IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW MEXICO

MARK GILBERT RIMBERT, individually, and as Personal Representative of the Estates of GILBERT JOHN RIMBERT, and OLIVIA ACOSTA RIMBERT, deceased,

Plaintiff,

VS.

No. CIV 06-0874 JCH/LFG

ELI LILLY AND COMPANY,

Defendant.

MEMORANDUM OPINION AND ORDER

THIS MATTER comes before the Court on Defendant Eli Lilly and Company's ("Lilly's) Motion to Renew Dispositive and Daubert Motions or, in the Alternative, to Certify Orders for Interlocutory Appeal [Doc. 136, filed November 6, 2008]. This motion seeks to have the Court review and decide anew three motions decided before this trial court was assigned to this case. The Court recently turned its attention to one of those motions--Lilly's *Motion to* Exclude Expert Testimony of Dr. Grace Jackson [Doc. 58, filed March 20, 2008] and the previous ruling denying that motion [Doc. 125, filed September 29, 2008]. At issue in Lilly's motion is whether the Court should, under the requirements of Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 589-98 (1993), exclude the opinions of Plaintiff Mark Gilbert Rimbert's identified expert, Dr. Grace Jackson. After exhaustively reviewing the motions, briefs, voluminous exhibits, transcript of oral argument on the issue, and the previous ruling, and being otherwise fully informed, the Court finds that Defendant's motion to renew its *Daubert* motion

and its motion to exclude Plaintiff's expert are both well taken and will be granted.¹

BACKGROUND

Although the details of this tragic case have been discussed somewhat in prior rulings, the Court will provide this background to help provide context to its ruling. On August 18, 2003, Gilbert Rimbert ("Mr. Rimbert") consulted his primary care physician, Dr. Barry Hochstadt. Mr. Rimbert paid this visit to his physician during what appears to have been an extremely traumatic point in his life. At age 68, Mr. Rimbert faced the rejection of his wife of 42 years, Olivia, who had informed him of her intent to seek a divorce approximately three days earlier. See Expert Report of Grace Jackson, M.D. (hereinafter "Report"), attached as Ex. G to Defendant's Memorandum in Support of its Motion to Exclude Expert Testimony (hereinafter "Def't. Mem.")[Doc. 59], at 7. Olivia explicitly communicated her intentions to Mr. Rimbert, relatives, and co-workers. *Id.* Her decision to divorce Mr. Rimbert appears to have been motivated by a series of "small lies," financial indiscretions, disagreements about parental obligations toward their youngest son who had chronic problems with substance abuse and criminal behavior, and increasing incompatibility. *Id*.

¹ Previously, the Court stayed activity in this case pending a decision by the United States Supreme Court in Wyeth v. Levine, a case addressing whether a state law product liability claim related to drug labeling is preempted by the labeling authority of the Food and Drug Administration. See Order Staying Case [Doc. 141, dated December 22, 2008]. The Supreme Court issued its decision in Wyeth on March 4, 2009. See Wyeth v. Levine, 129 S.Ct. 1187 (2009). To date, however, the Tenth Circuit has not interpreted the breadth of Wyeth with respect to the two cases before it that the Tenth Circuit had stayed pending a decision in Wyeth. See Dobbs v. Wyeth Pharms., 530 F. Supp. 2d 1275 (W.D. Okla. 2008), Doc. No. 08-6018 (10th Cir. Mar. 7, 2008); Miller v. SmithKline Beecham Corp., 2008 WL 510449 (N.D. Okla. Feb. 15, 2008), Doc. Nos. 08-5042 and 08-5050 (10th Cir. June 4, 2008). The parties have filed extensive briefing concerning the applicability of Wyeth to this case. Because the Court's ruling on the *Daubert* issue is potentially dispositive, it need not resolve the applicability of *Wyeth* to the facts of this case at this time.

The impending dissolution of Mr. Rimbert's marriage coincided with several other significant stressors in his life. Mr. Rimbert retired in 1999 and had failed to find meaning in his life following retirement or to achieve satisfying emotional or spiritual connections to others, becoming increasingly lonely and reclusive. *Id* at 6-7, 14, 33. He had incurred approximately \$40,000 in credit card debt and had seen his 401(k) retirement account shrink from \$400,000 to approximately \$40,000. *Id.* at 14. In addition to familial, emotional, and financial stressors, Mr. Rimbert also suffered from chronic health problems, including obesity, type II diabetes, impotence, hypothyroidism, and acid reflux. *Id.* at 7. In the context of all of these developments, Mr. Rimbert grew increasingly despondent and isolated, and, at the urging of his wife, he consulted Dr. Hochstadt on August 18, 2003. Id.

During a brief visit with Mr. Rimbert, Dr. Hochstadt administered and interpreted the Zung Self-Rating Scale for depression, diagnosed a case of moderate depression, and prescribed Prozac at the rate of 20 mg per day. Dr. Hochstadt arranged to see Mr. Rimbert for a follow-up visit in three to four weeks. *Id.* Dr. Jackson's report notes that, according to some of Mr. Rimbert's relatives, he experienced some disturbances in his behavior following his appointment with Dr. Hochstadt, including difficulty sleeping, motor disturbances, and a significant increase in smoking frequency (from one-half pack per day to two packs per day). Id. On September 9, 2003, Mr. Rimbert had his follow-up appointment with Dr. Hochstadt. Dr. Hochstadt noted that Mr. Rimbert reported that Prozac "takes the edge off," but also noted the absence of any "dramatic improvement." See Deposition of Dr. Barry Hochstadt, attached as Exhibit M to Def't Mem. [Doc. 59] at 57 (hereinafter "Hochstadt Depo."). At neither the follow-up visit nor any other time did Mr. Rimbert report to Dr. Hochstadt any side effects or difficulties related to taking Prozac. *Id.* at 56-57. In response to Mr. Rimbert's reported lack of improvement, Dr.

Hochstadt raised the prescribed dose of Prozac to 40 mg per day, and, as he generally did with his depressed patients, cautioned Mr. Rimbert to contact the office if he experienced any suicidality or worsening depression. He also scheduled another follow-up visit for Mr. Rimbert approximately two months later. *Id.* at 62.

Mr. Rimbert never made it to that follow-up appointment. Over the next two weeks, his insomnia, restlessness, and despair intensified. See Report at 8. This coincided with a further rejection by his wife and family. Although Mr. Rimbert asked his sons to intercede on his behalf to talk their mother out of divorcing him, they refused, taking their mother's side instead. See Deposition of Dr. Grace Jackson (hereinafter "Jackson Depo."), attached as Ex. A to Def't Mem., at 115-116. Further, despite reportedly ceasing gambling and being more attentive to his wife in an effort to convince her not to seek a divorce, such efforts failed. See Report at 8. In fact, Mr. Rimbert reportedly told his children and sister that his wife was planning on having him evicted from their home, and gave the impression that she rushed to grab the newspaper each morning in order to show him the public announcement of their impending divorce. *Id.* Finally, on or about the morning of September 25, 2003, Mr. Rimbert shot his wife multiple times with a .38 caliber handgun, killing her, shot and killed his family dog, and then fatally turned the gun on himself. *Id*.

On the dining room table at which the seated Mr. Rimbert shot himself was a handwritten note labeled "assets," Mr. Rimbert's Last Will and Testament, and a suicide note. Id. at 10. The suicide note, written on a notepad advertising the tension headache medicine Esgic Plus, said in its entirety: "I know you kids will never be able to forgive me! I love your mother more then [sic] life! We'll be together now for eternity. Love, Dad." Id. In addition, the dining room table also had on it a bottle marked "Prozac," although the bottle did not have a pharmacy label,

nor did it state Mr. Rimbert's name or contain any other identifying information. See Deposition of Yvonne Rimbert, attached as Exhibit J to Defendant's Memorandum in Support of Motion for Summary Judgment on All Claims [Doc. 56] at 14-16.²

Plaintiff Mark Rimbert, Mr. Rimbert's son, brought this products liability, personal injury, and wrongful death suit against Eli Lilly, the maker of Prozac, alleging that Prozac caused Mr. Rimbert to kill his wife, his dog, and himself. See Complaint [Doc. 1]. Plaintiff has designated Dr. Jackson as an expert on "general and specific causation as well as Eli Lilly's failure to warn and/or appropriately test fluoxetine." See Plaintiff's Expert Disclosure, attached as Exhibit K to Defendant's Memorandum in Support of Motion for Summary Judgment on All Claims [Doc. 56] at 1. In her report, Dr. Jackson stated that Gilbert Rimbert's "overwhelming psychic pain in the face of his spouse's rejection...became obsessive and psychotic...under the influence of Prozac." Report at 52. Her report further concluded:

I believe it would be incorrect to suggest that Prozac was the necessary and sufficient cause of the deaths of Gilbert and Olivia Rimbert, and their pet dog (Ivy). However, in the context of Gilbert's pre-existing risk factors for suicide and homicide, and in the context of his diminished capacity to resist them, it is more likely than not true that Prozac converted a case of probable dysthymia into a case of agitated depression with obsessive and psychotic features. In this sense, Prozac was the *definitive*, contributive cause of the Rimbert tragedy.

Id. (emphasis in original).

Defendant has moved the Court to exclude Dr. Jackson's expert report and testimony on general causation, specific causation, and proximate causation. Defendant objects based not on

² Family members also found an unfilled prescription for Prozac written for Mr. Rimbert when they cleaned the home after his death. See Deposition of Yvonne Rimbert, attached as Exhibit J to Defendant's Memorandum in Support of Motion for Summary Judgment on All Claims [Doc. 56] at 15-17.

³ Fluoxetine is the generic name for Prozac.

Dr. Jackson's conclusions, but rather on the grounds that she is not qualified to express such opinions and because the methodology she used to arrive at her conclusions was flawed. It argues that Dr. Jackson's opinions fail the tests for reliability and relevance set forth by Rule 702 of the Federal Rules of Evidence; Daubert v. Merrell Dow Pharm., Inc., 509 U.S. at 589-98; and Norris v. Baxter Healthcare Corp., 397 F.3d 878, 883-84 (10th Cir. 2005). See Def't. Mem. [Doc. 59] at 1. The prior trial Court held a *Daubert* hearing on May 16, 2008, at which the parties argued their respective positions regarding the admissibility of Dr. Jackson's testimony. See Transcript of May 16, 2008 Hearing [Doc. 103] at 85-178.4

After the *Daubert* hearing, the prior trial court issued a Memorandum Opinion and Order on the issue of Dr. Jackson's report and ability to testify at trial. See Memorandum Opinion and Order, issued September 29, 2008 [Doc. 125]. That Court found that Dr. Jackson's opinions are based on a sufficiently reliable methodology, so it denied Defendant's motion to exclude Dr. Jackson's testimony. Ten days after filing its *Daubert* ruling, the prior trial court recused itself and the case was transferred to this Court. Following the transfer to this Court, Defendant filed its motion to have this court take a fresh look at, *inter alia*, the prior *Daubert* ruling.

Defendant cites a number of cases for the proposition that a new trial court is practically obligated to review matters previously ruled on by a recused judge. See Defendant's Memorandum in Support of its Motion to Renew [Doc. 137] at 9-11. These cases are inapposite in this instance because they each involve circumstances in which the Court of Appeals either

⁴ Although the prior trial court had told Plaintiff that it would not exclude Dr. Jackson's testimony without giving her an opportunity to testify at the *Daubert* hearing, Plaintiff chose not to have Dr. Jackson testify at the hearing. Because the prior hearing amply covered all of the issues, gave both parties a full opportunity to present their arguments, and addressed any questions that this Court would have, the Court chooses to rely on a transcript of that hearing in to aid it in making its decision, rather than a repeat of the initial hearing.

reassigned the case because of evidence of bias or found that, even if the judge in question ultimately recused himself, he waited too long to do so, thereby rendering his decisions untrustworthy. See, e.g., Clark v. City of Draper, No. 96-4006, 1997 WL 157382 (10th Cir. April 4, 1997) (unpublished) (holding that the trial judge should have recused himself early in the litigation, vacating a summary judgment decision, remanding the case to a new judge, and ordering the new judge to reconsider the summary judgment motion); U.S. v. Franco-Guillen, No. 06-3122, 2006 WL 2879063, at *2-3 (10th Cir. Oct. 11, 2006) (unpublished) (reassigning case to new district court judge, vacating conviction, and ordering proceedings to begin anew where judge's comments in court created an appearance of bias); U.S. v. Cooley, 1 F.3d 985 (10th Cir. 1993) (vacating defendants' convictions and sentences and remanding case for new trial before a different judge where the presiding trial judge's statements to the media created an appearance of partiality and judge failed to recuse himself); Bell v. Chandler, 569 F.2d 556, 560 (10th Cir. 1978) ("since Judge Chandler should have disqualified himself, and since the cause is to be heard and determined by some other judge, the order for production of documents . . . is hereby vacated. The request must be determined by the judge assigned to the case."). These issues are not applicable here.

However, even without the showing of bias or any appearance of bias hanging over prior decisions, a successor court has the ability to reconsider the interlocutory orders of their predecessor on the same case. See e.g., Been v. O.K. Indus., Inc., 495 F.3d 1217, 1225 (10th Cir. 2007) (holding that successor judge did not violate the law of the case or abuse his discretion when he reconsidered the ruling of the predecessor district court judge); Wilson v. Merrell Dow Pharms., 160 F.3d 625, 628 (10th Cir. 1998) (rejecting plaintiffs' argument that the law of the case foreclosed a subsequent district court judge from granting defendant's motion for summary

judgment where the initial judge twice rejected such a motion).

This Court's reconsideration of Defendant's motion to exclude Dr. Jackson's testimony is in no way meant to question the prior trial Court or to imply that the circumstances leading to its recusal affected its decision. Rather, it is simply that this Court must be comfortable that a proposed expert and the methodology on which she bases her opinions is sufficiently reliable such that her testimony will be helpful to the trier of fact. Especially with an issue as discretionary as what evidence is admissible at trial, the trial court must have the ability to decide for itself what evidence to allow. The Court's role as a gatekeeper is necessarily a subjective one. See Hollander v. Sandoz Pharm. Corp., 289 F.3d 1193, 1206 (10th Cir. 2002) ("when coupled with [a] deferential standard of review, Daubert's effort to safeguard the reliability of science in the courtroom may produce a counter-intuitive effect: different courts relying on essentially the same science may reach different results."). As such, the Court of record has an obligation to use its independent judgment for issues such as expert witness qualification.

LEGAL STANDARD GOVERNING DAUBERT DETERMINATION

The admission of expert testimony is governed by both Federal Rule of Evidence 702 and that rule's interpretation by the Supreme Court in *Daubert v. Merrell Dow Pharm.*, *Inc.*, 509 U.S. 579, 589-98 (1993). Trial courts have the responsibility to ensure that proffered experts will assist the jury in understanding the evidence and in determining the facts at issue. The trial court must not only decide whether a proffered expert is qualified to testify, but also whether the expert's opinion is the product of a reliable methodology. Ultimately, the proponent of the expert testimony bears the burden of establishing by a preponderance of the evidence that the requirements for admissibility have been met. See United States v. Nacchio, 555 F.3d 1234, 1241 (10th Cir. 2009) (en banc); Ralston v. Smith & Nephew Richards, Inc., 275 F.3d 965, 970 n.4

(10th Cir. 2001). The amendment of the Federal Rules of Evidence following the *Daubert* decision retained the general rule calling for liberal admission of proper evidence. See United States v. Gomez, 67 F.3d 1515, 1526 (10th Cir. 1995); Fed. R. Evid. 702 advisory committee note. The trial court's proper role "is that of a gatekeeper, a tender or monitor who liberally allows the entrance of proper evidence; it is not a portcullis, excluding qualified patrons for indeterminate reasons." *Nacchio*, 555 F.3d at 1280 (Henry, C.J., dissenting).

Under Rule 702, the trial court must determine whether the proffered expert is qualified "by knowledge, skill, experience, training, or education" to render an opinion. Fed. R. Evid. 702. If the expert is sufficiently qualified, the court must then determine whether the expert's opinion is reliable by assessing the reasoning and methodology underlying the proffered opinion, as set forth in *Daubert*. Questions concerning reliability may relate to the expert's data, method, or application of the method to the data. See Fed. R. Evid. 702; Mitchell v. Gencorp, Inc., 165 F.3d 778, 782 (10th Cir. 1999). In conducting its review, the court must focus on "principles and methodology, and not on the conclusions [generated]." Daubert, 509 U.S. at 595.5 However, "conclusions and methodology are not entirely distinct from one another," so that "[a] court may conclude that there is simply too great an analytical gap between the data and the opinion

⁵ Plaintiff claims that "to the best of [his] knowledge, Lilly has lost every single challenge that it has lodged against an expert on general causation grounds in a Prozac-induced violence case," and that, therefore, "it is somewhat astonishing that Lilly would regurgitate its same old arguments again." Plaintiff's Memorandum in Opposition to Defendant's Motion to Exclude Dr. Grace Jackson [Doc. 75] at 7-8. Implicit in this statement is the suggestion that, because other courts have found that reports on this subject by other experts have met the threshold of reliability, this Court need not scrutinize the analytical basis of the report offered in this case. While Plaintiff understandably seeks to avoid a close examination of Dr. Jackson's report, following his suggestion would turn the mandated focus on the expert's methodology rather than her conclusion on its head. Under this way of thinking, a proffered expert would be eligible to testify, regardless of the validity of her methodology or quality of her reasoning, as long as her conclusion matched those of experts admitted to testify in other cases.

proffered." Gen. Elec. Co. v. Joiner, 552 U.S. 136, 146 (1997). That said, even a situation in which a court concludes that an expert's conclusion represents an unfounded extrapolation from the data should result from a focus on methodology rather than on the conclusion itself.

Daubert provides a non-exclusive list of factors that courts may consider in evaluating the reliability of proposed expert testimony: (1) whether the theory can be and has been tested; (2) whether the theory or methodology has been published and subjected to peer review; (3) the known or potential rate of error; (4) the existence of scientific standards and whether the witness followed them; and (5) whether the witness's method is generally accepted as reliable in the relevant medical and scientific community. Daubert, 509 U.S. at 594-95. In addition, a court may consider whether the witness's conclusion results from an unfounded extrapolation from the data. See Joiner, 552 U.S. at 146. It may look at whether the witness has adequately accounted for alternative explanations for the effect whose cause is at issue. See Miller v. Pfizer, Inc., 356 F.3d 1326, 1333 (10th Cir. 2004) (upholding district court's exclusion of expert's testimony on claimed link between the anti-depressant Zoloft and suicidality after finding expert's methodology to be flawed). A court may also take into consideration whether the expert reached her opinion based on research conducted for the purposes of litigation or as the result of independent study. See Daubert v. Merrell Dow Pharm., Inc., 43 F.3d 1311, 1317 (9th Cir. 1995) (excluding testimony on remand from Supreme Court). Under a *Daubert* analysis, "any step that renders the expert's analysis unreliable...renders the expert's testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology." Nacchio, 555 F.3d at 1241 (quoting Mitchell v. Gencorp, Inc., 165 F.3d 778, 782 (10th Cir. 1999) (alteration in original).

DR. JACKSON'S CONCLUSIONS AND METHODOLOGY

Dr. Jackson's report concluded that Gilbert Rimbert's "overwhelming psychic pain in the face of his spouse's rejection...became obsessive and psychotic...under the influence of Prozac." Report at 52. It further concluded that "it is more likely than not true that Prozac converted a case of probable dysthymia into a case of agitated depression with obsessive and psychotic features. In this sense, Prozac was the definitive, contributive cause of the Rimbert tragedy." Id. (emphasis in original). In her deposition testimony, Dr. Jackson reiterated her conclusion that, "to a reasonable degree of medical certainty...Prozac contributed to the deaths of Olivia and Gilbert Rimbert." Jackson depo. at 359. Finally, Dr. Jackson filed an affidavit just prior to the Daubert hearing that she did not attend, in which she attempted to defend her qualifications and methodology, as well as to clarify her report's conclusions. See Affidavit of Grace E. Jackson, M.D., filed May 22, 2008, [Doc. 99]. Her affidavit maintained that her original report and testimony were consistent in supporting the conclusion that "Prozac [was] the linchpin of the Rimbert tragedy." Id. at 4. Dr. Jackson also argued that "[i]t was against a complex backdrop of personal and familial circumstances, but within a progressive chain of events, that Prozac proved to be the clincher." Id.

A. <u>General Causation</u>

In forming her conclusion on general causation, Dr. Jackson relied on two peer-reviewed scientific papers to support her opinion that Prozac has a "propensity ... to induce suicidality."

Report at 35. The two papers she cited are the "Cusin article," and the "Perlis article." Dr. Jackson claims that the two complementary papers "reveal the astoundingly high prevalence of suicide and worsening of depression during the early course of treatment." Id. The Cusin article is based on a retrospective review of a database culled from a pre-1998 multi-center study. The Cusin analysis involved, after exclusions, 694 participants who were placed on 20 mg/day of Prozac for twelve weeks. The authors of the study observed "clinical worsening" – in other words, increased depression – in 30% of participants.⁸ *Id.* at 36.

The Perlis article is another retrospective review of the same database that provided the basis for the Cusin study. *Id.* at 37. That paper showed that, after three months, 14% of participants who started Prozac therapy without suicidal tendencies had experienced an onset of suicidality at some point during the treatment phase. Id. at 38. In her report, Dr. Jackson noted that the authors of the Perlis article applied a "Cox regression model" to demonstrate that "activiation (agitation, nervousness, and/or akathisia) and early clinical worsening were both significantly associated with the emergence of suicidality." *Id*.

The second component of Dr. Jackson's general causation analysis is her linking of

⁶ C. Cusin, M. Fava, J.D. Amsterdam, F.M. Quitkin, F.W. Reimherr, C.M. Beasley, Jr., J.F. Rosenbaum, and R.H. Perlis, Early Symptomatic Worsening During Treatment With Fluoxetine in Major Depressive Disorder: Prevalence and Implications, 68:1 J. Clinical Psychiatry 52-57 (2007). Attached as Exhibit E to Def't. Mot. [Doc. 59].

⁷ R.H. Perlis, C.M. Beasley, Jr., J.D. Wines, Jr., R.N. Tamura, C. Cusin, D. Shear, J. Amsterdam, F. Quitkin, R.E. Strong, J.F. Rosenbaum, and M. Fava, *Treatment-Associated* Adverse Effects in an Open, Multicenter Trial of Fluoxetine for Major Depressive Disorders, 76 Psychotherapy & Psychosomatics 40-46 (2007). Attached as Exhibit F to Def't. Mot. [Doc. 59].

⁸ By incorporating data from patients whom the study's authors deliberately omitted for methodological reasons, Dr. Jackson calculated that the number of patients who deteriorated while on Prozac actually reached 39%. Report at 36.

Selective Serotonin Reuptake Inhibitors ("SSRIs")⁹ to akathisia¹⁰, and the further potential connection of akathisia to dysphoria, irritability, aggression, or suicide attempts. See id. at 39. Dr. Jackson contends in her report that SSRIs may cause akathisia, and that akathisia could, in turn, cause aggression and suicidality. She cites the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Text Revision (American Psychiatric Society, 2000) ("DSM IV") to support her contention. See Report at 39 (citing DSM IV at 801 for proposition that "Akathisia may be associated with dysphoria, irritability, aggression, or suicide attempts....Serotonin-specific reuptake inhibitor antidepressant medications may produce akathisia that appears to be identical in phenomenology and treatment response to Neuroleptic-Induced Acute Akathisia."). Dr. Jackson concludes, without citation to any source, that "it is essential for clinicians to recognize the possibility that suicide and/or homicide may become attractive 'solutions' to the unrelenting psychic distress of akathisia." Id. (emphasis in original).

В. Specific Causation

In order to arrive at her opinion on specific causation, Dr. Jackson explored three factors: (1) Pharmacodynamics – what Prozac does to the brain, (2) Pharmacokinetics – what the body does to Prozac, and (3) Unique biology – how Mr. Rimbert's physiology could have contributed to Prozac's effect on him. In reaching her conclusion, Dr. Jackson relied on human and animal studies, as well on extrapolations based on her knowledge of the chemical components of SSRIs.

In characterizing the pharmacodynamics of Prozac, Dr. Jackson contends that "a

⁹ SSRIs are a family of antidepressant medications, of which Prozac is a member.

¹⁰ Akathesia is a neurological condition consisting of two components: (1) an inner, subjective, feeling of restlessness or needing to move; and (2) an observable, outward manifestation of psychomotor activation, such as hand-wringing, the inability to remain seated, or constant movement. See Jackson depo at 144.

substantial number of investigations imply that Prozac and other [SSRIs] would be well characterized as substances which induce a state of serotonin insufficiency." Report at 40 (emphasis in original). In support of this statement, she cites several studies that looked at levels of neurotransmitter metabolites within cerebrospinal fluid as a proxy for intercranial events (because the collection of actual neurotransmitters from the living human brain is a practical impossibility). Dr. Jackson characterized these studies as "universally demonstrat[ing] that [SSRIs]—in patients and healthy controls—trigger a significant and prolonged reduction in the serotonin metabolite known as 5HIAA." Id. She indicates that the sustained reduction of 5HIAA "has been shown to reflect a decrease in serotonin turnover (i.e., less serotonin breakdown because of diminished serotonin production and release." Id. (emphasis in original). Further, Dr. Jackson maintains that "low levels of 5HIAA have been consistently found in the cerebrospinal fluid of patients and perpetrators of impulsive acts, including arson, homicide, and suicide," although she does not indicate whether the research she cites purports to establish causation or merely identifies correlation. *Id*.

Dr. Jackson also cites several animal studies that corroborate this phenomenon and concludes that SSRIs in general "appear to induce a long-lasting vulnerability within the serotonin pathways of the brain-a perturbation which likely increases the risk of chronic and/or recurrent depression and anxiety." *Id.* at 46. She goes on to cite other animal studies that demonstrate that acute exposure to SSRIs results in reduced firing rates of serotonin and dopamine neurons, which may account for akathisia and other side effects that can lead to aggression and suicide. Id.

Pharmacokinetics refers to how the body absorbs, distributes, metabolizes, and excretes a drug. Dr. Jackson suggests that the way Prozac is absorbed by the body makes it more likely to

concentrate in certain patients. In discussing Prozac's pharmacokinetic profile, Dr. Jackson explains that Prozac has a relatively longer half-life than many other SSRIs, and this can delay the emergence of certain drug effects. Id. at 47. Second, she points out that "[f]or the '7% of the population' who might be poor metabolizers of drugs cleared by [a particular enzyme], Prozac...may accumulate to higher than normal levels." Id. Third, Dr. Jackson believes that the fact that Prozac is considered to be an inhibitor of certain enzymes "suggest[s] that Prozac may provoke or exacerbate drug-drug interactions." *Id.* Finally, she notes that, because Prozac is a medication that is primarily metabolized by the liver, any liver pathologies can prolong the drug's half-life, boosting the potential for adverse effects. *Id*.

Using her knowledge of Prozac's pharmacokinetic profile, Dr. Jackson then advanced several theories on how Prozac could have affected Mr. Rimbert. She first noted that Mr. Rimbert would have been at increased risk for accumulating higher than normal levels of Prozac if he was among the small percentage of people who are poor metabolizers of drugs cleared by the 2D6 enzyme system, but acknowledged that she did not know if he was among that population. Id. at 48. She then asserted that, even without this genetic predisposition, Mr. Rimbert might have been vulnerable to higher than expected levels of Prozac in his blood and brain under several possible circumstances. For instance, if he had been taking Zantac for heartburn at the same time he took Prozac, this could potentially have caused an atypical accumulation of Prozac levels, although it is unknown whether he was, in fact, taking Zantac after initiating Prozac treatment. Id. Alternatively, Mr. Rimbert "may have" accumulated Prozac at an atypical level through the interaction of the medications for which he had prescriptions at the time of his death, as these medications could have competed for clearing by the 3A4 enzyme. *Id.* "Although 3A4 is considered to be a 'high capacity' system, and although none of [Mr.

Rimbert's] medications are characterized as potent disruptors of 3A4 function, there remains the possibility that these agents were nevertheless capable of 'nudging' each other aside when vying for the same binding site." *Id.* Additionally, a fatty liver, such as an autopsy revealed that Mr. Rimbert had, enhances the risk of drug toxicity by impeding the process of drug metabolism and elimination. *Id.* Finally, Dr. Jackson surmised that Mr. Rimbert's pre-existing hypothyroidism, diabetes, and high cholesterol, and their accompanying treatments, could have increased the risk of Prozac-induced or enhanced depression and violence. *Id.* at 49-50.

Dr. Jackson made these pharmacokinetic suppositions despite the fact that Mr. Rimbert's postmortem blood sample revealed "normal" levels of Prozac and its metabolite, rather than elevated levels. Id. at 50. She suggested that Mr. Rimbert could have shown a normal level of Prozac in his blood, despite actually being exposed to dangerous levels, because smoking could have reduced the level that showed up in the test, or because it is possible that he reduced, skipped, or stopped taking Prozac in the days before the shooting. *Id.* Alternatively, Dr. Jackson argues, Mr. Rimbert's pre-existing medical conditions and associated treatments could have increased his sensitivity to the effects of Prozac, so that even normal concentrations of the drug could have led to lethal effects. Id.

Based on this methodology, Dr. Jackson concluded that "in the context of [Mr. Rimbert's] pre-existing risk factors for suicide and homicide, and in the context of his diminished capacity to resist them, it is more likely than not true that Prozac converted a case of probable dysthymia into a case of agitated depression with obsessive and psychotic features." *Id.* at 52. Dr. Jackson considered Mr. Rimbert's psychic pain under the influence of Prozac to be obsessive because he "became exclusively focused upon preventing his wife's departure from the marriage." Id. She considered it to be psychotic in the sense that he "developed a death fantasy

in which he came to view murder and suicide as a means of reuniting with Olivia eternally, in the afterlife," which "was highly irrational, in the sense that murder was hardly an expression of how much he 'loved' his wife." Id. In her opinion, this "death fantasy" was also delusional, "in the sense that it violated his faith's proscriptions against murder and suicide, through which the perpetrator's soul would presumably be condemned to hell (*not* the destination of [Mr. Rimbert's] innocent victims)."11 Id. (emphasis in original). In Dr. Jackson's opinion, because Prozac elevated Mr. Rimbert's moderate depression into an agitated depression with obsessive and psychotic features, it "was the definitive, contributive cause of the Rimbert tragedy." Id. (emphasis in original).

ANALYSIS

A. Witness Qualification

Defendant challenges Dr. Jackson's qualifications as an expert on the grounds that she lacks the objectivity necessary to make her opinions scientifically valid and that she has no expertise in the causation of homicide-suicide. ¹² Defendant's objectivity argument is twofold: Dr.

¹¹ Presumably, in making this assessment of the theological flaw in Mr. Rimbert's plan, Dr. Jackson was referring to the fact that Mr. Rimbert was raised Catholic, despite his having fallen away from church attendance in the decades prior to this tragic incident.

¹² Plaintiff also sought to have Dr. Jackson testify on the adequacy of the warnings accompanying Prozac at the time it was prescribed for Mr. Rimbert. Defendant challenged her qualifications to opine on this subject on the grounds that she has no training in prescription drug labeling, that she has no experience in drafting warnings, that she did not draft a proposed adequate warning in this case, and that she admitted in her deposition that she is not qualified to say what would constitute an adequate warning. Because the Court has determined that Dr. Jackson may not testify regarding a general or specific causal link between Prozac and homicide/suicide, it need not reach the issue of Dr. Jackson's qualifications to opine on warnings. "If the jury will hear no evidence that [Prozac] causes suicide [and homicide], it cannot possibly conclude that [Prozac] labels do not adequately warn against the danger that [Prozac] causes suicide [and homicide]." Miller v. Pfizer, Inc., 196 F. Supp. 2d. 1062, 1089 (D. Kan. 2002), aff'd 356 F.3d 1326 (10th Cir. 2004). Thus, even if she were qualified to offer

Jackson worked exclusively for Plaintiff's counsel's law firm, and she formed conclusions about the case prior to doing any research or even knowing the full facts about the case.

At the time she received the assignment to write her report in this case, Dr. Jackson had been a full-time employee of Plaintiff's law firm for approximately nine months, and she remained a full-time employee of the firm during the time she wrote the opinion. See Deposition of Dr. Grace Jackson in Gruder v. Smithkline Beecham Corp., taken Dec. 11, 2007 (hereinafter "Other Jackson Depo."), attached as Ex. B to Def't Mem., at 61, 250. Defendant argues that Dr. Jackson's response to an email she received regarding the Rimbert case further illustrates her lack of objectivity. Dr. Jackson apparently first learned of this case in a September 5, 2007 e-mail from Plaintiff's attorney's secretary, which states:

Grace:

Pros: It's a murder-suicide. Man was on Prozac, shot his wife, his dog and then himself. Need report.

Cons: Report due 9/24/07.

Are you up for it?

E-mail from Karin Shepherd, Secretary to Plaintiff's attorney (Mr. Vickery), to Dr. Jackson regarding Rimbert v. Eli Lilly (dated September 5, 2007), attached as Exhibit C to Def't Mot.

Approximately six hours later, apparently knowing nothing about the case other than the information she received in the earlier e-mail, ¹³ Dr. Jackson responded: "That sounds like an

testimony on the adequacy of warnings, such testimony would not be relevant to any material issue in the case.

¹³ Perhaps in an effort to counter Defendant's accusation that Dr. Jackson's email revealed her to be less than objective, Plaintiff's counsel claimed in his response to Defendant's motion to exclude Dr. Jackson's testimony that "Dr. Jackson obtained additional information about the facts [prior to sending her email] from her conversations with counsel." Pl. Resp. at 4.

EXCELLENT case." E-mail from Dr. Jackson to Karin Shepherd (dated September 5, 2007), attached as Exhibit D to Def't Mot. Defendant claims that this email response demonstrates that Dr. Jackson knew what Plaintiff was asking her to do (demonstrate that Prozac was responsible for the death of Mr. Rimbert, his wife, and his dog), and that, without any further information, Dr. Jackson agreed to make that finding. In other words, that, as a full-time employee of Plaintiff's counsel's firm, she would attempt to reason backwards to justify the conclusion she was being asked to reach. Certainly, Dr. Jackson's response and the circumstances surrounding it could be cause for calling into question her credibility. However, the Court believes that such credibility challenges are more properly saved for cross examination and such credibility determinations are more properly the province of the trier of fact. The Court's ruling today is based solely on its determination that the methodology Dr. Jackson used to reach her opinion rendered her conclusions unreliable. While "coming to a firm conclusion first and then doing research to support it is the antithesis of [the scientific] method," Claar v. Burlington N. R.R. Co., 29 F.3d. 499, 502 (9th Cir. 1994), the Court's ruling is in no way meant to suggest that it finds that Dr. Jackson proceeded in this manner.

Defendant also contends that, because this case involved a homicide linked to a suicide, only someone who is an expert in the specific phenomenon of homicide-suicide is qualified to opine on the cause of this tragic case. Dr. Jackson does not claim to be an expert on homicide-

Plaintiff's counsel supported this assertion by attaching a sworn declaration to the response, in which he testified: "I had discussed the facts of the case with her on an informal basis prior to the initial email which is cited in Lilly's motion papers." Declaration of Andy Vickery, dated April 17, 2008, attached as Ex. E to Pl. Resp. at 3. Aside from the questionable propriety of counsel inserting himself into the proceedings as a fact witness, the Court notes that counsel directly contradicts the sworn testimony of his proffered expert. See Jackson Depo. at 272-73 (testifying that the sum and substance of her knowledge of the Rimbert case came from Karin Sheperd's email to her).

suicide. Jackson depo. at 59. Dr. Jackson is aware that a body of published medical literature exists regarding the unique phenomenon of homicide-suicide, but she has not studied that literature. See id. at 60:17-61:15, 139:13-18. Other than "skimming abstracts," Dr. Jackson did not read any articles on homicide-suicide while formulating her causation opinions in this case because of "time constraints in the production of her report." *Id.* at 60:17-61:15. Dr. Jackson does not know whether the recognized risk factors for homicide-suicide are the same as those for an isolated homicide, about the different types of homicide-suicide, or whether there are different risk factors for different types of homicide-suicide. See id. at 139:2-12, 140:3-17. Specifically, Dr. Jackson cannot opine about the relevance of a history of prior violence or domestic violence as a risk factor for different types of homicide-suicide, because she has not researched these issues in the medical literature. See id. at 141:2-11.

The Court finds that familiarity with the discrete literature of homicide-suicide is not a prerequisite to offering testimony on causation in a case such as this. Dr. Jackson is a boardcertified psychiatrist with experience treating patients, prescribing anti-depressants, and studying the effects of medication on the brain and body. While Defendant could make the argument to a jury that failure to familiarize herself with literature on the specific phenomenon of homicidesuicide weakens her report, the Court finds that Dr. Jackson has sufficient "knowledge, skill, experience, training, [and] education" in her field to qualify as an expert. Fed. R. Evid. 702.

В. General Causation

1. Human Studies

In her report, Dr. Jackson cites only two studies of Prozac in humans, which she characterizes as "reveal[ing] the astoundingly high prevalence of suicide and worsening of depression during the early course of treatment." Report at 35. However, these studies, the Cusin paper (attached as Exhibit E to Def't. Mot. [Doc. 59]) and the Perlis paper (attached as Exhibit F to Def't. Mot.), are of limited use in supporting a valid scientific conclusion because all of the data on which the papers are based is uncontrolled. In other words, there is no "placebo control arm" – or group not taking Prozac – to compare to the group of patients who were taking Prozac. Jackson Depo. at 183:25-184:22; id. at 196:2-7. The authors of the Cusin and Perlis articles recognize the limitations inherent in their studies caused by the lack of control groups. See Cusin article at 56 ("The major limitations of the present study are the post hoc nature of the analyses and the absence of a placebo double-blind control."); Perlis article at 45 ("A second limitation in the present study is the absence of a placebo or active comparator group.").

The lack of a control group makes it impossible to state whether the adverse events observed were a result of Prozac, part of the natural history and fluctuations of depression, or caused by other factors. See Cusin article at 55 ("Worsening may have different possible explanations. For example, worsenings during the first few weeks of treatment may not be etiologically related to antidepressant therapy, but may simply represent a correlate of the natural history of the disease."); id. ("Worsening may be a secondary to stressful life events. . . ."); Perlis article at 45 ("It is thus impossible to establish a specific association between fluoxetine and treatment-emergent adverse events."); Jackson Depo. at 185:24-186:5; id. at 197:12-198:3. Dr. Jackson admitted that, because neither study had a control group, one cannot draw a scientifically valid conclusion, from either paper, as to whether Prozac caused or was even associated with the observed adverse events reported, whether worsening of depression in the Cusin article or suicidal thinking in the Perlis article. See Jackson Depo. at 195:7-20; id. at 201:17-202:10.

Suicide, homicide, and homicide-suicide occur in the general population, specifically in individuals who are not taking Prozac or any other antidepressant. Without controlled data, there is no way to know whether such events are more common in depressed patients taking Prozac than in depressed patients not taking Prozac or any antidepressant drug. See, e.g., In re: Breast Implant Litigation, 11 F.Supp.2d 1217, 1224 (D. Colo. 1998) ("Without a controlled study, there is no way to determine if those symptoms are more common in women with silicone breast implants than women without implants."); Reference Manual on Scientific Evidence at 95 (Federal Judicial Education Center 2d ed. 2000) ("Was there a control group? If not, the study has little to say about causation.").

2. **Animal Studies**

Dr. Jackson also bases her conclusion on several studies conducted on animals – namely, monkeys and rats. See Report at 41-44. Dr. Jackson contends that the cited animal studies demonstrate that Prozac reduces the level and activity of neurotransmitters in the brain (serotonin and dopamine), "believed to account for akathisia and other side effects which can lead to aggression and suicide." *Id.* at 46. She also contends that the cited studies show that SSRIs "eventually reduce the brain's supply of releasable serotonin," and that "animals exposed to SSRIs have...a 50-70% depletion of serotonin." *Id*.

Two of the studies on rat brains that Dr. Jackson cites, including one that she represents to be a study of Prozac, did not study Prozac at all, but instead studied the effects of chemically distinct SSRIs (Paxil, Zoloft, and Luvox). 14 Dr. Jackson admits that her report is in error on that

¹⁴ See M. Di Mascio, G. Di Giovanni, V. Di Matteo, S. Prisco, and E. Esposito, Selective Serotonin Reuptake Inhibitors Reduce the Spontaneous Activity of Dopaminergic Neurons in the Ventral Tegmental Area, 46:6 Brain Research Bulletin 547-54 (1998)(reference number 36 in Report and attached as Exhibit I to Def't Mem.) (study involving the intravenous administration of progressively increasing doses of paroxetine [Paxil], sertraline [Zoloft], and fluvoxamine [Luvox]); F. Yamane, H. Okazawa, P. Blier, and M. Diksic, Reduction in Serotonin Synthesis Following Acute and Chronic Treatments With Paroxetine, a Selective Serotonin Reuptake Inhibitor, In Rat Brain: An autoradiographic study with alpha-[14C]Methyl-l-tryptophan, 62 J.

point. See Jackson Depo. at 317:3-6, 319:11-25.

Another animal paper cited by Dr. Jackson, the Smith study, 15 investigates the effect of chronic administration of Prozac on the brains of monkeys. As admitted by Dr. Jackson, this paper actually contradicts her contention that Prozac reduces the level and activity of serotonin and dopamine in the brains of monkeys. See Other Jackson Depo (attached as Ex. B to Def't Mem.) at 331:18-21, 333:15-25 (conceding that chronic administration of Prozac did not result in a statistically significant decline in dopamine levels in the brain's caudate and that the monkeys' serotonin levels were no lower after prolonged treatment with Prozac than before treatment began).

Dr. Jackson also concedes that there are substantial differences between the brains of animals and those of human beings in response to the administration of antidepressants. See Other Jackson Depo. at 323:14-21. Dr. Jackson performed no calculations to determine whether the dose or route of administration of antidepressants to rats and monkeys in the papers that she cited in her report was equivalent to or substantially similar to human beings taking prescribed doses of Prozac. See Jackson Depo. at 322:13-23. Comparability of dosage appears especially important to assessing the methodology's reliability when conclusions about what can happen to humans, and what did happen in this case, are based on animal studies and not replicated by controlled human studies.

Biochemical Pharmacology 1481-89 (2001)(reference number 37 in Report and attached as Exhibit J to Def't Mem.) (study involving paroxetine [Paxil]).

¹⁵ T. Smith, R. Kuszenski, K. George-Friedman, J.D. Malley, & S.L. Foote, *In Vivo* Microdialysis Assessment of Extracellular Serotonin and Dopamine Levels in Awake Monkeys During Sustained Fluoxetine Administration, 38 Synapse 460-70 (2000)(reference number 31 in Report and attached as Exhibit K to Def't Mem.).

The three studies cited by Dr. Jackson that use postmortem analysis of rat brain tissue following chronic Prozac administration rely on dosages between 10mg/kg per day and 30 mg/kg per day. See Report at 44. A comparable dosage for someone of Mr. Rimbert's weight would have been between approximately 750 mg/day and 2250 mg/day rather than the 20 mg/day dosage that he was initially prescribed, which Dr. Hochstadt later increased to 40 mg/day. In other words, the dosages given the rats in the studies cited by Dr. Jackson to establish the effect of chronic Prozac ingestion on serotonin and dopamine levels was between 37 and 112 times higher than Mr. Rimbert's initial prescription, and between 19 and 56 times the increased dosage he was prescribed in the two weeks prior to his death. 16 Dr. Jackson's report contained no discussion concerning comparability of dosage or the applicability of high-dose animal studies to the low-dose effect on humans, making the reliability of conclusions based on such studies open to question. See Hollander v. Sandoz. Pharms. Corp., 289 F.3d 1193, 1209 (10th Cir. 2002) (upholding district court's conclusion that certain animal studies, including those involving much larger doses of the drug in question than that ingested by the subject of the opinion, were unreliable in establishing causation).

Dr. Jackson agrees that the animal studies that she cited in her report merely create hypotheses about what might happen in humans. See Jackson Depo. at 266:23-270:2; Other Jackson Depo. at 324:19-325:20. She admits that any of the effects discussed in the animal papers that she cites remain unproven because the testing methodologies used by the authors of

¹⁶ Dr. Jackson's report cites the Medical Examiner's report to establish that, at the time of his death, Mr. Rimbert weighed approximately 166 pounds. See Report at 26. 166 pounds correlates to approximately 75 kilograms, using a conversion factor of 2.2 pounds per kilogram. Thus, a dosage of 10mg/kg per day would work out to approximately 750 mg/day for someone of Mr. Rimbert's weight, while a dosage of 30mg/kg per day would work out to approximately 2250 mg/day.

those papers have not or cannot be conducted on humans with present technology and that, therefore, one cannot draw a scientifically valid conclusion about what actually happens in humans based on the animal studies. See Jackson Depo. at 268:3-270:3; Other Jackson Depo. at 325:1-20. An untested hypothesis does not provide a scientifically reliable basis for an opinion on causation. See Norris v. Baxter Healthcare Corp., 397 F.3d 878, 882 (10th Cir. 2005); In re: *Breast Implant Litigation*, 11 F.Supp.2d at 1228.

3. Epidemiological Evidence

Epidemiological studies are the best evidence of causation in a case such as this, in which exposure to a substance is alleged to have caused injury. See Norris, 397 F.3d at 882; In re: Breast Implant Litigation, 11 F.Supp.2d at 1228.¹⁷ In attempting to prove that exposure to a substance caused an injury, "a 'lack of epidemiologic studies supporting [a plaintiff's] claim creates a high bar for [a plaintiff] to surmount with respect to the reliability requirement." Faris v. Intel Corp., 493 F.Supp.2d 1174, 1181 (D. N.M. 2007) (quoting Siharath v. Sandoz Pharm. Corp., 131 F.Supp.2d. 1347, 1358 (N.D. Ga. 2001), aff'd 295 F.3d 1194 (11th Cir. 2002)) (alterations in original). A controlled clinical study, a type of epidemiological study in which one group of subjects is exposed to the agent of interest and the other group is not exposed, "is considered the gold standard for determining the relationship of an agent to a disease or health

¹⁷ Norris stated that epidemiological studies are the best evidence of causation in a "toxic tort" case, but it did not define "toxic tort." The term "toxic tort" refers to circumstances under which plaintiffs attempt to prove that they suffered harm as a result of exposure to a substance. The Court is not aware of a widely-accepted definition that limits the term to cases involving substances that are harmful in all instances. Thus, the term would seem to allow for a wide variety of cases, ranging from exposure to harmful external substances, such as asbestos or nuclear material, to the adverse affects of substances deliberately ingested into the body, including prescribed medicines. Nonetheless, the Court need not decide the exact contours of a "toxic tort" to find that the principle that the *Norris* court articulated applies in this case.

outcome." Reference Manual on Scientific Evidence at 338 (Federal Judicial Education Center 2d ed. 2000).

Dr. Jackson's report does not contain any citation to any controlled clinical trial or other epidemiological study which demonstrates that the ingestion of Prozac creates an increased risk or an increased incidence of the following conditions: akathisia, suicidal thinking, suicidal behavior or completed suicide, violence or homicidal behavior, worsening depression, psychotic decompensation, psychiatric rage, impulsivity or impulsive behavior, or disinhibition or diminished capacity to resist engaging in homicidal or suicidal behavior. Nor did she rely on any such studies, to the extent any existed, in forming her opinion. See Jackson Depo. at 163:24-166:9; id. at 170:14-171:13; id. at 173:24-174:24; id. at 250:7-14; id. at 251:7-11.

Even more damaging to Dr. Jackson's reliability than her lack of reliance on epidemiological studies to generate and support her conclusions is her failure to grapple with any of the myriad epidemiological studies that refute her conclusion. At the time she wrote her report, Dr. Jackson was aware of a body of published medical and scientific literature, including controlled clinical trials and other epidemiological studies, which supports the proposition that Prozac is not associated with suicidality, but she did not consider that literature in the formation of her opinions and report in this case. See Jackson Depo. at 66:11-21. Additionally, when she wrote her report in this case, Dr. Jackson was aware that the FDA had reported to the public and to medical communities the results of its analysis of controlled clinical trials of antidepressants, including Prozac, and its conclusions that ingestion of antidepressants, including Prozac, creates no increased risk of suicidality in adults over twenty-four years of age and results in a decreased

risk of suicide in individuals over the age of sixty-five. 18 See id. at 174:25-177:9. Dr. Jackson also does not dispute the FDA's interpretation and analysis of the controlled clinical trial data, and has not analyzed the data on which the FDA relied in coming to its conclusions. Id. at 175:10-177:9. Nor did she examine the controlled clinical trial data examining the issue of whether Prozac causes suicide, despite being aware of its availability. *Id.* at 203:10-15. There are numerous peer-reviewed publications on controlled clinical trials, meta-analyses of controlled clinical trials, and other epidemiological studies that support the proposition that Prozac and other SSRIs are not associated with suicidality or violent, aggressive behavior. See, e.g., Exhibit N to Def't Mem. (containing a bibliography listing fourteen articles regarding meta-analyses of controlled clinical trials with Prozac, other SSRIs, and other antidepressants).

The Tenth Circuit made clear its view of the value of epidemiological studies in *Norris*, stating that "where there is a large body of contrary epidemiological evidence, it is necessary to at least address it with evidence that is based on medically reliable and scientifically valid

Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults in short-term studies of major depressive disorder and other psychiatric disorders. Anyone considering the use of Prozac or any other antidepressant in a child, adolescent, or young adult, must balance this risk with the clinical need. Short-term studies did not show an increase in the risk of suicidality with antidepressants compared to placebo in adults beyond age 24; there was a reduction in risk with antidepressants compared to placebo in adults aged 65 and older. Depression and certain psychiatric disorders are themselves associated with increases in the risk of suicide.

¹⁸ The current FDA-approved label for Prozac reflects the FDA's conclusions from its analysis of antidepressant controlled clinical trials. It states:

FDA-approved label for Prozac, revised June 21, 2007, attached as Exhibit L to Def't Mem. (emphasis added).

methodology." Norris, 397 F.3d at 882. The Norris court went on to hold that "[w]hile the presence of epidemiology does not necessarily end the inquiry, where epidemiology is available, it cannot be ignored. As the best evidence of general causation, it must be addressed." Id. Fatally for her reliability, rather than accounting for any of the many contrary epidemiological studies that showed no medically reliable link between Prozac and homicide/suicide in the target population in reaching her conclusion or writing her report, Dr. Jackson did not address them or discounted them without explanation. As a consequence, the methodology she used to reach her conclusion is ultimately unreliable, as "[n]on-epidemiological studies, singly or in combination, are not capable of proving causation in human beings in the face of an overwhelming body of contradictory epidemiology evidence." Id. at 887 n.8 (internal quotation marks and brackets omitted).¹⁹

Of course, an expert cannot be expected to anticipate all attacks on her report or to move preemptively to counter them, nor must she consider and discuss all relevant literature and evidence. The Court is aware of the liberal standard under which scientific evidence should be admitted, and is not looking for such a Herculean effort on the part of a proffered expert. Indeed, in an attempt to rebut criticism of Dr. Jackson's report, Plaintiff's counsel has cited many studies upon which Dr. Jackson could have relied. Unfortunately, however, she did not do so prior to reaching her conclusions, and to ignore completely the vast body of contradictory evidence, and especially to refuse to engage with contrary epidemiological studies while offering no supporting

¹⁹ In using this quotation, the Court does not intend to suggest that no epidemiological studies exist that demonstrate some connection between Prozac and suicidality in some people, or that the evidence against such a link is "overwhelming." Instead, it merely uses it as an illustration that an expert who chooses to completely ignore significant contrary epidemiological evidence in favor of focusing solely on non-epidemiological studies that support her conclusion engages in a methodology that courts find unreliable.

studies in return, strikes at the heart of a proffered expert's reliability.

4. Departure from Standard Methodology

Courts have excluded experts' opinions when the experts depart from their own established standards or the standards followed in their field. See Truck Ins. Exch. v. Magnetek, Inc., 360 F.3d 1206, 1213 (10th Cir. 2004) ("The district court noted that [the expert]'s opinion did not meet the standards of fire investigation [the expert] himself professed he adhered to."); Magdaleno v. Burlington N. R.R. Co., 5 F.Supp.2d 899, 905 (D.Colo. 1998)("In sum, [the expert]'s methodology is not consistent with the methodologies described by the authors and experts whom [the expert] identifies as key authorities in his field."). Dr. Jackson testified that, in order to assess strength of association and whether a drug actually caused a specific adverse event rather than simply having an association with the event, experts in the areas of epidemiology and pharmaco-vigilance utilize the criteria set forth by Sir Austin Bradford Hill.²⁰ See Other Jackson Depo. at 76:22-77:5; Jackson Depo. at 154:16-20. In fact, Dr. Jackson not only testified that the Hill criteria are generally accepted in her field, but she also asserted that she personally embraced that approach. See Other Jackson Depo. at 255:8-11 ("Q: And how do you assess, as a general methodologic matter, whether it's association or causal? A: Again, I go through the Hill criteria."). However, despite her recognition of these widely-accepted criteria, and her personal embrace of the methodology, Dr. Jackson inexplicably did not apply the Hill criteria to reach or

²⁰ See Hill, A.B., The Environment and Disease: Association or Causation?, 58 Proceedings of the Royal Society of Medicine (1965) at 295-300, attached at Exhibit O to Def't. Mem. In this article, Hill states that, after a statistically significant association between the drug and the adverse event is shown, factors to be considered in causation analysis include: 1) strength of association, 2) consistency of the association, 3) specificity of the association, 4) temporal relation between exposure and the adverse event, 5) biological gradient (dose-response relationship), 6) biological plausibility, 7) coherent with generally known facts about the disease, 8) experimental results, and 9) analogy.

test any of the conclusions in her report. See Jackson Depo. at 155:8-10 ("Q: Yeah, you didn't use Bradford Hill criteria [sic] in formulating your opinion in this case, did you? A: No. I did not."). That Dr. Jackson chose not to apply the methodology that she personally considers to be the standard in her field to assess causation undermines the reliability of her testimony.

Dr. Jackson also testified that she "intuitively" followed the general scientific method in formulating her opinions in this case, consisting of five steps: (i) generating a hypothesis; (ii) formulating a plan of investigation or protocol regarding the procedure for data gathering and data analysis; (iii) gathering data following the protocol procedures; (iv) analyzing the data using methods set forth in the protocol; and (v) comparing results from the data analysis with the hypothesis to see whether the hypothesis was proven or disproven. See Jackson Depo. at 156:25-158:19. However, in reviewing the materials Dr. Jackson relied upon in formulating her opinions, it does not appear that she followed the scientific method to its conclusion.

Dr. Jackson testified that the articles on which she relied to establish her opinion on general causation do not, by themselves, present valid scientific conclusions and are capable, at most, of generating hypotheses on the issue of causation. See id. at 195:7-20, 201:17-202:10, 266:23-270:2. In her report, Dr. Jackson opines that Prozac may be responsible for "an inherent destabilizing effect" in people, that Prozac ingestion "is accompanied by reduced firing rates of serotonin and dopamine neurons, which is "believed to account for akathisia and other side effects which can lead to aggression and suicide," and that SSRIs "likely increase the risk of chronic and/or recurrent depression or anxiety." Report at 46. At her deposition, however, Dr. Jackson testified that each of these statements, upon which she bases her conclusion, is merely a statement of hypothesis. See Jackson Depo. 323:4-324:1. By relying on articles that only present hypotheses, and extrapolating from those articles to state hypotheses of her own, which she then

uses to form the basis for her conclusion, Dr. Jackson has not moved beyond the first step in the scientific method upon which she purportedly relied. Untested hypotheses do not form the basis for admissible scientific opinions. See Norris, 397 F.3d at 887; Truck Ins. Ex., 360 F.3d at 1212; *In re: Breast Implant Litigation*, 11 F.Supp.2d at 1228.

5. Chain-of-Events Causation

Rather than focusing directly on the causal link between Prozac and the homicide and suicide that was the outcome of interest in this case, Dr. Jackson instead employed a chain-ofevents methodology. She opined that patients ingesting Prozac may develop akathisia, and that the "unrelenting psychic distress of akathisia" may make suicide and/or homicide an "attractive solution[]." Report at 39. In other words, her causation methodology looks at the causal relationship, if any, between Prozac and akathisia, and then looks at the causal relationship, if any, between akathisia and homicide or suicide. From those two steps, Dr. Jackson infers that Prozac may cause a person to commit homicide or suicide.

In Miller v. Pfizer, Inc., 196 F.Supp.2d 1062, 1080 (D.Kan. 2002), aff'd, 356 F.3d 1326 (10th Cir. 2004), the court found that this type of indirect, chain-of-events causation was not a generally-accepted scientific methodology. The plaintiffs in *Miller* alleged that the ingestion of Zoloft, an SSRI, caused their thirteen-year-old son to commit suicide. Similar to Dr. Jackson, the plaintiff's proffered expert was "an accomplished researcher in neuropsychopharmacology, and his credentials are not in dispute." Id. at 1065. Indeed, he had "made important contributions to the history of psychiatry and many significant clinical contributions." Id. The plaintiffs' expert relied heavily on case reports and his own studies and calculations, and disavowed the need for randomized controlled trials and epidemiological studies. See id. at 1067.

In examining the "general acceptance" of the proffered expert's methodology, the Miller

court stressed that its focus was not on the expert's credentials or on the conclusion reached, but solely on the technique he used to reach his conclusion. Id. at 1075. In its attempt to resolve the Daubert issue in its case, the Miller court retained the services of two independent experts to advise it. See id. at 1065. Based on the testimony of its appointed independent experts, the court found that the expert's methodology failed, concluding that:

> generally accepted methodology in this case required [the expert] to consistently test the strength of association between SSRI drugs and suicide (the outcome of interest) – rather than the association between SSRI drugs and akathisia (which is purported to be part of the chain of events that lead to suicide, rather than an independent outcome).

Id. at 1080. The court's independent experts also explained that "determining the strength of association 'requires at least two groups of subjects, one exposed to the agent of interest [Zoloft], the other not exposed, so that rates of the outcome event (suicide) can be determined and compared." Id. As discussed earlier, the studies on which Dr. Jackson relied to establish causation had no controls.

Dr. Jackson's methodology fails for reasons similar to those stated in *Miller*. The failure of her methodology is somewhat amplified by the fact that, in addition to failing the *Daubert* factors of general acceptance in the scientific community and following scientific standards (i.e., failure to follow the Hill standard and the scientific method, as discussed earlier), it falls short on another Daubert factor as well. Dr. Jackson admits that she never attempted to publish the methodology she employed to generate her opinion in any peer reviewed journal, nor did she seek to have her methodology peer-reviewed by any other means such as presentation at a scientific meeting. See Jackson Depo. at 55:17-56:3. Instead, her opinion and the methodology enabling it were created strictly for this litigation.

6. Plaintiff's Response

Rather than directly addressing the legitimate criticisms leveled at Dr. Jackson's methodology, Plaintiff instead ridiculed Defendant for seeking to prevent the admission of her testimony, relied on the admission of testimony by other experts using other methodologies in other cases, and sought to bolster her report through argument of counsel and studies not relied upon by Dr. Jackson in completing her report. Plaintiff also chose not to call Dr. Jackson to testify at the *Daubert* hearing, merely filing a short affidavit from her instead. This affidavit, filed two days prior to the hearing, spared Dr. Jackson the rigors of cross examination, but also did little to refute the criticism of her methodology.

Because, as the Court has previously stated, it is not ruling on the validity of the conclusions put forth by Dr. Jackson, but rather on the reliability of the proffered expert and the basis for her report, the supplemental materials and arguments put forth by Plaintiff's counsel (but not considered by Dr. Jackson in preparing her report) provide little assistance in this analysis. The bottom line is that the Court has determined that the methodology Dr. Jackson used to arrive at her general causation opinion is unreliable, so that, even if others using a reliable methodology arrived at a similar conclusion, her opinion still fails the *Daubert* test.

During her deposition, Dr. Jackson testified that all of the articles and other material on which she relied to support her opinion are cited in her Report. See Jackson Depo. at 18:19-19:1, 30:6-11, 36:22-37:19. She explicitly stated that, because she did not rely on materials that were not cited in her report, Defendant's counsel did not need to be concerned about reviewing any additional materials. *Id.* at 37:11-19. Dr. Jackson's assurances are in keeping with the requirements of Fed. R. Civ. P. 26(a)(2)(B), governing disclosures in expert witness reports. Rule 26 requires an expert report to include "a complete statement of all opinions to be expressed and the basis and reasons therefore," as well as "the data or other information considered by the

witness in forming them." Fed. R. Civ. P. 26(a)(2)(B)(i) and (ii). Plaintiff's Response Memorandum [Doc. 75] cites at least 15 articles and other materials that Dr. Jackson did not cite in her Report and upon which she admittedly did not rely in forming her opinion. Many of these articles raise issues not even discussed in Dr. Jackson's report. Plaintiff spends almost half of his Response Memorandum discussing these new materials, essentially asking the Court to find Dr. Jackson's methodology reliable because of the information used in counsel's attempt to supplement and bolster her report. See Pl. Resp. Mem. [Doc. 75] at 5-13. All of the materials cited by Plaintiff in his Response were available to Dr. Jackson at the time she wrote her report, but she did not rely on them. These materials cannot now be used, after the fact, to rehabilitate a flawed report.²¹

Clearly, the timeframe that Dr. Jackson had for completing her Report was tight. The initial email to Dr. Jackson giving her the assignment listed the tight deadline as the only "con" against taking the job. See E-mail from Karin Shepherd to Dr. Jackson regarding Rimbert v. Eli Lilly (dated September 5, 2007), attached as Exhibit C to Def't Mot.²² In her deposition, Dr. Jackson cited time constraints several times as the reason that she did not read a particular article

²¹ It appears that Plantiff's counsel's attempts to rehabilitate his expert using materials extraneous to her Report began prior to filing his Response Brief. Plaintiff relies heavily on the "Juurlink article" in his Response Brief. He writes of Dr. Jackson citing the article in her deposition, giving the impression that it was something that she relied on in reaching her opinion, or that it was at least within her field of knowledge. However, Dr. Jackson had not read the article prior to completing her report, or even prior to her initial deposition. In fact, Plaintiff's counsel gave her the article after the first session of her deposition, which was adjourned early because Dr. Jackson was fatigued. See Jackson Depo. at 244:12-23. It was not until her second deposition, conducted nearly two months after her initial one, that she cited the article provided to her by counsel.

²² Although the email listed the due date of the Report as September 24, 2007, less than three weeks from the date of the email, the final report was actually dated November 1, 2007. Report at 52.

or pursue a particular line of inquiry. *See, e.g.*, Jackson Depo. at 60:23-61:21, 256:16-19. While the Court is sympathetic to the difficulty of completing a thorough report on such a complex subject in a short amount of time, even by a purported expert in the field, nonetheless, under Fed. R. Civ. P. 26(a)(2)(B), an expert report must be judged on its merits. A defendant is entitled to rely on a report and the materials cited therein in evaluating the strength of its case, choosing which defenses to employ, selecting its own experts and guiding their approach, conducting its deposition of the expert, and preparing its *Daubert* challenge. Not only are materials not considered by the expert in preparing her report largely irrelevant to the Court's evaluation of her methodology, but allowing a party, at this stage, to combat a *Daubert* challenge using such materials, including those which raise new theories and issues, would unfairly encumber the opponent in its trial preparation and presentation of its *Daubert* challenge.

C. <u>Specific Causation</u>

Even if Dr. Jackson's general causation methodology were found to be reliable, the Court finds that her testimony should be disallowed because her specific causation methodology is fatally flawed as well. In reaching her opinion on specific causation, Dr. Jackson claims to have employed a methodology known as differential diagnosis. *See* Jackson Depo. at 261:19-25. The differential diagnosis method requires that potential causes for an outcome (in this case, a homicide and suicide) be ruled in as possibilities using valid scientific evidence, and then, using a process of elimination, be ruled out, if possible, using valid scientific evidence. *Id.* at 262:4-263:12. Differential diagnosis, if properly applied, is a valid technique for determining specific causation. *See Goebel v. Denver and Rio Grande W. R.R. Co.*, 346 F.3d 987, 998 (10th Cir. 2003). Of course, for a differential diagnosis to be admissible to demonstrate specific causation, a valid showing of general causation must have first been made. *See id.* The material question,

therefore, is not whether Dr. Jackson employed a valid technique, but whether, even assuming a valid showing of general causation, she employed that technique in a reliable manner.

In conducting a differential diagnosis, "the underlying premise...is that there is an established connection between certain possible causes and a condition or symptom-then all of the established causes are ruled out but one." Bitler v. A.O. Smith Corp., 391 F.3d 1114, 1124 n.6 (10th Cir. 2004)(quoting Saltzberg, et al., Federal Rules of Evidence Manual at 702-35 (8th ed. 2002)). In undertaking such an analysis, an expert certainly need not unconditionally exclude each possible cause. That would present much too high of a burden, especially in cases such as this one, in which multiple factors can combine to cause a single outcome. Instead, an expert must simply follow "a process of eliminating possible causes as improbable until the most likely one is identified." Bitler, 391 F.3d at 1124. They must present "more than mere possibility," but rather "must eliminate other possible sources as highly improbable, and must demonstrate that the cause identified is highly probable." *Id.* This requires that the expert "provide objective reasons for eliminating alternative causes." Id.

As discussed in the Background section of this opinion, at the time of these tragic events, Mr. Rimbert was laboring under a multitude of significant life stressors, including the failure of his 42 year marriage, rejection by his family, severe financial setbacks, substantial chronic health problems, and boredom and isolation in his retirement. Dr. Jackson identified these risk factors in her report, and testified that the combination of Mr. Rimbert's depression and his life circumstances could explain the ultimate outcome "without Prozac being involved." Jackson Depo. at 148:22-149:3. She also agreed that the idea that the homicide-suicide was triggered by a combination of Mr. Rimbert's life circumstances "could be a reasonable interpretation" even in the absence of Prozac. Id. at 128:1-14. In her report, Dr. Jackson stated that Mr. Rimbert

appeared to be at moderately high risk for suicide prior to the initiation of Prozac, and she testified that his life stressors were a complete explanation for the deaths of him and his wife. See Report at 32, Jackson Depo. at 110:1-9. She then admitted that she could not rule out Mr. Rimbert's depression and significant life stressors, by themselves, as the cause of the deaths. See Jackson Depo. at 149:12-22.

The problem with Dr. Jackson's differential diagnosis is not that she was unable to completely rule out the combination of Mr. Rimbert's depression and myriad life stressors as the trigger for the deaths in the absence of Prozac. That would be asking her to meet a higher burden than the law requires. Instead, the problem is that, not only did she fail to provide objective reasons for eliminating this alternative explanation as highly improbable, but she also failed to demonstrate that the cause she identified (Prozac) was highly probable.

Ultimately, almost everything in Dr. Jackson's specific causation opinion is hypothetical and speculative, except for her conclusion. She wrote that "it is unknown" whether Mr. Rimbert may have been among the small percentage of Caucasians who are poor metabolizers of Prozac, that he "may have" been vulnerable to a rise in blood and brain levels of Prozac, that he "may have" experienced an interaction between Prozac and the Zantac that he could possibly have been taking for heartburn, or that he "may have" experienced a drug interaction between Prozac and one of the other medications he was taking (because, despite the fact that none of the medications he was taking are potent disruptors of the 3A4 enzyme, "there remains the possibility" that the agents in those medications nonetheless interfered with each other). Report at 48. Similarly, Prozac "may have" exacerbated aspects of Mr. Rimbert's pre-existing medical conditions, he "may have" been especially sensitive to the initial dose, or he "may have" had an atypical accumulation of Prozac in the brain. *Id.* at 49-50. Rather than concluding that the postmortem

femoral blood sample that revealed "normal" levels of Prozac in Mr. Rimbert made her hypotheses about abnormal accumulation less likely, Dr. Jackson instead speculated that "it is possible" that Mr. Rimbert's blood levels of Prozac "may have" been reduced significantly by smoking, or that it is "possible" that he could have stopped taking Prozac in the days before the shootings, or that "another possibility" is that Mr. Rimbert's pre-existing medical conditions increased his sensitivity to the effects of Prozac so that even normal levels of Prozac in the bloodstream could have produced lethal effects. *Id.* at 50. As Dr. Jackson conceded, each of these potential factors and mechanisms were only hypothetical or speculative. *See* Jackson Depo. at 325-335.

The Court's concern over Dr. Jackson's reliance on hypotheses and speculation to support her specific causation opinion is exacerbated by her apparent failure to take into consideration seemingly relevant facts or to explain the basis for her refusal to consider them. Necessarily central to Dr. Jackson's causation opinion that Prozac-induced akathisia led Mr. Rimbert to kill his wife and himself is that his akathisia developed as a result of taking Prozac. Dr. Jackson testified to her opinion that, after taking Prozac, Mr. Rimbert developed akathisia on top of his depression. Jackson Depo. at 151:7-12. Akathisia is a condition consisting of two components: (1) an inner, subjective feeling of restlessness; and (2) an observable, outward manifestation of psychomotor activation, such as hand-wringing. *Id.* at 144:13-22. In her deposition, Dr. Jackson agreed that if a patient described himself as feeling "restless," that would satisfy the first criteria of akathisia, and if he said that he "can't keep still," that would satisfy the second aspect. *See id.* at 249:6-250:6. On August 18, 2003, before he was prescribed Prozac, Mr. Rimbert filled out an instrument called the Zung depression scale in Dr. Hochstadt's office. *See* Hochstadt depo. at 39-40; Copy of Mr. Rimbert's Zung Depression instrument, attached as Ex. P to Def't Mem.

(hereinafter "Rimbert's Zung instrument"). In filling out the instrument, Mr. Rimbert indicated that "I am restless and can't keep still" some of the time. Hochstadt Depo. at 44:10-13; Rimbert's Zung instrument. In addition to the answer containing the diagnostic criteria for akathisia found on the Zung depression instrument, Mr. Rimbert's restlessness and inability to keep still on August 18, 2003, prior to ingesting Prozac, was also noted by Dr. Hochstadt in his notes. See Hochstadt Depo. at 37:19-38:14 (discussing notation that Mr. Rimbert's physical examination showed a "depressed, anxious-appearing gentleman," which, for Dr. Hochstadt would indicate "somebody who probably is not sitting still in their seat, who may be wringing their hands, they may have sweaty palms, they may have difficulty carrying on a conversation in a direct fashion"). Dr. Jackson does not recall seeing Mr. Rimbert's Zung depression scale instrument as part of the record that she reviewed, although she does not dispute its contents, and admits that she likely did not consider it in formulating her opinion. See Jackson Depo. at 83-85. Not only did Dr. Jackson not take into account evidence that Mr. Rimbert exhibited akathisic symptoms prior to ingesting Prozac, but she testified that, if she had considered that evidence, "it would in no way influence the opinions which I've expressed in my report." *Id.* at 84:13-18. This appears to be directly contrary to Bitler's requirement to provide objective reasons for eliminating alternative causes of the outcome in question.

Additionally, on the Zung depression scale that he completed prior to beginning his Prozac regimen, Mr. Rimbert indicated that "I feel that others would be better off if I were dead" some of the time. Hochstadt Depo. at 45:13-16; Rimbert's Zung instrument. Dr. Jackson agreed that this answer indicates the presence of suicidal ideation. Jackson Depo. at 87:15-24. Dr. Jackson testified that one of the things she relied on in reaching her opinion that Prozac was responsible for the deaths of Mr. and Mrs. Rimbert is that he did not have suicidal thinking prior

to taking Prozac. See id. at 260:16-261:1, 285:15-20. In doing so, she failed to review and take into account Dr. Hochstadt's deposition (which was taken August 15, 2007, weeks prior to Dr. Jackson receiving her assignment) and the Zung depression scale completed by Mr. Rimbert that appears to contradict her formulation of specific causation. Not only did she not provide an objective reason to avoid taking this contradictory evidence into consideration, but she testified that, even though she did not review Mr. Rimbert's responses on the Zung instrument, her opinion would not have changed no matter what Mr. Rimbert's objective responses on that scale had indicated. See id. at 86:19-87:14. A methodology that inexplicably ignores material facts and relies only on selective evidence does not lead to a reliable opinion. Dr. Jackson did not properly apply the differential diagnosis methodology as laid out in *Bitler*, her opinion relies on assumptions (lack of akathisia and suicidal ideation prior to ingestion of Prozac) that are questionable at best, and she provides no explanation for ignoring contrary evidence. Her specific causation opinion is therefore unreliable, and will be excluded.

CONCLUSION

IT IS THEREFORE ORDERED that Defendant's Motion to Renew Dispositive and Daubert Motions or, in the Alternative, to Certify Orders for Interlocutory Appeal [Doc. 136] is GRANTED and Defendant's Motion to Exclude Expert Testimony of Dr. Grace Jackson [Doc. 58] is GRANTED.

UNITED STATES DISTRICT JUDGE