

United States Court of Appeals For the First Circuit

No. 13-1973

KENNETH JAMES JONES, ex rel. United States of America,

Plaintiff, Appellant

PRISCILLA PITT JONES, Ed.D., ex rel. United States of America;
UNITED STATES, ex rel. Kenneth James Jones

v.

MASSACHUSETTS GENERAL HOSPITAL; MARILYN ALBERT, Ph.D.;
RONALD J. KILLIANY, Ph.D.; BRIGHAM & WOMEN'S HOSPITAL

Defendants, Appellees.

HARVARD MEDICAL SCHOOL; HARVARD UNIVERSITY;
MARIE F. KIJEWski, Sc.D.

Defendants.

APPEAL FROM THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF MASSACHUSETTS

[Hon. William G. Young, U.S. District Judge]

Before

Howard, Lipez and Thompson,
Circuit Judges.

Jeremy L. Friedman, with whom Michael D. Kohn, Kohn, Kohn & Colapinto, LLP, William D. Hughes and Hughes & Nunn LLP were on brief, for appellant.

Alan D. Rose, with whom Brian D. Lipkin and Rose, Chinitz & Rose were on brief, for appellees.

March 16, 2015

HOWARD, Circuit Judge. Relator Kenneth Jones alleges that defendants Dr. Ronald Killiany and Dr. Marilyn Albert knowingly made false statements when submitting a grant application to the National Institute on Aging ("NIA") and knowingly falsified certain scientific data underlying the application. Those false statements, Jones contends, influenced the NIA's decision to award over \$12 million in federal funds to Massachusetts General Hospital and Brigham and Women's Hospital. In 2006 Jones filed a qui tam action pursuant to the False Claims Act, 31 U.S.C. § 3729 (the "FCA"), and in a previous appeal we vacated the district court's entry of summary judgment in favor of the defendants. United States ex. rel. Jones v. Brigham & Women's Hosp., 678 F.3d 72 (1st Cir. 2012) ("Jones I"). The case proceeded to trial, and a jury found for the defendants. Jones appealed again and now argues that the district court erred in denying his motions for judgment as a matter of law and for a new trial. Finding no reason to upset the jury's considered verdict, however, we affirm the judgment below.

I. Background

A. Factual Background

In our previous decision we set forth the basic facts underlying Jones's FCA claim. See Jones I, 678 F.3d at 75-79. We repeat only those facts necessary to understand the claims that Jones asserts in this latest appeal.

On October 2, 2001, the defendants submitted a Program Project Grant ("PPG") application to the NIA.¹ The grant application consisted of several distinct projects proposed by researchers at Massachusetts General Hospital and Brigham and Women's Hospital, organized around a common goal: to identify physical characteristics or mental capacities that could accurately predict the onset of Alzheimer's disease in patients. Jones maintains that the application contained materially false claims that induced the NIA to award the grant.

Dr. Marilyn Albert, one of the defendants, served as the Principal Investigator of the PPG. In that role, Albert was responsible for overseeing all research under the grant, coordinating the work of the various projects, and ensuring compliance with all NIH requirements. Albert also signed the application submitted to the NIA. Four "Cores" provided specific types of research or administrative support to the projects. As pertinent to this case, relator Jones led "Core B," the Data Management and Statistical Core of the PPG. As the leader of that core, Jones assessed, compiled, and analyzed the data produced by the various projects.

¹ The NIA is an institute within the National Institutes of Health ("NIH"). Grants for age-related research are submitted first to the NIH's Center for Scientific Review and then forwarded to the NIA. Jones I, 678 F.3d at 78. The parties refer generally to the "NIH" in their briefs and, accordingly, we refer to the NIA and NIH largely interchangeably for purposes of this opinion.

Jones's FCA claim focuses on a single project under the PPG umbrella: "Project 3." That project, led by defendant Dr. Killiany, a neuroanatomist, sought to identify and measure certain regions of interest in the brain. The study's goal was to determine whether any physical characteristics of those regions could be used to appreciably predict whether a person with mild memory problems would go on to develop Alzheimer's disease. Jones asserts that, leading up to the 2001 application, Killiany intentionally manipulated data that formed the cornerstone of the Project 3 proposal. That data involved the entorhinal cortex ("EC"), a small structure in the brain that serves as a pathway into the hippocampus and may also play an independent role in a person's memory.

To track changes in the EC and its relationship to Alzheimer's disease, at the outset of the study each participant was placed into one of two categories based on that participant's clinical dementia rating. Participants labeled as "normal" showed normal, healthy cognition, while those labeled as "questionable" presented mild memory problems. Over the course of the study, if a "questionable" participant's cognitive difficulties progressed to the point that she developed probable Alzheimer's disease, that participant was placed into yet a third category and reclassified as a "converter."

A Magnetic Resonance Imaging ("MRI") scan was taken of each participant, and those scans were used to measure the size of each participant's EC. By all accounts, the EC is a difficult structure to measure; it is generally only about one cubic centimeter in volume, and its boundaries are difficult to discern on an MRI scan. In 1997, Killiany and another researcher, Dr. Teresa Gomez-Isla, developed a "protocol" to predictably locate and outline the EC. They focused on identifying the boundaries between the EC and surrounding regions of the brain and employed what they both would describe at trial as a "conservative" approach to measuring the EC. Killiany and Gomez-Isla (functioning as "raters") then employed this approach for the scans of a group of twenty-five participants. The raters manually traced the EC on MRI scans of each participant using a trackball mouse and software called "Neuroview." Importantly, both raters were allegedly "blinded," meaning that they were not informed of a participant's cognitive categorization as "normal" or "questionable."

Members of Core B, the statistical core, then conducted a "reliability study," comparing Killiany's and Gomez-Isla's twenty-five tracings to determine whether two raters could, in practice, consistently implement the protocol and reach similar results. The comparison yielded an inter-rater reliability measure, or Pearson coefficient, of 0.96, representing a very close

match and indicating that two raters could predictably trace the EC and obtain consistent measurements.

Following the reliability study, Gomez-Isla's role in the study concluded. Killiany pressed on and measured the EC of other participants in the study. Over the course of the study, Killiany measured the EC of approximately 103 total participants. As he completed his measurements, he would periodically send his calculations to Dr. Mary Hyde, the Data Manager for the statistical core. As he progressed, however, Killiany identified several "anatomical anomalies" in the brains of certain participants. He also testified that implementing the protocol presented a learning curve. As he encountered anomalies and learned more about the EC, he reviewed his prior measurements. When a prior measurement seemed inaccurate, Killiany "would remeasure the area and reapply the operational definition, based on [an] increasing amount of information about measuring the structure on MRI." When Killiany remeasured a participant's EC, he sent a separate file with the new measurement to Hyde rather than overwriting his original measurements. This practice resulted in duplicate tracings of the same MRI scan for some participants. In four instances, Killiany remeasured scans that had been compared with Gomez-Isla's measurements in the reliability study.

Based on Killiany's second set of measurements, the study concluded that the volume of a subject's EC could predict with 93%

certainty whether a previously "questionable" participant with mild memory problems would become a "converter" and eventually develop Alzheimer's disease. This finding was presented in a 2000 article in the Annals of Neurology on which Killiany, Albert, and Jones--among others--were listed as co-authors. That article also reported the inter-rater reliability rating of 0.96.

In early 2001, Dr. Keith Johnson from Brigham & Women's Hospital, who led a separate project under the proposed PPG grant, first noticed the existence of two sets of EC measurements for some participants. Johnson brought this discrepancy to Jones's attention by e-mail on February 7, 2001. Jones investigated the matter and became concerned about the efficacy of Killiany's data. Jones raised those concerns in a March 2001 meeting with Albert and informed her that a statistically significant relationship between the volume of a participant's EC and her clinical dementia rating only existed when Killiany's second set of measurements were used. By contrast, if Killiany's original measurements were substituted, the relationship disappeared. Without Killiany's remeasurements, no statistically significant relationship was apparent from the data. Given this discrepancy, Jones requested that Albert review the matter.

Albert asked Dr. Mark Moss, a neuroanatomist, to review twenty-three specific measurements about which Jones had particular concerns. Moss reviewed each of those scans and, with one

exception, concluded that Killiany's second set of measurements more accurately outlined the EC for each participant. Unsatisfied with Moss's conclusion, Jones requested that the scans be remeasured by an independent evaluator. Albert refused this request.

Albert and MGH submitted the application to the NIA on October 2, 2001. The application described the preliminary results of several of the Alzheimer's disease studies, including Killiany's study of the EC. It reported the study's finding that the volume of the entorhinal cortex could predict--with 93% accuracy--whether a "questionable" participant would go on to develop Alzheimer's disease. Furthermore, in describing the methods undertaken to produce those results, the application stated that all operators were "blinded to the groupings of the subjects (e.g., control, questionable, converter)," and--citing Killiany's 2000 article--that the "procedures in place for generating the manually drawn image maps have been demonstrated to have high reliability." The NIH ultimately awarded MGH over \$12 million in federal funding for the five-year period between 2002 and 2007.

B. Procedural Background

On June 14, 2006, Jones filed this qui tam action naming several defendants, including Brigham & Women's, MGH, Dr. Killiany, and Dr. Albert. In the operative complaint, Jones alleged that, in submitting the proposal to the NIA, the defendants "knowingly made

false and fraudulent claims for federal funds." Jones asserted that "statements of false and fraudulent preliminary data infected the entire grant application," because the defendants relied upon Killiany's data "with full knowledge of the false and fraudulent nature of those [sic] data and the significance of the information to the NIH grant process."

The district court initially granted summary judgment for the defendants, but we vacated that order. Jones I, 678 F.3d at 75. Although we recognized that expressions of opinion and scientific judgment cannot constitute a false statement under the FCA, we "disagree[d] that the creation of the data in question was necessarily a matter of scientific judgment." Id. at 87. Even if Killiany's remeasurements "fall within an accepted range of scientific accuracy," we concluded, "a question remains as to whether the data was falsified by intentionally exaggerating the EC boundaries of normal subjects to achieve a desired result." Id. at 88. As a result, we remanded the case for trial.

At trial, in addition to testifying himself, Jones elicited testimony from all of the major actors in the study, including Albert, Killiany, Gomez-Isla, and Moss. Jones testified to his discovery of the second set of data and his investigation into the statistical significance of that data. He also testified that, because the original scans of four of Killiany's remeasurements had been included in the reliability study, he had

calculated a revised reliability measure. When Killiany's initial measurements were replaced with the remeasurements, Jones asserted, the Pearson coefficient dropped to 0.54--a "worthless" correlation between the two raters. During the plaintiff's case, Killiany and Albert resisted efforts to characterize their work as fraudulent.

The jury also heard testimony from three experts for Jones.² Dr. Norbert Schuff, a scientist specializing in MRI volumetric measurements of the brain, testified that Killiany's revised measurements "deviated substantially" from the protocol and that, in his opinion, there was "no scientific justification to make those specific revisions" to some but not other scans. Dr. Richard Goldstein, a statistical consultant, testified that, in his opinion, Killiany's remeasurements demonstrated that the inter-rater reliability protocol was not followed and that the concentration of Killiany's largest remeasurements among the normal group made it highly improbable that he remained blinded. Finally, Martha Davila-Garcia, an Associate Professor of Medicine who had experience as a peer reviewer advising the NIH about dozens of grant proposals, testified that the purported reliability measure

² In many respects, this testimony was similar to the opinions offered by the same experts at the summary judgment stage that we described in Jones I. See 678 F.3d at 80-82. At trial, Jones offered testimony from Dr. Richard Goldstein, a statistical expert, in place of Dr. Daniel Teitelbaum, whose testimony we considered in Jones I but who became unavailable as a witness before trial.

would be important to the NIH's review of the defendants' application.

In their own case in chief, the defense recalled only two witnesses: Albert and Killiany. The defense focused on more fully fleshing out its alternative rationale for Killiany's remeasurements--namely that those measurements more accurately identified the EC.

At the close of evidence, the defendants moved for judgment as a matter of law on all claims, and Jones moved for a ruling on damages. The jury returned a verdict in favor of the defendants, and Jones subsequently filed a motion for judgment as a matter of law under Rule 50(b) and incorporated an alternative request for a new trial under Rule 59. Among other grounds, Jones contended that "undisputed, substantial evidence" existed as to each element of the FCA claim. In that motion Jones also attempted to "renew[] his Rule 56 motion for summary judgment," conceding that he made no "separate, formal written motion under Rule 50(a)." The district court denied the motion and this timely appeal followed.

II. Analysis

Jones maintains that the district court erred in denying his motion for judgment as a matter of law because no substantial evidence exists to support the verdict. In the alternative, Jones argues that a new trial was warranted because the clear weight of

the evidence supported his FCA claim. Finally, Jones recites several alleged procedural, evidentiary, and instructional errors that he asserts also warrant a new trial.

A. Judgment as a Matter of Law

We review the district court's denial of Jones's motion for judgment as a matter of law "de novo, examining the evidence and reasonable inferences therefrom in the light most favorable to the nonmovant," Estate of Berganzo-Colón ex rel. Berganzo v. Ambush, 704 F.3d 33, 38 (1st Cir. 2013). This standard is demanding, and "[a] party seeking to overturn a jury verdict faces an uphill battle." Id. (quoting Marcano Rivera v. Turabo Med. Ctr. P'ship, 415 F.3d 162, 167 (1st Cir. 2005)). Ultimately, courts "may only grant a judgment contravening a jury's determination when the evidence points so strongly and overwhelmingly in favor of the moving party that no reasonable jury could have returned a verdict adverse to that party." Marcano Rivera, 415 F.3d at 167 (citation and internal quotation marks omitted).

But a party must preserve this challenge for us to review it on appeal. Rule 50(a)(2) requires that a party first file a motion for judgment as a matter of law "any time before the case is submitted to the jury." Fed. R. Civ. P. 50(a)(2). If the court does not grant that motion, following the verdict a party may file a motion under Rule 50(b) to renew the claims. Fed R. Civ. P.

50(b). "We have held in no uncertain terms," however, that a "failure to raise an issue prior to a Rule 50(b) motion for judgment as a matter of law, without more, results in a waiver of that issue on appeal." Muñoz v. Sociedad Española de Auxilio Mutuo y Beneficiencia de P.R., 671 F.3d 49, 58 (1st Cir. 2012); accord Costa-Urena v. Segarra, 590 F.3d 18, 26 n.4 (1st Cir. 2009) ("It is well-established that arguments not made in a motion for judgment as a matter of law under Rule 50(a) cannot then be advanced in a renewed motion for judgment as a matter of law under Rule 50(b)."). Indeed, the 2006 Amendments to the Federal Rules of Civil Procedure were intended to solidify this requirement. See Fed. R. Civ. P. 50 advisory committee's note, 2006 amendments ("Because the Rule 50(b) motion is only a renewal of the preverdict motion, it can be granted only on grounds advanced in the preverdict motion." (Emphasis added)).

In this case, Jones plainly failed to preserve his Rule 50(b) arguments. Jones made no Rule 50(a) motion challenging the sufficiency of the evidence to support a verdict in favor of the defendants. Rather, it is undisputed that Jones made an oral motion regarding a singular issue of damages, alone, at the close of evidence. Having reviewed the record, we find that this motion did not encompass or necessarily include an argument that Jones was entitled to judgment as a matter of law.

In an attempt to avoid this consequence, Jones points to various other references in the record as establishing his objection to the sufficiency of the evidence. Even were we to agree that a rigid invocation of the phrase "Rule 50(a)" may not be necessary in all circumstances (a proposition on which we express no opinion), Jones's effort to show that he raised the issue is unavailing.

First, Jones invokes his pretrial summary judgment motion under Rule 56 as one such "pertinent reference." He claims that motion preserved his sufficiency-of-the-evidence challenge because "every factual and legal issue presented in Jones'[s] post-trial motion (and on this appeal) was also presented in the previous Rule 56 motion." Jones also asserts that "[n]o rule precludes [him] from renewing his Rule 56 motion after trial, and no authority requires a Rule 50(a) motion raising the same grounds raised in a pre-trial motion for summary judgment."

The argument is misguided. As we have repeatedly emphasized, by the conclusion of trial a summary judgment motion "'has been overtaken by subsequent events, namely, a full-dress trial and an adverse jury verdict.'" Granfield v. CSX Transp., Inc., 597 F.3d 474, 481 n.8 (1st Cir. 2010) (quoting Rivera-Torres v. Ortiz Vélez, 341 F.3d 86, 92 (1st Cir. 2003)). After trial, a party may not invoke any sufficiency challenges included only in a summary judgment motion. This rule is based on the common-sense

"procedural fact" that the record fully develops between any proffered summary judgment motion and trial. E. Mountain Platform Tennis, Inc. v. Sherwin-Williams Co., Inc., 40 F.3d 492, 500 (1st Cir. 1994). "A denial of a motion for summary judgment is merely a judge's determination that genuine issues of material fact exist. It is not a judgment, and does not foreclose trial on issues on which summary judgment was sought." Id. (citation and internal quotation marks omitted). To reinvoke any sufficiency argument and "preserve its challenge for appeal, a disappointed party must restate its objection in a motion for judgment as a matter of law." Ji v. Bose Corp., 626 F.3d 116, 127 (1st Cir. 2010). And nothing in our cases suggests that, when a party does file such a motion for judgment as a matter of law, it may ignore the unqualified requirement that a 50(b) motion may only restate those arguments raised by a prior 50(a) motion.³

Attempting to evade clear precedent, Jones asserts that the Supreme Court's decision in Ortiz v. Jordan, 131 S. Ct. 884 (2011), establishes that a party "satisfies Rule 50(b) by raising

³ Some circuits have "recognized an exception" and permit a party to appeal a summary judgment motion post-trial--without filing a motion for judgment as a matter of law--where a "party's challenge is based on a circumscribed legal error, as opposed to an error concerning the existence of fact issues." Ji, 626 F.3d at 127; see, e.g., Chemetall GMBH v. ZR Energy, Inc., 320 F.3d 714, 720 (7th Cir. 2003). But we have declined to do so, Ji, 626 F.3d at 127-28, and the Supreme Court has not resolved this question, Ortiz v. Jordan, 131 S. Ct. 884, 892 (2011). In any event, Jones does not contend--nor could he--that his motion for summary judgment presented purely legal questions.

the same grounds in his pretrial motion for summary judgment under Rule 56," and, consequently, "[n]o separate Rule 50(a) motion [is] required." Ortiz does not support that proposition. In Ortiz the defendants sought to appeal--following a full-trial on the merits--a district court order denying summary judgment on the basis of qualified immunity. There the defendants did, in fact, seek judgment as a matter of law pursuant to Rule 50(a), although they acknowledged they did not renew that motion under Rule 50(b). Ortiz, 131 S. Ct. at 890-91. The Court held, however, that the defendants' "failure to renew their motion for judgment as a matter of law under Federal Rule of Civil Procedure 50(b)" left the appellate court without authority to reconsider the summary judgment motion and reject the district court's verdict. Id. at 889.

Jones appears to invoke the Court's having referred only to Rule 50(b) as establishing that a Rule 50(a) motion is not required to raise arguments presented in a prior summary judgment motion. But this cherry-picked reference must be read in context. Because the defendants in Ortiz did, in fact, pursue a Rule 50(a) motion, the hypothetical question of whether a party could reinvoke its summary judgment arguments through a Rule 50(b) motion, alone, was not before the Court. In the face of clear precedent in this Circuit and the pertinent advisory committee commentary, we decline

to make such a considerable inferential leap and read that holding into Ortiz.⁴

Beyond his prior summary judgment motion, Jones asserts in passing, and without further development, that several other "pertinent references" exist in the record to preserve his sufficiency argument. He invokes his "previous appeal to this Court, Joint Pretrial Memorandum, proposed jury instructions, objections to jury instructions[,] and closing argument." (Citations omitted). His citation to the prior appeal to this court is simply another attempt to resuscitate his prior summary judgment motion. And the remaining identified filings and argument

⁴ In addition to Ortiz, Jones briefly cites in his brief, and invoked at oral argument, two decisions of our circuit for this proposition: Martinez Moll v. Levitt & Sons of P.R., Inc., 583 F.2d 565 (1st Cir. 1978) and Young v. City of Providence ex rel. Napolitano, 404 F.3d 4 (1st Cir. 2005). Both are inapposite. In Martinez Moll we determined whether the defendants had waived an argument before the district court, in part, by considering whether that issue was raised in either the defendants' Rule 50(b) motion or its prior motion for summary judgment. 583 F.2d at 570-71. Because we found that the proffered argument was absent from the defendants' summary judgment motion, however, we had no opportunity to consider whether raising the issue only at that stage would have sufficiently preserved it for appeal. Id. at 571. And Jones's fleeting invocation of our decision in Young fares no better. We noted in Young that the district court had resolved a Rule 50 motion after trial at the same time it considered a motion for summary judgment it had "held in abeyance." Id. at 12. Yet, the district court's decision makes clear that legal issues had been bifurcated for a dual-phase trial, and the summary judgment motion involved only "matters which had been reserved for determination in phase two of the trial." Young v. City of Providence, 301 F. Supp. 2d 163, 168, 169 (D.R.I. 2004). Accordingly, the district court there did not permit the defendants to renew a prior summary judgment motion.

did nothing to put the district court or defendants on notice that Jones would argue that, as a matter of law, the defendants had failed "to put forth sufficient admissible evidence" such that no reasonable jury could return a verdict in defendants' favor, Casillas-Díaz, 463 F.3d at 81.

We thus conclude that Jones has not preserved his argument that he was entitled to judgment as a matter of law. But he would fare no better even if he had preserved it. We briefly explain.

As we noted in Jones I, to prove a violation of the FCA under the provision in effect when Jones filed his complaint, Jones was required to show that the defendants "'knowingly present[ed], or cause[d] to be presented to an officer or employee of the United States Government . . . a false or fraudulent claim for payment or approval,'" or "'knowingly ma[de], use[d], or cause[d] to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the Government.'" Jones I, 678 F.3d at 82 (quoting 31 U.S.C. § 3729(a)(1)-(2)). In addition, any knowingly false or fraudulent claim must be "material," meaning that it "has 'a natural tendency to influence, or [is] capable of influencing'" the NIA's decision to award the grant. Id. at 93 (quoting United States ex rel. Loughren v. Unum Grp., 613 F.3d 300, 307 (1st Cir. 2010) (alteration in original)).

Jones's argument appears premised on the conclusion that the jury was required to believe his theory of the case that Killiany's remeasurements constituted a knowing and purposeful manipulation of the data, and that Albert turned a blind eye to that problem. Jones's case at trial was largely premised on three main indicators of fraud: (1) that Killiany's remeasurements had no justification, (2) that Killiany had become unblinded to participant categorization and only revised measurements of "normal" subjects, and (3) that it was fraudulent to report the inter-rater reliability results based on Killiany's first data set. "[U]ndisputed evidence in the record" established each element of his FCA claim, Jones asserts.

Yet, on this record, the jury was entitled to believe the plausible explanation proffered by the defense: that the EC is a difficult area of the brain to measure, and that Killiany's remeasurements simply reflect his increased understanding of the EC as he reviewed additional participants' scans. Indeed, except for Jones himself, each witness involved in the study--Killiany, Albert, Moss, and Gomez-Isla--primarily supported the defendants' explanation. Gomez-Isla was unsurprised that Killiany went back to remeasure some of the initial scans and testified that "you could tell there was a learning curve" and that one would "get[] better the more scans you were going through and trying to draw." Moss, who reviewed Killiany's scans after Jones questioned them,

similarly agreed that there was a "learning curve" and posited that as a researcher "move[s] from naive to expert" he "hone[s] in on more consistency." Albert and Killiany also maintained that Killiany remained blinded throughout the study. And sufficient evidence existed for the jury to conclude that Albert and others either did not know that the inter-rater reliability score was false, or that the underlying data was not fraudulent at all.

The jury's resolution of such conflicting explanations of the defendants' actions is within its province and is thus not fodder for a motion for judgment as a matter of law. The jury was entitled to--and rationally could--find persuasive the evidence at trial that undermined any conclusion that Killiany's remeasurements were fraudulent or that Albert knew them to be so.

Additionally, Jones argues, essentially, that he was entitled to judgment as a matter of law because the defendants did not call any of their own expert witnesses, leaving Jones's experts' testimony uncontested. But contrary to these repeated assertions, testimony does not become "uncontested" simply because the defendants do not call their own expert witnesses at trial. The testimony of Jones's own witnesses could be--and indeed, was--considerably undermined such that the jury was entitled to question the import of that testimony.

For example, Dr. Schuff testified that Killiany's "original measurements were without major error according to the

protocol," that Killiany's later changes "deviated substantially from that initial protocol" and that there was "no scientific justification" to make such revisions to some, but not other, scans. Yet, the defense elicited a multitude of damaging concessions from Dr. Schuff, including that: he was not a neuroanatomist; he had never attempted to employ Killiany's method to measure the EC; he used a different protocol in his own lab which consistently produced a much larger volume in the EC; and he had only measured the EC on an MRI on fifty prior occasions and, when he did so, had consistently drawn the EC too short and too small. The jury could conclude that his testimony did nothing to counteract the defendants' theory of the case. Indeed, he conceded that he had no basis to determine whether Killiany's original or revised measurements were more or less accurate.

The jury could also conclude from the defense's questioning of Dr. Goldstein, the statistical expert, that his dramatic conclusions--including his assertion that the statistical probability that Killiany remained blinded while his "six largest changes" all involved subjects categorized as "normal" was "94 out of 1 million"--were unsound. Dr. Goldstein hypothesized that he would have expected half of Killiany's remeasurements to increase from their original volume, and half to decrease, but agreed that he formed this opinion "from a place of ignorance." Indeed, although he found it "particularly bothersome that Killiany

departed from the protocol," he conceded that he did not know what the protocol entailed or how Killiany had explained his revised measurements. Dr. Goldstein admitted he had no training in the anatomy of the brain or the EC specifically, and that, in arriving at his conclusions, he considered no evidence about why Killiany remeasured the scans. Finally, Dr. Goldstein did not investigate whether Killiany's initial measurements were affected by systematic error which, he conceded, might explain Killiany's decision to remeasure. Given these concessions, the jury would have been entitled to discount Dr. Goldstein's testimony altogether.

To a large extent, Jones's basic contention that "undisputed" evidence existed entitling him to judgment as a matter of law conflates the distinct inquiries that a court undertakes in resolving a summary judgment motion and a motion for judgment as a matter of law. Our holding in Jones I vacating the district court's entry of summary judgment did no more than acknowledge that unresolved issues of material fact might support a verdict in this case for either party. But even if the defendants presented limited testimony--expert or otherwise--to rebut Jones's theory of the case, Jones ignores that the jury may have found his witnesses and experts not credible or otherwise unreliable, or found believable Killiany's and Albert's alternative explanations for their actions. Our review is "weighted toward preservation of the jury verdict," Crowe v. Bolduc, 334 F.3d 124, 134 (1st Cir. 2003),

and here--even if Jones's sufficiency argument had been preserved--there was sufficient evidence for the jury to find in favor of the defendants.

B. Motion for a New Trial

Jones also argues that, for various reasons, the district court erred in denying his motion for a new trial. See Fed. R. Civ. P. 59(a)(1)(A). A new trial may be warranted if "the verdict is against the weight of the evidence" or if "the action is required in order to prevent injustice." Jennings v. Jones, 587 F.3d 430, 436 (1st Cir. 2009) (quoting Kearns v. Keystone Shipping Co., 863 F.2d 177, 181 (1st Cir. 1988)). We review for abuse of discretion the district court's denial of a motion for a new trial. Ambush, 704 F.3d at 38.

i. Weight of the Evidence

Jones first contends that the district court inappropriately refused to "re-weigh" the evidence and, had it done so, it would have determined that the "verdict is against the clear weight of the evidence." In denying Jones's motion, the district court plainly concluded that the weight of the evidence supported the verdict. But Jones suggests that, as a matter of law, the court was required to go further and independently re-weigh the evidence, piece by piece, presumably engaging in its own credibility determinations and findings of fact, before denying the motion for a new trial. To be sure, when entertaining a motion for

a new trial "[t]he district court may 'independently weigh the evidence.'" Cham v. Station Operators, Inc., 685 F.3d 87, 97 (1st Cir. 2012) (quoting Jennings, 587 F.3d at 436) (emphasis added); see MacQuarrie v. Howard Johnson Co., 877 F.2d 126, 132 (1st Cir. 1989) (noting that the judge "may consider the credibility of the witnesses who testified"). But nothing in the text of Rule 59 or any of our cases suggests that the district court must do so; accordingly, a district court does not categorically err whenever it declines to independently re-weigh the evidence, so long as it concludes that the weight of the evidence supports the verdict.⁵

Jones then invites us to "relax the standards of review under Rule 59" in "the unique circumstances of this case" and, essentially, weigh the evidence ourselves. But that proposal ignores both our precedent and common sense. Our role is not to independently weigh the evidence; "[w]e reverse only if we find that the trial court has abused its discretion in making its assessment of the weight of the evidence." Correia v. Fenney, 620 F.3d 9, 11 (1st Cir. 2010) (emphasis added). And this "circumscribed" review is sensible because "[c]ircuit judges, reading the dry pages of the record, do not experience the tenor of

⁵ Indeed, the district court provided no written rationale for denying Jones's motion for a new trial (and contrary to Jones's assertion, one was not required). But a requirement that the court always independently re-weigh the evidence would either necessitate that we speculate as to how the district court treated the evidence or mandate that the district court always issue a written order.

the testimony at trial." Jennings, 587 F.3d at 436, 437 (citation and internal quotation marks omitted).

Simply put, we are unable to conclude that the district court abused its discretion in denying Jones's motion for a new trial for the same reasons already recited. There was ample evidence in the record for the jury to believe the defendants' alternative explanation for Killiany's revised measurements and conclude that the defendants' statements were either not false or that defendants lacked knowledge that they were false.

ii. Reassignment

Jones also challenges the district judge's decision to retain this case on remand rather than allow it to be reassigned to a different trial judge. District of Massachusetts Local Rule 40.1(K)(2) provides that upon remand the court must reassign the case to another district judge "unless the terms of the remand require that further proceedings be conducted before the original judge or unless the judge determines that there will result a substantial saving in the time of the whole court and that there is no reason why, in the interest of justice, further proceedings should be conducted before another judge." To our knowledge, the District of Massachusetts is the only district court in the country to apply such a presumption. See Toby J. Heytens, Reassignment, 66 Stan. L. Rev. 1, 12 (2014). Upon remand, the judge granted the defendants' motion that the case remain before him.

We review the district court's application of the local rule in this case for abuse of discretion. Rodi v. S. New England Sch. of Law, 532 F.3d 11, 19 (1st Cir. 2008). Jones contends that the court's failure to provide a written rationale for its order, alone, constitutes reversible error because he neglected "to make the predicate findings" that retaining the case would conserve judicial resources and not contravene the interest of justice. He does not point to any authority, however, requiring a written order. Moreover, sound reasons supporting the court's decision are apparent on this record. The defendants contended in their motion that "in view of [the court's] knowledge of the extensive record," its retention of the case would result in the conservation of judicial resources, and we can assume that the court endorsed this argument. Given the intricate statistical and scientific evidence presented by this case, the district court did not abuse its discretion in refusing to reassign this case.⁶

⁶ At a pretrial conference, the judge stated that "everyone can rest assured that I have no leanings at all other than an earnest desire to follow the instructions of the First Circuit." Jones contends that this statement reveals that the court "misunderstood the rule to be about whether he had 'leanings' either way" in the case. The judge's statement, however, may have been simply a conciliatory effort to assuage any concerns the parties may have had, rather than a specific rationale for his order.

iii. Evidentiary Rulings

Jones also argues that the district court erroneously decided several evidentiary matters, necessitating a new trial. We review each ruling for abuse of discretion,⁷ although any error is "harmless if it is highly probable that the error did not affect the outcome of the case." McDonough v. City of Quincy, 452 F.3d 8, 19-20 (1st Cir. 2006).

a. The "Accuracy" of Killiany's Remeasurements

Jones first asserts that the district court erred in denying his motion in limine and permitting the defendants to offer testimony regarding the "accuracy" of Killiany's remeasurements. The district court resolved this motion orally, prior to opening statements, and questioned why the defense should not be permitted to assert that "Killiany was doing this for an appropriate reason." The court concluded that the explanation would not be precluded but invited Jones to "impeach it or suggest that [accuracy] is not the real reason he [remeasured]." As described above, the defense emphasized this explanation throughout the trial.

⁷ The defendants are correct to point out that, generally, "[a]n unsuccessful motion in limine does not preserve an evidentiary objection," and a party must again object if and when the challenged evidence is proffered at trial, O'Rourke v. City of Providence, 235 F.3d 713, 727 (1st Cir. 2001), unless "the in limine ruling is final and unconditional," Crowe, 334 F.3d at 133. But, although Jones filed motions in limine, in each case detailed here his objections were not resolved until trial, at which point he properly objected. Thus, Jones's evidentiary objections are properly preserved.

Jones's objection is essentially one of relevance. He relies on our statement in Jones I that "whether Killiany's measurements were more or less accurate than the initial measurements is not at issue," 678 F.3d at 88, to suggest that such evidence "likely misled the jury and prejudiced Jones." But he takes our statement out of context. In Jones I we merely rebutted the district court's conclusion that Jones's claim presented a question of good faith, scientific disagreement not cognizable by the FCA--namely whether, in fact, Killiany's second measurements were more or less scientifically justifiable than his first. We did not indicate that evidence tending to show Killiany remeasured his scans in an effort to make them more accurate was wholly irrelevant. Nor could we have done so. Evidence is relevant if it has "any tendency" to make a fact of "consequence in determining the action" "more or less probable," Fed. R. Evid. 401, and "[t]rial courts are afforded wide latitude in determining whether evidence crosses this low threshold," United States v. Williams, 717 F.3d 35, 41 (1st Cir. 2013). As established above, the defense's alternative explanation for Killiany's second set of data was that he remeasured certain MRI scans in order to more accurately reflect the volume of the EC in each subject. This explanation had obvious import in determining whether the data submitted to the NIA was false and whether Killiany and Albert knew it to be false. It was not an abuse of discretion for the court to

permit witnesses to testify about this alternative explanation, nor was such evidence unduly prejudicial, confusing, or misleading. See Fed. R. Evid. 403.

b. The Appendix to Dr. Schuff's Expert Report

Jones argues that the court erred in excluding the full appendix to Dr. Schuff's expert report as inadmissible hearsay. During the course of the trial, a juror requested the appendix, which listed Dr. Schuff's assessment of the degree to which each of Killiany's remeasurements comported with the protocol that Killiany developed with Isla-Gomez. The district court did not abuse its discretion, however. The report was proffered as support for Dr. Schuff's conclusion that Killiany's second measurements conflicted with the protocol--that is, for the truth of the matter. Accordingly, the report is a quintessential example of hearsay. See Fed. R. Evid. 801(c)(2). Contrary to Jones's assertion, the fact that Dr. Schuff testified at trial and was questioned regarding the bases for several of his conclusions regarding specific measurements does not automatically permit the entirety of his appendix to be admitted into evidence.⁸ An expert's testimony

⁸ Jones invokes a Court of Claims case stating that "reports which are prepared to state or to support expert opinions are not admissible without the preparer being present in court to testify as to his qualifications as an expert and to be cross-examined on the substance." Forward Commc'ns Corp. v. United States, 608 F.2d 485, 511 (Ct. Cl. 1979). Yet, simply because an expert does testify at trial does not render such a report automatically admissible in its entirety as an exhibit. Indeed, because an expert may often rely on facts or data that "need not be

"is not a vehicle by which evidence that is otherwise inadmissible may be introduced." Presley v. Commercial Moving & Rigging, Inc., 25 A.3d 873, 893 (D.C. 2011).

c. Testimony Regarding Jones's Signature

Jones next contends that the district court erred in allowing Albert to verify Jones's signature on a form authorizing his inclusion as a co-author on a 2002 article setting forth the results of Killiany's study. Jones claims that the authenticity of his signature was a "collateral issue." "It is well established that a party may not present extrinsic evidence to impeach a witness by contradiction on a collateral matter." United States v. Beauchamp, 986 F.2d 1, 3 (1st Cir. 1993). To be collateral, a matter must be "'not relevant . . . to establish a fact of consequence'" or, in other words, "'not relevant for a purpose other than mere contradiction of the in-court testimony of the witness.'" Id. at 4 (quoting 1 McCormack on Evidence § 45, at 169 (4th ed. 1992)).

Here, Jones's endorsement of Killiany's work--by joining as a co-author in that article--was far from collateral. That article was written, and Jones's signature was allegedly inscribed, almost a year after Jones first became concerned about Killiany's data. Given Jones's central testimony at trial, whether Jones

admissible" in forming her conclusion, Fed. R. Evid. 703, such a rule would, in many cases, provide an all-too-convenient backdoor for otherwise inadmissible evidence.

continued to endorse the project after raising concerns goes to the heart of his credibility, and was certainly relevant to the jury's determination of whether Killiany's remeasurements were fraudulent.

d. Testimony Regarding Jones's Financial Interests

At various points during the trial the district court permitted the defendants to question Jones regarding the share of any recovery he would receive as a relator under the FCA. Given that Jones did not file his complaint until five years after he first raised concerns about Killiany's data--and by which point the grant had been fully funded--the defense sought to show that Jones only made his claim once he was assured maximum recovery. The defense also elicited testimony from Albert that Jones's compensation decreased when the project hired an additional statistician to address certain concerns of the NIH regarding the project.

While in some cases it may prove inappropriate or unnecessary to delve into the financial incentives of a relator, in this case Jones's testimony and credibility were critical to the FCA claim. "[B]ias is fertile territory for cross-examination," and because the jury "must assess the credibility of witnesses to determine the accuracy of their testimony . . . information as to bias can be of great assistance in making such determinations." Udemba v. Nicoli, 237 F.3d 8, 17 (1st Cir. 2001). Given the particular circumstances of this case, the district court did not

abuse its discretion in permitting these lines of inquiry. It was neither unfairly prejudicial nor irrelevant for the defense to question Jones's continued support for the project until the funding from the NIH ran dry.⁹

iv. Jury Instructions

Finally, Jones catalogs a multitude of instructional errors in laundry list fashion and, in most cases, with little to no analysis. We can make short work of all but one of his challenges.

We review a claim of instructional error de novo if the claimed error "embodied an error of law," but only for abuse of discretion if the instructions purportedly inadequately "explained the law" or "tended to confuse or mislead the jury on the controlling issues." United States v. Jadowe, 628 F.3d 1, 14 (1st Cir. 2010) (citation and internal quotation marks omitted). Error is established if the instruction is "misleading, confusing, or incorrect as a matter of law," although we will only order a new trial if that error "'based on the entire record, was

⁹ In less than a page and without any effort to do more than simply assert error, Jones also protests the admission of "laudatory statements" about the defendants. He similarly contests the admission of "false" testimony that the defendants' research has been subsequently replicated by scientists, although he cites nothing to indicate that claim is, in fact, false. We need not resolve these remaining challenges. It is a "settled appellate rule that issues adverted to in a perfunctory manner, unaccompanied by some effort at developed argumentation, are deemed waived." United States v. Zannino, 895 F.2d 1, 17 (1st Cir. 1990).

prejudicial.'" Costa-Urena v. Segarra, 590 F.3d 18, 24 (1st Cir. 2009) (quoting Romano v. U-Haul Int'l, 233 F.3d 655, 665 (1st Cir. 2000)).

First, the vast majority of the claimed instructional arguments are waived for lack of development. See United States v. Zannino, 895 F.2d 1, 17 (1st Cir. 1990). Jones merely refers us to his proposed jury instructions "in a perfunctory manner" and "unaccompanied by some effort at developed argumentation" as to how the district court erred in excluding those instructions.¹⁰ Id. Second, despite Jones's contention that his proposed instruction that whether Killiany's "revised tracings were more or less 'accurate' to the actual structure of the EC is not at issue in this case" was not delivered by the district court, the court similarly instructed the jury that they were not asked "to determine accuracy or to determine the borders of the entorhinal cortex." The court's minor rewording was not an abuse of discretion. Third, while Jones objects to the court's materiality instruction and argues that the court's original instruction implied a "but for" causation requirement, any possible error was

¹⁰ And were we to reach them, we note that Jones's arguments would be reviewed only for plain error because he raised no objections below--before or after the charge--to the district court's decision not to provide those instructions we now deem waived. In addition, although not included in his proposed jury instructions, in his appellate brief Jones makes only a passing reference to the district court's instruction that a false fact must be based on the "most accurate" data the defendants had. Accordingly this argument, too, is waived.

cured when the district court added, at the urging of Jones and in line with our precedent, that a "statement is material if it has a natural tendency to affect the thinking of the NIH." See United States ex rel. Loughren v. Unum Grp., 613 F.3d 300, 307 (1st Cir. 2010). Fourth, Jones contests the district court's decision not to provide an instruction that Jones could prove knowledge by demonstrating that the defendants acted with "deliberate ignorance." In fact, however, based on Jones's objection at the pre-charge conference, the court instructed the jury that Albert could be liable if she was "deliberately blind" to the alleged fraud. And Jones's counsel chose not to object to the instruction as to Killiany, conceding that he "understood the Court's ruling with respect to deliberate ignorance as it applies to Dr. Killiany in the first question."

All that remains is Jones's objection to the district court's decision to bifurcate questions of liability between the defendants on the jury's verdict form. The court supplied the jury with a special verdict form that asked two questions: first, whether "Dr. Killiany knowingly falsif[ied] scientific data by exaggerating certain re-measurements of the EC to cause proof of a particular scientific hypothesis to emerge from the data," and, second, whether "the statements made in the Grant application about having used blinded, reliable methods to produce the measurements [were] both material and knowingly false." The court informed the

jury that: "If you answer Question 1 no, but Question 2 yes, then Mr. Killiany is not liable, but Ms. Albert and the hospitals are. If you answer Question 1 yes, but Question 2 no, Ms. Albert's not liable but Mr. Killiany and the hospitals are."

We confess that we do not see how this division of liability necessarily follows from the two questions on the verdict form. But despite our disagreement with the court's charge, any error in the explanation of the verdict form was harmless. See Allen v. Chance Mfg. Co., 873 F.2d 465, 469-70 (1st Cir. 1989). The jury responded in the negative to both questions and that determination renders academic any error on the part of the district court that might otherwise necessitate a new trial.

III. Conclusion

Jones has had the opportunity to present his claims in court before a jury. That jury ultimately concluded that Killiany did not intentionally falsify scientific data and that the application's statement that the study used blinded, reliable methods was not false. For the foregoing reasons, we find no reason to upset that determination, and the judgment of the district court is, accordingly, **AFFIRMED**.