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The Medical Equipment Corner

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Medicare's Current Status with Medical Equipment and Its Possible Effects on Life Care Planning

Through many years of consulting, I have observed instances of life care planners working Medicare pricing/costs into a life care plan. Some planners have curtailed services, especially for medical equipment as a client ages, noting that Medicare would at that point reimburse the cost of that medical equipment. This curtailment is inappropriate not only for several reasons, but mostly because when a client receives a legal settlement, that settlement becomes the evaluee's primary funding. The federal government then assumes a secondary role in funding medical services. As a matter of fact, if an evaluee used Medicare to pay for services previous to receiving a settlement, the evaluee is then required to reimburse Medicare for those previous payments upon case settlement.

What occurs more commonly, though, refers to the Medicare set-aside funds. These are funds, set aside in an interest-bearing account, to reimburse Medicare should the settlement in the future run short, and Medicare takes over as the secondary funding for the client. This is an appropriate deferment of some of the evaluee's settlement, although this presents a new problem: In terms of obtaining some standard and even more complex types of medical equipment, Medicare has broken its own system. More evaluees today, having Medicare as their primary funding, have lost accessibility to needed equipment, such as more complex wheelchairs, not to mention obtaining basic equipment, such as canes, walkers, and even hospital beds.

If you are not aware of this, it is because a series of new regulations, introduced 10 years ago by Centers for Medicare & Medicaid Services (CMS), has now come to a head in the last three years. In January 2016, these "new" regulations became effective; as a result, these regulations have exacerbated the durable medical equipment "problem" which has taken the program another step towards complete breakdown.

Ten years ago, CMS sent a memo to all medical equipment dealers, advising that it was considering employing a competitive bidding system in order to save the Medicare program money. This system would apply to all standard equipment that Medicare covers; e.g., standard wheelchairs, canes, walkers, oxygen, hospital beds, CPAP devices for sleep therapy, etc. However, the competitive bidding system would not apply to custom wheelchairs, which is discussed later in this column. It should be noted that a couple of years before its initiation, Peter Cramton, a professor of economics at the University of Maryland, with a specialty in bids and auctions, explained in a letter to CMS and Congress, signed by 167 other auction experts, that this system had so many poor facets in its structure and certainly was not the correct way to set up a bid system and would ultimately fail.

Since the creation of this competitive bidding system eight years ago, it went into full effect in July 2014 for over 90 percent of the country. The day after its initiation, over 93 percent of the medical equipment dealers in America were no longer able to bill Medicare for equipment. Think about the local pharmacy or small surgical supply dealer that sells canes or rents hospital beds; they no longer have that ability. Evaluees are forced to find on the Internet a list of the 10 to 20 of the closest Medicare-approved dealers now available to them. With any luck, one to three of those dealers on that list are located within 50 miles of the evaluee; the rest are located in other states or parts of the country.

You would then imagine that the few dealers who won bids are the luckiest in that they now have received a growth of over 400 percent in referrals. The only problem is, Medicare now pays these dealers 40 to 45 percent less than the already historically low allowable prices from the last 10 years for both rental and purchases of equipment. Even though the dealers' growth in sales is significantly higher, their actual profit is negligible. Also, along with this substantial growth was a need to hire more customer service representatives and billing personnel to intake the increased orders as well as to obtain the even more regulatory paperwork that Medicare now demands before it pays an equipment claim.

So where has this lead? Hundreds of small dealers who lost their bids have closed their businesses in the last two years; others are struggling to exist. Hospital discharge staff now routinely spends 30 to 50 minutes on hold just to intake orders with one of the few dealers left in the country. Equipment that used to be delivered on the same day now takes days for delivery; many times, the patient is asked to even pick up the equipment.

Another more telling example: One of the largest dealers in the Long Island area of New York (one of the most populous parts of the country) who won their bid found its growth in sales skyrocket so fast, they could not keep up with fulfilling orders. Within one year, the dealer closed because of total profit loss. This in turn has increased more pressure on the remaining dealers in the New York area to service its population.

For its part, Medicare has reported only positive outcomes from the competitive bidding system it imposed, citing cost savings in the 100 million dollar range. It should be noted that the entire medical equipment industry accounts for less than 2 percent of the entire Medicare budget. Further, it has been surmised that had Medicare lessened by 2 percent

the allowables on diagnostic tests, which means that they would have saved the same amount or even more money without compromising evaluees' accessibility to services.

Ongoing, the Medicare program has continually written more regulations, demanding additional paperwork, necessitating inappropriate data and letters from doctors, who, in general, have little to no education or detailed knowledge about wheelchair mobility, as an example. Subsequently, this has led to delaying delivery of complex wheelchair orders three to six months before actual delivery of the product. Many times, through Medicare's audit process, the dealer neglected to dot an "I" or cross a "T," so Medicare simply subtracts what it pays for the chair (complex chairs can cost $15,000 to $25,000 with tilt and recline) and informs the dealer it can protest the rebate through an administrative proceeding. Currently, that administrative proceeding has over a four-year backlog of more than 300,000 claims.

As of January 1, 2016, Medicare did what it was mandated not to do when it created the competitive bidding system: It utilized prices from bids for standard equipment instead of utilizing prices for complex manual and power chairs. Medical equipment dealers will now be paid on 119 parts and accessories prices that are now 25 to 40 percent lower than previous Medicare allowables. As of the printing of this article, there are many complex medical equipment dealers who do not know whether they will be able to either supply or repair an evaluee's power chair through the Medicare program.

How are these regulations affecting the Life Care Planning industry? In terms of Medicare set-aside funds, planners are now partitioning some of an evaluee's settlement away, with the premise that Medicare may have to be reimbursed in the future for equipment purchases. This will be funds that the evaluee will be unable to use, yet there is a very strong likelihood (unless major changes are instituted) that the evaluee will never receive the appropriate equipment; or, even more problematic is the fact that the Medicare program only allows the evaluee a far lesser piece of equipment both in quality and medically needed features that the program no longer covers.

What can life care planners do to assure that the client will receive the appropriate, medically needed equipment? This article is merely a beginning to enlighten life care planners. It is vitally important that, when preparing life care plans, you approach your research process on including the appropriate equipment, the cost for that equipment, as well as including a strong rationale for the specific, appropriate equipment, thereby assuring that the Medicare set-aside funds are adequately funded. Another step that should be taken is by educating the industry as to what is occurring now as it pertains to the medically needed/appropriate equipment. By "industry," I am referring to not only life care planners, but also Medicare set-aside specialists, medical providers, insurers, attorneys and mediators. Education comes in many formats, not only by this article, but also in future literature, at future conferences, by word of mouth, and to initiate petitions for change.

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The Canadian Circle and Beyond

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In our continuance of Canadian-specific articles for the *Journal of Life Care Planning*, the following article by Cara L. Brown discusses the interaction between economists, life care planners, and vocational experts. This article originally appeared in *Brown's Economic Damages Newsletter* and has been has been authorized for reprint here by Ms. Brown. After graduating with a Master of Arts degree in economics and law in 1988, Cara L. Brown established Brown Economic Consulting Inc. in 1991, an economic consulting firm with offices in Alberta, BC, Nova Scotia and New Brunswick. They specialize in the quantification of damages arising from incidents that interrupt earnings, such as personal injury, wrongful confinement or imprisonment, wrongful death, wrongful dismissal, sexual assault, medical malpractice, and divorce. Since 1991, Brown Economic Consulting Inc. has prepared over 10,000 economic assessments and testified in court on more than 130 occasions throughout Canada and the United States.

The Domain of Each Expert: Economists, Cost of Care Experts & Vocational Consultants

By Cara L. Brown, MA

One of the most common questions that arise when quantifying an individual's personal income loss is the necessity for hiring experts with different specialties, and how each expert's domain relates to another expert's domain. Of somewhat lesser importance is the order and timing of the above-noted reports when counsel is putting together a settlement offer, but still crucial in terms of efficiency, minimizing costs, and presenting the case. In this issue of the newsletter, we review the timing and order of common reports that are commissioned in personal injury cases, and their relationship to each other.

There is one caveat – throughout this newsletter, I allude to various forensic economic topics. In the interest of brevity, I have not defined them or discussed them but rather point to other documents or sources to explore the forensic economic topics (in footnotes). In some of these referrals, previous issues of **Brown's Economic Damages Newsletter** are referred to.[1] While it may be somewhat "tacky" to refer to one's other publications, the usefulness for the reader is that the newsletter issues referred to efficiently summarize the relevant economic topic, and points to numerous publications by other authors in the newsletter.

There is one point I wish to emphasize, and in fact cannot overstate the necessity of the following advice: **IF YOU RECEIVE COST OF CARE RECOMMENDATIONS FOR THE PLAINTIFF, YOU MUST HIRE A QUANTUM EXPERT TO CALCULATE THE PROPER COST OF THESE RECOMMENDATIONS.**

Otherwise, *the cost of care/life planning report is virtually USELESS to counsel and the plaintiff*. This will be explained in greater detail below under the heading: "*Why* do you have to hire a quantum expert if you commission a cost of care report?" Suffice to say that if you proceed *without* a quantum expert, you risk seriously underestimating (or omitting altogether) the plaintiff's potential cost of care claim.

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When does the plaintiff need a quantum expert?

The following fact circumstances will typically require the assistance of a quantum expert (be it an accountant, actuary or economist):

If the plaintiff has sustained a permanent partial or total disability such that it will reduce his or her working life capacity or expectancy, or "labour force attachment,"[2] i.e., the number of years s/he can work in the future, and/or the

1. For an index of the topics covered in **Brown's Economic Damages Newsletter**, go to www.browneconomic.com "Subscribe to our newsletter" from the home page and click on the **Newsletter Index** on the left-hand menu of the website page. By clicking on "Back issues" on the left-hand menu, the reader can request the issue selected from the topic index.

2. Defined officially as "the extent to which one is continuously employed over their employment life span…or, as the extent to which one is continuously employed throughout a given year, that is, the hours per week and weeks per year worked" (source: B.J. Skrypnek and J.E. Fast, "Trends in Women's Labour Force Behaviour: Implications for Government and Corporate Policy" (prepared for the *Status of Women Canada's Economic Equality Workshop*, Ottawa: Ontario, November 29-30, 1993), p. 338.)

number or hours per week or weeks per year s/he can work in the future, and/or the intensity/productivity of effort during work hours, and/or impetus to retire earlier than intended;

- If the plaintiff is a child or young adult and the disability sustained from the incident will prevent him/her from attaining the highest level of education that s/he would have pursued, if not for the incident;
- When a plaintiff has to change occupations because of the incident;
- When a plaintiff has to retrain because of the incident;
- When a plaintiff's educational attainment has been delayed because of the incident;
- When a plaintiff has a brain injury arising from the incident;
- When a plaintiff has been rendered unemployable from the incident;
- When a plaintiff has suffered a "loss of opportunity" or "loss of capital asset"[3] from the incident;
- When a plaintiff's impairments from the incident will lead to loss of income at some point in his/her career, but the exact manifestation of how and/or when this loss will occur is unknown;[4]
- When the plaintiff had exited from the labour force at the time of the incident (i.e., s/he was a student, homemaker or non-participant for some other reason) such that the impact of the incident on capacity for work or job performance is not immediately discernible;
- When the plaintiff returns to the same company or the same job, but because of the incident cannot perform with the same intensity or productivity which leads directly to a loss of overtime work, shift differential pay, or any other type of "extra pay" previously available to the plaintiff;
- When the plaintiff claims that s/he would have earned higher income in the absence of the incident, compared to the income level following the incident. This most often arises with self-employed persons[5] who claim that the incident prevented him/her from obtaining work contracts, or medical appointments interfered with amassing billable hours;
- When the plaintiff sustains other pecuniary damages, such as the requirement for aids and services ("cost of care"); loss of household capacity;[6] loss of "marriage ability";[7] loss of disability income; loss of insurability;[8] loss of pension benefits.[9]

If you hire an economist, do you also need an accountant or an actuary?

In some instances, confusion does arise for counsel when confronted with three different kinds of quantum experts: economists, accountants and actuaries. This confusion is compounded by the tendency for some people to label the present value calculations for future losses "actuarial" calculations. In point of fact, actuaries do carry out present value calculations, and in these cases, only because the actuary has done them, can they be called "actuarial" calculations. In point of fact, the present value formula is used in many disciplines: mathematics, statistics, actuarial science, economics, engineering, banking, etc. It is important to note that there is nothing inherently "actuarial" about the present value formula.

As such, in the vast majority of cases involving the income stream of an individual litigant, *only one* of these three quantum experts is required on any given case. This is true even though accountants may appear to have more familiarity with tax tables. Judges have welcomed other quantum experts (such as economists and actuaries) who perform "tax gross-ups" because of the expertise shown by these experts,[10] and the efficiency that is achieved when only

3. For instance, Allan Olson was awarded $660,000 in loss of income damages for "loss of competitive edge" and because he was forced to retire early (at age 61). See *Olson v. General Accident Assurance Co. of Canada* [1998] A.J. No. 544. This author testified for the plaintiff in this matter.

4. For an example of an approach that has been developed to address this fact circumstance, see C.L. Brown and J.C.H. Emery, "The Impact of Disability on Earnings and Labour Force Participation in Canada: Evidence from the 2001 PALS and from Canadian Case Law," *Journal of Legal Economics*, Vol. 16, no. 2, April 2010. Another (shorter) paper is Brown's Economic Damages Newsletter, "Proving economic loss when injury isn't obviously manifest & magnitude of impact unknown at settlement," November/December 2007, vol. 4, issue #8.

5. Interestingly, self-employed persons were surveyed in the 2001 and 2006 PALS surveys. They constituted 11 to 12% of the total respondents who answered questions E13, E54 and E80 in the 2001 PALS; and questions GG7, KK6 and LL8 in the 2006 PALS. This is consistent with the 12% to 16% portion of the Canadian population who are self-employed (sources: 12% is from the "class of worker" statistics compiled by the 2001 and 2006 Censuses, which are based on 20% of the population; 16% is from Statistics Canada's *Labour Force Survey* ("LFS") which samples approximately 54,000 households per month and is the source for Canada's monthly unemployment rates (among other labour market indices).

6. For the most recent newsletter issue on household capacity losses, see Brown's Economic Damages Newsletter, "Housekeeping Claims: Time Use Data from Statistics Canada's 2010 *General Social Survey* (GSS), cycle 24," July/August 2011, vol. 8, issue #3.

7. For more on this topic, see Brown's Economic Damages Newsletter, "Facial disfigurement: How do you measure economic loss and is there a loss of marriage benefit to be claimed?" December 2009, vol. 6, issue #9.

8. This author has written two newsletter issues on this topic: Brown's Economic Damages Newsletter, "Loss of insurability claims (includes case law on this topic from Rick Johnston of Johnston Franklin in Nanaimo, BC)," February 2008, vol. 5, issue #2; and "Loss of Insurability: a new head of damage?" May 2005, vol. 2, issue #5.

9. This author recently wrote about pension loss claims in Brown's Economic Damages Newsletter, "Pension losses: unique aspects of pension benefits claims," April 2010, vol. 7, issue #4.

10. This author has been qualified numerous times across Canada to testify on behalf of calculations involving after-tax income, and on tax gross-ups (on future lump sum awards for loss of income, housekeeping capacity, pension benefits and cost of care).

one expert performs the loss calculations and then augments the loss tables with a tax gross-up.[11] Simply put, it is cost and time prohibitive to employ two kinds of quantum experts when one can do the requisite calculations. Like economists who calculate after-tax income and tax gross-ups, accountants work with economic data (to varying degrees).

Having addressed the intersection of experts when calculating income streams of individuals, it is the specialty of "labour economics" that is the 'true' orientation needed to become a forensic quantum expert. This is because it is the domain of labour economics which studies an individual's labour force participation and studies the determination of wages (and wage gaps between groups). Along with focusing on the decision of *when and how much to work* (the "labour force participation" question), economists are experts in projecting wages, since three components of wage growth must be addressed (wage inflation,[12] productivity,[13] and "real" wage growth). It is also the domain of labour economics where *regression analysis* is applied to determine the varying contribution of factors on the individual's level of labour force participation and wage levels.[14] Actuaries are trained in the mathematics department and specialize in the evaluation of risk, for instance when determining the value of premiums for life insurance policies based on the probability that the policy-holder will die; or they determine the total funds required by a pension plan to be able to pay its retirees, given the contributions of existing pension members and the life expectancy of active pension members who are receiving pension payments (and other factors). This is why actuarial reports in civil litigation tend to focus on the mortality contingency and, to a lesser extent, the disability contingency[15] but ignore the remaining economic contingencies that arise in the study of labour economics, such as negative contingencies like the chance for unemployment, labour force participation, part-time work; or positive contingencies like the value of non-wage benefits (i.e., fringe benefits). It is also why actuarial reports about individual litigants are silent on the determination of wages and salaries, i.e., the analysis of the individual's income history, statistical benchmarking that is critical to project the individual's age-earnings profile,[16] and the cessation of the income stream (i.e., labour economics has spawned a significant literature on the retirement age decision, given it is difficult to model because it is a highly personalized decision).

Accountants are helpful when the individual was (or will be) self-employed and financial statements need to be analyzed. Having said that, accountants (like actuaries) are shy about the determination of wages and salaries and contingencies, projecting the age-earnings profile, and predicting retirement age. Accountants are not typically trained in these areas of study. A very useful combination is the joining of forces of forensic economist and the *plaintiff's* own accountant or company accountant. The latter often provide insight into the underlying expenditures in the financial statements that cannot be discerned by simply studying the summary position embodied in the yearly financial statements. Moreover, the plaintiff's accountant often yields information about the connection between companies (say, between the operating and holding company) and the organizational structure of the companies that may not be immediately apparent.

Nonetheless, forensic economists have a great deal to offer when forecasting the earnings of self-employed persons: age-earnings profiles still need to be projected, and economists have published many studies that compare the

11. If one quantum expert did not calculate both heads of damage, duplication would result because in order to calculate the tax gross-up, the expert must first mimic the original loss calculations since they flow directly into the tax gross-up calculation. For more on this topic, see **Brown's Economic Damages Newsletters** entitled, "Impact of Taxes and Tax gross-ups (on subrogated & WCB claims)," August 2010, vol. 7, issue #8; and "Economic Losses: Personal income tax & gross-up," June 2007, vol. 4, issue # 5.

12. Often, actuaries and accountants will use the *Consumer Price Index* ("CPI") to adjust wages to different year's dollars in the past loss period. This is not correct; even Statistics Canada has gone on record to say that the CPI should be used to determine price inflation (of goods and services), not wage inflation. For referrals to literature on this topic, see **Brown's Economic Damages Newsletter** entitled, "Wage Inflation Data: CPI versus SEPH," April 2009, vol. 6, issue #3.

13. See the economic references culled in **Brown's Economic Damages Newsletter** entitled, "The Productivity Rate: what is it, and how is it determined?" February 2012, vol. 9, issue #1.

14. For instance, regression analysis is the tool which is used to calculate the potential wage deficits for disabled persons vis-à-vis non-disabled persons in C.L. Brown and J.C.H. Emery, "The Impact of Disability on Earnings and Labour Force Participation in Canada: Evidence from the 2001 PALS and from Canadian Case Law," *Journal of Legal Economics*, Vol. 16, no. 2, April 2010. The same would be true for analysis of the impact of trade disruptions on the incomes of workers in any given industry: regression analysis would be used to calculate the contribution of various economic factors to reduced output and/or reduced wages of the traded commodity.

15. Notably, these two contingencies have the smallest impact on the calculations because the probability of dying before retirement age (assuming normal life expectancy) is very small, as is the probability of experiencing an event that causes long-term, permanent injury with no recovery. It is the labour market contingencies which impact the calculations to a much greater degree than the mortality or disability contingencies.

16. For economic references to the definition and discussion about age-earnings profiles, see "Age-earnings profiles: occupation- and individual-specific "real" growth," October 2010, vol. 7, no. 10; and about the process of statistical benchmarking, see **Brown's Economic Damages Newsletter** entitled, "Matching data sources to plaintiff salaries," March 2009, vol. 6, issue #2.

different attributes of employment and earnings between self-employed persons and wage-earners.[17] Evaluating the market value of the services provided by spouse or children, who are paid according to income-splitting for tax purposes, requires statistical benchmarking. Retirement age is also an important assumption in self-employed cases because entrepreneurs often demonstrate labour force participation with a stronger attachment than do wage-earners, and do not have company-sponsored pension plans to finance retirement.[18]

There are two other key areas in which quantum experts differ in terms of training. The first pertains to the determination of interest or discount rates for the purpose of present valuing the lump sums of future awards. While actuaries produce an excellent resource that tracks *historical* interest rates (real and nominal),[19] economics is the discipline that has produced macroeconomics models which use regression analysis to predict interest rates depending on other economic variables. Indeed, all of the forecasting agencies that predict economic indicators use macroeconomic models and are staffed by economists.

The second is the determination of personal consumption rates ("PCRs") that are used in wrongful death cases to deduct the decedent's personal variable expenditure which is no longer needed by the surviving family members. This topic arises out of the study of consumption, expenditure and savings of which there is a large collection of economic articles. In almost all cases in which this author has been involved, accountants and actuaries must resort to referencing published PCRs that have been derived by economists.[20] Indeed, the proper derivation of PCRs is through regression analysis, used more often by economists than by actuaries or accountants.[21]

The discussion above highlights some of the differences between quantum experts. The most important point is that in almost all cases, *only one type of quantum expert is required in each case*.

If you hire a quantum expert, do you need a *vocational* expert?

Not necessarily: only in specific fact-based circumstances. Because most vocational experts are trained as psychologists, their specialty pertains to measuring aptitudes and aspirations. Examples of cases in which a vocational expert might be required include:

- In brain injured cases[22]
- In cases where the plaintiff must retrain because of the incident
- In cases where the plaintiff was out of the labour force at the time of the incident (i.e., as a student, homemaker or non-participant for some other reason). In these cases, a vocational expert is critical to providing an opinion as to what the plaintiff *could have done* (if not for the incident) and *can now do*
- When the plaintiff returns to the same company or the same job, the vocational expert can be key in determining whether or not s/he has suffered a "loss of capacity" or "loss of capital asset"
- The vocational expert could confirm the diagnosis of *severity* or *type* of disability if s/he is familiar with the PALS analysis[23] and/or assist the plaintiff in completing the PALS questionnaire[24]

17. Brown Economic has purchased custom tabulations from Statistics Canada that reports self-employment income depending on its structure (i.e., sole proprietor or incorporated owner, with or without paid help) from the 2001 and 2006 Censuses and the 2011 *National Household Survey* by NAICS industry codes. We also consult Industry Canada's *Small Business Profiles* by NAICS industry code, geography and company structure (available for the years 2006, 2008, 2012 and 2013). Another source that can be of assistance is Statistics Canada's *Financial Performance Indicators* (published in 1995-97, 2003-05 and 2007-09) for information about sales trends and financial ratios. Unlike salary data for wage-earners, which is based on *occupation* code (National Occupational Classification System – NOC-S), typically we want to review income data for self-employed persons by industry code (North American Industry Classification System – NAICS) since the industry sector has more influence on wage levels of entrepreneurs than does a strict job title.

18. For literature on this topic, see Brown's Economic Damages Newsletters entitled, "Self-employment: analyzing wages and profits when employment status determines compensation levels," June 2011, vol. 8, issue #5; and "Self-employment: complications that can arise when dealing with the self-employed (record-keeping, income-splitting, retirement age and failure rates of business," September 2011, vol. 8, issue #7.

19. See, for instance, the Canadian Institute of Actuaries' Report on Canadian Economic Statistics 1924-2011 Final Release (annual).

20. For a "user guide" on determining quantum awards in fatality cases, including numerous references to the PCR literature, see **Brown's Economic Damages Newsletter** entitled, "FATALITY CASES: Unique aspects related to quantum awards," November 2011, vol. 8, issue #9. This newsletter can be accessed directly from our home page at www.browneconomic.com.

21. For a description of the regression models used to derive PCRs in the US and Canada to derive PCRs, see various issues of *The Journal of Forensic Economics* (this journal is peer-reviewed and published by the National Association of Forensic Economics, NAFE). This author has published two articles in this journal on Canadian PCRs: one in 2004 (using Statistics Canada's *Survey of Household Spending* 2000) and the other forthcoming in 2012 (using Statistics Canada's combined *Surveys of Household Spending* 2007-08). Contact the author at cara.brown@browneconomic.com about these articles.

22. In some cases, this author has seen counsel hire not only a vocational expert but also a neuropsychologist.

23. This author has had productive discussions with various vocational experts and psychologists about using the PALS questionnaire. Some are familiar with and/or endorse this author's studies of the HALS and PALS databases.

24. The 2001/2006 PALS questionnaire is not publicly available. This author was able to assemble the questionnaire using the actual PALS survey questions; studies published by Statistics Canada; and in consultants with senior analysts at Statistics Canada. To obtain a PALS questionnaire from Brown Economic, the reader can either email us at: help@browneconomic.com or consult this author's text published by Thomson Reuters, entitled, *Damages: Estimating Pecuniary Loss*, loose-leaf (Toronto, Ontario: Canada Law Book, a Thomson Reuters business), 2011, appendix 5-2 in chapter 5.

- In cases where the plaintiff alleges a delay in education or training because of the incident
- In cases where the plaintiff's 'capacity for work' is compromised because of the incident[25]
- In cases involving children and young adults
- To confirm that the plaintiff is unemployable because of the incident

From the viewpoint of a quantum expert, **the most critical aspect of the vocational report are the post-incident jobs identified by the vocational expert which the plaintiff can now undertake, given his/her aptitude level**. The quantum expert subsequently relies on these *post-incident jobs* to create the *with-incident* scenarios. The quantum expert is unable to comment on or evaluate any of the vocational expert's recommendations, since that is outside of the quantum expert's qualifications.

In cases involving children and young adults, the vocational expert needs to go one step further so that the quantum expert can use his/her report: the vocational expert must *identify the highest educational attainment the plaintiff could have achieved* if s/he had not been injured. (Obviously, this cannot be done in brain-injured cases, since the injury itself proves a barrier to determining the pre-incident capabilities). If the quantum expert does not receive any guidance from the vocational expert on this point, the quantum expert is forced to rely on the family's educational achievements and the economics literature on the predictors that can assist in projecting the child's eventual socio-economic status, given his/her own aptitudes (IQ score, grades, birth order, parental education levels, sibling(s)' educational levels, and 'home atmosphere' and parental expectations for the child). There is a consensus amongst the economics literature that these variables – which can be observed – can predict 50% of the child's eventual socio-economic status. The other predictors are unobserved and cannot be evaluated by quantum experts (talent, drive, ambition, aspirations, emotional intelligence and life circumstances).

In cases where physical injury is paramount, and the impact of the incident interferes with the plaintiff's fulfillment of job activities that require physical exertion, in some cases it is more useful for counsel to have a *functional capacity report* prepared. This type of report is usually done by occupational therapists or physiotherapists with a view to testing and measuring the plaintiff's physical ability to carry out the job demands set out in the job title.

There are also cases where the impact of the incident has rendered the plaintiff virtually unable to fulfill the physical duties of the plaintiff's pre-accident job. In such cases, a vocational expert will be crucial, since this expert must render an opinion as to what sedentary job duties the plaintiff can now fulfill, given that s/he can no longer rely on his/her physical attributes. This often involves a recommendation by the vocational expert for retraining, and typically the vocational expert undertakes aptitude testing to discover which sedentary jobs the plaintiff could be capable of fulfilling.

Finally, we have relied on vocational experts or psychologists for opinions on whether the *plaintiff's prospects for cohabitation or marriage with a partner have been reduced because of the incident*. This is **key** evidence if counsel is asserting a "loss of marriage benefit" claim, since quantum experts only calculate the prospective loss of this reduced capacity; the quantum expert cannot render an opinion as to whether the incident has *caused* the reduced capacity for the plaintiff.[26]

Caveat regarding vocational reports

In some instances, the author comes across a vocational report that includes salary data, typically from Statistics Canada's Census (2006 is the most recent Census).

Notably, any data included in a vocational report will differ substantially from the data used by the quantum expert. There are several reasons for this:

(i) The vocational expert will draw on *published* data from Statistics Canada's website. This differs considerably from the *unpublished*[27] data purchased by all quantum experts. The reason for this is that the publicly available Census data is much broader than the custom tabulations purchased by quantum experts: it will provide salary data for only two or three human capital characteristics, such as for gender, occupation and province or CMA; or by gender, age and education level. Both of these combinations omit other defining human capital characteristics. In contrast, custom tabulations purchased from Statistics Canada will "nest" the salary data by six human capital characteristics: gender, age,[28] education level, occupation, geography, and employment status (full-time, full-year rather than an amalgamation of part-time and full-time status).[29]

(ii) The vocational expert will typically not know how to use the data to construct an age-earnings profile. It is common for data users who are not familiar with the data to

25. Counsel might want to combine a vocational opinion with the results of a functional capacity evaluation in these cases, since the 'capacity for work' may be compromised both by mental *and* physical impairments.
26. The quantum expert can, however, provide statistics which show that disabled persons have a lesser propensity (or chance) of marrying or cohabiting.
27. It is important to note that "unpublished" data is not inferior to "published" data; rather, it simply means that Statistics Canada charges users for wage data that is nested to several variables and do not provide this data free of charge on their website. Partly this is due to the fact that few users require data that is nested to several variables.
28. Age acts as a proxy for years of work experience.
29. The employment status is important because negative contingencies for unemployment, non-participation, disability and part-time work can only be applied to full-time, full-year data. If the data is *not* full-time, full-year, then applying these contingencies will constitute double-counting.

assume that an "all ages" salary figure[30] can be used as the entry-level salary. Not only does this overstate the plaintiff's initial earnings, the overstatement will be duplicated in the discounting process, since salary figures at younger ages are discounted less into the future.

(iii) The vocational expert will not be familiar with, or will fail to present, other sources of salary data. It is incumbent upon the quantum expert to locate and evaluate *all* sources of wage data (unless it is cost prohibitive) and then see how they compare to the other sources of wage data.[31] Vocational experts are typically not aware of all sources of data, and are not trained in how to evaluate them vis-à-vis each other.

(iv) The vocational expert will typically not use the salary data to "benchmark" the plaintiff's income history. As a result, the salary data included in the vocational expert's report could be unrealistic or inapplicable given the plaintiff's income history.

(v) The vocational expert could provide salary data for some occupations but not others, and thus the data is incomplete for the without- and with-incident scenarios that will be presented by the quantum expert.

(vi) The vocational expert typically has no training to locate data sources for self-employed persons.

The trouble with including salary information in a vocational report is that firstly, it is unnecessary, since the quantum expert will *not* rely on the data (for the reasons stated above). Second, conflicting salary data could put the experts at odds with each other and open up cross-examination from opposing counsel as to which dataset is the appropriate one. Since only one salary database can be said to be accurate, the expert who produces the other salary database that is not as accurate will be needlessly subject to cross-examination that could reveal a weakness in the vocational report.

Even more troubling for quantum experts are vocational experts who attempt to calculate the lifetime loss for the plaintiff. There is simply *no possible way* that a vocational expert has the training to locate and evaluate the appropriate wage data sources; know which positive and negative contingencies to use and what data is the most appropriate for them; be aware of the retirement age literature; and finally have access to a mathematical model which is able to present value the future losses. Counsel who encounter vocational reports with this kind of opinion in them may wish to advise the vocational expert to exclude it.

If you hire a quantum expert, do you need *a cost of care* expert?

Not necessarily: *only if* the plaintiff has a requirement for goods and/or services arising from the incident that are ongoing into the future. Obviously, the quantum expert cannot make this determination: it has to be undertaken by an expert who, firstly, interviews and tests the plaintiff's functional abilities; and secondly, can read and interpret the various medical reports in terms of each medical practitioner's prognosis for the plaintiff, and whether the plaintiff's needs will change in the future.

In most cases, we have noticed that the cost of care expert has training as an occupational therapist.

***Why* do you have to hire a quantum expert if you commission a cost of care report?**

If you hire a cost of care expert, you definitely are in need of a quantum expert. Otherwise, the cost of care expert's recommendations for good and/or services will not be translated into the lifetime costs which will be incurred by the plaintiff. *Simply totaling the cost of monthly medications or annual services gravely understates the ongoing cost of these recommendations over the plaintiff's lifetime*. **IT IS A SERIOUS OMISSION TO FAIL TO HAVE THE COST OF CARE REPORT CONVERTED BY A QUANTUM EXPERT.**

It is also important for counsel to recognize that *even if* the cost of care expert attempts to calculate the *periodic* cost of a good or service (i.e., if it is replaced at a different interval than annually), these calculations are incorrect. Our mathematical model accounts for periodic replacement of goods and services, whether they are needed every 2, 5, 7, 10, or 20 years, etc. etc. in the future. Along with these projections, the mathematical model takes into account that the lump sum awarded for the particular item can be invested in the intervening years (i.e., between years 2 and 10, if the frequency of replacement is every 10 years) and earn interest. Thus, this lump sum is "discounted" for the amount of this interest. Our cost of care table shows these specific assumptions and also provides a solitary value for each good or service recommended.

Our mathematical model presents not only the discounted lump sum for *each* good or service recommended – regardless of the frequency of replacement – it also allows *different starting and ending times* for the particular item; or only be needed for a set duration after the date of settlement (i.e., it is needed right away but ceases in 10 years). Or an

30. The difficulty with identifying this data as representing "all ages," or rather mid-career earnings is that the data is not specified for this factor. For instance, obtaining salary data by gender, occupation and province is that it automatically represents an "all ages" average but this is not immediately obvious, since this identifying factor is not mentioned.

31. At a minimum, the quantum expert typically includes data from the Census (for the years 1996, 2001 and 2006) and from the 2011 *National Household Survey*; Service Canada's "Working in Canada" wage database; management consulting surveys (like Towers Watson, Merit Contractors' Association, Insight Canada and Mercer surveys); trade association surveys; collective agreements; and other sources of information.

item could be recommended but not required until year 5 following the date of settlement. The cost of care expert has no mechanism for dealing with these anomalies.

In point of fact, not only do quantum experts ignore any of the mathematical calculations that might be contained in the cost of care report, but in fact we "double-check" the arithmetic underlying every recommendation, since often numerous variables underlie the cost of one item (i.e., the cost of care expert may give only the cost per pill of a medication, but then stipulate that there are "x" many pills in each bottle, and "y" pills are required each month (which differs from the amount of pills in each bottle)). I can attest to the finding that we often locate arithmetic errors in the cost of care reports (especially if the cost of care expert fails to utilize a spreadsheet program to summarize the recommendations), and we correct them before using our model to calculate each item's lump sum cost. In many cases, we also have to research the applicability of HST or GST for each item, as many cost of care experts across the country fail to include this step in their reports.

The final compelling reason for having a quantum expert convert the cost of care report to lifetime values is that in most cases, a tax gross-up is required. Not only do we ignore the cost of care expert's "calculations," there is not one cost of care expert in the country who can approximate a tax gross-up.

A final note on the tax gross-up: **do *not* settle for having your quantum expert simply adjust the discount rate for an assumed "marginal" tax rate.** Not only is this unnecessary (most quantum experts have to routinely calculate after-tax incomes, so have a program available to calculate the tax gross-up), *this kind of adjustment cannot in any way be as precise as a year-by-year tax calculation* comparing the tax burden with and without the interest income from the cost of care award using the most recent federal and provincial budgets, which becomes the tax gross-up. This is doubly true when one considers that medical expense tax credits for various items, plus the disability tax credit, can affect the tax gross-up calculation.

Timing and sequence of expert reports

In virtually every case, **the quantum expert will be the final expert** you will need to formalize your plaintiff's claim into a mathematical sum. (The only exception to this is that if a structured settlement is being contemplated, the structured settlement expert will sometimes require a copy of the quantum expert's report, or at least a sense of the lump sum which will be converted to an annuity).

The quantum expert requires *both* the vocational expert report and the cost of care report to complete his/her quantum report. While a cost of care "addendum" can always be added at a later juncture after the loss of income is estimated, the economic loss report will almost always be incomplete without the vocational expert's report. The reason for this is that the vocational expert typically recommends the *with*-incident career paths used by the quantum expert. When children or young adults are plaintiffs, and the vocational expert is commenting on both the *without*-incident possibilities and then the impact of the incident on the *with*-incident scenarios, then there is simply no use in commissioning a quantum report before the vocational report is ready.

It is also ideal for the quantum expert to have the cost of care expert report *before* s/he prepares the calculation of losses, since the tax gross-up attached to the cost of care fund is influenced by the magnitude of the loss of income award. Similarly in wrongful death cases, the tax gross-up is levied on the loss of dependency award on income *and* valuable services.

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