

Do Medical Malpractice Caps Influence Life Care Planning for Patients with Tardive Dyskinesia?

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Tardive dyskinesia represents a condition wherein a person has abnormal and involuntary muscle movements, typically affecting the lower face and mouth, and occasionally the upper or lower limbs. Identification of short and long term needs for individuals with this disease require the expertise of a trained Life Care Planner in not only medical planning and cost projections, but also coordination of services. The present article encourages discussion to not only facilitate better usage of the Life Care Planner in the development of protocols, but also assess whether existing medical malpractice caps adequately cover medical and restorative costs for individuals with tardive dyskinesia. Recent litigation, presented in the present article, has addressed the liability of pharmaceutical companies, potentially leaving the physician, not the pharmaceutical company responsible for costs associated with this disease. Two separate case studies outline the allied health and durable medical costs across different patients, offering fodder to evaluate the appropriateness of present state-based medical caps. It is suggested that medical malpractice caps less than \$2 million fail to meet long-term projected medical needs for these patients. Alternative caps are recommended to meet the needs for similar clients with tardive dyskinesia.

Life Care Planning offers a peer-reviewed technique to evaluate not only the medical needs, but associated costs for individuals with not only catastrophic, but also non-catastrophic injuries. Related to tardive dyskinesia, Life Care Planners offer a vital resource to evaluate medical needs, such as physical therapy, occupational therapy, psychological counseling, and dental consultations. Moreover, Life Care Planning may also assist in coordination of these services, and evaluation of associated costs. At present a paucity of research has failed to examine the role of the Life Care Planner in tardive dyskinesia preparation, and, moreover, whether medical malpractice caps adequately cover projected costs for persons affected by this condition. In the present article, tardive dyskinesia is discussed in relation to historical documentation, treatment, and prognosis. Additionally, two case studies are offered, describing actual patients and their projected costs, as outlined by a Life Care Plan. Presented case-study costs are compared against present medical malpractice caps in individual states. To initially

assist in the evaluation of whether medical malpractice caps meet long term costs for the needs of patients with tardive dyskinesia, a medical foundation for the condition must be offered.

Medical Foundations for Tardive Dyskinesia

Tardive dyskinesia represents a movement disorder, which affects voluntary muscle control after prolonged and short-term use of neuroleptics, or anti-psychotics, and Metoclopramides, such as Reglan (Haddad & Dursun, 2008; Shaffer, Butterfield, Pamer, & Mackey, 2004). It is characterized by involuntary and repetitive muscle movements, or tics, which can persist after medication use has stopped, which predominantly occurs in the face, tongue, mouth, lips, and jaw (Haddad & Dursan, 2008; Sachdev, 2000; Teo, Edwards, & Bhatia, 2012; Wettstein, 1983). Tardive dyskinesia characterizes a clinical syndrome with a recognized set of symptoms; albeit, the exact etiology and

pathophysiology are not completely understood (Corell, Leucht, & Kane, 2004; Sachdev, 2000; Teo et al., 2011; Wettstein, 1983). The symptoms are caused by the side effects of neuroleptics and Metoclopramide. Although symptoms vary greatly, from marginal and reversible to severely debilitating and permanent, significant impairments in physical, mental, and social well-being are associated with even milder forms of tardive dyskinesia (Shaffer et al., 2004; Wettstein, 1983). Different treatments are available, which have been found to reduce some of the symptoms of tardive dyskinesia, but there is not an established treatment that completely eliminates these symptoms after development. The emphasis, therefore, lies on prevention of further exacerbation and prolongation of symptoms (Haddad & Dursun, 2008; Sachdev, 2000; Shaffer et al., 2004).

The term tardive dyskinesia was coined in the 1960's, with *tardive* describing the delayed onset of symptoms following use of neuroleptics and *dyskinesia* referencing the associated abnormal movements (Sachdev, 2000). The most predominant symptoms that develop during the early stages are tic-like oral-facial movements, which include licking of the lips, lip-smacking, mouth opening, jaw clenching, facial grimacing and frowning, tongue thrusting, tongue writhing, and pressing the tongue against the cheek which produces distinct bulge, among others (Sachdev, 2000; Wettstein, 1983). Other noticeable facial symptoms include repetitive blinking, eyelid twitching, and abnormal speech. Additional symptoms include repetitive muscle movements of the limbs and body, include stereotypic "piano playing" of the fingers, rapid movements of the upper and lower limbs, flexed and stretched movements of the ankles, knees, and feet, restless leg syndrome, shoulder shrugging and twisting, irregular neck movements, and rotations and thrusting of the pelvis (Sachdev, 2000). The respiratory muscles can also be affected which can cause irregular breathing, belching, grunting, and hiccups (Sachdev, 2000). Other more serious complications can develop such as dental problems, oral ulcers, gait impairments, respiratory infections, and swallowing disorders which can cause gastrointestinal problems (Haddad & Dursun, 2008; Sachdev, 2000; Wettstein, 1983). Serious cognitive and behavioral problems, such as hypersensitivity, psychosis, and tardive dementia can develop after many years of prolonged drug use of certain medications (Sachdev, 2000).

Symptoms are considered *persistent* if they last more than 3 months, and *chronic* if they last more than 6 months (Sachdev, 2000). The severity of the symptoms varies over time, but intensifies with stress and disappears, or becomes reduced under the condition of sleep or sedation (Haddad & Dursun, 2008; Wettstein, 1983). Other risk factors, besides increased use and duration of neuroleptics and other medications, include diabetes mellitus, organic brain impairments, and psychological disorders, such as schizophrenia

and alcohol abuse (Shaffer et al., 2004). It is also more prevalent in women and in middle-aged to elderly patients, (ages 40 to 70), and the severity and permanence of symptoms has been found to increase with age (Haddad & Dursun, 2008; Wettstein, 1983). Those with milder cases make up the majority of patients afflicted with this disorder and are often found to be unaware of their symptoms (Sachdev, 2000). However, tardive dyskinesia has been associated with causing considerable stigma, embarrassment, poor quality of life, and psychosocial distress (Correll et al., 2004; Haddad & Dursun, 2008; Sachdev, 2000; Shaffer et al., 2004; Wettstein, 1983). Although other risk factors are associated with developing tardive dyskinesia, the cause of this disorder has been attributed to the use of prescribed medications, such as neuroleptics and Metoclopramides (Sachdev, 2000; Shaffer, 2004). It is estimated that 20% of patients who use these medications will develop tardive dyskinesia (Tarsy & Baldessarini, 2006).

Tardive dyskinesia was first discovered in the 1960's after the introduction of neuroleptic drugs, which are primarily used as a tranquilizing agent to reduce the symptoms of psychosis (Sachdev, 2000). The prevalence of this disorder rose with the number of patients who were prescribed typical antipsychotics and about 5% of adults and 25-30% of elderly patients today are expected to develop this disorder each year (Correll et al., 2004; Teo et al., 2012). Symptoms of tardive dyskinesia have been found to develop after only one month of treatment. This is particularly problematic due to the typical duration of anti-psychotic drug use lasting from many months to years (Correll et al., 2004; Wettstein, 1983). Metoclopramide, also known as the brand name Reglan, also causes the symptoms of tardive dyskinesia. It is prescribed to those suffering from gastrointestinal ailments such as gastric reflux, nausea, heartburn, and gastroparesis caused by diabetes (Shaffer et al., 2004). More research is needed on this disorder to further examine these issues.

Current Litigation Related to Tardive Dyskinesia

The damage that has been caused by improper labeling or announcement of the dangers of Reglan/Metoclopramide have caused several plaintiffs to bring damages under state tort laws concerning product liability, as attached to the manufacture of prescription drugs. However, in regard to manufacturers of the generic equivalent of Reglan or Metoclopramide, the Supreme Court of the United States has foreclosed such actions in its recent ruling in *PLIVA, Inc. v. Mensing* (2011).

The court in its ruling consolidated two cases, one from Louisiana and the other from Minnesota, and de-

terminated that the failure of generic manufacturers to change labels to indicate a more dire warning for a greater danger was not possible under current regulatory law, therefore leaving the plaintiffs in the two cases with no cause of action. The defendants, manufacturers of the generic drug Metoclopramide, were permitted to do so under the *Drug Price Competition and Patient Term Restoration Act*, (1984), also known as the Hatch-Waxman amendments. These amendments permitted generic manufacture of brand-name drugs (such as Reglan) that had already received approval of the Food and Drug Administration, with the rationale that generic manufacture and sale would prove less costly to many patients. However, one of the stipulations of the generic manufacture under the Act is that generic manufacturers *must* display the same label—and the same warning—as the brand-name manufacturer, and could not deviate from such labeling. Furthermore, a request for more stringent labeling could come only from the brand-name manufacturer, and not the generic manufacturer. The rationale posits that brand-name manufacturer was the party responsible for supplying information to the FDA on the safety of its product, from its initial proposal through its continued marketing and sale. Because of this, state laws demanding generic manufacturers to provide more stringent warnings were preempted by federal law; that is, it was not feasible for generic manufacturers to change their labels to comply with state law without violating the mandates of federal regulatory law, and in such circumstances the Supremacy Clause of the United States Constitution makes the state law moot (U.S. Const. Art. VI, Cl. 2). Thomas, J., in writing the majority opinion, conceded that the outcome was unfortunate for the plaintiffs, stating, “We acknowledge the unfortunate hand that federal drug regulation has dealt (the plaintiffs), and others similarly situated (but)...Congress and the FDA retain the authority to change the law and regulations if they so desire (*Id.* at 2581-2582).”

Subsequent to the ruling, one of the plaintiffs in the *PLIVA* ruling attempted to bring suit against the name-brand manufacturers, Schwarz and Wyeth Pharmaceuticals, for failure to provide adequate warnings under the Louisiana Products Liability Act (LPLA) (La. Rev. Stat. Ann. § 9:2800). However, because the defendant had taken the generic equivalent, rather than the name-brand drug, and the drug was not manufactured by the brand-name manufacturers themselves, LPLA released them from liability from *the manufacture of products by another party*. *Demahy v. Schwarz Pharmaceuticals, Inc.*, (2012). Similarly, the plaintiff was dismissed from bringing additional failure-to-warn claims against Actavis, the generic manufacturer, as a result of the Court's decision in *PLIVA*.

A search of the *Westlaw* database of case law reveals 139 documents that contain the search terms “tardive

dyskinesia” and “Reglan.” Over one-third of these documents concern cases that have been decided since the Court's decision in *PLIVA*, which would seem to indicate that the Court did not foreclose all possible routes of recovery for plaintiffs claiming damage as a result of their use of Reglan or Metoclopramide. However, *PLIVA* does appear to close some avenues of recovery for many who have sustained damages from the use of the generic equivalent. However, it is ironic that the regulatory scheme to promote cheaper drugs had the apparently unforeseen and undesired consequence of also shielding generic manufacturers from significant liability in regard to a “failure to warn” theory. In the scope of Life Care Planning, Life Care Planners may continue to evaluate short- and long-term costs associated with tardive dyskinesia. As such, the defendants may vary. Based on recent rulings, the question remains whether the defendants may be drug manufacturers, or the physicians, whom originally prescribed the drugs.

Life Care Planning for Individuals with Tardive Dyskinesia

Unlike most chronic and acute disabilities, tardive dyskinesia most often lacks a pivotal beginning and ending date (Tarsy & Baldessarini, 2006). For example, related to traumatic head injury, a physician, patient, or family member, among others, may pinpoint an origination date. Alternatively, for an individual with an acute back injury, a maximum medical improvement and release to return to work date may also be identified. However, patients and physicians most often cannot pinpoint a date of origin with tardive dyskinesia. The inability to identify an origination date impacts Life Care Planning, as cost projections most often lack either a *begin* or *end* date. Neuroleptic utilization may occur years, or even decades prior to the onset of tardive dyskinesia. This reality makes it difficult for the Life Care Planner to ascertain physical features and abnormalities, which may be attributed to specific medication usage or other possible etiologies (Sachdev, 2000; Wettstein, 1983).

Research has suggested that tardive dyskinesia may be reduced or eliminated during the early state of the disease by termination of the neuroleptic medication (Sachdev, 2000). However, termination may elicit, provoke, or exacerbate the signs and symptoms (i.e., tics) that the neuroleptic medication was intended to control (Tarsy & Baldessarini, 2006). Physician and patient, as well as the Life Care Planner, may be left with the quandary of taking the medication and accepting the tardive dyskinesia, or discontinuing the medication and accepting the symptoms of the original disease (i.e., psychoses or epileptic seizures).

In tardive dyskinesia scenarios health professionals are often faced with many diagnostic dilemmas. Patients may be misdiagnosed as having other movement disorders such as dystonia, Akathisia, or Parkinson's disease (Haddad & Dursun, 2008). In a small percentage of persons with tardive dyskinesia Parkinsonism has concurrently been shown to be present. As such, the Life Care Planner must be aware of not only comorbidity, but also alternative and, perhaps, competing diagnoses.

It is important to note that the severity of symptoms may vary across patients (Haddad & Durson, 2008). Patients with mild tardive dyskinesia may continue to live and function normally in daily activities, including work, as their residual movements do not impair them from completion of daily activities. Alternatively, patients with severe tardive dyskinesia often have difficulty completing daily activities, including both activities of daily living and vocational pursuits. In the circumstance wherein simple, everyday activities are impaired, such as walking, eating, or, occasionally, breathing, suppressive therapies may be considered.

A proper medical evaluation will be warranted for all individuals with tardive dyskinesia when a patient suspects symptoms of tardive dyskinesia, such as tics or facial movements. Once abnormal physical movements begin to occur, the question then arises whether or not the patient should remain on neuroleptics. Lastly, treating and referred physicians must decide whether additional medications may be needed to suppress the tardive dyskinesia. An evaluation using an appropriate tardive dyskinesia scale should be conducted every six months and included in the Life Care Plan. If recommended by the physician, some patients with tardive dyskinesia may be able to discontinue use of neuroleptics, while others would not. As discussed previously, in all circumstances, the medical treatment team, including the Life Care Planner, must evaluate the potential risks of withdrawal symptoms, in concordance with risks associated with continuation of taking the medications.

Numerous providers would be necessary to coordinate the independent living and medical care for patients with tardive dyskinesia. Inclusion and exclusion of various professionals could vary on an individual basis. Projected costs for these professional services for two patients with tardive dyskinesia are presented in Tables 1 and 2. Moreover, ecologically-valid case studies are examined to evaluate prospective needs across actual persons with tardive dyskinesia. To protect confidentiality, patient and physician names have been modified, in addition to onset dates, and additional identification markers.

Case Study One

Mr. McDermott (Plaintiff Attorney) has requested a Life Care Plan be provided for Ms. Shirley Jones as it pertains to her Tardive Dyskinesia (TD). On January 26, 2010, JUS-MAR, LTD. had the opportunity to interview Ms. Jones and her husband. At that time, she presented herself as a 47 year-old female with her date of birth being December 27, 1962. At present she is living at 2114 Westport Drive in Ruston, Louisiana. Ms. Jones is dominantly right-handed, 200 pounds, and 5 ft. 9 in. tall. Ms. Jones was taking Reglan for an extended period, dating back to 2005. Her life's work has been as a Registered Nurse.

Life expectancy according to the Vital Statistics of the United States 2010 Life Table indicate that a white female who is 47 years of age should live another 35.6 years. Ms. Jones' worklife expectancy was 17.2 years at the age of 45 in 2007, when her diabetic condition became stable and she should have been able to return to work.

Review of the records reveals that Ms. Jones had a history of hypertension and insulin-dependent diabetes mellitus with increasing diabetic neuropathy in the lower extremities as well as diabetic gastroparesis. She used an insulin pump and was followed by Dr. Dyrnerk. This is when she began taking Reglan for diabetic gastroparesis. She was a type II diabetic. In late 2006 she began to complain of low back and leg pain. By December 2007 her diabetes was stable, but she continued to be seen by the endocrinologist, Dr. Histor.

Ms. Jones' education level is that of an associate degree in Nursing from Southwest Louisiana Community College in Lafayette, LA. Later in 2001, she earned certification as a CCRN (Critical Care Registered Nurse). This increased her pay by \$3 per hour. Ms. Jones was able to work until her diabetes caused her to go on disability at the end of 2005. However by December 2007, her diabetes was stable, but the TD had started to have an effect on her abilities and prevented her from returning to work. Ms. Jones enjoyed an above average income as a registered nurse in an ICU. In 2005, her pay was \$51,697 from Glenwood Regional Medical Center. She also enjoyed an array of benefits that her employment offered. At present, Ms. Jones is not able to return to any type of employment. She had a career disruption at the end of 2005 due to her insulin-dependent diabetes mellitus. This condition had become stable by December 2007 and Ms. Jones had hoped to return to work. She has not been able to return to work due to her TD onset.

Ms. Jones is now forced to endure lip pursing and smacking, par sinus contraction, pain, intermittent arm/leg movement, slurred speech, swallowing difficulty, as well as shortness of breath, difficulty coordinating hand movements and very slow rapid alternating movements – further requiring focused concentra-

Table 1
Life Care Plan Costs for Shirley Jones (47 years of age) ¹

Medical Care	Cost of plan with minimal home health services	Cost of plan with 24/7/365 home health services	Cost of plan with assisted living
Evaluations	\$12,104.00	\$12,104.00	\$12,104.00
Therapies	\$21,182.00	\$21,182.00	\$21,182.00
Medications	\$554,648.00	\$554,648.00	\$554,648.00
Loss Wage Income	\$4,157,412.50	\$4,157,412.50	\$4,157,412.50
Home Care	\$889,188.40	\$889,188.40	\$889,188.40
Facility Care	\$2,360,280.00	\$7,796,400.00	\$0.00
Transportation	\$0.00	\$0.00	\$790,320.00
Case Management	\$120,755.20	\$120,755.20	\$120,755.20
Complications, Wheelchairs, Wheelchair Accessories and Maintenance, and Dentures	\$236,028.00	\$236,028.00	\$236,028.00
TOTAL COST OF PLAN	\$8,351,598.10	\$13,787,718.10	\$6,781,638.10

Table 2
Economic Cost (Projected) for Shirley Jones Life Care Plan

MEDICAL CARE EXPENSE (COST) INFLATION FACTOR: According to her Life Care Plan, Ms. Jones will require medical treatment for her remaining life expectancy. Generally these treatments fall under the following categories: Outpatient (e.g. chiropractic); Inpatient (e.g. Orthopedic Surgery); Pharmacy (e.g. pain medication); General (e.g. wheelchairs). The Life Care Plan offers cost projection scenarios based on the following: 1) need of minimal home health services; 2) needs constant home health services; 3) needs assisted living.

Total current costs (as per Life Care Plan) are as follows:

Cost of plan with minimal home health services

\$8,135,598

Cost of plan with 24/7/365 home health services

\$13,787,718

Cost of plan with assisted living

\$6,781,638

Ms. Jones has lost wages of \$115,483 annually for her remaining worklife expectancy, which is estimated to be 17.2 years.

Present value of future medical expenses assuming: minimal home health services and including lost wages: \$10,535,136

Present value of future medical expenses assuming: constant home health services and including lost wages: \$24,508,385

Present value of future medical expenses assuming: assisted living services and including lost wages: \$5,116,542

tion to help her arms or legs to perform a task, difficulty propelling food and liquids to the back of the mouth with the tongue. She also has a jaw jerk and a mild postural tremor. Ms. Jones is also having issues with her adrenal glands which cause her not to have any energy and hormone issues.

Current problems are associated with Ms. Jones' decreased functional status, pain, depression, dependence, isolation, and loss of self-worth. The goal of this Life Care Plan is to provide the care that will maintain/increase her medical stability, quality of life, and prevent potential complications. The plan provides for medical care, evaluations, therapies, medications, transportation, and other services to promote and maintain independence and to prevent complications. This plan should be re-evaluated/modified if complications develop and/or as progressive aging alters medical condition and functional status.

Case Study Two

Mr. McDermott (Plaintiff Attorney) has requested a Life Care Plan be provided for Mrs. Susan Dollar as it pertains to her Tardive Dyskinesia (TD). On September 2, 2010, JUS-MAR, LTD. had the opportunity to interview Mrs. Dollar and her husband. At that time, she presented herself as a 79 year old female with a date of birth being January 8, 1930. At present she is living at 1011 Whindham Lane in Florence, Alabama. Mrs. Dollar is dominantly right-handed.

Mrs. Dollar lives with her husband. She is left alone all day as her husband has had to return to work to pay their medical bills. He calls her every couple of hours to check on her, but she is without supervision. Mrs. Dollar has balance issues. Walking is very difficult. She is only able to transfer from chair to walker and uses the aid of a walker or cane to ambulate. She has dyskinesia-type movements in all four of her extremities. This has marked limitations on her use of the limbs. While this is not a constant movement, it is an unpredictable movement which causes unsafe hazards for Mrs. Dollar. The movements, also, cause pain as they are associated with muscle cramps.

She has problems talking fast and remembering. She has problems reading and writing. She is now having pain in her shoulders down her legs and hips, which she associates with the TD. She has been told by Dr. Yaloom (neurologist) that this is related to her dyskinesia. She expressed that she has cognitive issues of memory, as well as mood. She describes herself as a happy, out-going person prior to this onset and now she is withdrawn.

Mrs. Dollar indicated that she does not go out often, mainly a weekly trip to the grocery store with her husband. She has to use the shopping cart as a walker for balance and support. She would not be able to control a motorized cart with hand controls due to the Dyskinesia. She is not able to drive and has to have transportation any time she leaves the house. Mrs. Dollar starts to breathe very fast with any exertion.

Table 3
Life Care Plan Costs for Susan Dollar (79 years old) ¹

Projected Care	Cost of plan with minimal home health services	Cost of plan with 24/7/365 home health services	Cost of plan with assisted living
Medical Care	\$38,613.60	\$38,613.60	\$38,613.60
Evaluations	\$12,570.10	\$12,570.10	\$12,570.10
Therapies	\$223,563.20	\$223,563.20	\$223,563.20
Diagnostic Testing	\$2,038.93	\$2,038.93	\$2,038.93
Medications	\$257,984.56	\$257,984.56	\$257,984.56
Wheelchairs	\$0.00	\$0.00	\$0.00
Wheelchair Accessories and Maintenance	\$0.00	\$0.00	\$0.00
Home Care	\$490,854.00	\$1,566,864.00	\$0.00
Facility Care	\$0.00	\$0.00	\$293,508.00
Transportation	\$22,861.70	\$22,861.70	\$22,861.70
Case Management	\$61,659.00	\$61,659.00	\$61,659.00
TOTAL COST OF PLAN	\$1,110,145.09	\$2,186,155.09	\$912,799.09

Table 4
Economic Cost (Projected) for Susan Dollar Life Care Plan

MEDICAL CARE EXPENSE (COST) INFLATION FACTOR: According to her Life Care Plan, Ms. Dollar will require medical treatment for her remaining life expectancy. Generally these treatments fall under the following categories: Outpatient (e.g., chiropractic); Inpatient (e.g., Orthopedic Surgery); Pharmacy (e.g., pain medication); General (e.g., wheelchairs). The Life Care Plan offers cost projection scenarios based on the following: 1) need of minimal home health services; 2) needs constant home health services; 3) needs assisted living.

Total current costs (as per Life Care Plan) are as follows:

Cost of plan with minimal home health services

\$1,110,145

Cost of plan with 24/7/365 home health services

\$2,186,155

Cost of plan with assisted living

\$912,799

Present value of future medical expenses assuming: minimal home health services: \$1,175,921

Present value of future medical expenses assuming: constant home health services: \$2,421,201

Present value of future medical expenses assuming: assisted services: \$1,067,003

She, also, has pain right across her chest, below her bust. Dr. Peterson has confirmed to her that this respiratory dyskinesia is a result of the Reglan use.

At present Dr. Yaloom indicated that Mrs. Dollar had oral dyskinesia with frequent movements of her tongue and her mouth, also, some grimacing of the face, some shortness of breath that appeared to be due to diaphragmatic contractions, some twitching or some jerking or some sort of choreiform movements of the hand and foot. She also has Parkinson-like symptoms mainly in the lower extremities, more related to her gait.

In her daily activities she is able to dress herself with assistance. She can feed herself, but she cannot prepare her own meal. She requires either assistance or supervision in most daily activities. Mrs. Dollar would have been retirement age prior to onset of her TD; therefore, it is not believed that a wage loss claim exists in this case. Mrs. Dollar went to night school and earned her high school diploma. She has no additional formal education.

At present she is not able to perform any activity that would require multiple mental processes or manipulation of objects. She is not able to care for herself without aide and supervision. She is reduced to less than a sedentary lifestyle. Current problems are associated with Mrs. Dollar's Tardive Dyskinesia (TD) include decreased functional status, pain, depression, dependence, isolation, and loss of self-worth.

The goal of this Life Care Plan is to provide the care that will maintain/increase Mrs. Dollar's medical stability, quality of life, and prevent potential complications. The plan provides for medical, evaluations,

therapies, diagnostic testing, medications, equipment, transportation, and other services to promote and maintain independence and to prevent complications. This plan should be re-evaluated/modified if complications develop and/or as progressive aging alters Mrs. Dollar medical condition and functional status.

Linking Prospective Costs to Medical Malpractice Caps

In the two previously-addressed scenarios medical malpractice caps less than \$2 million would not have met total plan costs. Related to medical costs, in Case Study One, projected costs of three different types of health care services were calculated for the remainder of the patient's life. Inflation, as well as loss of wages, was factored into the total projected costs. The patient's worklife expectancy was estimated at 17.2 years with an estimated annual loss of wages at \$115,000/yr. Around the clock care with home health services was projected as being the most expensive, by far, at close to \$25 million. The projected costs for minimal home health care were less than half of that, at just over \$10 million, with assisted living being the cheapest, at \$5.1 million. Conversely, in Case Study Two, inflation was factored into the total projected costs although loss of wages was not, due to the onset of symptoms occurring around the age of retirement. Similar results were found with around the clock home health care yielding the highest cost, at over \$2.1 million. Both the minimal home health services and the assisted living facility yielded similar costs around half of that, at less than \$1.2 million, again

with the lowest cost coming from assisted living, at \$1.1 million.

State-based malpractice caps were reviewed to determine if present caps adequately cover the projected health needs of the patients in the two cases. In Case One, none of the states with medical malpractice caps cover even half of the projected health care costs associated with the different types of health services, even the cheapest of all three; assisted living. The only states that could accommodate the full extent of the projected costs in Case One would be the 19 states without caps (AMA, 2011), (e.g., Alabama, Arizona, Arkansas, Connecticut, Delaware, DC, Iowa, Kentucky, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, Vermont, Washington, and Wyoming).

Similarly, in Case Two, Virginia is the only state in which the full amount of care required by the patient would be covered by the \$2 million cap. This would only cover the projected costs from the lower priced health services, with the minimum home health care projected costs at \$1.1 million and the assisted living at a little over \$1 million. The only other states that would come close to covering these projected costs, other than the states without caps, are Wisconsin at \$750,000 and Michigan at \$733,500. States without caps and with the highest caps largely are found in the Northeast and sweep down towards the South. Caps were either prohibited by each state's Constitution or were later overturned in legal proceedings, which suggest the state decision not to have caps, or to have higher caps, may be influenced by the political ideology of that region. (Anecdotally, out of the original thirteen colonies ten do not have malpractice caps or have the highest caps. Perhaps, as the Constitution was written with these states as the originators, legislators interpret it more strictly than other states.) This suggests that the state decision not to have caps, or to have higher caps, may be influenced by the political ideology of that region. The present state-based caps suggest that only states without caps can adequately cover the projected health care needs and associated costs represented in the present case studies.

In summary, based on two case studies, projected medical costs for these patients ranged from just over \$1 million to \$10.5 million for minimal home-health based services, \$2.1 million to \$24.5 million for 24/7 in home nursing services, and \$1 million to \$5 million for assisted living. Admittedly, the two case studies represent a very limited sample size, suggesting that a better understanding of actual costs could be based on a larger sample size. Also, further examination of additional case studies may enable a more statistically-valid understanding of these costs. It is not projected that the presented studies would represent outliers, but it is important to note that while generalizations may be drawn, deductions must be avoided.

Conclusion

At present litigation is still ongoing related to the liability of drug manufacturers related to whether or not selected medications cause or prompt the onset of tardive dyskinesia. Ongoing litigation may take several directions. Drug manufacturers may be held responsible for tardive dyskinesia onset, resulting in an increase in the number of plaintiffs seeing compensation or remedy. In this circumstance, Life Care Planners can assist family members, attorneys, jury members, and the Court, in general, from both plaintiff and defense sides to evaluate and project medical costs. If liability is not placed with drug manufacturers, but the individual physicians, then Life Care Planners would play the same role, albeit with a different defendant. Moreover, if the defendant is a physician in a state with a specific medical malpractice cap, the Life Care Planner has an arduous task. More specifically, cost projections may be made with recognition that settlements could be set, wherein, medical costs would be greater than the allowed medical malpractice caps in a client's individual state.

Specific projections about reasonable costs for two patients with tardive dyskinesia were presented in the aforementioned case studies. The Life Care Plans themselves were completed by the second author, with greater than 20 years of experience in rehabilitation and Life Care Planning, and the economic projections were completed by the fourth author, a Forensic Economist with more than 10 years of experience in forensic economics. This suggests that both the Life Care Plans and the subsequent economic projections would positively meet scrutiny in litigation, or the projections would be deemed completed by competent professionals. As both plans projected costs greater than \$2 million, none of the states with present caps would allow sufficient remedy for the identified patients. This suggests that present caps do not meet long term costs for patients with tardive dyskinesia.

Moreover, in addition to ongoing Supreme Court decisions, acceptance and denial of Life Care Planner testimony will further dictate accepted and unaccepted protocol. As the literature has consistently dictated that every patient with tardive dyskinesia has different needs, Life Care Plans will subsequently vary. While projections, such as dental care and occupational therapy may vary between patients, the Life Care Planner will exert an important role to raise the issue with the medical and allied health providers regarding estimates of actual frequency and duration of services, and, ultimately, their respective costs.

Unfortunately, the literature has offered minimal direction towards Life Care Planning for patients with tardive dyskinesia. Rather, the literature has offered primarily qualitative analyses of allied health needs, review of medication protocols, and epidemiological statistics. Life Care Planners would be assisted

through research further documenting the success and failure of modalities, inclusive of intensity and duration trials. As a result of comparable and valid research, Life Care Plans would not only increase reliability and validity between plans, but also meet Daubert standards.

Prospectively, it is projected that the present article will prompt more questions than conclusive answers. As such, the goal of this article was to offer issues for discussion, further prompting peer-reviewed research to be made available for the Life Care Planner to prepare a defensible plan that not only meets the needs of the person with tardive dyskinesia, but also satisfactorily meets Court standards. Life Care Planners and their clients would benefit from peer interaction and further publications on this timely issue. Additionally, legislators and government officials must acknowledge that current medical malpractice caps do not adequately cover many Life Care Plan costs, as demonstrated in the present article, warranting the need to further examine caps in the context of patients' actual medical and allied health care costs.

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Endnotes

¹ Life expectancy can be calculated utilizing differing methods. Typically forensic economists and Life Care Planners will rely on life expectancy tables from the National Center for Health Statistics (National Vital Statistics Reports). If these figures differ between the economist and Life Care Planner, the differential should be minute, according to the year from which the data was extracted (e.g., 2005 or 2007). Worklife expectancy figures will typically be used by forensic experts from the U.S. Department of Labor's Bureau of Labor Statistics, which publishes worklife estimates (based on race and gender) dating back to 1986. These estimates were updated in the late 1990s by James Cieccka, Thomas Donley, and Jerry Goldman. In addition to gender and race, they modelled worklife expectancy based on education attainment and labor force activity. Other sources do exist. For instance, in the above case studies, Mr. Cheairs uses published tables from the book: "Life and Worklife Expectancies" by Hugh Richards. But worklife expectancy is defined very similarly to the published tables of Cieccka, Donley and Goldman. In the present case studies the life and worklife expectancies numbers utilized by the Life Care Planner and the economist are virtually identical. This should be expected given that basic sources of data and forecasting methods are similar among those that research life and worklife expectancies. However any differences that may exist might engender future investigation by scholars in this area.

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