UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

CAVE CONSULTING GROUP, LLC,

Plaintiff,

v.

OPTUMINSIGHT, INC.,

Defendant.

Case No. 5:11-cv-00469-EJD

ORDER:

DENYING DEFENDANT'S MOTION FOR JUDGMENT AS A MATTER OF LAW OR FOR NEW TRIAL;

DENYING PLAINTIFF'S MOTION FOR JUDGMENT AS A MATTER OF LAW OR FOR NEW TRIAL;

DENYING MOTION FOR PERMANENT INJUNCTION AND TO SET ONGOING ROYALTY RATE;

GRANTING PLAINTIFF'S MOTION TO AMEND JUDGMENT; AND

DENYING MOTION TO SUPPLEMENT RECORD

Re: Dkt. Nos. 379, 383, 385-6, 385-8, 449

Plaintiff Cave Consulting Group, LLC, ("Plaintiff" or "CCGroup") brought the instant action for patent infringement against Defendant OptumInsight, Inc., f/k/a Ingenix, Inc., ("Defendant" or "Optum"). After ten days of trial, the jury returned a verdict in Plaintiff's favor, awarding $12.3 million in royalty damages. Dkt No. 366. Now before the court are (1) Defendant's Motion for Judgment as a Matter of Law and, alternatively, for a New Trial pursuant to Federal Rule of Civil Procedure 50(b) ("Defendant's JMOL"); (2) Plaintiff's Motion for Judgment as a Matter of Law and, alternatively, for a New Trial ("Plaintiff's JMOL"); (3) Plaintiff's Motion for Permanent Injunction and to Set Ongoing Royalty Rate; (4) Plaintiff's Motion for Prejudgment Interest, Supplemental Damages, and Post Judgment Interest; and

(5) Plaintiff's Administrative Motion to Supplement the Record Regarding Its Motion for Permanent Injunction and to Set Ongoing Royalty Rate ("Plaintiff's Motion to Supplement the Record"). Dkt. Nos. 379, 383, 385-6, 385-8, 449.

Having reviewed the parties' pleadings and the trial record, the Court DENIES Defendant's JMOL, DENIES Plaintiff's JMOL, DENIES Plaintiff's Motion for Permanent Injunction and to Set Ongoing Royalty Rate, GRANTS IN PART AND DENIES IN PART Plaintiff's Motion for Prejudgment Interest, Supplemental Damages, and Post Judgment Interest, and DENIES Plaintiff's Motion to Supplement the Record.

I. BACKGROUND

CCGroup is a California corporation with its principal place of business in San Mateo, California. Dkt. No. 89 at 2. Optum is a Delaware corporation with its principal place of business in Minnesota. Id. CCGroup is the owner by assignment of all right, title, and interest in the U.S. Patent No. 7,739,126 ("the Cave '126 patent" or "the '126 patent"). Dkt. No. 311 at 2. Optum is the owner by assignment of all right, title, and interest in U.S. Patent No. 7,222,079 ("the Seare '079 patent" or "the '079 patent"). Id.

CCGroup and Optum both develop and market software and services used to evaluate various parameters of healthcare delivery, including the efficiency of healthcare providers. Id. The patents-in-suit are related to technology for measuring and evaluating physician efficiency. Id. "Efficiency" means comparing the cost of care provided by an individual physician to the cost of care provided by a relevant peer group. See Dkt. No. 139 at 3:10-11.

A. The Patent Claims

Relevant here are asserted claims 22 and 29 of the'126 patent,[1] which state as follows:

> 22. A method implemented on a computer system of determining physician efficiency, the method comprising:

[1] Claims 22 and 29 are identical other than the preamble, which is not relevant for purposes of this motion. CCGroup has withdrawn claims 1, 9, 10, and 11.

> obtaining medical claims data stored in a computer readable medium on the computer system;
>
> performing patient analysis using said obtained medical claims data to form episodes of care utilizing the computer system;
>
> performing output process based on performed patient analysis utilizing the computer system, the output process comprising:
> assigning episodes of care to physicians; and
> applying a first maximum duration rule to identify episodes of care;
>
> assigning at least one physician to a report group utilizing the computer system;
>
> determining eligible physicians and episode of care assignments utilizing the computer system;
>
> calculating condition-specific episode of care statistics utilizing the computer system;
>
> calculating weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions for a specific specialty type utilizing the computer system; and
>
> determining efficiency scores for physicians from said calculated condition-specific episode of care statistics and said weighted episode of care statistics calculated across medical conditions utilizing the computer system.

Dkt. No. 89-1 ("'126 Patent") at 111:55-112:14.

Asserted claim 1 of the Seare '079 patent teaches the following:

> 1. A computer-implemented process for processing medical claims including the steps of:
>
> (a) reading medical claim data, input as at least one of a plurality of data records, into a computer memory;
>
> (b) validating each of the at least one of a plurality of data records for at least one of a diagnosis code and a treatment code;
>
> (c) reading at least one pre-defined relationship between the at least one of a diagnosis code and a treatment code in the validated at least one of a plurality of data records and pre-defined episode treatment categories; and
>
> (d) grouping the validated at least one of a plurality of data records to an episode treatment category based upon the pre-defined relationship, each episode treatment category having a dynamic time window defining a time period which validated at least one of plurality of data records may be grouped to an episode treatment category.

Dkt. No. 89-2 ("'079 Patent") at 38:44-61.

CCGroup alleges that Optum infringes two claims of the '126 patent. Dkt. No. 311 at 2. Claim 22 is a method claim, and CCGroup contends that Optum uses that method when it operates its Impact Intelligence software. Id. Claim 29 is a product claim, and CCGroup contends that Optum infringes that claim when it makes, uses, or licenses to others its Impact Intelligence product. Id. Optum denies that it has infringed claim 22 or 29 of the '126 patent and argues that, in addition, the claims are invalid, which is a defense to infringement. Id.

On the other hand, Optum seeks money damages from CCGroup for allegedly infringing claim 1 of the Seare '079 patent. Id. Claim 1 is a method claim, and Optum argues that CCGroup infringed claim 1 of the '079 patent when it used its Cave Grouper software product. Id. CCGroup denies that it has infringed claim 1 of the '079 patent and argues that, in addition, the claim is invalid. Id. at 3.

B. Procedural History

This suit is an outgrowth of a lawsuit filed by Optum against CCGroup in Minneapolis, Minnesota. Optum dismissed the Minnesota lawsuit. CCGroup filed its Complaint in this Court seeking a declaratory judgment on the patent infringement allegations made against it by Optum. Dkt. No. 89 at 5-7.

In its Second Amended Complaint ("SAC"), CCGroup claimed that Optum infringes its Cave '126 patent, and sought a declaratory judgment that CCGroup does not infringe a family of Optum patents (the "Seare Patents") including the Seare '126 patent and that the Seare Patents are invalid. Dkt. No. 89. In its Answer to CCGroup's SAC, Optum claimed that it does not infringe the '126 patent and that the '126 patent is invalid, and counterclaimed that CCGroup directly infringes the Seare Patents. Dkt. No. 96.

On August 9, 2012, the Court held a claim construction hearing. Dkt. No. 92. The Court construed "weighted episode of care statistics" to mean "cost or length of care statistics for a group of medical conditions calculated using the relative importance of each condition to the

others of the group." Id. at 6. The Court ruled that the ordinary meaning of "determining eligible physicians and episode of care assignments" applied. Id. at 9. The Court construed "maximum duration rule" to mean a "rule based on a maximum time period(s) that is used to group claim data pertaining to a patient's medical condition(s) into an episode(s) of care." Id. at 11.

CCGroup moved for summary judgment of validity of the '126 patent, summary judgment of noninfringement of the Seare Patents, and summary judgment of invalidity of the Seare Patents. Dkt. No. 148. Optum moved for summary judgment of noninfringement of the '126 patent, summary judgment of invalidity of the '126 patent, and summary judgment of validity of the Seare Patents. Dkt. No. 139. The Court granted summary judgment that the Seare Patents were valid over one of CCGroup's prior art references, but denied summary judgment on all other grounds. Dkt. No. 281. Before trial, the parties narrowed their claims related to the Seare Patents to a claim by CCGroup that the '079 patent is invalid and a counterclaim by Optum that CCGroup infringes the '079 patent. Dkt. No. 271 at 2-3.

The trial began on March 10, 2015. Dkt. No. 319. Following 10 days of trial, the jury returned a verdict in Plaintiff's favor on its claim for infringement of the '126 patent, awarding $12.3 million in royalty damages. Dkt No. 366. The jury also returned a verdict in CCGroup's favor on Optum's counterclaim for infringement of the Seare patent. Id. Now before the Court are various post-trial motions from both parties. Dkt. Nos. 379, 383, 385-6, 385-8, 449.

II. LEGAL STANDARD

Federal Rule of Civil Procedure 50 permits a district court to grant judgment as a matter of law "when the evidence permits only one reasonable conclusion and the conclusion is contrary to that reached by the jury." Ostad v. Or. Health Scis. Univ., 327 F.3d 876, 881 (9th Cir. 2003) (citing Monroe v. City of Phoenix, 248 F.3d 851, 861 (9th Cir. 2001)). A party seeking judgment as a matter of law after a jury verdict must show that the verdict is not supported by "substantial evidence," meaning "relevant evidence that a reasonable mind would accept as adequate to support a conclusion." Callicrate v. Wadsworth Mfg., Inc., 427 F.3d 1361, 1366 (Fed. Cir. 2005)

(citing Gillette v. Delmore, 979 F.2d 1342, 1346 (9th Cir. 1992)). The court must "view the evidence in the light most favorable to the nonmoving party . . . and draw all reasonable inferences in that party's favor." EEOC v. Go Daddy Software, Inc., 581 F.3d 951, 961 (9th Cir. 2009) (alteration in original) (quoting Josephs v. Pac. Bell, 443 F.3d 1050, 1062 (9th Cir. 2006)).

A new trial is appropriate under Rule 59 "only if the jury verdict is contrary to the clear weight of the evidence, is based upon false or perjurious evidence, or to prevent a miscarriage of justice." Molski v. M.J. Cable, Inc., 481 F.3d 724, 729 (9th Cir. 2007) (quoting Passantino v. Johnson & Johnson Consumer Prods., 212 F.3d 493, 510 n.15 (9th Cir. 2000)). A court may deny a motion for a new trial so long as there was some reasonable basis for the jury's verdict. Id. (citations omitted). However, "the absolute absence of evidence to support the jury's verdict makes [refusal to grant a new trial] an error in law." Id. (alteration in original) (quoting Urti v. Transp. Commercial Corp., 479 F.2d 766, 769 (5th Cir. 1973)).

III. DISCUSSION

A. Optum's JMOL

Optum moves for judgment as a matter of law that (1) Optum's Impact Intelligence product does not infringe claims 22 and 29 of Plaintiff's '126 patent; (2) claims 22 and 29 of the '126 patent are invalid for failing to satisfy the written description requirement; (3) the jury's damages verdict represents an improper windfall, is contrary to the governing law, and is contrary to the evidence at trial; and (4) Plaintiff's Cave Grouper product infringes claim 1 of Optum's '079 Patent. Dkt. No. 379 at 1. The Court disagrees on all points for the following reasons.

i. Infringement

a. Utilizing a Predefined Set of Medical Conditions

Optum first argues that its Impact Intelligence product does not infringe the asserted claims of the '126 patent. As above, those claims teach "calculat[ing] weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions for a specific specialty type." '126 Patent at 112:7-10, 60:63. Optum contends that the asserted claims require "utilizing

a predefined set" in the process of calculating "weighted episode of care statistics." Dkt. No. 379 at 3. At trial, Optum argues, CCGroup improperly separated "utilizing" from the step of "calculating." Id. Therefore, Optum argues that the jury's verdict of infringement is not supported by substantial evidence.

In its reply, Optum further argues that the parties' dispute centers on claim construction, so that the Court should construe the proper scope of the claim term at issue. Dkt. No. 417 at 4. Optum did not request a construction for the phrase "calculating weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions for a specific specialty type." To the extent Optum seeks such a construction now, Optum's request is untimely. "When issues of claim construction have not been properly raised . . . , it is improper for the district court to adopt a new or more detailed claim construction in connection with the JMOL motion." Hewlett-Packard Co. v. Mustek Sys., Inc., 340 F.3d 1314, 1320 (Fed. Cir. 2003). "In other words, where the parties and the district court elect to provide the jury only with the claim language itself, . . . it is too late at the JMOL stage to argue for or adopt a new and more detailed interpretation of the claim language and test the jury verdict by that new and more detailed interpretation." Id. at 1320-21. Here, the Court did not interpret the claim limitation for the jury. See Dkt. No. 357 at 21-23.

"Where, as here, parties 'did not seek construction' of the terms at issue, courts give those terms their '"ordinary and customary meaning . . . to a person of ordinary skill in the art in question at the time of the invention."'" Apple, Inc. v. Samsung Elecs. Co., Ltd., No. 12-cv-0630-LHK, 2014 WL 660857, at *3 (N.D. Cal. Feb. 20, 2014) (alteration in original) (quoting Belden Techs. Inc. v. Superior Essex Commc'ns LP, 733 F. Supp. 2d 517, 545 (D. Del. 2010)). "[T]he 'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent." Phillips v. AWH Corp., 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc). "At trial, parties may introduce evidence as to the plain and ordinary meaning of terms not construed by the court, as long as the evidence does not amount to arguing claim construction to the jury." Icon-IP Pty

Ltd. v. Specialized Bicycle Components, Inc., 87 F. Supp. 3d 928, 945 (N.D. Cal. 2015) (citing MediaTek Inc. v. Freescale Semiconductor, Inc., No. 11-cv-5341-YGR, 2014 WL 971765, at *4 (N.D. Cal. Mar. 5, 2014)); see also Cordis Corp. v. Boston Scientific Corp., 561 F.3d 1319, 1337 (Fed. Cir. 2009) (holding it "improper" to argue claim construction to the jury).

Here, the Court construed "predefined set of medical conditions" to mean "any set of medical conditions for a specialty that is defined in advance of processing." Dkt. No. 357 at 23. For any words in the claims for which the Court had not provided a definition, the Court instructed the jury to apply the plain and ordinary meaning of those words as understood by one having ordinary skill in the art. Id.; see also ePlus, Inc. v. Lawson Software, Inc., 700 F.3d 509, 520 (Fed. Cir. 2012) ("In the absence of such a construction, however, the jury was free to rely on the plain and ordinary meaning . . . .").

As indicated above, the parties' dispute centers on whether Impact Intelligence utilizes a predefined set of medical conditions for a specific specialty type in the process of calculating weighted episode of care statistics across medical conditions. According to Optum, the set of medical conditions Impact Intelligence uses to calculate weighted episode of care statistics is not predefined, because it is not known until after episode attribution is complete. Dkt. No. 379 at 3-10. In other words, Optum contends that, because the set of medical conditions utilized to calculate weighted episode of care statistics across medical conditions in Impact Intelligence is not defined in advance of processing, Impact Intelligence does not meet the claim limitations at issue. Id.

However, as CCGroup points out, the jury did hear evidence that Impact Intelligence relies on a predefined set of medical conditions and that it utilizes that predefined set in calculating weighted episode of care statistics. Dkt. No. 398 at 6-7. That evidence took the form of testimony from CCGroup's expert witness, Dr. Bryan Bergeron ("Dr. Bergeron"), who told the jury that Impact Intelligence satisfies these claim limitations. Trial Tr. 852:14-858:20. Although Optum contends that CCGroup improperly separated the "calculating" and "utilizing" halves of the

claims, Dr. Bergeron conceded that, under the claims at issue, "we are required to use a predefined set of conditions in our calculations." Id. at 853:11-12.

Dr. Bergeron then described for the jury how Impact Intelligence "base[s] [its] calculations on that predefined set of conditions." Id. at 853:12-21. More specifically, Dr. Bergeron testified as follows:

> Q. And would you describe for the jury what is running down the side of this table, please, Dr. Bergeron?
>
> A. That's what is defined in the first part of this, this highlighted area in the limitation. Those are the medical conditions, hard to read, but, for example, I think it says ischemia heart disease with valve surgery is one of the conditions that's going to be defined in the predefined set of medical conditions in cardiology.
>
> . . .
>
> If we stick with cardiology, these are the medical conditions here associated with cardiology, yes. And it marks those conditions that are selected. So in cardiology in our predefined set, we're not going to consider in our predefined set or we are throwing away things with the X's. But the ones with the X marked are these conditions that are considered in a predefined set.
>
> Q. So, in other words, in the universe of conditions that could apply, and obviously this table goes on for pages and pages, instead of looking at that universe, Impact Intelligence is looking at a certain predefined set of medical conditions for each specialty type; is that correct?
>
> A. That's correct.

Id. at 854:16-855:18.

In short, Dr. Bergeron opined that, of all the medical conditions potentially associated with a particular specialty, Impact Intelligence uses only a predefined subset of those conditions when calculating weighted episode of care statistics. Dr. Bergeron also explained how Impact Intelligence uses the predefined set of medical conditions for each specialty type. The jury could have found that the use that Dr. Bergeron described fell within the plain and ordinary meaning of the word "utilizing." As a result, the Court concludes that Dr. Bergeron's testimony provided substantial evidence such that the jury could have found that Impact Intelligence performs the step

of "calculating weighted episode of care statistic across medical conditions utilizing a predefined set of medical conditions for each specialty."

b. Applying a Maximum Duration Rule to Identify Episodes of Care

Next, Optum asserts that there was no evidence that Impact Intelligence "appl[ies] a first maximum duration rule to identify episodes of care," as the asserted claims require. '126 Patent at 111:66-67, 112:51-52. Optum contends that, to identify episodes of care, Impact Intelligence uses ICD-9 codes and not a maximum duration rule. Dkt. No. 379 at 14; Trial Tr. 1203:16-1205:22. Optum does not dispute that Impact Intelligence uses a maximum duration rule, but Optum argues that Impact Intelligence uses that rule only to form, and not to identify, episodes of care. Dkt. No. 379 at 13-14.

Once again, the parties' disagreement boils down to the interpretation of a single word in the asserted claims. As with "utilizing," the parties did not offer "identify" for construction by the Court. The Court therefore instructed the jury that the term should have its plain and ordinary meaning to a person having ordinary skill in the art. Dkt. No. 357 at 23. As such, the issue is whether Impact Intelligence uses maximum duration rules to "identify" episodes of care, interpreting the term in keeping with its plain and ordinary meaning.

Optum explains that Impact Intelligence uses ICD-9 codes to pull "key information" from a lookup table including the condition name and number, whether the condition is acute or chronic, and the dynamic time window period associated with that condition. Trial Tr. 1203:16-1205:22. Optum argues that Impact Intelligence does not have any rule that would identify an episode of care based on its length; rather, the ICD-9 code identifies both the medical condition and window period for an episode of care. Dkt No. 379 at 14 (citing Trial Tr. 1375:11-18, 1376:1-5).

However, CCGroup argues that it introduced into evidence the Impact Intelligence Concepts Guide, which shows that Impact Intelligence uses a maximum duration rule to identify episodes of care for chronic conditions: "If more than 12 months of data are included in the

grouping, [Impact Intelligence] can identify multiple chronic episodes for these patients, covering the services provided during each included 12 months of data." TX8.060. CCGroup also points to the testimony of Dr. Daniel Dunn ("Dr. Dunn"), whom Optum had designated as knowledgeable about the functionality of Impact Intelligence. In deposition testimony presented to the jury, Dr. Dunn testified that "[a] clean period is used to identify which episodes can be considered to be complete." Trial Tr. 756:25-757:1.[2]

In his live testimony, Dr. Dunn further explained that the "dynamic time window or clean period . . . allows you to identify when an episode starts and ends, and while an episode is still ongoing, then it allows services to gather to that episode." Id. at 1205:25-1206:6. He offered the example of acute bronchitis:

> So, for example, acute bronchitis has a dynamic time window of 60 days, and once the episode starts, essentially ETG [(episode treatment groups)] is looking for a break in time, meaning that if it doesn't see any further services within that 60-day period, it's going to say this episode is complete and we can end it.
>
> And at some time later the episode could start again, but that episode for acute bronchitis has ended.
>
> If it does see a service that's in that 60-day period, it's going to continue the episode, move it forward and look for another 60-day period to again look to see if there's an absence of clinically relevant activity.
>
> So that allows both ETG's to decide when services should be added to an episode and continue the episode on, and it also lets us understand when an episode is complete.

Id. at 1206:7-20. Dr. Bergeron also testified to the jury that Impact Intelligence uses two separate maximum duration rules, one for acute episodes, and one for chronic episodes to identify episodes of care. Id. at 821:5-831:7.

The jury heard substantial evidence that Impact Intelligence uses a maximum duration rule to identify episodes of care. The '126 patent itself describes using maximum duration rules in the

[2] A "clean period" is an example of a maximum duration rule. Trial Tr. 826:9-828:31.

same way that Impact Intelligence does. See '126 Patent at 51:8-19. Whether Impact Intelligence also uses ICD-9 codes in this process is irrelevant. The Court concludes that substantial evidence supports the jury's finding that Impact Intelligence performs the step of "applying a first maximum duration rule to identify episodes of care."

Accordingly, Optum's motion for JMOL or new trial on infringement is DENIED because there is sufficient evidence that supports the jury's verdict of infringement. See Johnson v. Paradise Valley Unified Sch. Dist., 251 F.3d 1222, 1227 (9th Cir. 2001).

ii. Written description

Optum contends that no reasonable jury could conclude that claims 22 and 29 of the '126 patent satisfy the written description requirement with respect to "weighted episode of care statistics" or "applying a first maximum duration rule to identify episodes of care." Dkt. No 379 at 15.

To meet the written description requirement, the specification "must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed." Ariad Pharms., Inc. v. Eli Lilly & Co., 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (alteration in original) (quoting Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563 (Fed. Cir. 1991)). "In other words, the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." Id. (citing Vas-Cath, 935 F.2d at 1563). The "test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." Id. "Because the specification is viewed from the perspective of one of skill, in some circumstances, a patentee may rely on information that is 'well-known in the art' for purposes of meeting the written description requirement." Boston Sci. Corp. v. Johnson & Johnson, 647 F.3d 1353, 1366 (Fed. Cir. 2011) (quoting Falko-Gunter Falkner v. Inglis, 448 F.3d 1357, 1366-68 (Fed. Cir. 2006)). An accused infringer must show the lack of written description by clear and convincing evidence. Hynix Semiconductor Inc. v. Rambus Inc., 645 F.3d 1336, 1351 (Fed. Cir.

2011) (citing ICU Med., Inc. v. Alaris Med. Sys., Inc., 558 F.3d 1368, 1376 (Fed. Cir. 2009)).

a. Direct and Indirect Standardization

When construing the claim term "weighted episode of care statistics," the Court considered whether the term covered two competing approaches to assigning weights to medical conditions: indirect standardization and direct standardization. Dkt. No. 92 at 3-6. The preferred embodiment in the '126 patent teaches indirect standardization, whereby weights are predetermined values that are loaded into the system. '126 Patent at 92:29-93:27. By contrast, in a direct standardization approach, weights are assigned based on the actual mix of medical conditions treated by a physician or the physician's peer group, as reflected in the data loaded into the system. Id. at 2:32-43. The '126 patent includes dependent claims that use both indirect and direct standardization. E.g., id. at 112:15-37. Citing these claims, the Court concluded that the claim term covered both direct and indirect standardization. Dkt. No. 92 at 6.

Optum now contends that the '126 patent's specification does not satisfy the written description requirement with respect to direct standardization. Dkt. No. 379 at 16-18. In particular, Optum observes that the specification references direct standardization only in the background section of the patent, describing it as prior art that can create error. '126 Patent at 2:32-43. The specification indicates explicitly that the preferred embodiment "does not use" direct standardization. Id. at 93:12-14. Optum concludes that the disclosure of the '126 patent does not provide notice to the person of ordinary skill that the inventor possessed an invention covering both direct and indirect standardization, and therefore that there is no adequate written description for claims 22 and 29 of the '126 patent.[3]

"[A] patent claim is not necessarily invalid for lack of written description just because it is broader than the specific examples disclosed." Martek Biosciences Corp. v. Nutrinova, Inc., 579

[3] To be clear, Optum and its expert admit that the term "weighted episode of care statistics," which appears in the claims themselves, has written description support in the specification. Trial Tr. 1542:10-18. Their issue is with direct standardization only. See Dkt. No. 379 at 16-18.

F.3d 1363, 1371 (Fed. Cir. 2009) (citations omitted); see also Phillips, 415 F.3d at 1323 (citation omitted) (noting that the Federal Circuit "ha[s] expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment"). Even if the specification criticizes a potential embodiment, it may still disclose that embodiment. For example, in Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc., 670 F.3d 1171 (Fed. Cir. 2012), the Federal Circuit considered a patent claiming a biomedical apparatus. The specification taught that embodiments "having wall thicknesses in the range between 0.2 and 0.8 millimeters . . . have exhibited excellent mechanical properties" and that those "falling outside these ranges have been found to be marginal or clinically unacceptable." Id. at 1188-89. Nevertheless, the Federal Circuit found that the specification adequately disclosed embodiments outside the preferred range. Id.

In another Federal Circuit case, Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc., 620 F.3d 1305 (Fed. Cir. 2010), abrogated on other grounds by Halo Elecs., Inc. v. Pulse Elecs., Inc., 136 S. Ct. 1923 (2016), the patent specification at issue noted that an embodiment falling within the claim would render a desired outcome "particularly difficult." Id. at 1315. The Federal Circuit still rejected a written description challenge on the grounds that the criticism "d[id] not rise to the level of an express disclaimer sufficient to limit the scope of the claims," because "[d]isavowal requires expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." Id. (quoting Epistar Corp. v. Int'l Trade Comm'n, 566 F.3d 1321, 1335 (Fed. Cir. 2009)). Taken together, Bard and Spine Solutions suggest that a specification's criticism of an embodiment falling within a claim does not invalidate the claim for lack of written description unless the specification explicitly disclaims the less preferred embodiment.

Optum relies most heavily on a pair of Federal Circuit cases: LizardTech, Inc. v. Earth Resource Mapping, Inc., 424 F.3d 1336 (Fed. Cir. 2005), and Tronzo v. Biomet, Inc., 156 F.3d 1154 (Fed. Cir. 1998). In LizardTech, the claim at issue was "directed to creating a seamless array of DWT [(discrete wavelet transform)] coefficients generically." 424 F.3d at 1345. However, the

specification only described "a particular method for creating a seamless DWT, as opposed to using the disfavored, nonseamless prior art, and it [taught] only that method of creating a seamless array." Id. Aside from that single method, the specification did not "contemplate[] a more generic way of creating a seamless array of DWT coefficients." Id. at 1344. The Federal Circuit recognized that a claim is not invalid for lack of written description "simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language." Id. at 1345 (citing Union Oil Co. v. Atl. Richfield Co., 208 F.3d 989, 997 (Fed. Cir. 2000)). Even so, the court found that the specification gave no indication that the inventor possessed more than one way of creating a seamless DWT. Id. As a result, the court invalidated the patent for lack of written description. Id. at 1345-46.

For two reasons, the Court agrees with CCGroup that LizardTech is inapposite. First, the '126 patent discusses direct standardization at some length, indicating that the inventor was aware of that approach. '126 Patent at 2:32-3:36. In LizardTech, by contrast, the specification disclosed only one method for creating a seamless DWT, and it did not teach one of skill in the art "how to make a seamless DWT generically." 424 F.3d at 1345. Second, undisputed trial testimony showed that direct standardization was well known in the art as of the filing date of the '126 patent. Trial Tr. 379:17-21, 1560:6-14, 1564:16-19. The prior art described in the LizardTech specification, on the other hand, created only nonseamless DWTs; there was no indication that a person of ordinary skill in the art would have known how to create a seamless DWT using any other method than that taught in the specification. 424 F.3d at 1343, 1345. LizardTech therefore does not dictate the result here.

Tronzo hits closer to the mark. The technology at issue in that case related to artificial hip sockets that include cup implants to be inserted into a hip bone. Tronzo, 156 F.3d at 1156. In the embodiments described in the specification, the cups had a conical shape. Id. at 1159. The only reference to differently shaped cups was in a recitation of the prior art, which the specification described as inferior while touting the advantages of a conically shaped cup. Id. As a result, the

Federal Circuit held that the patent at issue "disclose[d] only conical shaped cups and nothing broader." Id.

CCGroup attempts to distinguish Tronzo on procedural grounds. Dkt. No. 398 at 19-20. In Tronzo, the patentee first claimed a narrow invention restricted to conically shaped cups and then later, in a continuation application, added broader claims for generically shaped cups. 156 F.3d at 1158. Here, however, the original application included the broad claims at issue. Although CCGroup has described the facts accurately, the distinction is not persuasive. Ultimately, the Tronzo court had to decide whether the specification "reasonably convey[ed] to one of skill in the art that the inventor possessed the later-claimed subject matter at the time the parent application was filed." 156 F.3d at 1158 (citing Vas-Cath, 935 F.2d at 1563). This Court faces essentially the same question here.

A more helpful touchstone for resolving the question is an opinion from another court in this district. In Rambus Inc. v. Hynix Semiconductor Inc., 569 F. Supp. 2d 946 (N.D. Cal. 2008), Judge Whyte examined the Federal Circuit's holdings in Tronzo and LizardTech at length. Id. at 995-96. Ordinarily, of course, the core of the written description requirement "is that the specification must demonstrate to a person of ordinary skill that the patentee possessed what it claimed." Id. at 996 (citing Pandrol USA, LP v. Airboss Ry. Prods., Inc., 424 F.3d 1161, 1165 (Fed. Cir. 2005)). Judge Whyte recognized the inherent conflict that Tronzo presented: "[b]y suggesting that that claims covering generic shapes did not satisfy the written description requirement because the patentee specifically distinguished them, it seems inescapable that the patentee actually did, in fact, possess devices of other shapes." Id. at 996. To reconcile this conflict, Judge Whyte "interpret[ed] the Tronzo line of the Federal Circuit's written description case law as invalidating claims to a genus where the written description specifically distinguished its embodiment from the genus or expressly disclaims other members of the genus." Id. at 996.

Under this standard, although it is a close question, the Court concludes that the '126 patent adequately disclosed direct standardization as an approach for assigning weight to medical

conditions. Optum is correct that the preferred embodiment in the specification uses indirect standardization. '126 Patent at 92:29-93:27. But, again, a claim is not invalid for lack of written description "simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language." LizardTech, 424 F.3d at 1345 (citing Union Oil, 208 F.3d at 997). Optum is also correct that the specification contains a lengthy criticism of the direct standardization approach. Id. at 2:32-3:35. However, under Bard and Spine Solutions, mere criticism does not rise to the level of disavowal. See Bard, 670 F.3d at 1188-89. The '126 patent's specification contains no "expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." Spine Solutions, 620 F.3d at 1315 (quoting Epistar, 566 F.3d at 1335). And unlike Tronzo, the '126 patent does not describe indirect standardization as an "extremely important aspect" of the claimed invention. 156 F.3d at 1159. Because the patentee did not expressly disclaim direct standardization, the claims covering that approach are not invalid for lack of written description. The jury reasonably found that Optum failed to prove by clear and convincing evidence that the claim terms at issue lack written description support.

b. Applying a First Maximum Duration Rule to Identify Episodes of Care

Optum argues that the word "identify" was added to the asserted claims during patent prosecution, and therefore, reflects a substantial departure from what is described in the patent. Dkt. No. 379 at 18-19. Specifically, Optum argues that the '126 patent describes using a maximum duration rule to cut off episodes of care at a maximum allowable duration, which is different from using a maximum duration rule to identify episodes of care. Id. As such, Optum asserts that there is no written description support for this added claim language.

However, Optum's expert witness, Dr. Bill Thomas ("Dr. Thomas"), acknowledged that the '126 patent specification uses the word "identify" to describe the application of a maximum duration rule in building episodes of care. Trial Tr. 1501:11-25. Dr. Thomas also acknowledged that Optum's other witnesses and documents had used the word "identify" to describe the function

of the Impact Intelligence maximum duration rules in forming episodes of care. Id. at 1510:9-1512:10. Although Dr. Thomas believed that this usage was "imprecise" and "incorrect," id. at 1510:7-10, the jury still had substantial evidence to support its verdict on both of these terms. The Court thus finds Optum's arguments unpersuasive.

Accordingly, the Court DENIES Optum's JMOL as to its written description challenges. Furthermore, because Optum has not shown that the jury's verdict was "contrary to the clear weight of the evidence, . . . based upon false or perjurious evidence, or . . . a miscarriage of justice," its motion for a new trial is DENIED as well. Molski, 481 F.3d at 729 (quoting Passantino, 212 F.3d at 510 n.15).

iii. Reasonable royalty damages

Optum argues that the Court should award a new trial on damages because the jury's damages verdict was excessive. Dkt. No. 379 at 19-34. Optum's damages arguments primarily focus on whether CCGroup's damages expert, Michael Lewis ("Lewis"), performed a proper reasonable royalty analysis. Generally, Optum argues that the damages verdict should be vacated for five reasons: (1) CCGroup's application of the entire market value exception was legally improper, (2) CCGroup's bargaining range floor was improperly based on lost profits, (3) CCGroup's two-supplier market assumption was not supported by substantial evidence, and (4) CCGroup improperly included CCGroup's unpatented products in its damages calculation. Id.

Additionally, Optum contends that Lewis' use of the midpoint of the reasonable royalty bargaining range was arbitrary and improper. Id. at 34 (citing Trial Tr. 1014:11-1015:5). As CCGroup points out, Optum waived this argument by failing to raise the objection at trial or in its motions to exclude Lewis' testimony. See Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1228-29 (Fed. Cir. 2014); Dkt. No. 398 at 34-35. Finally, Optum contends that the Court should vacate the jury's award on the sole ground that it represented a windfall to CCGroup. Dkt. No. 379 at 20-21; Dkt. No. 417 at 10. Although Optum is right about the purpose of patent damages, it cites no authority for the proposition that a court may overturn a jury award on this basis alone.

Instead, this background principle underlies the substantive rules governing patent damages that the Federal Circuit has elaborated. The Court therefore considers Optum's challenges in light of these substantive rules.

Upon a finding of infringement, the patentee is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284; see also Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1554 (Fed. Cir. 1995) (en banc). When a patentee is unable to prove entitlement to lost profits or an established royalty rate, "it is entitled to 'reasonable royalty' damages based upon a hypothetical negotiation between the patentee and the infringer when the infringement began." Unisplay, S.A. v. Am. Elec. Sign Co., 69 F.3d 512, 517 (Fed. Cir. 1995). "This hypothetical construct seeks the percentage of sales or profit likely to have induced the hypothetical negotiators to license use of the invention." Minco, Inc. v. Combustion Eng'g, Inc., 95 F.3d 1109, 1119 (Fed. Cir. 1996).

A reasonable royalty is determined by examining the factors set forth in Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970), which are: (1) royalties the patentee receives for licensing the patent in suit, (2) rates the licensee pays for other comparable patents, (3) the exclusivity and restriction terms, (4) the licensor's policy of maintaining its patent monopoly by not licensing the invention to others, (5) the commercial relationship between the two parties, (6) effect of selling the patented specialty in promoting sales of other products, (7) duration of patent and term of license, (8) established profitability of the products made under the patent, (9) advantages of the patented component over old components, (10) the nature of the patented invention, (11) the extent to which the infringer has used the invention, (12) the portion of profit customarily allowed for use of the invention, (13) the portion of profit attributable to the invention, (14) expert testimony, and (15) outcome from hypothetical arm's length negotiation at the time of infringement. Id. at 1119-20. Although this analysis "necessarily involves an element of approximation and uncertainty, a trier of fact must have some

factual basis for a determination of a reasonable royalty." Unisplay, 69 F.3d at 517. The amount of damages based on a reasonable royalty is an issue of fact, and the jury's damages award is reviewed under the substantial evidence standard. Micro Chem., Inc. v. Lextron, Inc., 317 F.3d 1387, 1394 (Fed. Cir. 2003) (citing SmithKline Diagnostics, Inc. v. Helena Labs. Corp., 926 F.2d 1161, 1164 n.2 (Fed. Cir. 1991)).

Here, CCGroup's expert, Lewis, testified that CCGroup's reasonable royalty damages were in the range from $12.15 to 13.45 million. Trial Tr. 999:1-5. This was the royalty amount that CCGroup and Optum would have agreed to in a hypothetical negotiation taking place on June 15, 2010, the date that CCGroup's '126 patent issued. Id. at 1001:20-22. Lewis testified that the "floor" for the hypothetical negotiation was calculated from the incremental profit CCGroup would have made if Impact Intelligence had not been on the market during 2011-2014, an amount of $5.6 million. Id. at 1007:23-1008:14, 1060:18-1061:23. Next, Lewis calculated that Optum's profits from Impact Intelligence during the 2011-2014 damages period were $17.7 million, which he testified would be the ceiling for the hypothetical negotiation. Id. at 1011:14-22, 1069:23-1070:4. Finally, Lewis used the midpoint between the $5.6 million floor and the $17.2 million ceiling to generate the $12.15-13.45 million reasonable royalty damages range based on the Georgia-Pacific factors. Id. at 996:3-9, 1015:14-1027:24. The jury ultimately awarded damages of $12,325,000. Dkt. No. 366 at 2.

Optum's damages-related arguments generally address the methodology Lewis used in reaching his conclusion (i.e., Lewis' use of CCGroup's foregone economic benefit as the floor for the hypothetical negotiation bargaining range, his use of a two-supplier market, and his failure to apportion CCGroup's damages calculation) - arguments the Court already considered and rejected in denying Optum's Daubert motion. See Dkt. No. 280 at 12-14. Specifically, the Court found that Lewis' approach "incorporates a methodology previously accepted by the court for determining the hypothetical bargaining range," and that different approaches to estimating a reasonable royalty can produce admissible testimony; when that occurs, it is up to the parties to

expose their relative strengths and weaknesses at trial. Id. at 14. Optum's motion amounts to a renewal of the same argument.

Also, in her expert report, Optum's damages expert, Catharine Lawton ("Lawton") disclosed her opinion as to the amount of reasonable royalty damages CCGroup should recover for infringement of the '126 patent. Id. at 10-13. However, Optum did not offer Lawton's competing damages calculation at trial to the jury for a determination of a reasonable royalty.

a. Entire market value rule

Optum argues that Lewis calculated Optum's incremental profits based on the market value of the entire Impact Intelligence product and did not apportion his damages calculation to focus on the accused components of Impact Intelligence. Dkt. No. 379 at 27-30. Specifically, Optum argues that only the physician efficiency component of the Impact Intelligence, the Provider Network Assessment ("PNA") module, is relevant to claims 22 and 29 of the '126 patent. Neither the other components of the PNA module nor the other four modules of Impact Intelligence have anything to do with the asserted claims. Trial Tr. 1603:17-20. As such, Optum argues that Lewis should not have used all of the revenue from the entire Impact Intelligence product as the basis for his damages calculation. Dkt. No. 379 at 29.

Under 35 U.S.C. § 284, patent damages are limited to "damages adequate to compensate for the infringement." 35 U.S.C. § 284. For reasonable royalties, the damages must reflect "the use made of the invention by the infringer." Id. Therefore, "where multi-component products are involved, the governing rule is that the ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more." Ericsson, 773 F.3d at 1226 (citing VirnetX, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1326 (Fed. Cir. 2014)). In general, "royalties [must] be based not on the entire product, but instead on the 'smallest salable patent-practicing unit.'" LaserDynamics Inc. v. Quanta Computer Inc., 694 F.3d 51, 67 (Fed. Cir. 2012) (quoting Cornell Univ. v. Hewlett-Packard Co., 609 F. Supp. 2d 279, 283, 278-88 (N.D.N.Y. 2009)).

However, a "narrow exception," known as the "entire market value rule," applies where "it can be shown that the patented feature drives the demand for an entire multi-component product." Id. (citing Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1549 (Fed. Cir. 1995) (en banc)). The unpatented components must be sold with the patented components, and they "must function together . . . in some manner so as to produce a desired end product or result." Rite-Hite, 56 F.3d at 1550. "[W]here the entire value of a machine as a marketable article is 'properly and legally attributable to the patented feature,' the damages owed to the patentee may be calculated by reference to that value." Ericsson, 773 F.3d at 1227 (quoting LaserDynamics, 694 F.3d at 67). This "evidentiary principle . . . help[s] our jury system reliably implement the substantive statutory requirement of apportionment of royalty damages to the invention's value"; it strikes "an appropriate balance between the probative value of admittedly relevant damages evidence and the prejudicial impact of such evidence caused by the potential to mislead the jury into awarding an unduly high royalty." Id. at 1226-27.

1. Basis for customer demand

"For the entire market value rule to apply, the patentee must prove that 'the patent-related feature is the "basis for customer demand."'" Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1336 (Fed. Cir. 2009) (quoting Rite-Hite, 56 F.3d at 1549). "It is not enough to merely show that the [patented feature] is viewed as valuable, important, or even essential to the use of the [overall product]." VirnetX, 767 F.3d at 1326-27 (alterations in original) (quoting LaserDynamics, 694 F.3d at 68). "Instead, . . . 'a reasonable royalty analysis requires a court to . . . carefully tie proof of damages to the claimed invention's footprint in the market place.'" Id. at 1327 (second alteration in original) (quoting ResQNet.com, Inc. v. Lansa, Inc., 594 F.3d 860, 869 (Fed. Cir. 2010)). A patentee may invoke the entire market value rule only if the patentee shows that "the patented feature creates the basis for customer demand or substantially creates the value of the component parts." Id. at 1326 (quoting Versata Software, Inc. v. SAP Am., Inc., 717 F.3d 1255, 1268 (Fed. Cir. 2013)).

For example, in Marine Polymer Technologies Inc. v. HemCon Inc., 672 F.3d 1350 (Fed. Cir. 2012) (en banc) (opinion of Lourie, J.), a five-judge panel of the Federal Circuit affirmed for an equally divided en banc court the jury's application of the entire market value rule. The jury heard evidence pertaining to the "importance" of the patented functionality in the end products and "its significance for market demand." Id. at 1360. Notably, the plaintiff had also presented testimony from witnesses for both parties, including the defendant's president, describing the patented functionality as "critical" to the core function of the accused products. Id.

As in HemCon, the jury here heard substantial evidence from both parties' witnesses that the physician efficiency scoring methodology is the basis for demand for the Impact Intelligence product. Trial Tr. 405:12-15, 704:12-25, 1715:16-20. At his deposition, Dr. Bruce MacGibbon ("Dr. MacGibbon"), Optum's product portfolio manager for Impact Intelligence, described the PNA module generally, and "the provider performance piece" specifically, as the key to customer demand for Impact Intelligence:

> QUESTION: Is there any one module that customers value more than the others?
>
> ANSWER: You know, I think historically and where the product started was that first provider module. That was the original seed that started this years ago.
>
> And so that the PNA, this provider performance piece, that was the one that was the seed. That's where the thing started, and then as time went on these other pieces were kind of built and added.
>
> So I think that was kind of the core and that's what started it. And so I think that's probably the one that – at least the early customers, that's all they had. So my guess is that that's the – you know, that's what most customers probably want.

Id. at 704:12-25. At trial, Dr. MacGibbon again acknowledged that the PNA module, with its "physician efficiency scoring capability," "was the seed around which Impact Intelligence grew." Id. at 1715:9-20. In the same vein, Dr. MacGibbon also testified that "Impact Intelligence, when originally it was created, . . . the beginning of it was around physician efficiency measurement." Id. at 1716:23-1717:2. Finally, he agreed that physician efficiency scoring was "the big one for

customers deciding whether to use Impact Intelligence." Id. at 1722:24-1723:1.

Dr. Douglas Cave ("Dr. Cave") also testified at trial that stable and supportable physician efficiency scores resulting from the methodology of the '126 patent (i.e., the infringing functionality of Impact Intelligence) are the market driver in physician efficiency scoring software. Id. at 405:12-17. Dr. Cave testified that he was unaware of anyone other than CCGroup and Optum offering stable scores, a necessity for meaningful physician scoring. Id. at 408:22-409:1. CCGroup has identified sufficient evidence from which Lewis and the jury could have concluded that the patented technology was not just "valuable, important, or even essential to the use of" Impact Intelligence, but that it also "create[d] the basis for customer demand" for the entire product. VirnetX, 767 F.3d at 1326-27 (quoting LaserDynamics, 694 F.3d at 68; Versata, 717 F.3d at 1268).

2. Single unit

The jury also heard evidence that the unpatented and patented portions of Impact Intelligence are sold together as a single integrated product. In deposition testimony that was played to the jury at trial, Dr. McGibbon testified as follows:

> QUESTION: When Impact Intelligence is sold to customers, do customers typically request all five of these? Can I call them modules? Is that fair?
>
> ANSWER: Yeah. The four -- four of them come out of the box. . . . So when they buy the product, they get those four out of the box.
>
> QUESTION: Okay. All the time?
>
> ANSWER: Yes.
>
> QUESTION: Is it most typically sold with those first four categories or do customers more often want to customize the modules for Impact Intelligence?
>
> ANSWER: There's no real customization in the product itself. They can configure it, but, you know, like I said, they get those four out of the box, and they can use them. They can have different people at their organization use one module versus another module.
>
> . . .

> QUESTION: Is it fair to say that when a customer says we want physician efficiency scoring that the product that Optum offers to the customer is Impact Intelligence?
>
> ANSWER: We'll normally start with Impact Intelligence, yes.

Id. at 703:14-705:15.

Most importantly, Dr. MacGibbon testified that, when customers buy the Impact Intelligence product, they always get four of the Impact Intelligence modules, including the PNA module, "out of the box." Id. at 703:14-703:21, 1719:17-20. Dr. MacGibbon also testified that Optum did not offer customers the option to purchase the other modules of Impact Intelligence without the PNA module, so that every Impact Intelligence customer received the physician efficiency capability. Id. at 704:1-8, 1720:1-8. Nor did Optum value the modules separately. Id. at 717:22-718:5, 1719:17-19. Although customers could disable and enable certain modules, they still formed a single "standard product." Id. at 1719:17-1720:8.

On the basis of the testimony above, Lewis concluded that the physician efficiency scoring mechanism taught in the '126 patent drove demand for the Impact Intelligence product as a whole and that the product was sold as a single unit. Id. at 1025:5-13. As discussed above, trial evidence supported that opinion. The Court is mindful that the entire market value rule is only a "narrow exception." LaserDynamics, 694 F.3d at 67. Nevertheless, given the facts of this case, the Court concludes that Lewis' opinion based on the entire market value rule does not require a new trial on damages.

b. Lewis' bargaining range floor analysis

Optum also argues that Lewis improperly used CCGroup's lost profits for the 2011-2014 damages period to set the "floor" for the hypothetical negotiation bargaining range. Dkt. No. 379 at 21-23. On this point, both parties cite Apple, Inc. v. Samsung Electronics Co., No. 5:12-cv-00630, 2014 WL 794328 (N.D. Cal. Feb. 25, 2014), in which the court rejected the defendant's contention that the plaintiff's expert, in setting the bargaining range for the hypothetical negotiation, improperly looked at the profits the plaintiff would lose by entering into a license. Id. at *21-22. Optum contends that this case is different because Apple concerned "anticipated" lost

profits, whereas Lewis analyzed "actual" profits for the 2011-2014 damages period. Dkt. No. 379 at 21-22.

In Apple, Judge Koh held that it was proper for a damages expert assessing reasonable royalties to consider lost profits on transactions that occurred during the damages period:

> In [Rite-Hite], the Federal Circuit expressly upheld a claim for reasonable royalties based on the profits the patentee would have expected to lose as a result of a license. The patentee (Rite-Hite) successfully premised its claim for lost profits by tracing back Rite-Hite and the infringer's (Kelley) competition on "specific transactions." For a subset of those transactions, however, Rite-Hite "had not proved that it contacted the Kelley customer prior to the infringing Kelley sale," and, accordingly, was not entitled to lost profits on those particular sales. Nonetheless, the Federal Circuit affirmed an award of reasonable royalties to Rite-Hite for those sales "equal to approximately fifty percent of Rite-Hite's estimated lost profits per unit sold to retailers." The Federal Circuit, sitting en banc, rejected the contention that Rite-Hite could not rely on estimated lost profits to support its reasonable royalty award, holding that "the fact that the award was based on and was a significant portion of the patentee's profits also does not make the award unreasonable."

2014 WL 794328, at *22 (quoting Rite-Hite, 56 F.3d at 1554-55). Under Apple and Rite-Hite, in conducting a hypothetical reasonable royalty analysis, Lewis was entitled to consider the profits that CCGroup could have earned from selling its product to customers that actually purchased Impact Intelligence instead. That is precisely what Lewis did. Trial Tr. 1060:18-1061:17. Optum's argument that this methodology was improper is unpersuasive.

c. Two-supplier market

Optum contends that Lewis' damages testimony was based on his assumption that CCGroup's EfficiencyCare and Optum's Impact Intelligence were the only two products in the market for "stabilized" physician efficiency scoring. Dkt. No. 379 at 23-26. Optum argues that Lewis' testimony was based on speculation, not evidence, and the proper remedy is to vacate the verdict. Id. at 26.

At trial, Dr. Cave testified that CCGroup would gain all or mostly all of Optum's customers if Impact Intelligence were no longer on the market. Trial Tr. 408:22-409:13. Relying

on this testimony, Lewis conservatively estimated that, if Impact Intelligence were not on the market, CCGroup would capture 6 to 12 of Optum's 17 licensees in the health plan payer market. Id. at 1047:7-1048:7.

Optum now points to testimony that other competitors offered products that included physician efficiency measurement. Id. at 1784:15-1785:8. Optum also notes that only 4 of CCGroup's 24 non-renewing customers purchased Impact Intelligence. Id. at 1862:11-1864:16. However, at their heart, these arguments only go to the weight that the jury should have accorded Lewis' opinion, not its admissibility. Because Optum had the opportunity to cross-examine Lewis at trial to uncover these defects, the issues that Optum identifies did not justify excluding his opinion entirely. See Micro Chem., 317 F.3d at 1392; i4i Ltd. P'ship v. Microsoft Corp., 598 F.3d 831, 856 (Fed. Cir. 2010). After hearing Optum's criticism, the jury credited Lewis' testimony anyway. They were entitled to do so.

Optum also contends that CCGroup had the burden to "reconstruct the market to show, hypothetically, 'likely outcomes with infringement factored out of the economic picture.'" Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc., 246 F.3d 1336, 1355 (Fed. Cir. 2001) (quoting Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1350 (Fed. Cir. 1999)). However, the cases that Optum cites impose this requirement only in the context of calculating lost profits, a remedy that CCGroup did not seek. See Crystal Semiconductor, 246 F.3d at 1354-56; Grain Processing, 185 F.3d at 1349-50. Lewis' reliance on Dr. Cave's testimony does not provide grounds for a new trial.

d. Unpatented products

Optum argues that Lewis included unpatented products in setting the "floor" for the hypothetical negotiation. Dkt. No. 379 at 26-27. As such, Optum contends that the jury's verdict, based on Lewis' testimony improperly awarded CCGroup damages on unpatented products, in violation of Rite-Hite. Id. (citing Rite-Hite, 56 F.3d at 1550).

In estimating what CCGroup would have been willing to accept in a hypothetical royalty

negotiation, Lewis considered the profits that CCGroup would be giving up by licensing its technology to Optum. In particular, Lewis weighed the fact that EfficiencyCare and Cave Grouper, which contain the patented technology, drove demand for the remainder of CCGroup's Marketbasket suite of products. Trial Tr. 1025:5-13, 1066:7-12. Lewis also cited evidence that approximately 70% of customers who license the Cave Grouper and EfficiencyCare also license the related product EffectivenessCare. Id. at 1063:20-1064:4. As a result, Lewis considered lost sales of these ancillary products in setting a range for his reasonable royalty calculation. Id. at 1061:24-1065:17.

Rite-Hite does not preclude this approach. As discussed above, Rite-Hite emphasizes that the entire market value rule is an exception; ordinarily, a patentee may recover reasonable royalties only on the accused infringer's sales of the patented product. 56 F.3d at 1550-51. However, Rite-Hite allows the reasonable royalty calculation to take into account other sales that the patentee may have made. In fact, the Rite-Hite court cited an older Federal Circuit case for the proposition that a "court may consider [the] impact of anticipated collateral sales" in the reasonable royalty analysis. Id. at 1554-55 (citing Deere & Co. v. Int'l Harvester Co., 710 F.2d 1551, 1559 (Fed. Cir. 1983)). Ultimately, Rite-Hite approved the district court's decision to consider the patentee's assertion that it would have "be[en] able to sell a large number of . . . related products" if not for the infringement. Id. at 1554-55.

Optum eventually concedes that CCGroup could properly "us[e] increased sales of unpatented products caused by the patented invention as a factor for increasing the royalty rate on a patented product." Dkt. No. 417 at 15. However, Optum takes issue with CCGroup's "seeking damages on unpatented products." Id. The Court has already considered and rejected that argument in its discussion of the entire market value rule above. The former use of unpatented products is proper, and it is not grounds for a new trial.

e. Conclusion

The jury weighed the parties' evidence and argument and found that CCGroup had proved

it was entitled to damages of $12,325,000. Dkt. No. 366 at 2. Lewis' testimony, and his discussion of the application of the Georgia-Pacific factors, provided substantial evidence to support the jury's damages award. Optum has not shown that Lewis' methodologies and analysis were improper against the clear weight of the evidence at trial. See Landes Constr. Co. v. Royal Bank of Can., 833 F.2d 1365, 1371-72 (9th Cir. 1987). Therefore, Optum is not entitled to a new trial on damages.

iv. Seare '079 Patent

Optum requests that the jury's verdict of noninfringement of the Seare '079 patent should be set aside as contrary to the evidence and supported only by improper attorney argument. Dkt. No. 379 at 35-37. With respect to element (c) of the '079 patent, which requires reading at least one predefined relationship between a diagnosis code and treatment code in light of predefined episode treatment categories, '079 Patent at 38:51-54, Optum argues that the only expert who testified at trial, Optum's expert Dr. Mark Rattray ("Dr. Rattray"), told the jury that the "medical conditions" used in the Cave Grouper satisfy the Court's construction of an episode treatment category. Dkt. No. 379 at 35-36. As for element (d), which requires grouping data records into an episode treatment category having a dynamic time window, '079 Patent at 38:55-61, Optum contends that CCGroup's attorney argument was not consistent with Dr. Rattray's testimony. Dkt. No. 379 at 36-38.

In response, CCGroup argues only that the jury had no obligation to credit Dr. Rattray's testimony. Dkt. No. 398 at 35-40. The Federal Circuit has said that "the jury is not required to accept testimony as true, even if it is uncontradicted." Amsted Indus., Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 183 (Fed. Cir. 1994) (citing U.S. Philips Corp. v. Windmere Corp., 861 F.2d 695, 704 (Fed. Cir. 1998)); see also Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 151 (2000) (holding that a court considering a motion for judgment as a matter of law "must disregard all evidence favorable to the moving party that the jury is not required to believe"). As the patentee, Optum bore the burden of proving infringement. Medtronic, Inc. v. Mirowski

Family Ventures, LLC, 134 S. Ct. 843, 849 (2014). Because Optum failed to offer credible evidence in support of its infringement case, CCGroup argues, it had no need to present its own evidence in rebuttal.

At trial, CCGroup did successfully undermine the testimony of Dr. Rattray. For example, when cross-examining Dr. Rattray, CCGroup identified several ways that Dr. Rattray's trial testimony contradicted what he had said in his deposition. Trial Tr. 2132:13-2135:2, 2147:12-2148:3, 2150:4-12, 2153:6-23. CCGroup also showed that, during the deposition, Dr. Rattray had changed back and forth between conflicting positions and had admitted that he did not fully understand what the patent claimed. Id. at 2148:19-2149:11, 2157:12-2158:18. Moreover, although on direct examination at trial Dr. Rattray was able to identify how the accused product practiced each step of the patented method, he admitted on cross-examination that he had not always done so in his expert report and at his deposition. Id. at 2122:5-2124:9, 2129:6-2131:13, 2149:12-2150:12. Especially given these significant deficiencies, the jury was not required to believe Dr. Rattray's testimony, even if the jury heard no opposing expert opinion.

Optum also takes issue with CCGroup's counsel's statements in closing argument, in which Optum contends CCGroup's counsel invited the jury to rely on attorney argument instead of the evidence properly before it. However, the Court instructed the jury that attorney argument, including in closing arguments, was not evidence. See Dkt. No. 357 at 6. CCGroup's opposition to Optum's motion is based not on any evidence in its attorneys' arguments, but on the unreliability of the evidence that Optum presented. What CCGroup's counsel said in his closing argument makes no difference for these purposes.[4]

Accordingly, the Court finds that the jury could reasonably have concluded that the Cave Grouper does not infringe the '079 patent because of the contradictory and unreliable testimony

[4] To the extent that Optum believes that CCGroup's counsel's statements were so improper that they require a new trial, Optum waived the argument by failing to object at the time. See Kaiser Steel Corp. v. Frank Coluccio Constr. Co., 785 F.2d 656, 657-58 & n.2 (9th Cir. 1986).

from Dr. Rattray. The Court DENIES Optum's request to set aside the jury's verdict of noninfringement of the Seare '079 patent.

B. CCGroup's JMOL

CCGroup asks the Court to find that Claim 1 of '079 patent is invalid under 35 U.S.C. § 102(a) because it is anticipated by a prior art article written by Dr. Douglas Cave entitled "Who treats medical conditions more cost effectively?" Dkt. No. 383 at 2, 4-7. CCGroup also argues that Claim 1 of the '079 Patent is invalid under 35 U.S.C. § 112 for lack of enablement. Id. at 7-10. In the alternative, CCGroup moves for a new trial on the issues of anticipation and enablement regarding the '079 patent. Id. at 10-11.

i. Anticipation

CCGroup argues that the invention described by claim 1 of the '079 patent was disclosed to the public through a prior art printed publication authored by Dr. Douglas Cave (the "Cave Article"). Id. at 4-7. "To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter." PPG Indus., Inc. v. Guardian Indus. Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996) (citations omitted). CCGroup argues that its expert, Dr. Bergeron, testified that the Cave Article teaches every limitation of Claim 1 of the '079 patent. Dkt. No. 383 at 4-7.

Optum responds that the jury was free to reject Dr. Bergeron's testimony. Dkt. No. 405 at 2-6. In particular, Optum argues that the jury could have concluded that the Cave Article does not disclose the "dynamic time window" limitation of claim 1 of the '079 patent. Id. at 3-5. The Court construed the term "dynamic time window" to mean "a time period that can reset based on receipt of related claim records within a predefined period." Dkt. No. 92 at 22.

At trial, Dr. Bergeron testified that he interpreted the phrase "maximum number of days between contact with the provider for which follow-up care is still reasonable (i.e., the window period)" in the Cave Article to disclose a "dynamic time window." Trial Tr. 2323:9-2324:4. For this to be true, Optum argues, Dr. Bergeron must have interpreted the words "between contact" in

the Cave Article to mean "between last contact with a provider." Id. at 2355:23-2356:2. On cross-examination, Dr. Bergeron conceded that the Cave Article does not say "last contact." Id. at 2356:3-4. Instead, Optum argues, the language in the Cave Article actually refers to the time from first contact, and not last contact, with the provider, meaning that the window is fixed, not dynamic. In fact, in deposition testimony that Optum read to the jury, Dr. Bergeron had said that the same language elsewhere in the Cave Article "seems to be compatible with a fixed window that doesn't move." Id. at 2372:1-12. Optum pointed these issues out to the jury in closing. Id. at 2594:22-2597:23.

Moreover, the Cave Article states that the "window period" is intended to capture all services "within a specific period of time." Id. at 2351:14-19. However, if the time periods discussed in the Cave Article are dynamic, the resulting periods of time for each diagnostic cluster would be variable. Id. at 2351:23-2352:5. Although Dr. Bergeron believed that variable time periods could be "a specific period of time," id. at 2352:12-19, the jury could have reached a different conclusion.

CCGroup cites several other portions of Dr. Bergeron's testimony, but they do not change the result. Specifically, later in the same cross-examination, Dr. Bergeron identified another sentence in the Cave Article that, he claimed, supported his interpretation that the Cave Article taught a dynamic time window. Id. at 2359:23-2360:3; 2361:24-2362:8. However, as Optum observed, Dr. Bergeron had not relied on that sentence in his expert report or in his direct examination. Id. at 2362:14-2363:11. The jury could reasonably have rejected the new theory on that basis.

Based on the potential gaps in Dr. Bergeron's testimony and on the ambiguity that Optum identified in the Cave Article, the jury could reasonably have found that the Cave Article does not teach a dynamic time window. Accordingly, CCGroup's JMOL as it relates to anticipation is DENIED.

ii. Enablement

CCGroup argues that the third grouping step of claim 1 of the '079 patent lacks enablement because it is nonsensical and inoperable. Dkt. No. 383 at 7-10. "Whether a claim is enabled . . . is a question of law, although based upon underlying factual findings." Nat'l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc., 166 F.3d 1190, 1194 (Fed. Cir. 1999) (citations omitted). "[I]n order to be enabling, a specification 'must teach those skilled in the art how to make and use the full scope of the claimed invention without "undue experimentation."'" PPG Indus., 75 F.3d at 1564 (quoting In re Wright, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). A patent claim lacks enablement "when an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim." Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1359 (Fed. Cir. 1999).

Claim 1 of the '079 patent requires grouping data records to an episode treatment category based on a predefined relationship, where each category has "a dynamic time window defining a time period which [sic] validated . . . data records may be grouped to an episode treatment category." '079 Patent at 38:55-61. As CCGroup reads the claim, it requires grouping a data record to an episode treatment category in order to determine which dynamic time window to use, while it also requires using that same dynamic time window to group data into an episode treatment category. Dkt. No. 383 at 8. CCGroup asserts that this renders the claim circular and therefore nonsensical. Id.

In support, CCGroup cites the testimony of Dr. Rattray, Optum's own expert. In particular, CCGroup focuses on the following exchange:

> Q. Can a dynamic time window control which episode treatment category a claim data record is grouped to?
>
> A. No.
>
> Q. No. And that's what that claim language requires; right? That's what that claim language requires; right?
>
> A. Yes.

Trial Tr. 2155:2-7. Moreover, Dr. Rattray testified that the claim limitation includes "confusing

language," has "complicated wording," and is "not the way [he] would have written it." Id. at 2102:17-25; 2157:12-18. CCGroup contends that this testimony, "the only evidence adduced at trial on the issue of enablement[,] proves that Claim 1 of the '079 Patent is nonsensical and, in fact, impossible to practice." Dkt. No. 383 at 9.

As Optum points out, Dr. Rattray's testimony was not so clear-cut. With regard to the quoted excerpt above, Dr. Rattray later testified that claim 1 of the '079 patent does not require the dynamic time window to "change the episode treatment category" and that he "certainly didn't mean" to say otherwise. Trial Tr. 2159:20-2160:8. On several other occasions, in explaining his view of what the '079 patent taught, Dr. Rattray disagreed with CCGroup's interpretation of the claim language. Id. at 2094:15-25, 2096:2-2097:16, 2145:14-2146:1, 2152:24-2153:5; 2154:1-4, 2156:17-2157:7; 2159:17-2160:14.

More broadly, the opacity of the claim language is not dispositive. The relevant question for enablement is whether a person of skill in the art reading the patent could practice the claimed invention without undue experimentation, not whether the claim language has "confusing language" or "complicated wording." PPG Indus., 75 F.3d at 1564. Although Dr. Rattray's testimony was no model of clarity itself, he ultimately told the jury that the '079 patent would enable a person of skill in the art to practice the claimed invention. The jury was not compelled to reach the opposite conclusion. CCGroup's JMOL as it relates to invalidity is DENIED.

iii. New Trial

CCGroup requests a new trial on the issue of anticipation of the '079 patent because the Court barred CCGroup from introducing evidence at trial that would have strengthened its proof of anticipation. Dkt. No. 383 at 10-11. Specifically, in his expert opinion that the Cave Grouper infringed claim 1 of the '079 patent, Dr. Rattray had relied in part on three sentences in the 2011 documentation for the Cave Grouper product. Trial Tr. 2097:21-2100:17. During closing argument, CCGroup attempted to present a slide to the jury showing that these three sentences were identical to language in the Cave Article from 1994, suggesting that under Dr. Rattray's own

interpretation the Cave Article anticipated that aspect of the invention of the '079 patent. Id. at 2471:9-2472:24. The Court sustained Optum's objection to this line of argument. Id. at 2479:11-2480:17.

"What the prior art shows is a question of fact." Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1323 (Fed. Cir. 2011) (citing Graham v. John Deere Co., 383 U.S. 1, 17 (1966)). In this inquiry, "[t]he role of extrinsic evidence is to educate the decision-maker to what the reference meant to persons of ordinary skill in the field of the invention, not to fill gaps in the reference." Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1576 (Fed. Cir. 1991) (citation omitted), overruled on other grounds by Abbott Labs. v. Sandoz, Inc., 566 F.3d 1282 (Fed. Cir. 2009). While "[i]t is sometimes appropriate to consider extrinsic evidence to explain the disclosure of a reference . . . [s]uch factual elaboration is necessarily of limited scope and probative value." Id.

Here, CCGroup needed to establish that the Cave Article included sufficient disclosure for each element of claim 1 of the '079 patent, based on the understanding of a person of skill in the art in June 1994, when the article was published. Optum argued at trial, and it argues now, that the CCGroup technical literature, written nearly two decades later, had only minimal probative value with respect to the meaning of the Cave Article in 1994. Trial Tr. 2474:5-14, 2475:19-2476:11; Dkt. No. 405 at 8-10. Optum also notes that the probative value is further reduced because Dr. Rattray testified that those three sentences in the Cave Grouper documentation were not sufficient in themselves, without the additional prior testimony of Yuri Alexandrian ("Mr. Alexandrian"), to prove the existence of a dynamic time window. Trial Tr. 2151:10-24.

The Court agreed with Optum then, and it does so again now. CCGroup quotes the axiom that "[t]hat which infringes if later anticipates if earlier." Brown v. 3M, 265 F.3d 1349, 1352 (Fed. Cir. 2001) (quoting Polaroid Corp. v. Eastman Kodak Co., 789 F.2d 1556, 1573 (Fed. Cir. 1986)). However, in deciding the question of anticipation, the jury had to decide how a person of ordinary skill in 1994 would have interpreted the earlier disclosure. Dr. Rattray's testimony about

the meaning of the 2011 documentation, in combination with Mr. Alexandrian's testimony, would have shed little light on the key issue, and it would have run the risk of confusing the jury. Because CCGroup has not shown that the jury's verdict was "a miscarriage of justice," its motion for a new trial is DENIED. Molski, 481 F.3d at 729 (quoting Passantino, 212 F.3d at 510 n.15).

C. CCGroup's Motion for Permanent Injunction and to Set Ongoing Royalty Rates

i. Permanent Injunction

CCGroup seeks entry of a permanent injunction barring Optum from renewing or entering into any new contracts to use or license the infringing Impact Intelligence software and from inducing third parties to infringe the '126 patent. Dkt. No. 385-6 at 3-13.

A patentee may seek entry of a permanent injunction after a finding of infringement. 35 U.S.C. § 283 ("[A court] may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable."). To obtain a permanent injunction, the patentee must show: (1) that the patentee has suffered irreparable harm; (2) that "remedies available at law are inadequate to compensate for that injury"; (3) that "considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted"; and (4) that "the public interest would not be 'disserved' by a permanent injunction." i4i, 598 F.3d at 861 (quoting eBay, 547 U.S. at 391). The Court considers each of the factors in turn.

a. Irreparable harm

To demonstrate irreparable harm in a patent infringement suit, the Federal Circuit instructed that "a patentee must establish both of the following requirements: 1) that absent an injunction, it will suffer irreparable harm, and 2) that a sufficiently strong causal nexus relates the alleged harm to the alleged infringement. Apple Inc. v. Samsung Elecs. Co., 695 F.3d 1370, 1374 (Fed. Cir. 2012). CCGroup argues that irreparable harm is shown by the following: that CCGroup and Optum are direct competitors; that CCGroup does not license the '126 patent into the health plan market; that Optum's infringement has forced CCGroup to lower its prices and lose

customers to Optum due to price erosion; and that there is a causal nexus between Optum's infringement and the irreparable harm CCGroup is suffering. Dkt. No. 385-6 at 3-7.

1. Direct competition

As an initial matter, the Court considers the relationship between the parties. "Direct competition in the same market is certainly one factor suggesting strongly the potential for irreparable harm without enforcement of the right to exclude." Presideo Components, Inc. v. Am. Technical Ceramics Corp., 702 F.3d 1351, 1363 (Fed. Cir. 2012) (citing Broadcom Corp. v. Qualcomm Inc., 543 F.3d 683, 703 (Fed. Cir. 2008)). Facts "relating to the nature of the competition between the parties" therefore "undoubtedly are relevant to the irreparable harm" inquiry. Robert Bosch LLC v. Pylon Mfg. Corp., 659 F.3d 1142, 1150 (Fed. Cir. 2011).

Here, the Court concludes that the parties are direct competitors. For one thing, CCGroup offered testimony from Dr. Cave and Mr. Alexandrian that Optum is a direct competitor of CCGroup. Trial Tr. 408:19-21, 409:22-410:7, 590:7-13, 592:11-16, 603:23-604:1, 694:6-9. Optum contends that there is a limited evidence of direct competition between the parties because [redacted] Dkt. No. 407-19 at 6. However, Optum's own response also recognized the direct competition between the parties "in the same market for nearly 12 years." Dkt. No. 407-19 at 2, 6. Thus, the Court concludes that CCGroup and Optum are direct competitors.

2. License to competitors

A patent holder's "willingness to forego its patent rights for compensation supports the . . . conclusion that [the patent holder] will not suffer irreparable harm absent an injunction." Advanced Cardiovascular Sys., Inc. v. Medtronic Vascular, Inc., 579 F. Supp. 2d 554, 560 (D. Del. 2008). "Money damages are rarely inadequate in these circumstances . . . ." Id.

CCGroup asserts that it does not license the '126 patent to health plan payer organizations. Dkt. No. 385-6 at 6. However, it has licensed the '126 patent to three re-licensor companies - xG [redacted] Trial Tr. 578:21-580:22. In addition, Mr.

Alexandrian, testified that CCGroup would add more re-licensors: "I wouldn't limit it to three. If we get additional relicensors, we would entertain that." Id. at 607:1-2. Moreover, Dr. Cave admitted at trial that he would have licensed the '126 patent to Optum:

> Q. Now, if Optum approached you in 2010 and asked for a license for the '126 patent, the patent you own and that we're asserting today, would you have given them a license?
>
> A. Um, I mean, well, if the pricing and the fees were what we would be looking for and they made it worth our while, I don't see why we wouldn't have.

Id. at 409:2-7.

However, CCGroup argues that the re-licensors are not in the same market because the re-licensors are limited to targeting physicians groups or "providers" rather than health plans or "payers." Dkt. No. 385-6 at 6, 17. This is unpersuasive and contrary to the evidence. For instance, CCGroup has granted [redacted] Dkt. No. 385-13 at § 2(b)(1). Here, [redacted] is licensed in the health plan market. [redacted] Id. at §§ 1(ii), 2(b)(3). Similarly, CCGroup's re-licensor agreement with [redacted] Dkt. No. 385-15 at § 2(a)(v); see Dkt. No. 407-16 at ¶ 9a-h. As such, CCGroup's agreements permit these re-licensors to compete with CCGroup in the health plan market for customers that are not "CCGroup Restricted Clients." Dkt. No. 407-16 at ¶ 9a-h.

Therefore, evidence proves that CCGroup has given up exclusivity over its patent to other market participants and would have been willing to license the '126 patent to Optum. Advanced Cardiovascular Sys., 579 F. Supp. 2d at 560. Accordingly, this factor weighs against granting a

permanent injunction.

3. Price erosion

CCGroup argues that Optum's infringement is causing irreparable harm that cannot be quantified because CCGroup's lost sales of the Marketbasket System lead to lost market share and could have ancillary effects such as lost sales of related products and lost opportunities of related products. Dkt. No. 418-3 at 9. Optum argues that CCGroup has not suffered the serious harm it alleges because CCGroup has maintained [redacted] profit margin" over its history. Dkt. No. 407-19 at 6; Dkt. No. 407-4 at 390:15-21. Moreover, between 2007 and 2013, [redacted] and had [redacted] Dkt. No. 407-19 at 6; Dkt. No. 407-16 at ¶ 10.

Here, CCGroup asserts that Optum's infringement causes irreparable injury because CCGroup has been forced to lower its prices due to lost customers. Dkt. No. 385-6 at 6-7. However, Optum points out that CCGroup does not present evidence of any specific future harm likely to occur, rather focusing only on alleged past harm, which is an improper basis for injunctive relief. See Hynix Semiconductor Inc. v. Rambus Inc., 609 F. Supp. 2d 951, 968-69 (N.D. Cal. 2009). Moreover, Optum argues that CCGroup has not presented any evidence demonstrating that the alleged harms cannot be compensated by a monetary award. See Praxair, Inc. v. ATMI, Inc., 479 F. Supp. 2d 440, 444 (D. Del. 2007). To the contrary, CCGroup proved that its harm is quantifiable, both at trial and by seeking an ongoing royalty. See Conceptus, Inc. v. Hologic, Inc., No. 09-cv-02280, 2012 WL 44064, at *2 (N.D. Cal. Jan. 9, 2012) (concluding that harm was quantifiable, and that "it would be disingenuous" for patent holder to argue otherwise because patent holder's expert argued for the reasonable royalty rate that the jury awarded). Lost customers or lowered prices, if proven to be true, are forms of quantifiable harm compensable by money damages. See ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc., 694 F.3d 1312, 1338 (Fed. Cir. 2012) (observing that, when infringer pays patent holder a monthly

royalty, patent holder is adequately compensated). Finally, CCGroup has been willing to license the '126 patent to Optum and other competitors. "As a general rule, courts will find that monetary damages are sufficient in such cases." Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc., No. 95-cv-03577, 2008 WL 4647384, at *10 (N.D. Cal. Oct. 20, 2008). In sum, this factor weighs against granting a permanent injunction.

4. Causal nexus

A patentee seeking an injunction against further infringement is required to demonstrate "some causal nexus" between the infringement and the patentee's injury as part of the irreparable harm analysis. Apple Inc. v. Samsung Elecs. Co., 735 F.3d 1352, 1363-64 (Fed. Cir. 2013). To demonstrate a causal nexus, CCGroup "must show some connection between the patented feature and demand for [the infringer's] products." Id. at 1364. It may do this through "evidence that the inclusion of a patented feature makes a product significantly more desirable" or "evidence that the absence of a patented feature would make a product significantly less desirable." Id.

As addressed earlier, there was evidence at trial that the patented features of the infringing Impact Intelligence product are among the features that cause consumers to make their purchasing decisions. Dkt. No. 385-6 at 8. Specifically, Dr. MacGibbon acknowledged that physician efficiency scoring is important to Optum's Impact Intelligence customers. Trial Tr. 724:11-15. Dr. MacGibbon also testified multiple times about the importance of cost efficiency in health plans' decision-making, identifying it as part of the "triple aim" of Optum's customers. Id. at 724:16-725:4, 1601:22-1602:10. Dr. MacGibbon further explained that, when Optum conducted a poll of its customers to rank the features they valued most, the module including physician efficiency measurement received the highest number of votes. Id. at 1720:10-1722:8. As such, there is evidence that the patented feature of the infringing product drove demand for those products. Therefore, this factor weighs in favor of granting permanent injunction.

5. Delay in seeking an injunction

Optum contends that "delay in bringing an infringement action and seeking a preliminary

injunction are factors that could suggest that the patentee is not irreparably harmed by the infringement." Apple, Inc. v. Samsung Elecs. Co., 678 F.3d 1314, 1325 (Fed. Cir. 2012) ("Apple I"). In Apple I, Federal Circuit affirmed the district court's conclusion that the patent holder's delay in seeking preliminary injunctive relief weighed against finding irreparable harm. Id. at 1325-26. However, that case involved a preliminary injunction, not a permanent injunction. Id. at 1319. MercExchange is more apposite. In that case, the district court held that the failure to seek a preliminary injunction is "another factor in the calculus indicating both that [patent holder] is not being irreparably harmed by [defendant's] infringement and that money damages are adequate." MercExchange, 500 F. Supp. 2d at 573. But see Metso Minerals, Inc. v. Powerscreen Int'l Distribution Ltd., 788 F. Supp. 2d 71, 75-76 (E.D.N.Y. 2011) ("[T]he plaintiff's decision not to seek preliminary injunctive relief does not indicate a lack of irreparable harm.").

Here, CCGroup waited nearly five years to seek an injunction against Optum's sale of Impact Intelligence. Dkt. No. 407-19 at 7. This significant delay suggests that CCGroup did not suffer irreparable harm. As such, although this factor is not as important as the others, it weighs against granting a permanent injunction.

6. Conclusion

In sum, CCGroup fails to meet its burden to prove irreparable harm because (1) CCGroup's business has grown despite competition from Optum; (2) CCGroup has licensed to other competitors and been willing to license to Optum; (3) CCGroup's alleged harm is quantifiable; and (4) CCGroup delayed nearly five years in seeking an injunction.

b. Inadequate remedy at law

This factor requires the patentee to demonstrate that "remedies available at law, such as monetary damages, are inadequate to compensate" the patentee for the irreparable harm it has suffered. eBay, 547 U.S. at 391. The analysis for this factor overlaps with that for the first factor. MercExchange, L.L.C. v. eBay, Inc., 500 F. Supp. 2d 556, 582 (E.D. Va. 2007). Again, CCGroup's business has continued to grow, CCGroup has licensed to other competitors, and its

alleged harm is quantifiable. CCGroup has failed to show that money damages would be inadequate to compensate for Optum's infringement.

c. Balance of hardships

The balance of hardships factor "assesses the relative effect of granting or denying an injunction on the parties." i4i, 598 F.3d at 862.

CCGroup argues that Impact Intelligence is already losing money and Optum can simply remove the physician efficiency component from Impact Intelligence and offer those non-infringing features separately. Dkt. No. 385-6 at 10-11. CCGroup also argues that, unlike Optum, its physician scoring software is the cornerstone of its business. See DTX1313. As such, CCGroup would be forced to "compete against its own patented invention" which is a "substantial hardship." Robert Bosch, 659 F.3d at 1156.

In contrast, Optum asserts that removing the physician efficiency functionality from Impact Intelligence and revising related materials to comply with an injunction would likely require as much as [redacted]. Dkt. No. 407-19 at 15. At the same time, Optum's reputation with customers will likely be diminished if those customers are forced to expend the time, effort, and costs necessary to acquire and implement a replacement product. Id. Moreover, CCGroup delayed in seeking an injunction for nearly five years, during which time Optum made investments in the product. See Conceptus, 2012 WL 44064, at *3 (finding that, when an accused product was independently developed and not a "copycat" product, the loss of such investments weighs against granting a permanent injunction).

On balance, this factor too weighs against granting a permanent injunction.

d. Public interest

The final factor of the injunction test asks whether a permanent injunction would disserve the public interest. i4i, 598 F.3d at 863.

In general, protecting the rights of patentees and enforcing the patent system serves the public interest. See ActiveVideo Networks, 694 F.3d at 1341. The exclusive rights protected by

patents represent the public's willingness to sacrifice access to an invention or method for a limited period of time to allow the inventor the opportunity to recoup her investment. See Edwards Lifesciences AG v. Core Valve, Inc., 699 F.3d 1305, 1314 (Fed. Cir. 2012). That balance between free competition and the patentee's ability to recover her investment aspires to promote innovation by denying the public access to the invention in the short term in exchange for a guarantee of disclosure and public access to the invention in the long term. See Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 480-81 (1974). Short-term exclusivity ideally encourages more investment in research and development of inventions. See id. at 480 ("The patent laws promote [the progress of science] by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens."). Protecting a patentee's exclusive practice of her patent, therefore, generally serves the public interest.

Optum contends that an injunction will harm the public because its longtime customers have trained their employees on Impact Intelligence and are familiar with how it works and how to use it to explain their business decisions to physicians, physician groups, and employer customers. Dkt. No. 407-19 at 17. In addition, Optum argues that an injunction could force these customers to spend significant time and money acquiring and implementing a replacement physician efficiency product and re-training their employees. Id.

CCGroup is not seeking to preclude the public's access to the patented inventions. In fact, CCGroup's narrowly tailored injunctive relief serves the public's general interest. First, it is requesting a "time-released" injunction that avoids inflicting hardship on Optum's customers by barring only new contracts and renewal of expired contracts. Dkt. No. 385-6 at 13. Second, the public will be able to obtain the same patented physician scoring methods from CCGroup. Third, Optum successfully elicited testimony at trial that non-infringing alternatives exist in the

marketplace. Trial Tr. 477:7-480:4; 599:22-601:24; 1606:8-1609:22. As such, this factor favors granting a permanent injunction.

Nevertheless, the totality of the circumstances and balance of equities do not favor a permanent injunction. In particular, the Court is not persuaded that CCGroup has suffered irreparable harm, that monetary damages will be inadequate to compensate CCGroup, or that the balance of hardships favors CCGroup. Accordingly, the Court DENIES CCGroup's motion for permanent injunction.

ii. Ongoing royalty rate

In most patent cases tried to a jury, the jury would determine the appropriate royalty rate, allowing the court to simply apply the jury's stated methodology to the proven or estimated post-verdict sales. See, e.g., Finjan, 626 F.3d at 1212 ("The district court granted Finjan additional damages by multiplying the jury's royalty rates against previously uncalculated sales . . . ."). Here, however, the jury did not make a finding as to the appropriate royalty rate, and the Court cannot now do so without trenching on Optum's Seventh Amendment right to a jury trial on that issue. See Boston Scientific Corp. v. Johnson & Johnson, 550 F. Supp. 2d 1102, 1122 (N.D. Cal. 2008) ("Even if there were evidence sufficient for the Court, as opposed to the jury, to determine a reasonable royalty, doing so at this point would violate BSC's Seventh Amendment rights . . . .").

In the instant case, the parties have indicated that appeals are anticipated at the Federal Circuit. In similar circumstances, courts have found it appropriate to delay orders for the submission of such evidence and hearings thereon pending the resolution of appeals, to "avoid potentially unnecessary expenditures of time and money in preparing such an accounting." Intron, Inc. v. Benghiat, No. 99-cv-0501, 2003 WL 22037710, at *16 (D. Minn. Aug. 29, 2003); see also Eolas Technologies, Inc. v. Microsoft Corp., No. 99-cv-0626, 2004 WL 170334, at *8 (N.D. Ill. Jan. 15, 2004) ("I grant the motion and will require an accounting after any appeal in this case is terminated."), vacated in part on other grounds, 399 F.3d 1325 (Fed. Cir. 2005).

Moreover, this case presents complex issues with regard to ongoing royalty rate for which

there is no clear precedent. Thus, proceeding without the Federal Circuit's guidance may cause unnecessary expenditures of time and resources. Given the number and complexity of the issues in this case that remain unresolved, the Court finds that it would be appropriate to delay the consideration of evidence and calculating the ongoing royalty rate until after the completion of the appeals in this case.

D. CCGroup's Motion to Amend Judgment

i. Supplemental damages

CCGroup seeks an award of supplemental damages for infringing sales not considered by the jury. The parties have reached an agreement regarding the amount of damages necessary to bring the jury's damages award current through March 31, 2015: $849,543.94. Dkt. No. 410-4 at 1. The Court, too, is satisfied with the figures. It finds CCGroup's request for supplemental damages warranted.

ii. Prejudgment interest

CCGroup also seeks an award of prejudgment interest. Dkt. No. 385-8 at 2-5. The purpose of awarding prejudgment interest is to compensate the patentee for "the foregone use" of the royalty payments that the patentee never received. Gen. Motors Corp. v. Devex Corp., 461 U.S. 648, 655-56 (1983). This award "is intended to cover the lost investment potential of funds to which the plaintiff was entitled." Nelson v. EG & G Energy Measurements Grp., Inc., 37 F.3d 1384, 1391 (9th Cir. 1994). The Court has considerable discretion in awarding prejudgment interest. See Bio-Rad Labs., Inc. v. Nicolet Instrument Corp., 807 F.2d 964, 969 (Fed. Cir. 1986).

The parties have proposed two different rates for calculating interest. CCGroup has proposed that the appropriate measure of prejudgment interest is the prime rate plus 1%. Dkt. No. 385-8 at 3-4. Accordingly, CCGroup seeks prejudgment interest at a rate of 4.25%, compounded annually, for a total of $1,174,906. Dkt. No. 385-12 at 42. This sum is based on the damages amount multiplied by the prime interest rate of 3.25% plus 1%, where the interest is pro-rated over time and compounded annually for the 50 month damages period. Id.

On the other hand, Optum suggests the Court should apply the U.S. Treasury Bill rate of 0.16% over the damages period. Dkt. No. 400-10 at 1-8. As Optum notes, courts deciding issues relating to prejudgment interest in patent cases look to the law of the regional circuit. Transmatic, Inc. v. Gulton Indus., Inc., 180 F.3d 1343, 1347-48 (Fed. Cir. 1999). In the Ninth Circuit, "[t]he treasury-bill rate is the rate typically used in most cases for prejudgment interest calculation." SEC v. Platforms Wireless Int'l Corp., 617 F.3d 1072, 1083 (9th Cir. 2010). Under Optum's proposed rate, CCGroup would receive less than $39,000 in interest on the jury's award of more than $12 million in damages. Dkt. No. 400-7. The question, therefore, is whether the circumstances reasonably indicate that the prime rate plus 1% (i.e., 4.25%), instead of the 0.16% treasury bill rate, is more apt to make CCGroup whole.

There is no reason to depart from the Ninth Circuit's standard rule here. In determining the appropriate rate, courts have considered whether, during the period of infringement, the plaintiff "borrowed money at a higher rate, what that rate was, or that there was a causal connection between any borrowing and the loss of the use of the money awarded as a result of [the defendant's] infringement." Laitram Corp. v. NEC Corp., 115 F.3d 947, 955 (Fed. Cir. 1997). There is no evidence that CCGroup borrowed any money because it was deprived of the damages award. In fact, Dr. Cave testified that CCGroup has "refrained from [borrowing] 100 percent so far," and that CCGroup has no line of credit because "[w]e haven't needed it." Dkt. No. 407-4 at 384:23-385:18. Thus, here, as in Laitram, the Court finds that the treasury bill rate is sufficient.

Accordingly, applying the treasury bill rate, averaging 0.16% during the damages period, to the current damages award, compounded annually, results in total prejudgment interest through the April 6, 2015 entry of judgment in the amount of $38,714.

iii. Post-judgment interest

CCGroup requests post-judgment interest calculated at the statutory treasury bill rate. Optum does not oppose CCGroup's request for post-judgment interest to the extent that any damages amount is sustained. Dkt. No. 410-4 at 7. The Court, too, is satisfied and finds

CCGroup's request for post-judgment interest warranted.

For the reasons stated above, the Court awards CCGroup (1) prejudgment interest at a rate of 0.16%, compounded annually, for a total of $38,714 on the damages award; (2) supplemental money damages of $849,543.94 for the period of January 1, 2015 through March 31, 2015, per the parties' agreement; and (3) post-judgment interest at the statutory treasury bill rate on the total damages award.

E. Motion to Supplement the Record

Finally, CCGroup moves, four months after the hearing on the remaining motions, to supplement the record for its motion for a permanent injunction and to set the ongoing royalty rate. Dkt. No. 449. As Optum notes in opposing the motion, Civ. L.R. 7-3(d) provides that, "[o]nce a reply is filed, no additional memoranda, papers or letters may be filed without prior Court approval." Neither of the two exceptions applies here. Id. Accordingly, and in the absence of any explanation for the delayed evidence, the Court declines to consider it at this late date. Plaintiff's Motion to Supplement the Record is DENIED.

IV. CONCLUSION

For the foregoing reasons, the Court DENIES Optum's JMOL, DENIES CCGroup's JMOL, DENIES CCGroup's Motion for Permanent Injunction and to Set Ongoing Royalty Rate, GRANTS IN PART AND DENIES IN PART CCGroup's Motion for Prejudgment Interest, Supplemental Damages, and Post Judgment Interest, and DENIES Plaintiff's Motion to Supplement the Record.

IT IS SO ORDERED.

Dated: September 7, 2016

EDWARD J. DAVILA
United States District Judge