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The Importance of *Statistically* Measured Worklife Expectancy

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Worklife Expectancy can be either assumed to a particular age or statistically measured. In cases of permanent partial disability, it is essential to statistically measure worklife expectancy in the post-injury scenario if the client retains the capacity to perform work and earn money. Failing to do so leads to a substantial underestimation of the lifetime loss of future earning capacity. This article discusses the importance of applying statistically measured worklife expectancy and builds upon previously published articles concerning measuring worklife expectancy in three ways: (1) updated data (2013-2017 versions of ACS data), (2) four case scenarios where utilization of ACS data is important, and (3) an integration of how measurement of worklife expectancy fits into the damages model.

Keywords: Worklife Expectancy, Forensic Rehabilitation, Vocational Rehabilitation, American Community Survey

Worklife Expectancy can be either assumed to a particular age or statistically measured. In cases of permanent partial disability, it is essential to statistically measure worklife expectancy in the post-injury scenario if the client retains the capacity to perform work and earn money. Failing to do so leads to a substantial underestimation of the lifetime loss of future earning capacity.

Let's assume a client acquires a traumatic brain injury and has permanent limitations in short-term memory, concentration, and making decisions. The client also reports headaches and fatigue. After missing two weeks of work due to the injury, the client returns to work at the same position earning the same amount as before with yearly increases. Is there a loss? If there is a failure to consider the client's post-injury worklife expectancy, the answer would likely be no. It does not appear that the client's lifetime earnings are impacted. However, the lifetime loss of future earning capacity has two components: annual earning capacity (how much) and worklife expectancy (how long). Worklife expectancy accounts for many factors such as: retiring sooner, the difficulty retaining and gaining employment, and the difficulty transitioning between jobs. According to the National Longitudinal Survey of Youth (NLSY), the average American worker transitions jobs 11.7 times between ages 18-48 (U.S. Bureau of Labor Statistics, 2017). These transitions are more difficult for individuals with disabilities. The purpose of this article was to define statistically measured worklife expectancy, explain its application, and provide examples of its utilization. This article is not meant to provide every basis for the application of a statistical worklife expectancy as each case is unique.

Human Capital

Earning capacity is the sum total of what one brings to the marketplace cognitively and physically. Physical and cognitive attributes comprise human capital, and it is this human capital that enables a person to produce cash flows over a worklife. Human capital is defined by economists as the acquisition of knowledge, skill, and understanding as a result of education, training, and experience that al-

lows an individual to sell his or her services in the marketplace in exchange for wages and fringe benefits (Mankiw, 2014). The predictors of human capital are cognitive and physical ability.

Developmental career theorists have suggested that individuals typically go through a series of stages before settling into a career (Swanson & Fouad 2014). Young children and adolescents experience a fantasy stage. In late adolescence and early adulthood, an individual may experience a period of exploration at which time a variety of career options are explored, assessed, and evaluated. As the worker matures, he or she tends to become established in a career (but, may continue transitioning jobs due to increased opportunities and human capital). One then proceeds through a period of maintenance and, finally decline. This vocational process is conceptually related to the economic concept of the Age-Earnings Cycle. There is a high correlation between age and earnings; as we become older, our earnings tend to increase. As we develop experience in a particular task, we become more productive in that task and the labor market will pay a premium for enhanced productivity (Gibson & Gibson 2017). It should be noted that one's ability to be productive is based on the acquisitions of skill, the cognitive and physical aptitudes that one brings to the marketplace, and, of course, the level of educational attainment achieved by the worker.

The ability to acquire, retain, access, and effectively utilize human capital is equally important. Individuals with disabilities have difficulty with some or all of these essential aspects. As an example, a plumber with lower back pain retains the knowledge of how to perform job tasks but experiences physical pain that limits his ability to *effectively utilize* human capital. A child with a traumatic brain injury progresses in school and is likely to complete a high school diploma with accommodations, but experiences deficits in memory and sustained attention that limit her ability to *retain*, *access*, and *effectively utilize* human capital.

It is important to note that retraining into a new job or accommodating the current job relates to annual earning capacity rather than worklife expectancy. A sales representative that sustains an ankle injury that impacts her mobility may take longer to perform the same tasks as before. She may experience greater difficulty transitioning between jobs that have greater travel requirements and may retire sooner. She experiences difficulty *effectively utilizing* her human capital due to her physical pain. While she is not limited in her ability to perform specific tasks and earns the same salary, her worklife expectancy is reduced.

Statistical Worklife Expectancy & The American Community Survey

An individual's worklife expectancy is the 'how long' of lifetime earnings. It provides the number of years of future earnings that should be considered when estimating an economic loss due to permanent partial disability. A worklife expectancy could be assumed (to Social Security or retirement age) but that is usually inaccurate. Instead, worklife expectancy can be statistically measured. Work-life expectancy, when statistically measured, is an average that combines the probabilities of life, participation in the labor force, and employment rates (LPE). It adjusts for periods when an individual may be out of the labor force. It is driven by variables such as age, gender, education, and disability status. The probability of life is derived from the United States Life Tables (Arias et. al 2017). The probability of participation and employment (PE rate) is derived from the American Community Survey Public Use Microdata Sample files (U.S. Census Bureau 2019).

The worklife methodology used in an economic assessment of earning capacity loss was introduced as the LPE method by Brookshire and Cobb (1983). By using this methodology, a person's earning capacity is reduced by the probability of being alive and employed. The U.S. Census Bureau's American Community Survey (ACS), the largest annual survey in the United States, provides informative data pertinent to individuals with disabilities. It is considered the gold standard by economic researchers in examining the earnings and employment levels for persons with a disability. The Disability Statistics Rehabilitation Research and Training Center for Economic Research on Employment Policy for Persons with Disabilities publishes an annual disability compendium of disability data from the ACS.

The American Community Survey was designed to provide key demographic data to a wide variety of users. It is a self-reported survey that is conducted on an annual basis by the U.S. Census Bureau. Its large sample size contributes to the robustness and reliability of ACS-generated estimates. From 2005 to 2007, the ACS asked questions to respondents pertaining to physical disability. Namely, a physical disability is defined by a respondent indicating a long-lasting condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying.

From 2008 to present, the ACS has defined cognitive and mobility disabilities as follows. Persons are defined as having a cognitive disability if they are identified as having difficulty remembering, concentrating, or making decisions because of a physical, mental, or emotional condition lasting 6 months or more. Persons are defined as having a mobility disability if they are identified as having serious difficulty walking or climbing stairs. A severe disability exists when an individual reports difficulty with self-care or going outside the home alone.

Work-life Expectancy Tables and Trends

Four tables are presented with the ACS worklife expectancy estimates for males and females with educational levels ranging from a high school diploma to a master's degree, based upon disability status. These tables consider functional limitations that can be considered "non-severe" (i.e. the respondents in the ACS that report difficulty with self-care or going outside the home alone are excluded). The 2013-2017 ACS data is utilized in generating the estimates provided in Tables 1-4, however, the physical disability estimates are imputed due to the discontinuation of the survey question in 2007 due to the survey's changed focus on mobility disabilities. As shown in Table 1, the statistical worklife expectancy for 25-year-old males with various educational attainment levels (high school diploma, associate's degree, bachelor's degree, and master's degree) and disability statuses (no disability, mobility, physical, and cognitive). Table 2 provides the statistical worklife expectancies for 50-year-old males. Table 3 provides the statistical worklife expectancies for 25-year-old females. Table 4 provides the statistical worklife expectancies for 50-year-old females.

Table 1
Statistical Worklife Expectancies for Males, age 25

	No Disability	Mobility	Physical	Cognitive
HS Diploma	34.0 years	16.4 years	19.9 years	15.4 years
Associate's	35.9 years	21.4 years	24.7 years	20.3 years
Bachelor's	37.3 years	25.9 years	28.1 years	24.3 years
Master's	37.7 years	28.1 years	30.9 years	25.6 years

Table 2
Statistical Worklife Expectancies for Males, age 50

	No Disability	Mobility	Physical	Cognitive
HS Diploma	13.7 years	6.1 years	7.1 years	5.6 years
Associate's	14.6 years	7.5 years	9.2 years	6.6 years
Bachelor's	15.4 years	10.0 years	10.4 years	8.3 years
Master's	15.5 years	10.9 years	11.6 years	8.0 years

Table 3
Statistical Worklife Expectancies for Females, age 25

	No Disability	Mobility	Physical	Cognitive
HS Diploma	28.3 years	15.9 years	18.3 years	14.3 years
Associate's	33.0 years	21.8 years	24.9 years	20.8 years
Bachelor's	32.8 years	25.5 years	27.7 years	23.1 years
Master's	34.9 years	29.5 years	30.6 years	25.5 years

Table 4
Statistical Worklife Expectancies for Females, age 50

	No Disability	Mobility	Physical	Cognitive
HS Diploma	11.7 years	6.4 years	7.3 years	5.4 years
Associate's	13.5 years	8.6 years	9.5 years	6.9 years
Bachelor's	13.2 years	9.4 years	10.4 years	7.2 years

Three main trends are immediately apparent from the tables: (1) males have higher worklife expectancies than females, (2) individuals with higher levels of educational attainment have higher worklife expectancies, and (3) when comparing individuals with physical, mobility, and/or cognitive functional limitations to their counterparts with no disabilities, it is apparent that a large reduction in worklife expectancy exists; this differential exists regardless of age, educational attainment, and gender.

Applying Statistical WLE

Prior to completing an analysis of loss of future lifetime earnings, permanency of impairment must be either established by a medical professional or assumed by the vocational/economic expert (this is sometimes necessitated due to medical experts opining at the time of trial rather than in a written report). The impairment must limit the individual in terms of his or her physical, cognitive or sensory ability, and that impairment must translate into some limitation associated with performing work. There is a five-step process to practically assess the lifetime loss of future earning capacity: (i) determination of pre-injury annual earning capacity, (ii) determination of pre-injury worklife expectancy, (iii) determination of post-injury annual earning capacity, (iv) determination of post-injury worklife expectancy, and (v) present value calculation of the loss. This five-step process considers the RAPEL factors in the determination of both pre- and post-injury earning capacity and worklife expectancy. This process is integrated with the RAPEL method as defined in Weed and Field (2001) and Field (2008). The vocational expert considers the individual's *R*ehabilitation plan, *A*ccess to the labor market, *P*laceability, *E*arning capacity, and *L*abor force participation.

Mathematically, every expert opining about a future loss of lifetime earning capacity must develop an opinion of pre-injury earning capacity, pre-injury worklife expectancy, post-injury earning capacity, and post-injury worklife expectancy. An economist then determines present value. The five-step method outlined incorporates the five RAPEL factors. The rehabilitation plan, access to labor market, placeability, and earning capacity all relate to the post-injury earning capacity. Access to labor market, placeability, and labor force participation all relate to post-injury worklife expectancy. Statistical

worklife expectancy, when combined with professional vocational judgment, helps to reflect the most likely outcome for the client to a reasonable degree of professional probability.

The caveat to utilizing statistical worklife expectancy in the post-injury scenario is, of course, when the client is 100% occupationally disabled from substantial, gainful employment. This is often determined by reviewing medical records and considering the client's functional limitations and past work history. Four case examples are presented where statistical worklife expectancy was utilized to assess the future loss of lifetime earning capacity. These examples are simplified for ease of demonstration and should not be considered as complete representations of all factors considered.

Case Example #1: Ava Washington (21-year-old Female, Lead Paint Poisoning)

An assessment was made of Ava Washington's loss of capacity to perform work and earn money as a result of deficits sustained through exposure to lead-based paint during early childhood. In conducting the assessment, Ms. Washington was interviewed and vocational testing was completed. The interview and information reviewed reveal Ms. Washington to be a 21-year-old woman with a high school diploma. She is currently pursuing a B.S. degree in Accounting with an expected graduation date of December 2019. Over her worklife, she has functioned as a personal care coordinator, home health aide, mail carrier, clerk, and customer service associate.

Ms. Washington's career goal is to become a small business owner completing taxes and financial advising services. Pursuing CPA certification is also a potential path Ms. Washington is considering. During early childhood, Ms. Washington was exposed to lead paint which has led to cognitive deficits. According to the narrative neuropsychological report of Dr. Smith:

> Ava earned scores in the Average Range on the WAIS-IV and in the Average to High Average Range on the WRAT-IV suggesting that general mental abilities and basic academic achievement are intact. Nevertheless, test results and Ava's self-report indicate that she has specific cognitive deficits. For example, she obtained a low score (Borderline Impaired) on the Information subtest, part of the VCI of the WAIS-IV. The Information subtest was designed to assess the acquisition, retaining and retrieving of factual information. In addition, she encountered difficulties in the cognitive domain of memory (CVLT-II and RCF). The pattern of her performances on these measures indicate intact ability to comprehend and store new information but problems accessing that information without being provided with sufficient cues. Indications of problems sustaining attention, despite good quantitative scores, appear in her performances on several diverse measures of mental abilities (Ruff, SRT, TMTB and Klove).

In considering the effects of Ms. Washington's disability on annual earning capacity and worklife expectancy, I used data from the US Census Bureau's American Community Survey (ACS) dealing with cognitive disability.

As a result of lead paint exposure Ms. Washington meets the ACS definition of cognitive disability. Persons are defined as having a cognitive disability if they are identified as having difficulty remembering, concentrating, or making decisions because of a physical, mental, or emotional condition lasting 6 months or more.

Ms. Washington was administered three standardized vocational tests: *Beta IV, Career Ability Placement Survey, and COPS Interest Inventory.* Ms. Washington scored in the 23rd percentile (below average) on the Beta IV. Ms. Washington's scores reflect a high career placement ability in the following career clusters: "Technology: Skilled", "Consumer Economics", "Outdoor", and "Arts: Skilled". Out of the 14 career interest clusters measured by the COPS Interest Inventory, Ms. Washington's career interest was at the 75th percentile or higher for 3 career clusters: "Business: Professional", "Business: Skilled", and "Clerical".

Based on her projected level of educational attainment, Ms. Washington's pre-injury lifetime power to work and earn money is reasonably represented by the average age-earnings that accrue to females with a bachelor's degree and no disability. This figure is $55,980.

Ms. Washington's post-injury lifetime power to work and earn money is reasonably represented by the average age-earnings that accrue to females with a bachelor's degree and a non-severe cognitive disability. This figure is $45,253. Ms. Washington's pre-injury worklife expectancy is like that of an average female with a bachelor's degree and no disability. Her pre-injury worklife expectancy is 34.1 years from age 23 according to the American Community Survey.

Ms. Washington's post-injury worklife expectancy is like that of an average female with a bachelor's degree and a non-severe cognitive disability. Her post-injury worklife expectancy is 23.8 years from age 23 according to the American Community Survey. Ms. Washington's lifetime loss of future earning capacity is $1,059,540, stated in terms of present value.

Case Example #2: Tyrone Bell (3-year-old boy, Brachial Plexus Injury)

An assessment was made of Tyrone Bell's loss of capacity to perform work and earn money. Based on the records reviewed, Mr. Bell, a 3-year-old male, was diagnosed with C5 and C6 nerve root avulsions, nerve damage and resulting injury to his right shoulder as a result of alleged medical malpractice. In terms of vocational significance, Mr. Bell suffered a brachial plexus injury that will limit his ability regarding lifting, reaching, and carrying.

Due to a combination of impairments significant to his vocational future, Mr. Bell meets the ACS definition of a physical disability. Persons are defined as having a physical disability if they are identified as having a long-lasting condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying. Mr. Bell's mother holds a high school diploma and some college education in early childhood development. Mr. Bell's father is also a high school graduate. Two scenarios of educational attainment are considered in this analysis: high school diploma and some college education.

Based on his projected level of educational attainment, Mr. Bell's pre-injury earning capacity is best represented by the age-earnings cycle (median) for males with educational levels ranging from a high school diploma to some college education. Two pre-injury scenarios are considered:

i. the age-earnings cycle for males with a high school diploma yields an average over the worklife of $41,053 annually
ii. the age-earnings cycle for males with some college education yields an average over the worklife of $49,840 annually

Due to a combination of impairments significant to his vocational future, Mr. Bell is considered to have a physical disability according to the definition of the American Community Survey.

Mr. Bell's post-injury earning capacity is best represented by the age-earnings cycle (median) for males with educational levels ranging from a high school diploma to some college education with a physical disability. Two pre-injury scenarios are considered:

i. the age-earnings cycle for males with a high school diploma and a physical disability yields an average over the worklife of $40,185 annually
ii. (ii) the age-earnings cycle for males with some college education and a physical disability yields an average over the worklife of $41,862 annually

Based on the medical records and testimony that I reviewed, Tyrone Bell is likely to experience significant difficulties working in a competitive labor market. Bimanual dexterity, reaching, and carrying are required in nearly all jobs in the U.S. economy. For this reason, scenarios are presented where Mr. Bell is 100% occupationally disabled from substantial, gainful employment.

Mr. Bell's pre-injury worklife expectancy is best represented by average for males with educational levels ranging from a high school diploma to some college education. Two scenarios are considered:

(i) the worklife expectancy for males with a high school diploma is 37.4 years beginning at age 19.0

(ii) the worklife expectancy for males with some college education is 37.1 years beginning at age 21.0

Mr. Bell's post-injury worklife expectancy is best represented by average for males with educational levels ranging from a high school diploma to some college education with a physical disability. Two scenarios are considered:

(i) the worklife expectancy for males with a high school diploma and a physical disability is 22.4 years beginning at age 19.0

(ii) the worklife expectancy for males with some college education and a physical disability is 24.8 years beginning at age 21.0

Mr. Bell has suffered a loss of future earning capacity stated in a range from $805,037 to $2,347,831. These figures are stated in terms of present value, based upon the average age-earnings accruing to males with levels of education ranging from a high school diploma to some college education. If Mr. Bell is 100% occupationally disabled, the economic loss ranges from $1,949,926 to $2,347,831. If Mr. Bell is employable with his physical functional limitations, the loss ranges from $805,037 to $1,026,918.

Case Example #3: Jeff Rhode (40-year-old Male, Traumatic Brain Injury)

An assessment was made of Jeff Rhode's loss of capacity to perform work and earn money as a result of his injury sustained on April 3, 2014. In conducting the assessment, Mr. Rhode was interviewed and information forwarded by your office was reviewed. The interview and information reviewed reveal Mr. Rhode to be a 39-year-old man with a professional degree. Over his worklife, he has functioned as an attorney both as associate general counsel and as a business owner of a general practice law firm. Mr. Rhode operated The Law Office of Jeff J. Rhode as an LLC from June 2010 to August 2017. Mr. Rhode's business was in its early stages and growing when Mr. Rhode's injury occurred.

In April 2014, Mr. Rhode sustained post-concussion syndrome, posttraumatic headaches, cervical strain, left cervical radiculopathy, lower back pain, reactive depression, right shoulder pain, and posttraumatic visual disturbance as a result of a motor vehicle collision He states that as a result of injury he experiences a variety of difficulties listed above in the "Reported Problems" section of this report. In considering the effects of Mr. Rhode's disability on annual earning capacity and worklife expectancy, I used data from the US Census Bureau's American Community Survey (ACS) dealing with cognitive disability and physical disability.

As a result of injury, Mr. Rhode meets the ACS definition of physical disability. Persons are defined as having a physical disability if they are identified as having a long-lasting condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying. As a result of injury, Mr. Rhode also meets the ACS definition of cognitive disability. Persons are defined as having a cognitive disability if they are identified as having difficulty remembering, concentrating, or making decisions because of a physical, mental, or emotional condition lasting 6 months or more.

According to the narrative medical report of Dr. Smith, Mr. Rhode's "diagnoses consequent to the motor vehicle accident include the following: 1. Post-concussion syndrome, 2. Posttraumatic headaches, 3. Cervical strain, 4. Left cervical radiculopathy, 5. Low back pain, 6. Reactive depression, 7. Right shoulder pain, and 8. Posttraumatic visual disturbance." Dr. Bith authored a narrative medical report in which he states: "Mr. Rhode's overall prognosis is fair. At this point, now greater than three years after his motor vehicle accident, he continues with significant right-sided neck pain, right-sided shoulder pain, and intermittent low back pain...At this point, considering that he has been suffering with neck pain, shoulder pain, and intermittent low back pain now three years out from his motor vehicle accident, his injuries are considered to be permanent."

Mr. Rhode was administered the Beta IV and COPS Interest Inventory vocational tests. Mr. Rhode scored in the 81st percentile on the Beta IV test indicating above average range for non-verbal intellectual functioning. In interpreting his COPS Interest Inventory profile, it seems that his primary ca-

reer interests lie in the "Business: Professional", "Communication", and "Service: Professional" career clusters. Due to the impact of Mr. Rhode's cognitive disability, Mr. Rhode may experience difficulty retaining substantial, gainful employment in these career clusters.

Based on his age, education, and previous work experience, Mr. Rhode's pre-injury earning capacity is best represented by the age-earnings cycle for males with a professional degree. This age-earnings cycle yields an average over the worklife of $158,622 annually. Although Mr. Rhode never earned this amount pre-injury, the issue under examination is Mr. Rhode's pre-injury *earning capacity*. Earning capacity often differs from historical earnings when an individual is engaged in launching their own business at an early stage in their career as Mr. Rhode did from 2010 to 2017.

In the first scenario, Mr. Rhode's post-injury earning capacity is reasonably represented by his current salary of $130,000 with VB Inc. Based upon my vocational interview with Mr. Rhode and his self-described difficulties with his current employment, it is uncertain whether Mr. Rhode will be able to retain this position. Mr. Rhode states that his current position requires him to read contracts for the entire day, and he finds focusing and reading very difficult. When he comes home from work, Mr. Rhode reports that he must recuperate on the couch for "a long time". Mr. Rhode also worries about the security of his job after having the 2-level cervical disc replacement.

In the second scenario, based on his current level of educational attainment, Mr. Rhode's post-injury lifetime power to work and earn money is reasonably represented by the average age-earnings that accrue to males with a professional and a cognitive disability. The average over his worklife is $107,434. Mr. Rhode's pre-injury worklife expectancy is like that of an average male with a professional degree and no disability. His pre-injury worklife expectancy is 25.0 years from today's date according to the American Community Survey.

Mr. Rhode's post-injury worklife expectancy is like that of an average male with a professional degree and a non-severe cognitive disability. His post-injury worklife expectancy is 13.7 years from today's date according to the American Community Survey. Mr. Rhode's lifetime loss of earning capacity is $2,776,185 to $3,170,148, stated in terms of present value.

Case Example #4: Charlene Smith (40-year-old Female, Physical Disability)

An assessment was made of Charlene Smith's loss of capacity to perform work and earn money as a result of her injury sustained on June 3, 2016. In conducting the assessment, Ms. Smith was interviewed and information forwarded by your office was reviewed. The interview and information reviewed reveal Ms. Smith to be a 30-year-old woman with a Master's degree in Marketing. Over her worklife, she has functioned in the following job titles: Senior Project Manager, Regional Events Coordinator, Marketing Coordinator and Marketing/Executive Assistant.

On June 3, 2016, Ms. Smith sustained right trimalleolar ankle fracture and other physical complaints as a result of a trip and fall injury. She states that as a result of injury she experiences a variety of difficulties listed above in the "Reported Problems" section of this report. In considering the effects of Ms. Smith's disability on annual earning capacity and worklife expectancy, I used data from the US Census Bureau's American Community Survey (ACS).

As a result of injury, Ms. Smith meets the ACS definition of mobility disability. Persons are defined as having a mobility disability if they are identified as having serious difficulty walking or climbing stairs. A severe disability exists if a person experiences difficulty dressing and bathing or going outside the home alone. Ms. Smith meets the ACS definition of a non-severe mobility disability based upon the vocational interview I conducted and the medical records I reviewed. In the first analysis, based on her age, education, and previous work experience, Ms. Smith's pre-injury earning capacity is reasonably represented by her 2018 W-2 earnings. This figure is $95,308.

Ms. Smith's post-injury earning capacity is also represented by her 2018 W-2 earnings. This figure is $95,308. Ms. Smith's lifetime loss of future earnings is based on her reduced worklife expectancy. In the second analysis, based on her age, education, and previous work experience, Ms. Smith's pre-injury earning capacity is reasonably represented by her 2018 W-2 earnings increased in accordance to

the age-earnings cycle applicable to females with a master's degree. This yields an average over the worklife of $121,555 per annum.

This age-earnings cycle reflects probable career growth for Ms. Smith, both pre-injury and post-injury, apart from inflation and general productivity increases in the economy. Ms. Smith's pre-injury worklife expectancy is like that of an average female with a master's degree and no disability. Her pre-injury worklife expectancy is 28.5 years from today's date according to the American Community Survey. Ms. Smith's post-injury worklife expectancy is like that of an average female with a master's degree and a non-severe mobility disability. Her post-injury worklife expectancy is 23.3 years from today's date according to the American Community Survey. Ms. Smith experiences multiple functional limitations significant to her vocational future, and she meets the ACS definition of a non-severe mobility disability.

Ms. Smith expressed concern about longevity in her current position (and any position) due to her functional limitations and pain. Ms. Smith has suffered a net loss of earning capacity of $527,746 to $614,255 as a result of the June 3, 2016 injury. The loss of lifetime earnings takes into consideration the effect of Federal and State income taxes and is stated in terms of present value.

Alternative Approaches

Other approaches to measuring worklife expectancy exist beyond the approach presented in this article. The approach presented here can be aptly described as an LPE approach utilizing ACS data. For instance, Skoog et. al (2011) utilizes matched CPS data to compute transitional probabilities of work utilizing a Markov process approach. This approach does not specifically account for disability status in the same way as utilizing ACS data. Richards and Donaldson (2010) provide worklife expectancy tables based on several methods. Millimet et al. (2003) describes an econometric approach to estimating worklife expectancies. Gamboa and Gibson (2015) presented worklife expectancies based on an LPE approach and utilizing both CPS and ACS data.

The approach presented in this article is consistent with Gamboa and Gibson (2015). However, it must be emphasized that the worklife expectancy values contained in GGWT emanate from applying common statistical coding and cross-tabulation procedures to publicly available ACS microdata.

All methods discussed find very similar estimates of pre-injury worklife expectancy. They differ in how they treat functional impairments/disabilities (if any consideration is given at all). For the reasons outlined in this article, this author believes the LPE approach utilizing ACS data is superior.

Statistical measurement of post-injury worklife expectancy is an essential component of assessing the economic loss of earning capacity in cases of permanent partial disability. As discussed, there is generally a five-step process to assess the lifetime loss of future earning capacity: (i) determination of pre-injury annual earning capacity, (ii) determination of pre-injury worklife expectancy, (iii) determination of post-injury annual earning capacity, (iv) determination of post-injury worklife expectancy, and (v) present value calculation of the loss. Through utilizing a robust, publicly available data source—the American Community Survey—a vocational expert will be able to apply a statistical worklife expectancy that best captures the likely future experiences of an individual client with a permanent partial impairment.

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