeavour to construct a "customised" life expectancy table is nonetheless an attempt to present a group picture. If the plaintiff is not well represented in that group, or as is likely, not represented at all, the resulting life table must, as a matter of logic, lack precision. Its statistical value is reduced as its precise reliability may be affected. I accept that Dr Staines' views in this regard are patently correct. There is a need to make a clinical assessment which identifies the position of the particular individual.'[8]

Whealy J did, however, criticise the plaintiff's experts' >>

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lack of knowledge of the scientific literature and even the defendant's neurologist had approached it in a flawed matter when making clinical assessments. Notwithstanding this, Whealy J stated this:

> 'does not rescue Dr Shavelle from the charges which I think have been demonstrated against him. These were, first, that in terms of precision, his life table has an inherent degree of unreliability. Secondly, his lack of medical qualifications prevented him from assessing the plaintiff in other than statistical terms. Thirdly, to apply the statistical method to an individual such as the plaintiff was...fraught with difficulty.'[9]

Ultimately, Whealey J dismissed the evidence of a statistical approach alone, preferring the opinions of clinicians, saying:

> 'A clinician would take the life expectancy of a large group of people with similar characteristics and background. He would then apply that knowledge, and the knowledge generally inherent in the clinician's experience, to the individual characteristics of the person and, based on all those matters, anticipate the likely number of years left for that person to live.'[10]

Whealy J noted the plaintiff's positive life expectancy factors as the provision of good care, controlled nutrition, regular and appropriate therapies, exercise to lessen the impact of ageing, comprehensive medical checks to enable detection of life-threatening conditions, the avoidance of risk-taking behaviour, social interaction with friends and family, appropriate treatment and counselling for depression and unhappiness. He found the plaintiff's life expectancy to be a further 51 years.

These criticisms of the limitations of a statistics-only approach are relevant today, some 10 years later, and should be known to practitioners who specialise in catastrophic personal injury cases. The plaintiff advocated a combined approach to the methodology, being a statistical analysis as the starting approach with a clinical assessment as to whether or not the group estimate in the study applied to the individual.

RADOVANOVIC v CUTTER

Following *Simpson*, two more cerebral palsy cases required the court to review life expectancy. In *Radovanovic v Cutter & Anor*,[11] the plaintiff contended that she had a number of positive attributes for life expectancy, including a high standard of care, life expectancy being better in Australia than in the United States of America, an ability to chew and swallow normally, and no problems with saliva or food. Against that, though, were the plaintiff's lack of mobility, her severe mental retardation, mild scoliosis and poor circulation in the legs and pressure sores. A number of experts gave evidence with backgrounds in neurology and rehabilitation medicine.

The plaintiff's expert paediatric neurologist, Dr Harbord, considered the plaintiff to have a 90 per cent chance of having a normal lifespan and estimated that she would live to the age of 76.4 years.[12] He relied upon a number of studies of people with cerebral palsy,[13] as well as his clinical experience. The defendant's expert, Dr Anthony, another neurologist, estimated that the plaintiff would survive up to her early or mid-50s. Dr Anthony did not rely on the studies explicitly, but felt they generally agreed with her opinion. Importantly, she conceded that a factor to take into account is that care improves with time, which would argue against a low estimate of life expectancy.[14] The defendant's other expert, Dr Bowers, a rehabilitation physician, relied on the studies but was inconsistent in the way in which he dealt with them. The court was critical of Dr Bowers and did not have confidence in his approach.[15]

Ultimately, the court took a mid-point between the life expectancies of the two neurologists, Dr Harbord and Dr Anthony, with the judge noting, '*I am unable to completely accept any one of the processes of reasoning given by the experts called on this issue*',[16] and found that the plaintiff would live to the age of 70.5 years. It is interesting to note that neither expert relied on the studies in a detailed manner; rather, they referred to standard life expectancy figures and made deductions based on clinical disabilities likely to be suffered by the plaintiff. Additionally, no statistician was called by either party to explain the various studies and their methodologies.

HILLS v STATE OF QUEENSLAND

In *Hills v State of Queensland*,[17] the plaintiff had no intellectual impairment and was, rather, measured to be in the average to above-average range. He was able to walk short distances, but only with the aid of a walker; able to crawl and roll over; but was unable to sit or stand unsupported; had poor fine motor hand skills and was unable to grasp an object. He was also unable to feed himself, was doubly incontinent, had severely impaired speech, and was entirely dependent on the assistance of others for everyday activities. He also suffered from diabetes.

The plaintiff qualified three experts: a rehabilitation physician, a paediatric neurologist and an endocrinologist. The defendant qualified a statistician only. In line with the approach taken by the court in *Simpson*, the plaintiff's paediatric neurologist, Dr Harbord, took the view that the best method of determining the life expectancy of a person with cerebral palsy was to combine their individual characteristics with epidemiological data, rather than relying solely on epidemiological data.[18] In his opinion, the plaintiff would live to age 68 years. Dr Harbord was vigorously cross-

examined on his lack of experience of adults with cerebral palsy and how exactly he had extrapolated his figures from the studies he referenced. The defendant's statistician, Dr Strauss, opined that the plaintiff would live a further 47.8 years. Ultimately, McMurdo J found that Dr Strauss' opinion on the plaintiff's life expectancy needed to be revised upwards and Dr Harbord's revised downwards. In doing so, he arrived at a finding that the plaintiff would live to age 54 years, the mid-point between the two opinions. As one can see, the last two cases do not particularly add anything to the *Simpson* approach, and it could be said that the court was restricted by the number and type of experts who were qualified by the parties.

VICTORIAN WORKCOVER AUTHORITY v ASIZA PTY LTD

A very helpful non-cerebral palsy case addressing life expectancy can be found in the Victorian case of *Victorian WorkCover Authority v Asiza Pty Ltd & Ors*.[19] Here, the 21-year-old plaintiff suffered a major hypoxic injury following a workplace injury. The plaintiff's experts included his general practitioner, who had particular expertise in managing persons with brain injury, a rehabilitation physician and a statistician. The defendant's experts included several neurologists and Dr Shavelle, statistician. The positive factors in favour of a longer life expectancy for the plaintiff included a high level of care, which prevents pressure sores and identifies infection quickly, a tracheotomy which allows access to airways to suction and prevent blockage, and good nutrition which mitigates against osteopaenia. On the negative side, the plaintiff ran the possibility of suffering from pneumonia, urinary tract infections, infection from pressure sores, possible infection from his percutaneous endoscopic gastrostomy (PEG) site, osteopaenia and pulmonary embolism from a deep venous thrombosis.

It is interesting to note that each of the plaintiff's experts came up with different life expectancies; the general practitioner advocated a further 16 to 21 years; the rehabilitation physician a further 37 years; and the epidemiologist between 22 and 31 further years. The defendant's experts were more consistent and had a smaller discrepancy between them, with either 12 or 15 years.

Kaye J made extensive comments about the evidence-in-chief and the cross-examination of each of the experts, and the case is therefore worth reading in its entirety. A factual determination that heavily influenced Kaye J, and one to bear in mind, was the fact that the plaintiff was already receiving exceptional care of substantially higher quality to that of others in hospitals and nursing homes. The plaintiff's rehabilitation physician's opinion was that the attitude and behaviour of the plaintiff's parents were critical to the issue of the plaintiff's life expectancy and that the plaintiff's prospects of survival were enhanced by their motivation to ensure that he received the best care available.[20] The defendant's expert rehabilitation expert agreed that the standard of care being received by the plaintiff was extraordinary and well above what one would expect in a hospital or a supported care facility,[21] and that the plaintiff had a longer life expectancy than might be expected for someone in his condition, owing to that high standard of care. This meant that he was likely to be treated for any infection promptly and that was an important factor regarding life expectancy.[22]

In weighing up the quality of the expert evidence on this issue, Kaye J noted that the plaintiff's expert evidence was anecdotal while the defendant's expert evidence was based on statistics. Kaye J was critical of the opinion of the plaintiff's rehabilitation physician, who advocated the highest further years at 37, on the basis that the opinion was not based on anything other than the doctor's experience. When compared with the plaintiff's treating general practitioner, who also based her opinion on assessment and experience, it was still twice her estimate of 16 to 21 years. Although the plaintiff's expert evidence was considered to be relevant, the court considered it to be too narrow. Conversely, the court considered that the defendant's experts did not adequately take into account the superior care that the plaintiff was receiving. The defendant's neurologists, although highly qualified, did not regularly become involved with the ongoing care and treatment of patients, and therefore lacked the experience of the plaintiff's general practitioner and rehabilitation physician experts. Additionally, the court found that the defendant's experts did not have regular dealings with patients like the plaintiff and, accordingly, >>

their estimates of life expectancy needed to be adjusted. Ultimately, Kaye J found that the plaintiff would live for a further 20 years, which conformed with the ranges given by the clinical experts, a compromise with the statistical evidence and allowed for the high-quality care. The court confirmed the approach of starting with statistical studies and then overlaying it with clinical considerations.[23]

CONCLUSION

Plaintiffs with catastrophic injuries should clearly ensure that they have qualified expert witnesses who are adept at understanding the current statistical studies. The appropriate experts are not to be found in just one specialty of medicine; rather, they cut across a number of specialities and professions such as general practitioners, rehabilitation physicians, neurologists, respiratory physicians, statisticians and epidemiologists. Clearly, emphasising medical assessment and/or experience alone is not be enough. If experts use or refer to statistical studies, they must ensure that they have properly reviewed the sample size and data collection and determined whether or not the plaintiff can indeed be compared to the particular cohort. Where the defendant expert statistician has relied on medical information from a defendant rehabilitation physician, it is imperative that the plaintiff lawyer obtain that information in case it is not correct or out of date.

If there is to be extrapolation of the data, the expert must demonstrate in a transparent way how the studies support their opinion, otherwise these shortcomings are sure to be picked up in cross-examination at trial. If the plaintiff is a minor, experts need to be qualified to discuss life beyond the teenage years, and have experience in the health of adults with that particular disability. Where the plaintiff has several experts, it may be useful to have the experts come together, particularly where the experts cross not just different specialties but different professions, to ensure that there is an agreed range of estimates for life expectancy so as to be useful to the court. Current opinions from clinicians who have actually assessed the plaintiff are vital. Time must be taken to understand the way in which the court has approached this issue in catastrophic injury cases and the plaintiff's lawyers must perform the necessary legwork in order to maximise recovery of damages for their client. ■

Notes: **1** *Simpson v Diamond & Anor* [2001] NSWSC 925, at para 74. **2** [2007] HCA 15. **3** [2001] NSWSC 925. **4** See 4 at para 81. **5** See 4 at paras 78–9. **6** See 4 at para 109. **7** *Ibid.* **8** See 4 at para 260. **9** See 4 at para262. **10** See 4 at para 95. **11** [2004] ACTSC 9. **12** See 12 at para 154. **13** Strauss and Shavelle, *Life Expectancy of Adults with Cerebral Palsy,* Journal *Of Developmental Medicine and Child Neurology,* 1998, Vol. 40 369; Richard K Eyman, Herbert J Crossman, Robert H Chaney, and Thomas L Call, 'Survival of Profoundly Disabled People with Severe Mental Retardation', *American Journal of the Disabled Child,* March 1993, Vol. 147; 'Long-Term Survival of Children and Adolescents after Traumatic Brain Injury', *Archives of Physical Medicine and Rehabilitation,* Vol. 79, September 1998; Crichton, McKinnon and White, 'The Life Expectancy of People with Cerebral Palsy', *Developmental Medicine and Child Neurology* (1995) Vol. 37, 567; Strauss, Shavelle, Anderson, *Long-Term Survival of Children and Adolescents After Traumatic Brain Injury.* **14** See 12 at paras 161–3. **15** See 12 at paras 168–9. **16** See 12 at para 170. **17** [2006] QFC 244. **18** See 17 at para 15. **19** [2010] VSC 467. **20** See 19 at para 32. **21** See 19 at para 35. **22** See 19 at para 39. **23** See 19 at para 147.

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