No. 18-

IN THE
Supreme Court of the United States

CAVE CONSULTING GROUP, LLC,

Petitioner,

v.

OPTUMINSIGHT, INC.,

Respondent.

On Petition for a Writ of Certiorari
to the United States Court of Appeals for the
Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Congress requires inventors seeking patent protection to specifically identify what they regard as their invention in a patent claim. The Patent Office relies on the claim language chosen by inventors to decide whether or not to grant a patent. When patent disputes arise, courts must construe this claim language to define the metes and bounds of the patentee's exclusionary rights. The line drawn by this claim construction process also determines patent validity.

Separately, Congress requires inventors to provide a specification containing a written description of the invention. This description serves a different purpose than the claim: it must teach the public how to make and use the invention and identify the inventor's best mode of practicing the invention.

May a court construe a patent claim in a way that contradicts its plain and ordinary meaning by relying on statements in the specification that do not constitute lexicography or disavowal?

PARTIES TO THE PROCEEDING

All parties to the proceeding are identified in the caption.

RULE 29.6 STATEMENT

Cave Consulting Group, Inc. (successor to Cave Consulting Group, LLC following a 2012 merger) has no parent company and no publicly held company owns 10 percent or more of its stock.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Cave Consulting Group, Inc. ("CCGroup") respectfully petitions for a writ of certiorari to the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The claim construction order of the United States District Court for the Northern District of California is reproduced in the appendix to this petition (App.) at App. 156a–197a. The Federal Circuit panel decision is available at App. 1a–19a, and reported at 725 Fed. App'x 988. The order of the court of appeals denying rehearing en banc is reproduced at App. 198a–199a.

JURISDICTION

A panel of the court of appeals entered judgment on March 21, 2018. App. 1a. A timely petition for rehearing en banc was denied on August 14, 2018. App. 199a. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Section 112 of the Patent Act defines the role and requirements of the specification: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the

best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112, ¶1.[1]

Section 112 also defines the role and requirements of the claim(s) that must conclude the specification: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶2.

INTRODUCTION

Claim construction is the single most important issue underlying patent disputes. It defines the boundary of the patent monopoly. And the line drawn by claim construction determines whether the claim is valid or invalid, infringed or not infringed. Yet because the specification's[2] role in claim construction remains uncertain, claim-construction outcomes vary widely from one court to the next.

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[1] Section 4(c) of the Leahy-Smith America Invents Act ("AIA") made minor wording changes to § 112 and added subheadings (a) through (f) to the six paragraphs of this statutory section. Pub. L. No. 112–29, sec. 4(c), 125 Stat. 284, 296 (2011). Paragraph 1 of 35 U.S.C. § 112 was replaced with newly designated § 112(a) and paragraph 2 was replaced with § 112(b) Section 4(e) of the AIA applied this change "to any patent application that is filed on or after" September 16, 2012. *Id.*, sec. 4(e), 125 Stat. at 297. Because the application resulting in CCGroup's '126 patent was filed before that date, the pre-AIA version of § 112 applies here. The changes to § 112 do not impact the issues raised in this petition.

[2] Under § 112, the specification technically includes both the written description portion and the claims. Often, however, the term "specification" is used to refer to just the written description separate from the claims. That is how the term "specification" is used in this petition.

This case exemplifies the problem caused by the Federal Circuit's non-uniform claim-construction precedent and provides an ideal opportunity to fix it.

Under longstanding precedent from this Court, the claims alone define the scope of the patent right. Limitations from the specification may not be read into the claims. The only exceptions to this bedrock principle are if the specification reveals (1) lexicography (when the patentee gives a special definition to a claim term) or (2) disavowal (when the patentee intentionally excludes subject matter from the scope of a claim).

Nevertheless, some courts (and specifically some Federal Circuit panels) will deviate from the plain meaning of a claim term to conform the claim scope to the court's interpretation of the "actual invention" described *in the specification*. This approach violates 35 U.S.C. § 112, which dictates that the claims identify "the subject matter which the applicant regards as his invention." It also contradicts this Court's controlling precedent, ignores the primacy of claim language, and creates uncertainty. This uncertainty undermines the notice function of patent claims, leads to unpredictable outcomes, and results in protracted litigation—increasing costs and draining judicial resources.

Here, the Federal Circuit used this approach. The Federal Circuit found no lexicography or disavowal, but nonetheless narrowed the scope of an unambiguous claim term to "tether the claims" to its view of what the inventor "actually invented." This subjective assessment was based solely on the court's view of certain statements in the patent *specification*. The Federal Circuit's conscious

disregard of the plain meaning of the claim language chosen by the inventors is unmistakable. Indeed, the Federal Circuit construed the term so narrowly that it no longer encompasses the scope explicitly mandated by dependent claims. To justify this odd result, the Federal Circuit held that the plain meaning of these dependent claims was not significant because they were added during prosecution of the patent application.

This case highlights the persistent, irreconcilable split at the Federal Circuit concerning the proper role of the specification in claim construction. CCGroup respectfully requests the Court to grant its petition and resolve this important issue.

STATEMENT OF THE CASE

I. The U.S. Patent Office Issued CCGroup a Patent with Claims That Expressly Cover Physician Efficiency Scoring Methodology Using Either Direct *Or* Indirect Standardization.

The patent at issue in this case, U.S. Patent No. 7,739,126 ("the '126 patent"), claims a method of determining physician efficiency that requires a step of calculating "weighted episode of care statistics" ("Weighting Term").[3] The independent claims

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[3] For example, claim 22 contains this Weighting Term:

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

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;

broadly cover the use of *any* statistical weighting technique. The dependent claims confirm this fact by expressly covering direct-standardization and indirect-standardization weighting techniques:

> 26. The method in claim 22 wherein: the calculating of weighted episode of care statistics across medical conditions utilizes *direct standardization*.

C.A. Appx. 1460 ('126 patent) at 112:26–28 (emphasis added).

> 27. The method in claim 22 wherein:

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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.

C.A. Appx. 1460 ('126 patent) at 112:7–8 (emphasis added); *see also* Claim 29, *id.* at 112:60–61.

> the calculating of weighted episode of care statistics across medical conditions utilizes *indirect standardization*.

Id. at 112:15–17 (emphasis added).

Dependent claims 23 and 26 in the '126 patent were added to the application during prosecution as claims 26 and 27, respectively. *See* C.A. Appx. 850. These claims narrowed the independent claim by further limiting the scope of the Weighting Term to one of the two specific weighting techniques. Finding that these new claims did not add new matter, the examiner proceeded to examine them on the merits. The examiner subsequently rejected both dependent claims 26 and 27, as indefinite under the second paragraph of 35 U.S.C. § 112.

In response, CCGroup explained these two different techniques for calculating weighted episode of care statistics:

> Claim 26 was rejected for reciting "*calculating weighted episode statistics across medical conditions utilizes indirect standardization*". The examiner considered it unclear how the calculation utilizes indirect standardization. One embodiment of the present invention, describes how the calculation utilizes indirect standardization. See STEP 24 – Calculate Peer Group Weighted Episode Statistics Across Medical Condition (¶¶[0254]-[0262])[.]
>
> Claim 27 was rejected for reciting "*calculating weighted episode statistics*

> *across medical conditions utilizes direct standardization*". The examiner considered it unclear how the calculation utilizes direct standardization. The direct standardization method utilizes each physician's episode distribution weight to calculate the physician and peer group weighted episode statistics.

C.A. Appx. 850 (emphasis in original).

After receiving this explanation of the two specific methods for calculating weighted episode of care statistics, the examiner allowed the claims and the Patent Office issued the '126 patent. Given this history, it is beyond dispute that the inventors intentionally claimed *at least* the two weighting techniques identified in these dependent claims and explicitly discussed with the examiner.

II. CCGroup Sued OptumInsight—a Competitor Infringing the '126 Patent Using a Direct Standardization Methodology—and the District Court Construed the Claims to Cover Both the Direct and Indirect Standardization Methodologies.

CCGroup[4] filed this lawsuit in 2011 against OptumInsight, a subsidiary of UnitedHealthcare. OptumInsight infringes CCGroup's '126 patent using a direct standardization methodology. Judge Davila construed the claims and confirmed that the

[4] CCGroup is a small company whose founder, Dr. Douglas Cave, invented the methodology for physician efficiency systems described in the '126 patent.

Weighting Term covers any statistical weighting technique, including use of both direct and indirect standardization. App. 159a–165a.

After considering the claims, specification, and prosecution history, Judge Davila concluded that this intrinsic evidence did not reveal that Dr. Cave disavowed the use of direct standardization with his invention. The discussion of indirect standardization in the specification, Judge Davila concluded, merely addressed the preferred embodiment of the invention. App. 164a. And the exchange with the examiner during prosecution made it clear "that Dr. Cave intended both direct and indirect standardization to be claimed in the '126 patent." App. 161a ("The purpose of this exchange was to explain and support both direct and indirect standardization so that a patent reciting both methods would issue."). Judge Davila 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." App. 165a.

Judge Davila was not the only U.S. District Court Judge to reach this conclusion. After analyzing the intrinsic record,[5] Judge Illston also construed the term "weighted episode of care" in *Cave Consulting Grp., Inc. v. Truven Health Analytics Inc.*, No. 3:15-cv-2177, 2016 WL 2902234, at *4–7 (N.D. Cal. May 13, 2016). After analyzing the intrinsic record,

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[5] The patent at issue in the *Truven* case was U.S. Patent No. 8,768,726, a patent that claims priority to the '126 patent at issue in this case.

Judge Illston concluded that the Weighting Term covered any type of weighting, including indirect and direct standardization—rejecting OptumInsight's disclaimer argument. *Id.* Judge Illston noted Truven's arguments that the specification failed to provide enabling or written-description support for direct standardization, but aptly concluded that "these arguments are misplaced in the context of claim construction . . . ." *Id.* at *6 n.7.

III. At Trial, the Jury Found that the Inventors Possessed Both Direct and Indirect Standardization in Rejecting the Written-Description Invalidity Challenge under the District Court's Construction.

Based on the district court's claim construction, CCGroup litigated this case through trial and obtained a jury verdict in its favor on infringement and numerous validity issues. The jury awarded damages to CCGroup of $12,325,000. The jury rejected OptumInsight's written-description challenge under § 112.[6] Thus, the jury found that the specification supported the full scope of the Weighting Term—including both direct and indirect standardization. Judge Davila agreed, denying OptumInsight's motion for judgment as a matter of law on this issue. App. 38a–45a. This factual issue was appealed by OptumInsight, but not decided by the Federal Circuit.

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[6] *See* App. 94a.

IV. The Federal Circuit Narrowly Construed the Claims Based on Its View of the "Actual Invention" Described in the Specification and Reversed the Jury Verdict.

The parties' claim-construction arguments before the district court and the Federal Circuit focused on whether or not there was a clear and unmistakable disavowal of direct-standardization weighting. But the Federal Circuit decided the case on different grounds never raised by OptumInsight at the district court or on appeal. The court limited the claim scope to a particular embodiment based on its view of the "actual invention" described in the specification.

The Federal Circuit based its decision on four key findings:

(1) It concluded that the disavowal exception (on which OptumInsight's appeal was based) did not apply.

(2) It should "construe the claim limitation in question to 'tether the claims to what the specification[] indicate[s] the inventor actually invented."

(3) It discounted the relevance of the dependent claims solely because they were added after the filing of the original application.

(4) And it disregarded the inventor's statements in the prosecution history as contrary to its view of the "actual invention" in the specification.

App. 13a–18a. Based on these findings, the Federal Circuit excluded direct-standardization weighting from the claims—ignoring dependent claims directed

to that very form of weighting—and reversed the verdict.

REASONS FOR GRANTING THE PETITION

I. The Federal Circuit's Specification-Based Approach to Claim Construction Ignores the Primacy of the Claims Required by § 112 and this Court's Precedent.

A. "The Name of the Game is the Claim."

In 1870, Congress required patent applicants to "particularly point out and distinctly claim" their invention. Act of July 8, 1870, ch. 230, § 26, 16 Stat. 198, 201. This statutory mandate confirmed the primacy of the claim language when defining the metes and bounds of the inventor's right to exclude. *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) ("the claims measure the invention").

And in the Patent Act of 1952, Congress reaffirmed the importance of the claims in defining the invention—by memorializing the claim's role in a separate paragraph of § 112: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶2; J.P. Federico, Commentary on the New Patent Act, 75 JPTOS 161, 186 (1993) (reprinted from 35 U.S.C.A. (1954 ed.)) ("In the new statute the clause relating to the claim has been made a separate paragraph to emphasize the distinction between the description and the claim . . . .").

When there is a conflict between clear and unambiguous claim language and statements in the

specification, *the claim language wins*. *See, e.g.*, *White v. Dunbar*, 119 U.S. 47, 52 (1886); *Howe Mach. Co. v. Nat'l Needle Co.*, 134 U.S. 388, 394 (1890) ("Doubtless a claim is to be construed in connection with the explanation contained in the specification . . . but, since the inventor must particularly specify and point out [what] he claims as his own invention or discovery, the specification and drawings are usually looked at only for the purpose of better understanding the meaning of the claim, and certainly not for the purpose of changing it, and making it different from what it is."); *Cimiotti Unhairing Co. v. Am. Fur Ref. Co.*, 198 U.S. 399, 410 (1905) ("In making his claim the inventor is at liberty to choose his own form of expression, and while the courts may construe the same in view of the specifications and the state of the art, they may not add to or detract from the claim."); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917) ("It is to the claims of every patent, therefore, that we must turn when we are seeking to determine what the invention is . . . ."); *Smith v. Snow*, 294 U.S. 1, 11 (1935) ("We may take it that, as the statute requires, the specifications just detailed show a way of using the inventor's method, and that he conceived that particular way described was the best one. But he is not confined to that particular mode of use, since the claims of the patent, not its specifications, measure the invention."); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 336 U.S. 271, 277 (1949) (refusing to narrow the unambiguous claim language based on the specification, noting that the Court has "frequently held that it is the claim which measures the grant to the patentee.").

Congress formed the Federal Circuit in 1982 and granted it exclusive jurisdiction over patent appeals to promote greater uniformity and consistency in patent law. Early decisions of the Federal Circuit promoted consistency by endorsing the primacy of the claim language, as the Court had emphasized. *Envtl. Designs v. Union Oil Co. of Cal.*, 713 F.2d 693, 699 (Fed. Cir. 1983) ("The claim, not the specification, measures the invention. . . . Environmental's argument that claim 1 must include a limitation found in the specification is thus *legally unsound*.") (emphasis added); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 957 (Fed. Cir. 1983) ("In arguing that claims must be read in light of the specification, that prevention of backflow is the 'essence' of Torrey's invention, and that all claims must therefore be read as including the quoted limitation of claim 1, Raytheon confuses the respective roles of the specification and claims.").

There was no uncertainty as to the separate functions served by the specification and the claims: "Specifications teach. Claims claim." *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 n.14 (Fed. Cir. 1985). When it came to defining the scope of the patent right, Judge Rich (a founding judge on the Federal Circuit) best summed it up: "[T]he name of the game is the claim." Giles S. Rich, *The Extent of the Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990).

On multiple occasions since its formation, the en banc Federal Circuit has seemingly confirmed this principle. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) ("The written

description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims."); *Johnson & Johnston Assocs., Inc. v. R.E. Serv. Co., Inc.,* 285 F.3d 1046, 1052 (Fed. Cir. 2002) ("Consistent with its scope definition and notice functions, the claim requirement presupposes that a patent applicant defines his invention in the claims, not the specification. After all, the claims, not the specification, provide the measure of the patentee's right to exclude."); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005).

This "bedrock principle" is so well established that courts often recite it without fully appreciating its import. This principle does not simply identify the starting place for the claim-construction process; it establishes the primacy of claim language in the hierarchy of intrinsic evidence.

B. Statements in the Specification Cannot Trump Unambiguous Claim Language Absent Lexicography or Disavowal.

The specification plays an important role in the claim-construction process too. Claims "must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315. Words have different meanings in different contexts. So it is important to understand how the language in the claim is used in the context of the specification. *Id.* But this context cannot alter the plain meaning of the claim or contradict the inventor's intent, captured by the language carefully chosen to identify the subject matter regarded as the invention. *Id.* at 1323 (recognizing the "danger of reading limitations from the specification into the claim."); *White*, 119 U.S. at 51–2 ("The context [provided in the specification]

may, undoubtedly, be resorted to, and often is resorted to, for the purpose of better understanding the meaning of the claim; but not for the purpose of changing it, and making it different from what it is.").

The Federal Circuit has identified two specific exceptions to the general rule that the scope of plain and unambiguous claim language cannot be limited by statements in the specification. First, "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess." *Phillips*, 415 F.3d at 1316. In those instances, the patentee's lexicography controls. *Id.* Second, "the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Id.* In these instances, the inventor's expressed intention to limit the claim scope controls. *Id.* These are the only two exceptions identified by the Federal Circuit in *Phillips*. *Id.*[7] Neither exception was invoked in this case.

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[7] *See also Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips,* 415 F.3d at 1313 and *Vitronics Corp. v. Conceptronic, Inc.,* 90 F.3d 1576, 1580 (Fed. Cir. 1996)); *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1282 (Fed. Cir. 2017); *Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1361 (Fed. Cir. 2015); *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1358 (Fed. Cir. 2016); *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014); *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014); *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012); *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012); *Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015).

C. A Split Has Developed at the Federal Circuit: Now a Sizable Faction Views the Specification as Scope-Limiting—Even Absent Disavowal or Lexicography.

The Federal Circuit has applied an alternate claim construction methodology in some cases. Under this alternate framework, the specification may be used to narrow the scope of a claim term's plain and ordinary meaning based on what the court views as the "actual invention" described in the specification—regardless of whether the statements in the specification meet the stringent requirements of the lexicography or disavowal exceptions.

For example, in *Retractable Techs.*, the Federal Circuit narrowly construed the claim term "hollow syringe body" to be limited to a one-piece body based on statements in the specification. *Retractable Techs., Inc. v. Becton Dickinson & Co.*, 653 F.3d 1296, 1304–05 (Fed. Cir. 2011). The Federal Circuit reversed the district court, which found that the term "body" encompassed one-piece or multiple-piece structures. In doing so, the Federal Circuit did not rely on a disavowal or lexicography rationale. Instead, it held that claim construction requires courts to look to the *specification* to determine the outer bounds of the patent rights: "In reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of the claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention." *Id.* at 1305. According to the Federal Circuit in *Retractable Techs.*, courts must construe claims in a manner that "tether[s] the claims to what

the specifications indicate the inventor actually invented." *Id.*

Similarly, in *On Demand Mach. Corp.*, the Federal Circuit expressly found that its en banc *Phillips* decision "stressed the dominance of the specification in understanding the scope and defining limits of the terms used in the claim." *On Demand Mach. Corp. v. Ingraham Indus.*, 442 F.3d 1331, 1337–38 (Fed. Cir. 2006). The *On Demand* court broadly pronounced that "[i]n general, the scope and outer boundary of claims is set by the patentee's description of his invention." *Id.* at 1338, 1340 ("the claims cannot be of broader scope than the invention that is set forth in the specification.").

Sitting en banc in 2005, the Federal Circuit attempted to resolve the significant uncertainty surrounding the proper approach to claim construction. The *Phillips* decision, however, offered a little something for both camps.

On the one hand, the en banc *Phillips* court noted the primacy of the claims:

- "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'"
- "The written description part of the specification itself does not limit the right to exclude. That is the function and purpose of claims."

Phillips, 415 F.3d at 1312 (citations omitted).

But on the other hand, the *Phillips* court also emphasized the importance of the specification in the claim construction process:

- "[C]laims 'must be read in view of the specification, of which they are a part.'"
- "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"

Id. at 1315.

Therefore, the *Phillips* decision failed to resolve the dispute over the proper role of the specification in the claim-construction analysis. Indeed, cases after *Phillips* have cited it to justify conflicting positions on both sides of the ongoing dispute. *Compare On Demand*, 442 F.3d at 1337 ("Thus the court in *Phillips*, resolving conflict, stressed the dominance of the specification in understanding the scope and defining the limits of the terms used in the claim.*") with Thorner*, 669 F.3d at 1365 ("The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history. . . . There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.") (citing *Phillips*, 415 F.3d at 1313).

The failure of the Federal Circuit to resolve this split was immediately apparent. In fact, in his dissent in *Phillips*, Judge Mayer regretted the fact that the en banc effort had done nothing to resolve the uncertainty: "after proposing no fewer than seven questions, receiving more than thirty amici curiae briefs, and whipping the bar into a frenzy of

expectation, we say nothing new, but merely restate what has become the practice over the last ten years—that *we will decide cases according to whatever mode or method results in the outcome we desire, or at least allows us a seemingly plausible way out of the case*." *Phillips*, 415 F.3d at 1330 (emphasis added); *see also* R. Polk Wagner, The Two Federal Circuits, 43 Loy. L.A. L. Rev. 785, 793–94 (2010) (describing *Phillips* as "a masterful example of contradictory rules hedged by multiple disclaimers that the rules did not really matter").

The cases before and after *Phillips* consistently evidence this marked split at the Federal Circuit and the need for this Court to establish certainty as to whether and how the specification serves to limit the scope of the claims during claim construction:

Category #1: Exemplary cases limiting the plain meaning of the claims based on the specification

In *Retractable Techs.*, the claim language of the independent claim covered a retractable syringe having a "body." The issue was whether the "body" could have multiple pieces or had to be a "one-piece body." A dependent claim in that case expressly required a "one-piece body." 653 F.3d at 1305. The Federal Circuit ignored the doctrine of claim differentiation in favor of its decision to "tether" the claims to specific embodiments taught in the specification. *See id.* ("In this case, while the claims leave open the possibility that the recited 'body' may encompass a syringe body composed of more than one piece, the specifications tell us otherwise.").

In *Toro Co. v. White Consol. Industries, Inc.*, the Federal Circuit considered whether a claim that

recited a cover "including" a restriction ring should be construed to require that the ring be attached to the cover. 199 F.3d 1295, 1299–1302 (Fed. Cir. 1999). The specification described an embodiment with the ring permanently attached to the cover and listed advantages of permanent attachment. *Id.* at 1303–04. The Federal Circuit concluded that the term "including" required attachment, relying on the written description and drawings in the specification. *Id.* at 1301. In his dissent, Judge Rader contended that the majority's interpretation of "including" "cannot be justified by examination of the ordinary meaning of that word or of its accepted use in patent claims, or, especially, by a careful reading of the '528 patent." *Id.* at 1302.

In *Trs. of Columbia Univ. in City of New York v. Symantec Corp.*, the district court narrowly construed the term "byte sequence feature" based on statements in the specification, even though there was no explicit definition or disavowal. 811 F.3d 1359, 1366–67 (Fed. Cir. 2016). The Federal Circuit affirmed, rejecting the argument that a claim term's plain and ordinary meaning can be overcome in only two circumstances: when the patentee has expressly defined a term or has expressly disavowed the full scope of the claim in the specification and the prosecution history. *Id.* at 1363.

Category #2: Exemplary cases refusing to limit the plain meaning of claims based on the specification absent disavowal or lexicography

In *Arlington Indus., Inc. v. Bridgeport Fitting, Inc.*, the majority rejected an attempt to limit the scope of the term "spring metal adaptor" to a split spring metal adaptor, *i.e.*, one that has an opening that

results from not forming a complete circle. 632 F.3d 1246, 1256 (Fed. Cir. 2011). Even though the specification only described the split-adaptor embodiment, the claims were not so limited. Therefore, the majority gave the unambiguous language of the claims the breadth that was staked out. *Id.* ("[t]he written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of the claims."). In his dissent, Judge Lourie protested that the plain meaning of the claims extended beyond his view of the invention described in the specification. *Id.* at 1257–58.

In *Azure Networks, LLC v. CSR PLC*, the Federal Circuit found that the claim term "MAC Address" was entitled to its accustomed meaning in the industry. 771 F.3d 1336, 1347–50 (Fed. Cir. 2014). Reversing the district court's narrow, specification-based construction, the Federal Circuit held that "[d]eparture from the ordinary and customary meaning is permissible only when the patentee has acted as his own lexicographer or disavowed claim scope in the specification or during the prosecution history." In his dissent, Judge Mayer disagreed, finding that the specification "repeatedly and unambiguously" referred to a narrow sense of "MAC Address." *Id.* at 1350–51. In his opinion, patent claims cannot "enlarge what is patented beyond what the inventor described [in the specification] as the invention." *Id.* at 1352.

Similarly, in *Interdigital Commc'ns, LLC v. ITC*, the Federal Circuit gave the claim term "code" its plain and ordinary meaning despite the specification's repeated references to "spreading

codes." 690 F.3d 1318, 1324–27 (Fed. Cir. 2012). According to the court, "the inventors' failure to include a reference to the alternative embodiment in the specification does not justify excluding that embodiment from the coverage of the claims." *Id.* at 1328. The court held that "[t]he plain meaning of claim language ordinary controls unless the patentee acts as his own lexicographer and provides a special definition for a particular claim term or the patentee disavows the ordinary scope of a claim term either in the specification or during prosecution." *Id.* at 1324. Therefore, the court reversed the ITC's claim construction, which limited "code" to "spreading code." *Id.* at 1330. Judge Newman dissented, finding that the specification's repeated reference to "spreading code" should have limited the outer scope of the claim. *Id.* at 1330–35. According to Judge Newman, failing to include the alternative embodiment from the specification should have precluded the claim from covering it. *Id.* at 1335.

The Federal Circuit's decision in this case has widened the chasm between these two approaches. Like prior panel decisions that rely heavily on the specification in determining claim scope, the court used its view of the "actual invention" described in the specification to trump the plain meaning of the claim language—even though there was no disavowal or lexicography. But this Federal Circuit panel pushed the envelope even further: its narrow, specification-based claim construction effectively read numerous dependent claims entirely out of the patent. Specifically, the Federal Circuit excluded direct standardization from the claims, even though dependent claims expressly stated that direct standardization was part of the claimed invention.

This result demonstrates the utter lack of uniformity and predictability under the Federal Circuit's current approach to claim construction.

D. This Case Typifies the Flawed and Arbitrary Results that Occur When Courts Attempt to "Tether" a Claim to the Specification.

Relying on decisions falling into Category #1 above, the panel determined that the independent claims of the '126 patent cover only *indirect* standardization—a scope far narrower than explicitly claimed. The panel decided this narrowing was necessary to "tether" the claims to the descriptions provided in the specification. In reality, however, this simply narrowed the claims to a particular embodiment taught in the specification. Describing this practice as "tethering" makes it no more permissible under this Court's claim construction precedent. *See, e.g., White*, 119 U.S. at 51–52 ("The context [provided in the specification] may, undoubtedly, be resorted to, and often is resorted to, for the purpose of better understanding the meaning of the claim; *but not for the purpose of changing it, and making it different from what it is*.") (emphasis added).

The panel's approach to claim construction in this case demonstrates just how problematic and unpredictable the results of tethering can be. In addition to narrowing the scope of the claims based on its purely subjective, lay assessment of the "actual invention" described in the specification, the panel's decision (1) was not based on any argument advanced by OptumInsight or briefed by the parties at the district court or on appeal; (2) directly contradicted explicit dependent claim language covering direct standardization; (3) conflicted with

the construction approved by two different district courts; and (4) ignored the jury's finding that the patent contains written description support for *both* direct and indirect standardization.

E. The Concerns Underlying the Federal Circuit's Specification-Based Approach Are Properly Addressed through the Validity Analysis, Not Claim Construction.

There is no dispute that the government should only reward inventors with patent rights covering subject matter that they actually invented. This axiom seems to be the primary spur for the Federal Circuit's specification-based approach to claim construction. Judge Lourie succinctly articulated this concern in his dissent in *Arlington Indus.*:

> The bottom line of claim construction should be that the claims should not mean more than what the specification indicates, in one way or another, the inventors invented.

632 F.3d at 1258.

> The specification is the heart of the patent. In colloquial terms, "you should get what you disclose."

Id. at 1257*; see also On Demand Mach. Corp.*, 442 F.3d at 1340 ("the claims cannot be of broader scope than the invention that is set forth in the specification.").

But concerns that an inventor has staked out the claimed subject matter too broadly are necessarily and appropriately addressed by the statutory provisions set forth under §§ 101, 102, 103, and 112.

The claim scope resulting from the unambiguous claim language intentionally used by the inventor is no doubt fair game for scrutiny under these statutory sections. Indeed, the sole purpose for the written description and enablement requirements is to address this very problem. *Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Atlantic Research Mktg. Sys., Inc. v. Troy*, 659 F.3d 1345, 1354 (Fed. Cir. 2011) ("The purpose of the written description requirement is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent specification.") (citation omitted); *Nat'l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195–96 (Fed. Cir. 1999) ("The enablement requirement ensures that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.").

If claims were limited through claim construction to what was disclosed in the specification, then no claim would ever be found invalid under § 112 for want of adequate written description.[8] Yet inventors are frequently penalized for broadly claiming subject matter that extends beyond the support in their

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[8] Judge Rader (former Chief Judge of the Federal Circuit) described this irreconcilable inconsistency between the Federal Circuit's specification-based claim construction approach and the written description invalidity doctrine as "an undeniable conflict of monumental proportions." *Ariad Pharm.*, 598 F.3d at 1364 (Rader, J., dissenting-in-part and concurring-in-part).

specification.[9] The penalty, however, is a loss of patent rights resulting from an invalidity ruling—not a narrow claim construction. As this Court held in *O'Reilly v. Morse*, "He can lawfully claim only what he has invented and described, and if he claims more his patent is void." 56 U.S. 62, 121 (1853).

Under the second paragraph of § 112, the claims identify the subject matter that the inventor regards as the invention. In construing the claims, a court is determining the metes and bounds intentionally staked out by the inventor in the claims. The statutory patentability requirements amply address any concerns that an inventor has set these boundaries too broadly. For example, if this subject matter turns out not to constitute an actual invention (*i.e.*, is not novel or would have been obvious to one of ordinary skill in the art), then the claim is invalid under § 102 or § 103. If the subject matter identified by the inventor broadly covers an abstract idea or law of nature, the claim is invalid under § 101. And if the inventor claims subject matter that is not adequately described or enabled by the description in the specification, then invalidity under the first paragraph of § 112 results.

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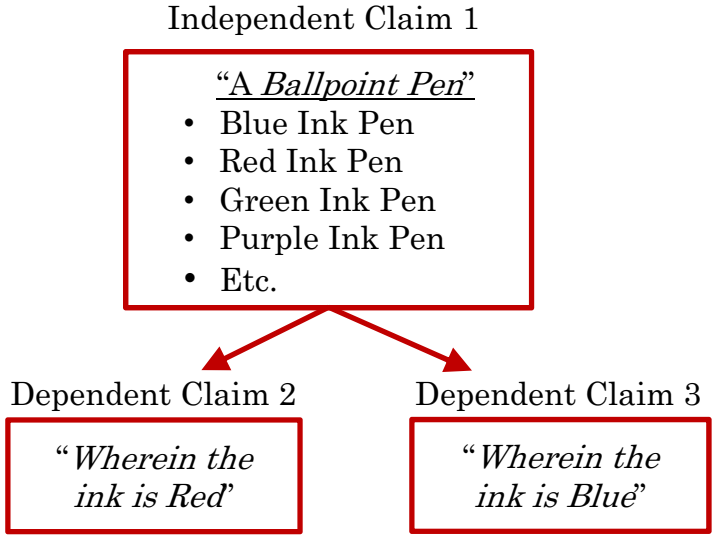
[9] *See, e.g., Atlantic Research Mktg. Sys.*, 659 F.3d at 1354–55 (refusing to narrow the plain meaning of the claims, then finding that the resulting scope lacked written-description support in the specification); *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377–78 (Fed. Cir. 2009) (invalidating claims whose plain meaning covered "spikeless" valve configurations that were not adequately described in the specification, which only described valves having spikes).

II. This Case is an Ideal Vehicle to Resolve this Fundamental Issue.

A. The Claims Here Unmistakably Pronounce Dr. Cave's Intention to Include at Least Direct and Indirect Standardization as the Subject Matter that He "Regards as His Invention."

This case epitomizes the flawed specification-based approach to claim construction. Here, there is no dispute as to what the inventor regarded as his invention when submitting his claims under § 112, ¶2. In his claims, Dr. Cave used the term "weighted episode of care statistics" broadly. He purposefully did not limit it to the indirect standardization methodology described as his best mode in the specification. Removing any possibility for doubt, Dr. Cave also included dependent claims that expressly covered direct standardization and another set of dependent claims that expressly covered indirect standardization. C.A. Appx. 1460.

To summarize the claim structure that Dr. Cave employed here, consider the following analogy:



The language Dr. Cave chose to particularly point out and distinctly claim the subject matter that he "regards as his invention" leaves no doubt as to the intended scope. Just as the configuration of independent and dependent claims above require the independent claim to cover at least red ink and blue ink pens, so too do the claims of the '126 patent mandate that the independent claims cover both indirect and direct standardization techniques.

B. The Federal Circuit Expressly Noted that It Was Not Relying on Either the Disavowal or Lexicography Exceptions for Its Narrow Claim Construction.

In many cases, it can be difficult to ascertain whether or not a court's narrow claim construction ruling was based on the lexicography or disavowal exceptions. Here, by contrast, it is indisputable that the Federal Circuit's claim-construction ruling did not apply either exception.

In response to CCGroup's arguments as to why there was no disavowal here, the Federal Circuit concluded that the "law does not require explicit redefinition or disavowal when the description itself is affirmatively limiting." App. 16a.[10] The Federal Circuit then expressly found that "a finding of a

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[10] The lexicography exception requires that an inventor "'clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning." *Thorner*, 669 F.3d at 1365 (citations omitted). "It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must 'clearly express an intent' to redefine the term." *Id.* The Federal Circuit did not invoke the lexicography exception in this case. App. 13a–18a.

disclaimer is not correct when, as here, the description of the invention itself is affirmatively limiting, and is without *any indication* that direct standardization is within the scope of the invention." *Id.* (underlining added). The use of the specification to limit claim scope in this manner is impossible to reconcile with the actual claim language—expressly covering direct standardization. *See* C.A. Appx. 1460 ('126 patent) at 112:27–29, 113:4–6. The intended claim scope here is unmistakable and unambiguous.

C. This Case Spotlights the Error in the Federal Circuit's Specification-Based Approach to Claim Construction.

The Federal Circuit narrowly construed the claim because it believed that the specification showed the "actual invention" did not include using direct standardization. The rule followed by the Federal Circuit here violates § 112 and the Court's precedent. *See, e.g.*, *White*, 119 U.S. at 52; *Howe Mach. Co.,* 134 U.S. at 394; *Cimiotti Unhairing Co.*, 198 U.S. at 410 (1905); *Motion Picture Patents Co.*, 243 U.S. at 510; *Smith*, 294 U.S. at 11; *Graver Tank*, 336 U.S. at 277.

The Federal Circuit's decision here also cannot be reconciled with post-*Phillips* Federal Circuit cases, like *Thorner*, recognizing that "absent a clear disavowal or alternative lexicography by a patentee, he or she 'is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning.'" *Wasica, Inc.*, 853 F.3d at 1281–82 (quoting *Thorner*, 669 F.3d at 1367). This split needs to be resolved to establish uniformity on this important issue. Under the correct legal standard, the district court's claim construction was correct and should have been affirmed.

1. This case presents the issue better than previous cases.

This case presents a better vehicle for resolving this issue than prior cases. For example, this case is a better vehicle than *Becton, Dickinson and Co. v. Retractable Techs., Inc.,* 568 U.S. 1085 (2013) (denying cert). In *Retractable Techs.*, the claim language of the independent claim covered a retractable syringe having a "body." The issue was whether the "body" could have multiple pieces or had to be a "one-piece body."

A dependent claim in that case expressly required a "one-piece body." *Retractable Techs.*, 653 F.3d at 1305. Under the doctrine of claim differentiation, however, this merely gave rise to an *implication* that "body," as used in the independent claim, was intended to encompass more than just one-piece bodies. *Id.* The court expressly noted that "none of the claims expressly recite a body that contains multiple pieces." *Id.* Because of this, the court believed that it could graft the one-piece limitation from the specification onto the arguably ambiguous claim term "body." *See id.* ("In this case, while the claims leave open the possibility that the recited 'body' may encompass a syringe body composed of more than one piece, the specifications tell us otherwise."). Had an express claim to a multiple-piece body been present, it would have foreclosed the possibility that the claims were not intended to encompass this subject matter. Therefore, though driven by a desire to tether the claims to what the specification indicated the inventor "actually invented," the court would not have reached the

same conclusion if the hypothetical "multiple piece body" claim was present. *See id.*[11]

This case embodies the exact hypothetical posed in *Retractable Techs.*: the dependent claims expressly require direct-standardization weighting. Therefore, the dependent claim does not give rise to a mere presumption or inference that the independent claim term is broader than the dependent claim, but instead demonstrates that the independent claim must be *at least as broad* as the dependent claims. Because both weighting techniques are explicitly included in separate dependent claims, the subject matter defined in both of these claims is necessarily encompassed by the independent claim. The Federal Circuit erred by ignoring this express claim language and instead narrowing the independent claim to a specific embodiment based on its subjective interpretation of the "actual invention" taught by the specification.

2. The Federal Circuit maintained its blinkered focus on the specification despite the logical and legal barriers to its narrow claim construction.

This case reveals the extent to which some courts will exploit the specification to disregard the intended meaning of the claim and reach a desired

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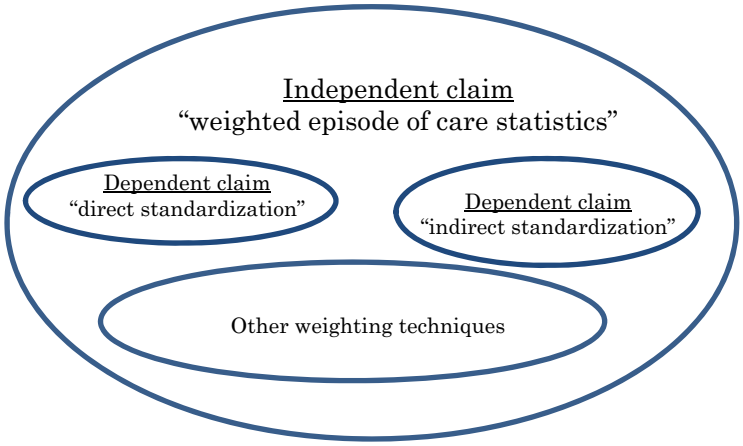
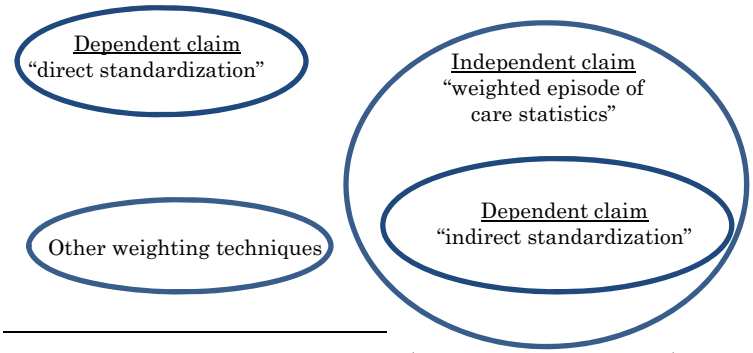
[11] Similarly, the other case relied on by the Federal Circuit expressly noted that "construing the independent claim to exclude material covered by the dependent claim would be inconsistent." *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1370 (Fed. Cir. 2016). That is precisely the result of the Federal Circuit's claim construction in the present case.

result.[12] The Federal Circuit's claim construction in this case effectively erased or invalidated the dependent claims expressly covering direct standardization. Under § 112, ¶4 (Pre-AIA), "[a] claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." But the Panel excised the subject matter of the dependent claim from the scope of the independent claim, as illustrated below:

District Court's Construction



Federal Circuit's Claim Construction



[12] *See Phillips*, 415 F.3d at 1330 (H. Mayer, dissenting).

This illogical result violates fundamental tenets of claim construction by eliminating the direct-standardization claims from the patent without overcoming the presumption of validity under § 282.[13] Under the ink-pen analogy, the Federal Circuit read blue pens out of the scope of the independent claim, despite the existence of a dependent claim specifically directed to the blue-ink embodiment.

Perhaps recognizing that the dependent claims[14] logically foreclosed its conclusion, the Federal Circuit disregarded them as "later-added dependent claims" that must yield to the claim scope "prescribed by the specification." App. 17a ("Although generally not dispositive, the fact that the dependent claims . . . were added after the filing of the original application is significant here."). To support its decision, the Federal Circuit incorrectly relied on precedent regarding whether claims constitute part of the original disclosure for purposes of determining compliance with the *written-description requirement* under § 112. *Id.* (citing *In re Koller*, 613 F.2d 819,

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[13] The district court recognized that limiting the independent claims to indirect standardization would "read out the nine dependent claims relying on direct standardization." App. 162a.

[14] These dependent claims were added during prosecution and accompanied by an explanation of the direct and indirect standardization techniques being claimed. *See* C.A. Appx. 850. The district court found that this prosecution history made it "clear that Dr. Cave intended both direct and indirect standardization to be claimed in the '126 patent." App. 161a. The Federal Circuit improperly brushed aside this intrinsic evidence as contrary to its view of the specification.

823 (C.C.P.A. 1980)). But the Federal Circuit cited no authority for giving the plain meaning of claim language less weight in the claim-construction analysis for non-original claims than for original claims.

The Federal Circuit's unsupported rule would have broad-ranging consequences for inventors who—during patent prosecution—engage in an ongoing negotiation with the Patent Office. During this process, non-original claim language is routinely added through amendments and new claims. The idea that such language is less entitled to its plain meaning than original claim language is illogical, legally baseless, and fraught with negative repercussions for future patent prosecution before the Patent Office and claim construction before the courts.

The Federal Circuit also relied heavily on the fact that the specification attributes potential errors to direct standardization to justify its narrow construction. *See* App. 16a (citing '126 patent at 1:50–51, 2:32–34). This rationale also lacks legal support. The possible error resulting from direct standardization was only one of ten different errors that were attributed to the prior-art systems and addressed by the patented system. C.A. Appx. 1405 ('126 patent) at 1:46–59. But "the fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives." *Phillips*, 415 F.3d at 1327; *see also AllVoice Computing PLC v. Nuance Commc'ns, Inc.,* 504 F.3d 1236, 1248 (Fed. Cir. 2007) ("[E]very

claim need not contain every feature taught in the specification.").

Indeed, as the specification explains, there were a number of problems in the field at the time of the invention. The Federal Circuit has cautioned against "giving invention-defining effect to specification language included for other descriptive and enablement purposes." *See Straight Path IP*, 806 F.3d at 1361. With the specification, inventors strive to provide the public with a robust disclosure for purposes of enabling the practice of the invention and disclosing their best mode. A patentee's rights should not be subject to the whim of a particular court's view of the "actual invention" gleaned from this disclosure—especially when the patent uses clear and unambiguous language in its claims to delineate the scope of its exclusionary rights. *See Ariad Pharm.,* 598 F.3d at 1347 ("Claims define and circumscribe, the written description discloses and teaches."); *Phillips*, 415 F.3d at 1323 ("To avoid importing limitations from the specification into the claims, it is important to keep in mind the purposes of the specification are to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so.").

D. This Case Highlights the Undue Uncertainty Caused by the Federal Circuit's Flawed Claim Construction Analysis, which Continues to Erode the Public-Notice Function of Patent Claims.

Uniformity is critical for our patent system. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996) ("The limits of a patent must be known for the protection of the patentee, the

encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public.") (quoting *General Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938)). Judges and commentators alike have noted the uncertainty caused by the Federal Circuit's methodological split.[15]

This case exemplifies the extreme inefficiencies and adverse effects caused by this uncertainty—even for plainly worded claims. CCGroup disclosed Dr. Cave's inventive methodology for physician efficiency systems to the public in exchange for patent protection. The Patent Office issued the '126 patent to CCGroup in 2010.

CCGroup filed this lawsuit in 2011 against OptumInsight, a subsidiary of UnitedHealthcare infringing CCGroup's patented methodology. CCGroup litigated this case through trial and obtained a jury verdict in its favor on infringement and numerous validity issues. CCGroup has

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[15] *See, e.g. Retractable Techs,* 659 F.3d 1369, 1370 (Fed. Cir. 2011) (Moore, J., dissenting from denial of rehearing en banc) (noting this conflict and citing articles addressing it); Greg Reilly, *Judicial Capacities and Patent Claim Construction: An Ordinary Reader Standard*, 20 Mich. Telecomm. & Tech. L. Rev. 243, 260–64 (2014) (describing the split and noting the attendant problems of "high reversal rates, unpredictability before litigation, uncertainty in litigation, appellate panel dependence, disincentives to settle, and increased litigation and costs."); Russell B. Hill & Frank P. Cote, *Ending the Federal Circuit Crapshoot: Emphasizing Plain Meaning in Patent Claim Interpretation*, 42 IDEA 1, 1 (2002) (describing the "palpable inter-panel tension" at the Federal Circuit on this issue, which "encourages wasteful litigation and saps judicial resources").

invested significant time and money in reliance on the scope of its patent rights—which are described in unambiguous claim language examined and approved by the Patent Office. Two district courts reinforced CCGroup's reliance, by affirming that the claims indeed meant what they said. The jury found that OptumInsight infringed CCGroup's patent and upheld the patent's validity under this meaning. Then, earlier this year, a three-judge panel of the Federal Circuit concluded that, in its view, the "actual invention" described in the specification differed from the plain claim language—a position OptumInsight had not even pursued before the district court or on appeal.

This case exposes just how volatile the boundaries defining U.S. patent rights are under the Federal Circuit's inconsistent claim-construction precedent. More stability and predictability is needed.

CONCLUSION

CCGroup respectfully requests the Court to grant its petition and clarify the proper role of the specification in claim construction.

Respectfully submitted,

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APPENDIX

APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, DATED MARCH 21, 2018

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1060

CAVE CONSULTING GROUP, LLC,

Plaintiff-Appellee,

v.

OPTUMINSIGHT, INC., FKA INGENIX, INC.,

Defendant-Appellant.

March 21, 2018, Decided

Appeal from the United States District Court for the Northern District of California in No. 5:11-cv-00469-EJD, Judge Edward J. Davila.

Before LOURIE, DYK, and TARANTO, *Circuit Judges.*

LOURIE, *Circuit Judge.*

OptumInsight, Inc. ("Optum") appeals from the final judgment by the United Stated District Court for the Northern District of California. *See Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD (N.D.

Cal. Apr. 6, 2015), ECF No. 370; J.A. 1. The judgment follows a jury verdict in favor of Cave Consulting Group, LLC ("Cave") that U.S. Patent 7,739,126 ("the '126 patent") is not invalid and was infringed by Optum, awarding Cave $12,325,000 in damages. *See Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD (N.D. Cal. Apr. 3, 2015), ECF No. 366; J.A. 81-85.

On appeal, Optum challenges the district court's various rulings, including a claim construction order, *see Cave Consulting Group, Inc. v. Ingenix, Inc.*, No. 5:11-cv-00469-EJD, 2013 U.S. Dist. LEXIS 80634, 2013 WL 2467930 (N.D. Cal. June 7, 2013) ("*Claim Construction Order*"), orders on summary judgment motions, *see Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD, 2015 U.S. Dist. LEXIS 21514, 2015 WL 740379 (N.D. Cal. Feb. 20, 2015) ("*SJ Order*"); *Cave Consulting Group v. Optuminsight, Inc.*, No. 5:11-cv-00469-EJD, 2015 U.S. Dist. LEXIS 192202 (N.D. Cal. Feb. 23, 2015), ECF No. 293; J.A. 77-79, an order on *Daubert* motions, *see Cave Consulting Group, LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD, 2015 U.S. Dist. LEXIS 21514, 2015 WL 13413389 (N.D. Cal. Feb. 20, 2015) ("*Daubert Order*"), an order on certain pre-trial motions, *see Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD (N.D. Cal. Mar. 16, 2015), ECF No. 332; J.A. 80, and an order on motion for judgment as a matter of law ("JMOL") or for a new trial, *see Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD, 2016 U.S. Dist. LEXIS 120932, 2016 WL 4658979 (N.D. Cal. Sept. 7, 2016) ("*Post-trial Order*"). Because the district court erred in its claim construction, we *reverse in part, vacate in part*, and *remand*.

Appendix A

Background

Cave owns the '126 patent, which discloses "[a] method for measuring physician efficiency and patient health risk stratification." '126 patent Abstract. The '126 patent describes that a physician's "efficiency," *i.e.*, the cost of care by a physician compared to that of a peer group, can be determined by analyzing relevant medical claims data. *Id.* col. 1 ll. 13-46, col. 7 l. 4-col. 9 l. 26. Independent claims 22 and 29 are at issue in this appeal; claim 22 reads as follows:

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

Id. col. 111 l. 55-col. 112 l. 14 (emphases added).

Similarly, claim 29 requires "[a] computer program product" that "perform[s] the acts of" the identical steps of the method delineated in claim 22. *Id.* col. 112 ll. 38-67.

Appendix A

The '126 patent describes its method as employing what it calls a "marketbasket" based on physicians' specialties and discloses calculating "weighted episode statistics" of a peer group and of a physician to determine the physician's efficiency score. *Id.* col. 92 l. 27-col. 94 l. 47. In particular, the '126 patent describes that according to its method of using the "marketbasket," "regardless of a physician's (or peer group's) actual episode work effort, the rule standardizes each physician's actual work effort to a static set of weight factors," and that its method "allows for an apples-to-apples comparison of one physician's marketbasket results to another physician's marketbasket results." *Id.* col. 73 ll. 51-53, 57-61. The patent further states that its calculation of "weighted episode statistics" using the "marketbasket" is "referred to as the indirect standardization rule" and that "[t]he system of the present invention uses an indirect standardization technique for weighting together the episodes within the core group of medical conditions." *Id.* col. 92 ll. 37-41.

As background, the '126 patent discusses the prior art methods that "use a physician's actual episode composition." *Id.* col. 1 ll. 50-51. The patent further discusses, *inter alia*, a type of measurement error, which "occurs in most if not all current efficiency measurement systems, occurs when the physician's actual episode composition is used." *Id.* col. 2 ll. 32-34. On the other hand, the patent states that, in calculating a peer group's "weighted episode statistics," its method "does not use the peer group's actual episode composition to calculate the weighted average. Instead, the predetermined standard marketbasket weights are used." *Id.* col. 93 ll. 12-14. Similarly, in calculating an individual physician's "weighted episode statistics," the

patent states that "the same indirect standardization weighting calculations are performed using the physician's condition-specific utilization and charges per episode and the same specialty-specific marketbasket weights." *Id.* col. 93 ll. 31-35.

In 2011, Cave filed suit against Ingenix, Inc., Optum's predecessor, in the Northern District of California, alleging infringement of the '126 patent. Optum counterclaimed, asserting its own patents against Cave. They were found not to have been infringed and that issue is not before us in this appeal. It is undisputed that Cave and Optum both develop and market software and services that are used to measure efficiency of healthcare providers. Appellant's Br. 3-4; Appellee's Br. 2-3.

In August 2012, the district court held a claim construction hearing. In June 2013, the court issued an order construing, *inter alia*, certain claim limitations of the '126 patent. *See Claim Construction Order*, 2013 U.S. Dist. LEXIS 80634, 2013 WL 2467930. The court construed "weighted episode of care statistics" in claims 22 and 29 as "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," adopting Cave's proposed construction. 2013 U.S. Dist. LEXIS 80634, [WL] at *2-4. In so doing, the court rejected Optum's proposal to construe the limitation as requiring a usage of "predetermined weight factors" rather than the actual episode composition. *Id.* Such requirement would exclude direct standardization from the scope of the claim, and the district court reasoned that doing so would "essentially read out the nine dependent claims that rely on direct standardization." 2013 U.S. Dist. LEXIS 80634,

[WL] at *4. The court, however, agreed with Optum and declined to construe the limitation "determining eligible physicians and episode of care assignments" in claims 22 and 29, adopting the plain meaning of the language of the claim limitation. 2013 U.S. Dist. LEXIS 80634, [WL] at *5-6. In construing these claim limitations, the district court did not rely on any extrinsic evidence. *See* 2013 U.S. Dist. LEXIS 80634, [WL] at *2-6.

In February 2015, the district court issued orders on the parties' motions, including their respective motions to exclude, *see Daubert Order*, 2015 U.S. Dist. LEXIS 21514, 2015 WL 13413389, and summary judgment motions on infringement and validity, *see SJ Order*, 2015 U.S. Dist. LEXIS 21514, 2015 WL 740379. In its summary judgment order, the district court determined, *inter alia*, that Optum had not shown invalidity or noninfringement of the '126 patent at the summary judgment stage. *SJ Order*, 2015 U.S. Dist. LEXIS 21514, 2015 WL 740379, at *3-12, *14-15. The court first rejected Optum's argument that the '126 patent was invalid for anticipation, being on sale or in public use under § 102(b), or due to prior invention by Optum under § 102(g).[1] U.S. Dist. LEXIS 21514, [WL] at *3-12.

As for Optum's noninfringement arguments, the court rejected them. It determined that they were either an attempt to relitigate the claim limitations already construed, or dependent upon the plain meaning of

1. The '126 patent was filed before the effective date of the Leahy-Smith America Invents Act ("AIA"), Pub. L. 112-29, 125 Stat. 284 (2011), and is governed by the prior versions of certain sections of Title 35, including §§ 102 and 112, *see id.*, Pub. L. 112-29, §§ 3(n)(1), 4(e), 125 Stat. at 293, 297.

the limitations not construed by the court and must be understood by the jury from the viewpoint of a skilled artisan. 2015 U.S. Dist. LEXIS 21514, [WL] at *14-15. Thus, the court ruled that, beyond the limitation specifically construed, namely, "weighted episode of care statistics," the remaining language of "calculating weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions," which Optum argued it did not meet, should be understood by the jury according to how a person of ordinary skill in the art would read the limitation. *Id.* The court also rejected Optum's noninfringement argument regarding other limitations, including "determining eligible physicians and episode of care assignments," which the court had decided not to construe. 2015 U.S. Dist. LEXIS 21514, [WL] at *15.

Thereafter, the court issued an order clarifying its *SJ Order*, and granted "[Cave's] motion for summary judgment of validity of the '126 patent under § 102(a), (b), and (g) for the same reasons set forth in the Order." J.A. 77-79. The court also granted Cave's motion to exclude from trial Optum's arguments on whether a certain order of steps should be required to meet the "determining eligible physicians and episode of care assignments" limitation. J.A. 80.

A jury trial was held in March 2015, and, as relevant to this appeal, the jury was instructed on the meaning of the claim limitations as construed in the *Claim Construction Order* and presented with the questions of invalidity of the '126 patent for inadequate written description of "weighted episode of care statistics" under § 112 and

infringement of claims 22 and 29 by Optum's Impact Intelligence software product. *Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 5:11-cv-00469-EJD (N.D. Cal. Apr. 1, 2015), ECF No. 357; J.A. 13444-50. In addition to the claim limitations construed in the *Claim Construction Order*, the jury was also instructed on the meaning of "predefined set of medical conditions." J.A. 13446-47; *see also Post-trial Order*, 2016 U.S. Dist. LEXIS 120932, 2016 WL 4658979, at *5. At the conclusion of the trial, the jury found, *inter alia*, that the limitation "weighted episode of care statistics" does not lack adequate written description support, and that claims 22 and 29 were infringed by Optum. J.A. 82. The jury awarded Cave $12,325,000 in damages. J.A. 83.

Following the jury trial, the parties filed post-trial motions. The district court denied all but part of Cave's motion to amend the judgment, awarding prejudgment interest, supplemental damages, and post judgment interest. *Post-trial Order*, 2016 U.S. Dist. LEXIS 120932, 2016 WL 4658979, at *25-26.

As relevant here, the district court denied Optum's motion for JMOL of noninfringement, noting that Optum did not seek construction of the "calculating weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions for a specific specialty type" limitation or make any argument before the jury on its plain and ordinary meaning. *Post-trial Order*, 2016 U.S. Dist. LEXIS 120932, 2016 WL 4658979, at *4-5. The court concluded that the jury's infringement verdict was supported by the substantial

evidence of Cave's expert testimony that Optum performed that limitation. *Id.* The court further determined that the jury reasonably found that the limitation "weighted episode of care statistics" construed as covering both direct and indirect standardizations was supported by adequate written description because the '126 patent's critical description of direct standardization was not an express disclaimer of direct standardization. 2016 U.S. Dist. LEXIS 120932, [WL] at *7-9.

Optum timely appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

Discussion

On appeal, Optum challenges the district court's claim construction, denial of summary judgment of noninfringement, and, after the jury trial, denial of JMOL of noninfringement. Optum alternatively argues that the district court erred in granting summary judgment when it concluded that the '126 patent is not invalid for being in public use or on sale under § 102(b) or due to prior invention by Optum under § 102(g), which were raised as affirmative defenses. Appellant's Br. 56; Oral Argument at 1:56-2:38, *Cave Consulting Grp., LLC v. OptumInsight, Inc.*, No. 17-1060 (Fed. Cir. Feb. 12, 2018), http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2017-1060.mp3. Optum also challenges the calculation of the damages award.

We conclude that the district court erred in its construction of "weighted episode of care statistics," which resulted in an erroneous finding of infringement based on

undisputed facts. As such, we need not evaluate Optum's challenge to the damages determination, which is now moot. Moreover, because the issue of invalidity under § 102(b) and (g) were raised only as affirmative defenses and because neither party is seeking an adjudication on those issues in case of a finding of noninfringement, we do not reach the invalidity issues under § 102(b) or (g). *See Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 99-102, 113 S. Ct. 1967, 124 L. Ed. 2d 1 (1993). As the Supreme Court noted in *Cardinal Chemical*, "[a]n unnecessary ruling on an affirmative defense is not the same as the necessary resolution of a counterclaim for a declaratory judgment." *Id.* at 93-94. Invalidity was not raised here as a counterclaim.

Furthermore, because our construction of the "weighted episode of care statistics" limitation is dispositive of the infringement issue based on undisputed facts, we need not discuss the proper construction of the "determining eligible physicians and episode of care assignments" limitation, or whether Optum has waived its claim construction argument for that limitation, as Cave has argued.

We will discuss the construction of "weighted episode of care statistics" and infringement issues in turn. We apply the law of the regional circuit in patent appeals "unless the issue pertains to or is unique to patent law." *AbbVie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1295 (Fed. Cir. 2014) (internal quotation marks and citation omitted). We review a district court's denial of a motion for JMOL under the law of the

regional circuit in which it sits, here, the Ninth Circuit. *See SimpleAir, Inc. v. Sony Ericsson Mobile Commc'ns AB*, 820 F.3d 419, 424 (Fed. Cir. 2016). The Ninth Circuit reviews a denial of JMOL *de novo*, viewing "the evidence in the light most favorable to the nonmoving party" and "draw[ing] all reasonable inferences in that party's favor," and a jury's verdict for substantial evidence. *EEOC v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009) (internal quotation marks and citation omitted). A grant of post-verdict JMOL is proper only if "there is no legally sufficient basis for a reasonable jury to find for that party on that issue." *Winarto v. Toshiba Am. Elecs. Components, Inc.*, 274 F.3d 1276, 1283 (9th Cir. 2001) (quoting *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 149, 120 S. Ct. 2097, 147 L. Ed. 2d 105 (2000)) (internal quotation marks and citation omitted).

"The ultimate construction of claim language is a question of law reviewed de novo, based upon underlying factual determinations reviewed for clear error." *SimpleAir*, 820 F.3d at 425 (citing *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837-39, 190 L. Ed. 2d 719 (2015)). In construing claims, courts follow the principles set forth in *Phillips v. AWH Corp.*, starting with the language of the claims "read in view of the specification, of which they are a part." 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (1995) (en banc), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996)) (internal quotation marks omitted). Accordingly, if a district court's claim construction was based only on intrinsic evidence, and was reached without making any underlying factual

findings relying on extrinsic evidence, as the court did here, we review the court's claim construction without deference. *SimpleAir*, 820 F.3d at 425 (citing *Teva*, 135 S. Ct. at 842; *CardSoft, LLC v. VeriFone, Inc.*, 807 F.3d 1346, 1350 (Fed. Cir. 2015)).

"Where an infringement verdict relies on an incorrect claim construction, and no reasonable jury could have found infringement under the proper claim construction, this court may reverse the district court's determination with respect to JMOL without remand." *Id.* (citing *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1333 (Fed. Cir. 2008)).

I. Construction of "weighted episode of care statistics"

Optum argues that the district court erred in its claim construction because this limitation when read in light of the specification excludes direct standardization. Optum contends that the patentee distinguished his invention from, and disparaged the prior art methods that use, direct standardization, and repeatedly referred to his invention as using indirect standardization. Optum notes that at the time of filing, the specification, including the original claims, did not purport to claim direct standardization as part of the invention, and that only after five years following the filing date, did the patentee add dependent claims reciting "direct standardization." According to Optum, the district court erred in relying on these later-added dependent claims in construing the independent claims. Optum further argues that the district court's construction cannot stand because, if the claim limitation

is interpreted to include direct standardization, it would lack adequate written description.

Cave responds that the district court did not err in its claim construction because the method using indirect standardization described in the specification is merely a preferred embodiment, as demonstrated in the patent itself and prosecution history. Cave argues that because the language of the independent claims itself is not limiting and because direct standardization is one way of "weight[ing]," the limitation should be construed to include direct standardization. Cave further contends that the dependent claims that specifically recite "direct standardization" support its reading of the independent claims, as noted by the district court. Cave also urges that the description of the prior art methods using direct standardization, which in some cases may lead to error according to the specification, does not amount to a disclaimer, which must be clear and unmistakable. According to Cave, because direct standardization was a known weighting technique, the written description requirement was met under the court's claim construction despite the patent's critical reference to direct standardization.

We agree with Optum that the district court erred in construing "weighted episode of care statistics" as including direct standardization. The district court first discussed that the critical description of direct standardization in the patent does not necessarily amount to a disclaimer. *Claim Construction Order*, 2013 U.S. Dist. LEXIS 80634, 2013 WL 2467930, at *4. In reaching the conclusion that the claim limitation should include

direct standardization, however, the district court's only support was from the dependent claims, based on the reasoning that the court should differentiate the scope of the dependent claims from that of the independent claims to preserve the validity of the dependent claims. *Id.* The error underlying this analysis is the district court's presumption of a broad and non-limiting reading of "weighted episode of care statistics" with respect to direct versus indirect standardization.

Claim language is not read in isolation. *Phillips*, 415 F.3d at 1315. Here, the claim limitation when read in light of the specification elucidates the meaning of the claim language as used by the patentee. As both parties agree, the '126 patent describes its method as one that employs indirect standardization. Cave characterizes this undisputed fact as the patent's description of merely *one embodiment*, presumably one out of many. However, this contention is unpersuasive. The patent in its specification affirmatively limits its method to one that uses one particular technique, namely, indirect standardization, as opposed to another used in prior art methods.

Cave does not identify, nor do we find, *any* indication in the '126 patent's description that its invention employs direct standardization, and, other than the dependent claims, Cave's support for including direct standardization comes exclusively from the description of the prior art methods in the background section. *See* Appellee's Br. 31-32. Indeed, the '126 patent repeatedly and consistently describes that the calculation of "weighted episode statistics" according to its method uses indirect

standardization. '126 patent col. 92 ll. 39-41, col. 93 ll. 12-14, 31-35. Moreover, the patent's distinguishing its method that uses indirect standardization from the purportedly error-generating prior art methods that use direct standardization further demonstrates that the scope of this "weighted" feature of the invention is affirmatively limited to indirect standardization. *Compare id.*, *with id.* col. 1 ll. 50-51, col. 2 ll. 32-34; *see also Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (construing the claim limitation in question to "tether the claims to what the specifications indicate the inventor actually invented").

Cave's argument that finding a disclaimer through a "clear and unmistakable" disavowal is required for Optum's argument to prevail is also unpersuasive. Contrary to Cave's contention, although "[i]n general, statements about the difficulties and failures in the prior art, *without more*, do not act to disclaim claim scope," *Retractable Techs.*, 653 F.3d at 1306 (emphasis added), "[o]ur case law does not require explicit redefinition or disavowal" when *the description itself* is affirmatively limiting, *Trs. of Columbia Univ. in City of N.Y. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016). Here, the specification does more than discuss certain disadvantages of the prior art methods. It distinguishes its invention from them, particularly pointing out what the invention does not use. Thus, we conclude that a finding of a disclaimer is not correct when, as here, the description of the invention itself is affirmatively limiting, and is without *any indication* that direct standardization is within the scope of the invention.

Furthermore, certain canons of claim construction apparently employed by the district court also do not compel a contrary result. Canons of claim construction, such as the doctrine of claim differentiation and the canon of interpreting claims to preserve their validity, are not absolute. *See, e.g., Howmedica Osteonics Corp. v. Zimmer, Inc.*, 822 F.3d 1312, 1323 (Fed. Cir. 2016) (noting that the doctrine of claim differentiation merely creates "a rebuttable presumption that may be overcome by a contrary construction dictated by the written description or prosecution history") (citation omitted). Although generally not dispositive, the fact that the dependent claims relied upon by Cave were added after the filing of the original application is significant here. It is true that the written description and the originally filed claims are part of the specification. *In re Koller*, 613 F.2d 819, 823 (CCPA 1980). And, had the originally filed application, including the original claims, in *any* way indicated that its invention included direct standardization, the later-added dependent claims specifically claiming "direct standardization" could have lent support to Cave's contention that the independent claims cover direct standardization. However, in view of the specification's consistently limiting description, we conclude that these interpretive canons, despite the later-added dependent claims, cannot overcome the claim scope that is unambiguously prescribed by the specification.

The prosecution history also does not require a different conclusion. Cave's only reference in the prosecution history is a single passing remark by the applicant that states that the disclosed calculation that uses indirect standardization is "[o]ne embodiment of the present invention." J.A. 850. This remark alone, with no

substantive elaboration on what the patented invention is, has little value. As discussed above, we decline to adopt Cave's argument relying on its post-hoc characterization of the entirety of what is disclosed in the patent as only "one embodiment."

We therefore conclude that the district court erred in construing "weighted episode of care statistics" and that that limitation does not encompass direct standardization. We also conclude that the jury verdict that there was no lack of written description support in the patent cannot stand to the extent that it relied on the erroneous claim construction.

II. Infringement

It is undisputed that Optum's method performs direct standardization. Appellant's Br. 37 (quoting J.A. 13185-86 (Cave's closing argument)). Furthermore, Cave does not argue that any factual dispute remains if "weighted episode of care statistics" is interpreted to exclude direct standardization. Oral Argument at 29:10-23, *Cave Consulting Grp.*, No. 17-1060 (Fed. Cir. Feb. 12, 2018).

The jury's infringement verdict was based on the district court's erroneous construction of "weighted episode of care statistics," J.A. 13444-50, applied to the undisputed fact that Optum performs direct standardization. As such, the infringement verdict cannot stand as a matter of law because no reasonable jury could find that Optum infringes claims 22 and 29 of the '126 patent under the correct construction of "weighted episode

of care statistics," which excludes direct standardization. *See SimpleAir*, 820 F.3d at 425.

We therefore conclude that Optum does not infringe claims 22 and 29 of the '126 patent as a matter of law.

Conclusion

For the foregoing reasons, we reverse the district court's claim construction in part, vacate the jury verdict to the extent that it was based on the district court's incorrect claim construction, and vacate the judgment of infringement and award of damages. We remand with instructions to enter judgment of noninfringement in favor of Optum.

REVERSED IN PART, VACATED IN PART, AND REMANDED

Costs

Costs to Optum.

APPENDIX B — ORDER OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED SEPTEMBER 7, 2016

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

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

CAVE CONSULTING GROUP, LLC,

Plaintiff,

v.

OPTUMINSIGHT, INC.,

Defendant.

September 7, 2016, Decided
September 7, 2016, Filed

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;

Appendix B

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.

Appendix B

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.

Appendix B

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:
>
> > 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

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.

> 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.

Appendix B

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.*, No. 12-cv-0630-LHK, 2014 U.S. Dist. LEXIS 22938, 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 U.S. Dist. LEXIS 31461, 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.

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

> 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 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 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.*

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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.

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, 195 L. Ed. 2d 278 (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, 287-88 (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 Elecs. Co., Ltd.*, No. 5:12-cv-00630, 2014 U.S. Dist. LEXIS 24506, 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. 2014 U.S. Dist. LEXIS 24506, [WL] 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 U.S. Dist. LEXIS 24506, 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. American Maize-Products 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).

Appendix B

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, 120 S. Ct. 2097, 147 L. Ed. 2d 105 (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, 187 L. Ed. 2d 703 (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]

4. To the extent that Optum believes that CCGroup's counsel's statements were so improper that they require a new trial, Optum

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 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,

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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).

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, 86 S. Ct. 684, 15 L. Ed. 2d 545 (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 Inc.*, 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.

Appendix B

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." *Presidio Components, Inc. v. Am. Tech. 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 [TEXT REDACTED BY THE COURT] 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 [TEXT REDACTED BY THE COURT] 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 [TEXT REDACTED BY THE COURT] Dkt. No. 385-13 at § 2(b)(1). Here, [TEXT REDACTED BY THE COURT] is licensed in the health plan market. [TEXT REDACTED BY THE COURT] *Id.* at §§ 1(ii), 2(b)(3). Similarly, CCGroup's re-licensor agreement with [TEXT REDACTED BY THE COURT] 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 [TEXT REDACTED BY THE COURT] profit margin" over its history. Dkt.

No. 407-19 at 6; Dkt. No. 407-4 at 390:15-21. Moreover, between 2007 and 2013, [TEXT REDACTED BY THE COURT] and had [TEXT REDACTED BY THE COURT] 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 U.S. Dist. LEXIS 2239, 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. v. Medtronic, Inc.*, No. 95-cv-03577, 2008 U.S. Dist. LEXIS 88892, 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 [TEXT REDACTED BY THE COURT]. 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 U.S. Dist. LEXIS 2239, 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, 94 S. Ct. 1879, 40 L. Ed. 2d 315 (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, Inc.*, 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." *Itron, Inc. v. Benghiat*, No. 99-cv-0501, 2003 U.S. Dist. LEXIS 15039, 2003 WL 22037710, at *16 (D. Minn. Aug. 29, 2003); *see also Eolas Techs. Inc. v. Microsoft Corp.*, No. 99-cv-0626, 2004 U.S.

Dist. LEXIS 534, 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, 103 S. Ct. 2058, 76 L. Ed. 2d 211 (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 Group*, 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

Appendix B

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

/s/ Edward J. Davila
EDWARD J. DAVILA
United States District Judge

APPENDIX C — JUDGMENT OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED APRIL 6, 2015

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

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

CAVE CONSULTING GROUP, LLC,

Plaintiff,

v.

OPTUMINSIGHT, INC.,

Defendant.

JUDGMENT

The issues in this action having been tried and the jury having rendered a verdict in favor of Plaintiff and against Defendant (Docket Item No. 366);

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that judgment is entered in favor of Plaintiff. The Clerk shall close this file.

IT IS SO ORDERED.

Dated: April 6, 2015

Appendix C

/s/_____
EDWARD J. DAVILA
United States District Judge

APPENDIX D — SPECIAL VERDICT FORM OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED APRIL 3, 2015

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

CASE NO. 5:11-CV-0469-EJD

CAVE CONSULTING GROUP, INC.,

Plaintiff/Counterclaim Defendant,

v.

OPTUMINSIGHT, INC., f/k/a INGENIX, INC.,

Defendant/Counterclaim Plaintiff.

SPECIAL VERDICT FORM

When answering the following questions and filling out this Verdict Form, please follow the directions provided throughout the form. Your answer to each question must be unanimous. Some of the questions contain legal terms that are defined and explained in detail in the jury instructions. Please refer to the jury instructions if you are unsure about the meaning or usage of any legal term that appears in the questions below.

Appendix D

We, the jury, unanimously agree to the answers to the following questions and return them under the instructions of this court as our verdict in this case.

PART I: FINDINGS REGARDING CCGROUP'S '126 PATENT

1. Has CCGroup proven by a preponderance of the evidence that OptumInsight infringes claim 22 of CCGroup's '126 Patent? ("Yes" is a finding for CCGroup, "No" is a finding for OptumInsight.)

Yes ___✔___ No _____

2. Has CCGroup proven by a preponderance of the evidence that OptumInsight infringes claim 29 of CCGroup's '126 Patent? ("Yes" is a finding for CCGroup, "No" is a finding for OptumInsight.)

Yes ___✔___ No _____

3. Has OptumInsight proven by clear and convincing evidence that CCGroup's '126 Patent does not contain an adequate written description of the claim term "applying a first maximum duration rule to identify episodes of care"? ("Yes" is a finding for OptumInsight, "No" is a finding for CCGroup.)

Yes _____ No ___✔___

4. Has OptumInsight proven by clear and convincing evidence that CCGroup's '126 Patent does not contain an adequate written description of the claim term "weighted episode of care statistics"? ("Yes" is a finding for OptumInsight, "No" is a finding for CCGroup.)

Yes _____ No __✔__

If you find that OptumInsight infringes Claim 22 of the '126 patent ("Yes" to Question 1), or if you find that OptumInsight infringes Claim 29 of the '126 patent ("Yes" to Question 2), and you also find that those claims are valid ("No" to Questions 3 and 4), then answer Question 5. If you do not so find, do not answer Question 5, and instead proceed to Part II.

5. State the amount of damages you find that CCGroup has proven by a preponderance of the evidence. $12,325,000.00

PART II: FINDINGS REGARDING OPTUMINSIGHT'S '079 PATENT

6. Has OptumInsight proven by a preponderance of the evidence that CCGroup infringes claim 1 of OptumInsight's '079 Patent? ("Yes" is a finding for OptumInsight, "No" is a finding for CCGroup.)

Yes _____ No __✔__

7. Has CCGroup proven by clear and convincing evidence that the 1994 article titled "Who Treats Medical Conditions More Cost Efficiently?" anticipates claim 1 of OptumInsight's '079 Patent? ("Yes" is a finding for CCGroup, "No" is a finding for OptumInsight.)

Yes _____ No ✔

8. Has CCGroup proven by clear and convincing evidence that OptumInsight's '079 Patent does not contain an enabling disclosure for claim 1? ("Yes" is a finding for CCGroup, "No" is a finding for OptumInsight.)

Yes _____ No ✔

If you find that CCGroup infringes claim 1 of the '079 patent ("Yes" to Question 6), and you also find that those claims are valid ("No" to Questions 7 and 8), then proceed to Question 9. If you do not so find, do not answer question 9.

9. State the amount of damages you find that OptumInsight has proven by a preponderance of the evidence. 0

****

You have now reached the end of the verdict form and should review it to ensure it accurately reflects your unanimous determinations. The Presiding Juror should

then sign and date the verdict form in the spaces below and notify the Security Guard that you have reached a verdict. The Presiding Juror should retain possession of the verdict form and bring it when the jury is brought back into the courtroom.

Dated: April 3, 2015

s/ Heather Drake
Presiding Juror

APPENDIX E — ORDER OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED FEBRUARY 23, 2015

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

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

CAVE CONSULTING GROUP, LLC,

Plaintiff(s),

v.

OPTUMINSIGHT, INC.,

Defendant(s).

February 23, 2015, Decided
February 23, 2015, Filed

ORDER CLARIFYING ORDER ON MOTIONS FOR SUMMARY JUDGMENT

Re: Dkt. Nos. 284, 288

Plaintiff Cave Consulting Group, LLC, ("CCGroup") requests leave to file a motion for reconsideration of the Court's summary judgment order of February 20, 2015

(the "Order"),[1] on the grounds that the Order does not address CCGroup's request for relief that Defendant OptumInsight, Inc., ("OptumInsight") cannot prevail on its invalidity arguments under 35 U.S.C. §§ 102, 103, and 112.[2] The relevant factual background is contained in the Order and is not repeated here. After reviewing CCGroup's arguments the Court finds it appropriate to instead clarify the Order with the following discussion.

Rather than granting CCGroup's motion for summary judgment of validity of the '126 Patent under § 102(a), (b), and (g), the Court denied summary adjudication of invalidity under these provisions to OptumInsight.[3] Nevertheless, the determination in the Order necessarily concludes a similar finding: that OptumInsight cannot meet its clear and convincing burden on invalidity under those sections.[4] Accordingly, to the extent such a determination was not made explicit in the Order, the Court GRANTS CCGroup's motion for summary judgment of validity of the '126 Patent under § 102(a), (b), and (g) for the same reasons as set forth in the Order. As a result, CCGroup's additional arguments of validity of the '126 Patent under § 102, as discussed in its motion for leave, not be addressed.

Next, as to CCGroup's motion for summary judgment under § 112 of the '126 Patent, the Court determined

1. *See* Dkt. No. 282.

2. Civil L.R. 7-9(b)(3).

3. *See* Dkt. No. 282.

4. *See id.*

in the Order that there are disputed factual issues for trial regarding OptumInsight's written description and enablement defenses.[5] There is, therefore, no reason to clarify that ruling. Thus, for the same reasons as set forth in the Order, the Court DENIES CCGroup's motion for summary judgment as to § 112.

Finally, CCGroup also requests the Court grant a summary judgment of validity under § 103 based on the conclusion that a single sentence from the Cave Advertisement cannot satisfy three specific limitations of asserted claims 22 and 29.[6] The Court disagrees that such a clarification is appropriate.

As a preliminary matter, CCGroup improperly asks this Court for the first time in its motion for reconsideration to grant summary judgment of validity of the '126 Patent under § 103 with respect to the Cave webpage article.[7] A party moving for reconsideration must show a failure by the Court to consider "legal arguments which were presented to the Court before such interlocutory order."[8] Here, CCGroup did not explicitly seek summary judgment of validity with respect to obviousness under § 103.[9]

5. *See id.* at 21.

6. *See* Dkt. No. 284-1 at 4.

7. *See id.*

8. *In re Google AdWords Litigation*, 2012 WL 1595177, at *2 (N.D. Cal. May 4, 2012) ("deciding an issue for the first time on a motion for reconsideration would be procedurally improper.").

9. *See* Dkt. 148 at 23-25.

CCGroup did not substantially address obviousness aside from "conclusory statements."[10] As such, it is procedurally improper for CCGroup now to ask this Court to grant summary judgment of validity of the '126 Patent under § 103, when it did not ask for such relief originally.

Next, CCGroup argues that OptumInsight "relies exclusively on the Cave Advertisement to satisfy the first two of these limitations."[11] Therefore, CCGroup argues that a single sentence from the Cave Advertisement cannot satisfy the three specific limitations of the asserted claims 22 and 29.[12] Again, CCGroup is improperly asking this Court to grant summary judgment of validity under § 103. The Order does not preclude Dr. Thomas's reference to combining "the feature of ETGs" with Cave webpage article. At a minimum, this contention presents a question of material fact for the jury to address with respect to whether the combinations render the limitations obvious. Accordingly, the Court's finding that the Cave webpage article itself does not disclose all the limitations does not prevent a contention that the '126 Patent is obvious under § 103. Therefore, the Court DENIES CCGroup's request for summary judgment of validity under § 103 because it is procedurally improper and a question of material fact for the jury.

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10. Dkt. 169 at 22 n.10.

11. *See* Dkt. No. 284-1 at 4.

12. *See id.*

Since these clarifications resolve all of CCGroup's arguments for reconsideration, the Court DENIES the motion for leave as moot. The Court also DENIES as moot OptumInsight's motion for leave to file a response.

IT IS SO ORDERED.

Dated: February 23, 2015

/s/ Edward J. Davila
EDWARD J. DAVILA
United States District Judge

APPENDIX F — ORDER OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED FEBRUARY 20, 2015

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

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

CAVE CONSULTING GROUP, LLC,

Plaintiff(s),

v.

OPTUMINSIGHT, INC.,

Defendant(s).

February 20, 2015, Decided
February 20, 2015, Filed

ORDER GRANTING IN PART AND DENYING IN PART DEFENDANT'S MOTION FOR SUMMARY JUDGMENT; DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT

Re: Dkt. Nos. 139, 148

Plaintiff Cave Consulting Group, LLC, ("CCGroup" or "Plaintiff") brings the instant action for patent infringement against Defendant OptumInsight, Inc.,

f/k/a Ingenix, Inc., ("OptumInsight" or "Defendant"). Presently before the Court are the parties' cross-motions for summary judgment.[1] Having carefully reviewed the parties' briefing and considered the parties' arguments from the hearing on December 12, 2014, the Court GRANTS in part and DENIES in part OptumInsight's motion for summary judgment, and DENIES CCGroup's motion for summary judgment for the reasons explained below.

I. BACKGROUND

CCGroup is a California corporation with a principal place of business in San Mateo, California.[2] OptumInsight is a Delaware corporation with a principal place of business in Minnesota.[3] 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").[4] OptumInsight is the owner by assignment of all right, title, and interest in the U.S. Patent Nos. 7,222,079 ("'079 Patent") and 7,774,252 ("'252 Patent") (collectively "the Seare Patents").[5] CCGroup and OptumInsight both develop and market software and services used to evaluate various parameters of healthcare delivery, including the

1. Dkt. Nos. 139, 148.

2. Dkt. No. 89 at 2.

3. *Id.*

4. *Id.* at 2-3.

5. *Id.*

efficiency of healthcare providers.[6] The patents-in-suit are related to technology for measuring and evaluating physician efficiency.[7] "Efficiency" means comparing the cost of care provided by an individual physician to the cost of care provided by a relevant peer group.[8]

CCGroup claims that OptumInsight's Impact Intelligence product infringes claims 1, 9, 10, 11, 22, and 29 of its '126 Patent.[9] OptumInsight claims that CCGroup's Cave Grouper product infringes claim 1 of the Seare Patents.[10] The Seare Patents have a priority date of June 23, 1994.[11]

A. The Patent Claims

Relevant here are asserted claims 22 and 29 of the Cave '126 Patent,[12] which state as follows:

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

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6. *Id.*

7. *Id.*

8. *See* Dkt. No. 139 at 3:10-11.

9. Dkt. No. 140 at 2; CCGroup has withdrawn claims 1, 9, 10, and 11.

10. *Id.*

11. '079 Patent at 1; '252 Patent at 1.

12. Claims 22 and 29 are identical other than the preamble, which is not relevant for purposes of this motion.

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.[13]

Asserted claims 1 of the Seare Patents[14]:

> A computer-implemented process for processing medical claims comprising a computer performing the following:
>
> (a) reading a 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

13. U.S. Patent 7,739,126.

14. Claims 1 of the Seare Patents are identical except for the addition of step (e).

period which validated at least one of plurality of data records may be grouped to an episode treatment category.

(e) classifying the patient data records into at least one of a plurality of episode treatment groups, each of the plurality of episode treatment groups being defined by an episode treatment category.[15]

B. Procedural History

This suit is an outgrowth of a lawsuit filed by OptumInsight against CCGroup in Minneapolis, Minnesota. OptumInsight dismissed the Minnesota lawsuit. CCGroup filed its Complaint in this Court seeking a declaratory judgment on the patent infringement allegations made against it by OptumInsight.[16]

In its Second Amended Complaint ("SAC"), CCGroup claims that OptumInsight infringes its Cave '126 Patent, and seeks a declaratory judgment that CCGroup does not infringe OptumInsight's family of Seare Patents and that the Seare Patents are invalid.[17]

In its Answer to CCGroup's SAC, OptumInsight claims that it does not infringe the '126 Patent and that

15. U.S. Patent 7,774,252.

16. Dkt. No. 89 at 5-7.

17. *See* Dkt. No. 89.

the '126 Patent is invalid, and counterclaims that CCGroup directly infringes the Seare Patents.[18]

On August 9, 2012, the Court held a claim construction hearing.[19] 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."[20] The Court ruled that the ordinary meaning of "determining eligible physicians and episode of care assignments" applied.[21] 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."[22]

CCGroup now moves for summary judgment of noninfringement of the Seare Patents, and invalidity of the Seare Patents.[23] OptumInsight moves for summary judgment of noninfringement of the Cave '126 Patent, invalidity of the Cave '126 Patent, and validity of the Seare Patents.[24] CCGroup has also moved to exclude the testimony of OptumInsight's expert witness Dr. Mark

18. *See* Dkt. No. 96.

19. Dkt. No. 92.

20. *Id.* at 6.

21. *Id.* at 9.

22. *Id.* at 11.

23. Dkt. No. 148.

24. Dkt. No. 139.

Rattray ("Rattray"), Dr. J. William Thomas ("Thomas"), and Catharine Lawton ("Lawton").[25] OptumInsight has moved to exclude testimony of CCGroup's damages expert witness Michael Lewis concerning CCGroup's alleged damages.[26]

II. LEGAL STANDARD

A motion for summary judgment should be granted if "there is no genuine dispute to any material fact and the movant is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); *Addisu v. Fred Meyer, Inc.*, 198 F.3d 1130, 1134 (9th Cir. 2000). The moving party bears the initial burden of informing the court of the basis for the motion and identifying the portions of the pleadings, depositions, answers to interrogatories, admissions, or affidavits that demonstrate the absence of a triable issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 106 S. Ct. 2548, 91 L. Ed. 2d 265 (1986).

If the moving party meets this initial burden, the burden then shifts to the non-moving party to go beyond the pleadings and designate specific materials in the record to show that there is a genuinely disputed fact. Fed. R. Civ. P. 56(c); *Celotex*, 477 U.S. at 324. The court must draw all reasonable inferences in favor of the party against whom summary judgment is sought. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 106 S. Ct. 1348, 89 L. Ed. 2d 538 (1986). However,

25. Dkt. No. 157.

26. Dkt. No. 160.

the mere suggestion that facts are in controversy, as well as conclusory or speculative testimony in affidavits and moving papers, is not sufficient to defeat summary judgment. *See Thornhill Publ'g Co. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979). Instead, the non-moving party must come forward with admissible evidence to satisfy the burden. Fed. R. Civ. P. 56(c); *see also Hal Roach Studios, Inc. v. Feiner & Co., Inc.*, 896 F.2d 1542, 1550 (9th Cir. 1990).

A genuine issue for trial exists if the non-moving party presents evidence from which a reasonable jury, viewing the evidence in the light most favorable to that party, could resolve the material issue in his or her favor. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248-49, 106 S. Ct. 2505, 91 L. Ed. 2d 202 (1986); *see also Barlow v. Ground*, 943 F.2d 1132, 1134-36 (9th Cir. 1991). Conversely, summary judgment must be granted where a party "fails to make a showing sufficient to establish the existence of an element essential to that party's case, on which that party will bear the burden of proof at trial." *Celotex*, 477 U.S. at 322.

III. DISCUSSION

CCGroup asserts that OptumInsight infringes method claim 22 and apparatus claim 29 of the Cave '126 Patent.[27] OptumInsight asserts that CCGroup infringes claim 1 of both Seare Patents.[28] The parties both deny infringement

27. *See* Dkt. No. 147-4 at 1-2.

28. *See* Dkt. No. 139 at 1-4.

and contend that the asserted claims of the patents of the other side are invalid.[29] Thus, the primary factual issues in dispute are: 1. whether the claims of the asserted patents are invalid; and 2. whether the asserted patents are infringed.

A. Invalidity

The Court begins by addressing the parties' invalidity arguments. OptumInsight contends that the asserted claims of the '126 Patent are invalid because they do not meet the requirements set forth in 35 U.S.C. §§ 102(a), 102(b), 102(g), or 112.[30] OptumInsight contends that Seare Patents are valid over the asserted prior art.[31] CCGroup contends that the asserted claims of the Seare Patents are invalid because they do not meet the requirements set forth in 35 U.S.C. §§ 102(b) or 112.[32]

i. The Cave '126 Patent

OptumInsight argues that the asserted claims are invalid as anticipated under 35 U.S.C. §§ 102(b) and 102(g) because Impact Intelligence works the same as its predecessor product, Impact Analysis, therefore, Impact Analysis satisfies every element of the asserted claims and qualifies as prior art because it was:

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29. *See id.*; *see also* Dkt. No. 147-4 at 1-2.

30. *See* Dkt. No. 96.

31. *See* Dkt. No. 139 at 34-38.

32. *See* Dkt. No. 144-4.

> (a) sold or offered for sale more than a year before the March 2, 2004 filing date of the '126 Patent;
>
> (b) publicly used by others in the United States more than a year before the March 2, 2004 filing date of the '126 Patent; and
>
> (c) made in the United States before the invention date (March 2, 2004) of the '126 Patent claims and was not abandoned, suppressed, or concealed.[33]

OptumInsight also argues that the asserted claims of the '126 Patent are invalid as anticipated under 35 U.S.C. § 102 because the Cave webpage article (the "Cave Advertisement") satisfies every element of the asserted claims and qualifies as prior art because it was posted on the Internet more than a year before the March 2, 2004 filing date of the '126 Patent.[34]

Finally, OptumInsight argues that the asserted claims of the '126 Patent are invalid under 35 U.S.C. § 112, first paragraph, because there is no description of "Applying a ... maximum duration rule to identify episodes of care."[35]

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33. *See* Dkt. No. 168 at 5-12.

34. *See* Dkt. No. 168 at 22.

35. *See* Dkt. No. 139 at 29.

a. Whether Impact Analysis was "on sale" and was ready for patenting before March 2, 2003 pursuant to 35 U.S.C. § 102(b)?

OptumInsight believes it is entitled to summary judgment on the grounds that a June 4, 2002 contract with Presbyterian Healthcare Services ("PHS") provided that "IHCIS will deliver the Impact Analysis applications and associated supporting databases via mutually agreed upon formats and transmission media" invalidates the asserted claims under the § 102(b) on sale bar.[36] The Court disagrees.

Section 102(b) of the Patent Act bars the patentability of inventions that were on sale in this country more than one year prior to the date of the application for the patent.[37] The on-sale bar rule generally applies when two conditions are satisfied: 1. the product embodying the asserted claims must be the subject of a commercial offer for sale, and 2. the invention must be ready for patenting.[38]

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36. *See* Dkt. No. 168 at 6-7; *see also* SB Ex. 7 at ING00081396 ¶ 10.

37. *See* 35 U.S.C. § 102(b) ("A person shall be entitled to a patent unless the invention was ... on sale in this country, more than one year prior to the date of the application for patent in the United States."); *see also Cargill, Inc. v. Canbra Foods, Ltd.*, 476 F.3d 1359, 1368 (Fed. Cir. 2007) (holding that any attempt to commercialize the patented invention more than one year prior to filing the patent application creates an "on-sale bar" that invalidates a subsequently-issued patent).

38. *See Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 67, 119 S. Ct. 304, 142 L. Ed. 2d 261 (1998).

As an initial matter, the '126 Patent claims priority to a provisional patent application filed on March 2, 2004.[39] For purposes of § 102(b), the "critical date" is March 2, 2003.[40] Here, OptumInsight proffers evidence of a June 4, 2002, contract with PHS that "IHCIS will deliver the Impact Analysis applications ..."[41] As such, the evidence establishes that OptumInsight's contract with PHS is more than a year before March 2, 2004.

Next, the question whether an invention is the subject of a commercial offer is a matter of Federal Circuit law, analyzed under the law of contracts as generally understood.[42] To prove that an invention was the subject of a commercial sale, a defendant must demonstrate by clear and convincing evidence that there was a definite sale or offer to sell more than one year prior to the application for the patent, and that the subject matter of the offer to sell fully anticipated the claimed invention or would have rendered the claimed invention obvious by its addition to the prior art.[43]

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39. Dkt. No. 168 at 1.

40. *Id.*

41. *See* Dkt. No. 168 at 6-7.

42. *Group One, Ltd. v. Hallmark Cards, Inc.*, 254 F.3d 1041, 1047 (Fed. Cir. 2001) ("As a general proposition, we will look to the Uniform Commercial Code ('UCC') to define whether ... a communication or series of communications rises to the level of a commercial offer for sale.").

43. *STX, LLC v. Brine, Inc.*, 211 F.3d 588, 590 (Fed. Cir. 2000).

Here, OptumInsight cites to the contract with PHS to sell the outputs of the Impact Analysis process [TEXT REDACTED BY THE COURT][44] OptumInsight demonstrates that there was an offer to sell because the contract required that PHS pay IHCIS a substantial Impact Analysis License Fee on an annual basis, which included 20 licensed users of Impact Analysis.[45] However, the contract with PHS to sell the outputs of the Impact Analysis is a process, which is a series of acts or steps, and is not sold in the same sense as is a claimed product, device, or apparatus, which is a tangible item.[46] "Know-how describing what the process consists of and how the process should be earned out may be sold in the sense that the buyer acquires knowledge of the process and obtains the freedom to carry it out pursuant to the terms of the transaction."[47] Such a transaction is not a "sale" of the invention within the meaning of § 102(b) because the process has not been earned out or performed as a result of the transaction.[48] Here, sale of the outputs of the Impact Analysis made by the claimed process by the licensee

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44. *See* Dkt. No. 168 at 6-7; *see also* SB Ex. 7 at ING00081396 ¶ 10.

45. SB Ex. 7 at ING00081396 ¶ 11; *see also In re Caveney*, 761 F.2d 671, 676 (Fed. Cir. 1985) (A sale is a contract between parties wherein the seller agrees "to give and to pass rights of property" in return for the buyer's payment or promise "to pay the seller for the things bought or sold.").

46. *In re Kollar*, 286 F.3d 1326, 1332 (Fed. Cir. 2002).

47. *See id.*

48. *See id.*

(IHCIS) would constitute a sale of the process within the meaning of 35 U.S.C. 102(b).[49]

CCGroup argues that the Impact Analysis methodology and documents were [TEXT REDACTED BY THE COURT], and, for that reason, cannot be used as prior art to invalidate a patent.[50] CCGroup points to Dr. Dunn's admission that [TEXT REDACTED BY THE COURT]

[TEXT REDACTED BY THE COURT]

[TEXT REDACTED BY THE COURT]

Dunn Feb. 2014 Depo. at 40:7-17.

OptumInsight does not entirely dispute that the Impact Analysis and technical documents describing that software [TEXT REDACTED BY THE COURT] Instead, OptumInsight argues that a commercial sale of the claimed invention is a bar, even if the sale is [TEXT REDACTED BY THE COURT][51] Therefore, the question presented is as follows: does a commercial sale by a third party of the claimed invention constitute an on-sale bar if the contracts include [TEXT REDACTED BY THE COURT]

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49. *See id.* at 1333.

50. *See* Dkt. No. 189-4 at 5.

51. *See* Dkt. No 169 at 9-11.

The Federal Circuit has emphasized that "the overriding concern of the on-sale bar is an inventor's attempt to commercialize his invention beyond the statutory term."[52] Under the pre-AIA[53] version of § 102(b), sales or offers for sale, kept secret from the public, may trigger the on-sale bar.[54] Although these secret activities likely do not disclose claimed inventions to the general public, the statutory language of §102(b) is nevertheless broad enough to cover these actions. Additionally, even when a claimed invention itself is not the object of a sale or offer to sell, courts have applied a similar bar to patentability under a forfeiture rationale when a sale or offer for sale amounts to an indirect "secret commercialization" of a claimed invention. This gap-filling theory is illustrated by the disparate treatment applied to secret commercialization of unpatented methods depending on the identity of the commercializing party. When an inventor uses a secret, unpatented method to produce and sell goods that do not reveal the method, and does so for longer than the one-year grace period, these sales may bar the inventor from later patenting the method.[55] OptumInsight misstates patent law by suggesting that evidence of a secret commercial sale by

52. *STX, LLC*, 211 F.3d at 590

53. The Leahy—Smith America Invents Act (AIA) is a United States federal statute that was passed by Congress on September 16, 2011.

54. *In re Caveney*, 761 F.2d at 675-76

55. *See D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147-48 (Fed. Cir. 1983).

a third party can invalidate the '126 Patent. However, when a third party uses a secret, unpatented method to produce and sell such goods, this activity will not create a bar preventing a different inventor from later patenting the same method.[56] Thus, under pre-AIA § 102(b) and the related forfeiture doctrine, an inventor faces a simple choice: "he must content himself with either secrecy, or legal monopoly."[57]

Early public disclosure is a linchpin of the patent system. As between a prior inventor who benefits from a process by selling its product but suppresses, conceals, or otherwise keeps the process from the public, and a later inventor who promptly files a patent application from which the public will gain a disclosure of the process, the law favors the latter. [58]

Accordingly, a reasonable jury might find that OptumInsight has not met its burden of proving by clear and convincing evidence that the commercial sale by IHCIS of the claimed invention constituted an on-sale bar because [TEXT REDACTED BY THE COURT] Therefore, the Court DENIES OptumInsight's summary

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56. *See W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1549-50 (Fed. Cir. 1983).

57. *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 518 (2nd Cir. 1946).

58. *W.L. Gore & Assoc.s, Inc.*, 721 F.2d 1540; *RCA Corp. v. Data Gen. Corp.*, 887 F.2d 1056, 1062 (Fed. Cir. 1989) ("one policy underlying the [on-sale] bar is to obtain widespread disclosure of new inventions to the public via patents as soon as possible.").

judgment as to invalidity under the § 102(b) on-sale bar based on the Federal Circuit's holding that where an invention is kept secret, and remains secret after a sale of the product, that sale will not bar another inventor from the grant of a patent on that method.[59]

b. Whether Impact Analysis was in public use before March 2, 2003 pursuant to U.S.C. § 102(b)?

OptumInsight moves for summary judgment on the grounds that IHCIS commercially exploited Impact Analysis and that the Impact Analysis methodology was accessible to the public before March 2, 2003.[60] Having reviewed the evidence, the Court disagrees.

The public use bar under 35 U.S.C. § 102(b) arises where the invention is in public use before the critical date and is ready for patenting.[61] As explained by the Federal Circuit,

> The proper test for the public use prong of the § 102(b) statutory bar is whether the purported use: (1) was accessible to the public; or (2) was commercially exploited. Commercial exploitation is a clear indication of public use,

59. *See D.L. Auld Co.*, 714 F.2d 1144

60. *See* Dkt. No. 168 at 8-11.

61. *Invitrogen Corp. v. Biocrest Manufacturing L.P.*, 424 F.3d 1374 (Fed. Cir. 2005).

> but it likely requires more than, for example, a secret offer for sale. Thus, the test for the public use prong includes the consideration of evidence relevant to experimentation, as well as, inter alia, the nature of the activity that occurred in public; public access to the use; confidentiality obligations imposed on members of the public who observed the use; and commercial exploitation ....

Id. at 1380.

CCGroup argues that Impact Analysis methodologies and technical documents describing the software were maintained in confidence and not publicly available.[62] As such, the confidentiality restrictions imposed by ICHIS preclude a finding that Impact Analysis is prior art.[63] OptumInsight does not contest that some confidentiality agreements existed. Rather, OptumInsight argues that while some details were confidential, the underlying methodology used in Impact Analysis was disclosed, at least at a high level to the general public and to certain third parties. [64]

Public use by a third party within the meaning of § 102(b) generally includes "any use of the claimed invention by a person other than the inventor who is under no

62. *See* Dkt. 189-4 at 6-12.

63. *See* Dkt. No. 147-4 at 16-18.

64. *See* Dkt. No. 169 at 9-11.

limitation, restriction or obligation of secrecy to the inventor."[65] To determine whether the use of the invention was indeed "public" within the meaning of § 102(b), courts assess the "totality of circumstances."[66]

A flexible list of factors that courts can consider includes: the nature of the activity that occurred in public; the public access to and knowledge of the public use; whether person other than the inventor performed the testing: the number of tests; the length of the test period in relation to tests of similar devices; and whether the inventor received payment for the testing.[67] While all of these factors are considered, relinquishment of control by the patentee and the presence of absence of a secrecy agreement appear to carry the most weight.[68]

OptumInsight's corporate witness, Dr. Dunn, admitted that IHCIS treated the Impact Analysis methodology as [TEXT REDACTED BY THE COURT]

[TEXT REDACTED BY THE COURT]

[TEXT REDACTED BY THE COURT]

Dunn Feb. 2014 Depo. at 40:7-13.

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65. *Netscape Communications Corp. v. Knorad*, 295 F.3d 1315, 1320 (Fed. Cir. 2002).

66. *Netscape*, 295 F.3d at 1320

67. *Id.*

68. *See Allied Colloids Inc. v. American Cyanamid Co.*, 64 F.3d 1570, 1574 (Fed. Cir. 1995).

OptumInsight, however, argues that IHCIS was openly engaging in the commercial exploitation of the methodology embodied in Impact Analysis before March 2, 2003.[69] OptumInsight alleges that the numerous sales, marketing material on the IHCIS website and press releases announcing these sales fully establish commercial exploitation.[70] Specifically, OptumInsight cites that: (1) the contract with PHS included a "Fees and Payment Schedule" that included a substantial "Impact Analysis License Fee" as well as other licensing fees;[71] (2) a September 25, 2002 press release publicly announced that Presbyterian Health Plan (PHP), New Mexico's largest managed care organization, will deploy IHCIS' Impact Analysis;[72] and (3) that IHCIS maintained a publicly available website targeting customers and potential customers of Impact Analysis and describing IHCIS products, including Impact Analysis.[73] OptumInsight contends that this record of commercial sales and promotional activity by IHCIS illustrates commercial exploitation.[74] This is not a persuasive argument, though, because the Federal Circuit has held that mere knowledge of the invention by the public does not warrant rejection

69. *See* Dkt. No. 168 at 8.

70. *See id.*

71. SB Ex. 7 at ING00081396 ¶ 11

72. SB Ex. 8

73. SB Ex. 1 at ¶¶ 23 & 24

74. *See* Dkt. No. 168 at 9.

under § 102(b).[75] Section 102(b) bars public use or sale, not public knowledge.[76] Moreover, in the case of third-party uses, as in this case, "being accessible to the public still requires public availability; secret or confidential third-party uses do not invalidate later filed patents."[77]

Accordingly, in light of the clear and convincing evidence standard for proving invalidity, the court concludes a reasonable jury could find that OptumInsight has not met its burden of showing that the Impact Analysis was accessible to public before March 2, 2003. Therefore, the Court DENIES OptumInsight's summary judgment of invalidity under the public use prong of § 102(b) based on the confidentiality agreements.

c. Does Impact Analysis represent a prior invention under 35 U.S.C. § 102(g) that was not abandoned, suppressed, or concealed?

OptumInsight asserts that the claims of the '126 Patent, if read to cover Impact Analysis, are invalid under 35 U.S.C. § 102(g)(2).[78] The Court disagrees.

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75. *TPLabs., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 970 (Fed. Cir. 1984).

76. *Id.*

77. *Dey, L.P. v. Sunovion Pharms.*, Inc., 715 F.3d 1351 (Fed. Cir. 2013); *see also* Dunn Feb. 2014 Depo. at 40:7-13.

78. *See* Dkt. No. 168 at 11.

Appendix F

Section 102(g)(2) provides that a patent is invalid if "before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed or concealed it."[79]

Here, OptumInsight argues that Impact Analysis was in public use before March 2, 2003, and that Impact Analysis was invented before March 2, 2004.[80] CCGroup argues that Impact Analysis is not invalidating art because the methodologies and technical documents describing that software were maintained in confidence and not publicly available.[81]

Under 35 U.S.C. § 102(g) "the courts have consistently held that an invention, though completed, is deemed abandoned, suppressed, or concealed if, within a reasonable time after completion, no steps are taken to make the invention publicly known. Thus failure to file a patent application; to describe the invention in a publicly disseminated document; or to use the invention publicly, have been held to constitute abandonment, suppression, or concealment."[82] In *Correge*, an invention was actually reduced to practice, seven months later there was a public disclosure of the invention, and eight months thereafter a patent application was filed. The court held that filing a patent application within one year of a public disclosure

79. *See* 35 U.S.C. § 102(g)(2).

80. *See* Dkt. No. 169 at 5-6.

81. *See* Dkt. No. 189-4 at 6-12.

82. *Correge v. Murphy*, 705 F.2d 1326, 1330 (Fed. Cir. 1983).

is not an unreasonable delay, therefore reasonable diligence must only be shown between the date of the actual reduction to practice and the public disclosure to avoid the inference of abandonment.[83] Unlike *Correge*, OptumInsight's Impact Analysis methodologies and technical documents were maintained in confidence and not publicly available before March 2, 2003.[84]

For the same reason relating to lack of public disclosure, OptumInsight's § 102(g) argument fails. Private or confidential sales, those that do not confer knowledge of the invention to the public, do not constitute invalidating art under § 102(g).[85] Accordingly, a reasonable jury might find that OptumInsight has not met its burden of proving by clear and convincing evidence that the Impact Analysis methodologies and the technical documents describing that software were not maintained in confidence and publicly available. Therefore, the Court DENIES OptumInsight's summary judgment as to invalidity under § 102(g).

d. Does the Cave Advertisement anticipate the asserted claims?

OptumInsight moves for summary judgment on the grounds that the Cave Advertisement anticipates Claims

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83. *See id.*

84. *See* Dkt. 189-4 at 6-12; *see also* Dunn Feb. 2014 Depo. at 40:7-13.

85. *See Apotex USA v. Merck & Co.*, 254 F.3d 1031, 1038-39 (Fed. Cir. 2010).

22 and 29 of the '126 Patent.[86] Having reviewed the evidence, the Court disagrees.

A patent claim is invalid as anticipated under 35 U.S.C. § 102 if a single prior art reference contains, either explicitly or implicitly, all of the elements of the claim.[87] Whether or not a single reference contains all of the elements of a claim is a question of fact.[88]

Although anticipation is a question of fact, where there are no "genuine factual disputes underlying the anticipation inquiry, the issue is ripe for judgment as a matter of law."[89] Evidence of anticipation, like all questions of invalidity, "must be clear as well as convincing."[90] The Federal Circuit has held that "the identical invention must be shown in as complete detail as is contained in the ...

86. *See* Thomas Invalidity Report at Exhibit 18.

87. *See Oakley, Inc. v. Sunglass Hut International*, 316 F.3d 1331, 1339 (Fed. Cir. 2003) (A determination that a claim is invalid as being anticipated or lacking novelty under 35 U.S.C. § 102 requires a finding that "each and every limitation is found either expressly or inherently in a single prior art reference").

88. *See Beckson Marine, Inc. v. NFM, Inc.*, 292 F.3d 718, 725 (Fed. Cir. 2002) (Anticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact).

89. *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1343 (Fed. Cir. 2005).

90. *Schumer v. Lab. Computer Sys., Inc.*, 308 F.3d 1304, 1315 (Fed. Cir. 2002).

claim."[91] The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required.[92]

CCGroup makes a series of argument in response. First, CCGroup argues that there is no evidence that the Cave Advertisement was publicly available.[93] As such, without this evidence, CCGroup argues that OptumInsight cannot meet its burden of proof on invalidity.[94] The U.S. Patent and Trademark Office ("PTO") has held that a website captured by Internet Archive Wayback Machine ("Internet Archive")[95] was considered as prior art.[96] The PTO will accept date stamps from the Internet Archive as evidence of when a given Web page was accessible to the public.[97] These dates are used to determine if a Web page is available as prior art.[98] Here, OptumInsight

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91. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

92. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

93. *See* Dkt. No. 147-4 at 25-26.

94. *Id.*

95. Internet Archive Wayback Machine is a digital archive of the World Wide Web and other information on the Internet. It enables users to see archived versions of webpages across time.

96. *See Ex Parte Hicks*, No. 2011-007925, 2013 Pat. App. LEXIS 8192, 2013 WL 5882933, at *4 (P.T.A.B. Oct. 31, 2013).

97. *See In re Wyer*, 655 F.2d at 221, 210 USPQ at 790; *see also* MPEP 2128.

98. *See Ex Parte Molander*, No. 2008-2589, 2009 Pat. App. LEXIS 10357, 2009 WL 726751, at *3, 5-6 (B.P.A.I. 2009).

provides evidence that the Internet Archive archived the Cave Advertisement as of February 17, 2003.[99] This date proves that there was no barrier to members of the general public accessing the Cave Advertisement at that time.[100]

Second, CCGroup argues that the Cave Advertisement does not teach all the essential claim limitations required by the asserted Claims 22 and 29 of the '126 Patent.[101] Specifically, CCGroup asserts that OptumInsight relies on a single sentence from the Cave Advertisement to satisfy three limitations of the asserted claims.[102] That sentence reads: "[a] methodology developed by the Cave Consulting Group examines condition-specific, longitudinal episodes of care."[103] According to OptumInsight, this sentence satisfies the limitations of the following three limitations of CCGroup's asserted claims 22 and 29:

> 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;

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99. *See* Dkt. No. 169 at 26-28.

100. *Id.*

101. *See* Dkt. No. 147-4 at 26-29.

102. *Id.*

103. *See* Exhibit 18 to Thomas Invalidity Report.

Appendix F

Applying a first maximum duration rule to identify episodes of care

See Exhibit 18 to Thomas Invalidity report.

CCGroup contends that this sentence from the Cave Advertisement does not teach these three steps of the asserted claims because:

> 1. It has nothing to do with obtaining medical claims data stored in a computer readable medium, does not describe how episodes are generated, whether they are provided to CCGroup or are generated by CCGroup, what information is used to generate the episodes, or what information is stored in the episodes (e.g. actual medical claims data vs. overall cost and duration of care information);
>
> 2. the ... reference to "episodes" relied on by Optum[Insight] could be created based on a methodology that generates episodes from data other than claims data (e.g., inpatient hospital records) or through a methodology that does not involve patient analysis (e.g., physician-centric episodes rather than patient-centric episodes);
>
> 3. With regard to the third limitation, Thomas properly admits that nothing in the Cave Advertisement explicitly teaches the step of applying a maximum duration rule. ... ("The paper does not disclose 'using a first

> maximum duration rule to identify episodes of care."). Instead, Thomas argues that if Impact Intelligence - the product CCGroup accuses of infringement - is found to infringe, the Cave Advertisement's reference to "longitudinal episodes of care" will similarly anticipate the asserted claims. ... Thomas's reasoning, which is confusing at best, suggests that those skilled in the art would simply realize that the reference to "longitudinal episodes of care" necessarily requires application of a maximum duration rule - that is "a rule based on a maximum time period that is used to group claim data pertaining to a patient's medical conditions into an episode of care."

Dkt. No. 147-4 at 27-28.

OptumInsight argues that the Cave Advertisement inherently discloses obtaining medical claims data stored in a computer readable medium on the computer system.[104] Specifically, OptumInsight argues that "it was well known in the art that forming episodes of care and performing physician efficiency measurement was a data intensive process and that claims groupers necessarily operated on electronically stored medical claims records."[105] OptumInsight also argues that "one of ordinary skill in the art would have understood that, in order to 'examine condition-specific, longitudinal episodes of care' as

104. *See* Dkt. No. 169 at 22-23.

105. *Id.*

disclosed in the 'Cave Advertisement,' the disclosed methodology must first form those episodes of care."[106]

However, "[a]nticipation is typically established by one skilled in the art who must identify each claim element, state the witness[']s interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference."[107] OptumInsight fails to explain in detail how each claim element is disclosed in the single sentence of the Cave Advertisement. Moreover, the testimony is insufficient if it is merely conclusory.[108] It must be clear. For example, OptumInsight's argument that "if this step is read so broadly as to reach Impact Intelligence, applying the same claim scope, one of the ordinary skill in the art would have understood that the methodology disclosed in the 'Cave Advertisement' necessarily discloses this step' is merely conclusory.[109] It is not "the task of the district court, to attempt to interpret confusing or general testimony to determine whether a case of invalidity has been made out, particularly at the summary judgment stage."[110]

Because the uncontroverted evidence demonstrates that the Cave Advertisement does not anticipate each and every element as set forth in the asserted claims,

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106. *Id.* at 23.

107. *Lucent Technologies, Inc. v. Microsoft Corp.*, 544 F. Supp. 2d 1080, 1091 (S.D. Cal. 2008).

108. *Schumer*, 308 F.3d at 1315-16.

109. *See* Dkt. No. 169 at 25.

110. *Id.* at 1316.

either expressly or inherently, summary judgment as to invalidity is improper. Therefore, the Court DENIES OptumInsight's summary judgment as to invalidity under 35 U.S.C. § 102 of the asserted claims by the Cave Advertisement.

e. Whether the claim limitations found in the asserted claims of the '126 Patent are invalid under 35 U.S.C. § 112 ?

OptumInsight argues that Claims 22 and 29 are invalid for lack of written description and enablement under 35 U.S.C. § 112(a) because the '126 Patent specification fails to describe applying a maximum duration rule to identify episodes of care and is devoid of an enabling disclosure of how to apply a maximum duration rule to identify episodes of care.[111] Having reviewed the evidence, the Court disagrees.

The first paragraph of 35 U.S.C. § 112 require that the specification include the following:

> (A) A written description of the invention;
>
> (B) The manner and process of making and using the invention (the enablement requirement); and
>
> (C) The best mode contemplated by the inventor of carrying out his invention.[112]

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111. *See* Dkt. No. 139 at 32-34; *see also* Dkt. No. 188 at 19-20.

112. 35 U.S.C. § 112(a).

Appendix F

To satisfy the written description requirement, the specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.[113] Specifically, the specification must describe the claimed invention in a manner understandable to a person of ordinary skill in the art and show that the inventor actually invented the claimed invention.[114] The enablement requirement refers to the requirement that the specification describe how to make and how to use the invention.[115] The invention that one skilled in the art must be enabled to make and use is that defined by the claim(s) of the particular application or patent.[116] In contrast to the written description, the adequacy of enablement is a question of law, although like claim constructions, enablement findings may have factual underpinnings.[117]

OptumInsight argues that Claims 22 and 29 are invalid for lack of written description because the '126 Patent specification fails to describe applying a maximum duration rule to identify episodes of care.[118] Specifically,

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113. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1562-63 (Fed. Cir. 1991).

114. *Id.*

115. *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338 (Fed. Cir. 2003)

116. *Id.*

117. *Martek Bioscis. Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1378 (Fed. Cir. 2009).

118. *See* Dkt. No. 139 at 32-33.

OptumInsight argues that CCGroup improperly relies on references in the specification to the use of maximum duration rules to refine episodes of care, when the claim language requires using maximum duration rules to identify episodes of care.[119] Further, OptumInsight argues that the specification is devoid of an enabling disclosure of how to apply a maximum duration rule to identify episodes of care.[120] Lastly, OptumInsight argues that this issue can be decided at summary judgment, because claim construction is an issue of law for the court.[121]

Here, OptumInsight requests the Court to construe the phrase "to identify" as to the written description and enablement of the asserted claims under § 112(a). However, the Court has already construed claims and issued an order on that subject.[122] Neither party requested construction of this phrase previously, and the Court will not construe it now.

CCGroup argues that the specification of the '126 Patent provides ample written description of the invention, including examples of how that invention is implemented.[123] For example, the specification teaches application of a dynamic time window that can be used as a maximum duration rule to identify episodes of care for subsequent analysis:

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119. *Id.*

120. *Id* .

121. *Id.*

122. *See* Dkt. No. 92.

123. *See* Dkt. No. 167-4 at 34.

> The specified time period, or window period, is based on the maximum number of days between contact with a provider for which follow-up care is still reasonable. Each of the medical conditions has its own unique window period. If the date of service for a patient's episode is separated by a longer period than the window period, the latest date of service considered the start date for a new condition-specific episode of care.

See '126 Patent at 45:65-46:59.

CCGroup argues that the specification also discloses the use of a static time window (a second form of maximum duration rule) that controls the maximum duration for chronic episodes of care:

> The fourth function of the PATAN output process is to implement the maximum duration rule for episodes of care, which is 180 days. For chronic conditions (e.g. diabetes, asthma, ischemic heart disease), an episode of care begins when a CLI is initially found during the study period that has a defined ICD.9 code that has been assigned to that medical condition. Then, chronic conditions may continue on indefinitely as recognized by the window period of 365 days. However, for the purposes of physician efficiency analysis, chronic conditions are considered to have a 180-day duration. Therefore, a chronic condition ends 180 days after identifying the first CLI with a diagnosis

> (defined ICD.9 code) for the specific chronic condition.

See '126 Patent at 67:61-68:10.

These disclosures from the specification establish that there is written description support in the specification for the maximum duration rule limitation of the asserted claims.[124]

Further, CCGroup argues that disclosure in the specification establish that there is written description support in the specification for the maximum duration rule limitation of the asserted claims.[125] The citations above explain how one skilled in the art would employ both static and dynamic time windows to gather claim data into discreet episodes of care, therefore identifying episodes of care.[126]

Finally, at a minimum, OptumInsight's written description and enablement argument presents a factual dispute that should be resolved by the jury after hearing from the experts on the scope, content and disclosure of the '126 Patent.[127] Therefore, the Court DENIES

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124. *See* Dkt. No. 167-4 at 34.

125. *Id.* at 35.

126. *Id.*

127. *See ScriptPro, LLC v. Innovation Assocs., Inc.*, 762 F.3d 1355, 1359 (Fed. Cir. 2014) (written description presents a question of fact for the jury); *see also Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1373. (Fed. Cir. 2005) (enablement is a question of law based on underlying facts).

OptumInsight's summary judgment as to invalidity under § 112(a) because the evidence raises a genuine dispute of material fact as to whether the '126 Patent's specification provides adequate written description and enablement for the asserted claims.

ii. Seare Patents

a. Whether the Seare Patents are anticipated by the Cave Article or by the Aetna Proposal?

OptumInsight moves for summary judgment on the grounds that the invention claimed in the Seare patents are valid and not anticipated by the two prior art publications: 1. an article describing a study conducted by Douglas Cave ("the Cave Article"); and 2. a June 12, 1994, proposal to Aetna ("Aetna Proposal").[128] CCGroup moves for summary judgment on the grounds that the invention claimed in the Seare Patents is anticipated by the Cave Article.[129] For the purposes of this motion, OptumInsight focuses on one element common to both Seare Patents: element (d), directed to a "dynamic time window."[130]

First, OptumInsight argues that the Cave Article does not disclose dynamic time windows. The Court has construed the term "dynamic time window" to mean "a

128. *See* Dkt. No. 139 at 34-38.

129. *See* Dkt. No. 147-4 at 37-38.

130. *Id.*

time period that can reset based upon receipt of related claim records within a predefined time period."[131] The Cave Article references "window period[s]," but it does not disclose time periods that reset. Specifically, OptumInsight argues that a person of ordinary skill in the art in 1994 would not have been aware of methodologies used to implement time windows that reset, and the language used in the Cave Article would have been understood to mean a fixed window period from the start of an episode because that is how groupers worked at that time.[132] CCGroup responds that the Cave Article does teach the methodology that incorporates an algorithm for grouping raw medical claim data into episodes of care.[133] Based on the foregoing disclosure, it presents a factual dispute that the Cave Article teaches use of a dynamic time window to build episodes of care that must be resolved by the jury at trial.

Therefore, the Court DENIES OptumInsight's summary judgment as to validity of the Seare Patents because the evidence raises a genuine dispute of material fact as to whether the Cave Article teaches use of a dynamic time window to build episodes of care.

Second, OptumInsight argues that the Aetna Proposal is not prior art because the reference was not made

131. Dkt. 92 at 22.

132. RR ¶¶ 25, 27, 29.

133. *See* Dkt. No.167-4 at 37-38.

publicly available.[134] However, CCGroup argues that the Aetna Proposal is anticipating prior art under 35 U.S.C. § 102(g), where it must only show that the system described in the Aetna Proposal was not "abandoned, suppressed or concealed."[135]

For the same reason relating to the earlier lack of public disclosure arguments under § 102(b) and § 102(g), CCGroup's § 102(g) argument fails. Private or confidential sales, those that do not confer knowledge of the invention to the public, do not constitute invalidating art under § 102(g).[136] Accordingly, CCGroup has not raised a genuine issue of material fact as to the Aetna Proposal. Therefore, the Court GRANTS OptumInsight's summary judgment concerning the validity of the Seare Patents relating to the Aetna Proposal.

Finally, CCGroup argues that the asserted claims of the Seare Patents are invalid because they are anticipated by the Cave Article.[137] Specifically, CCGroup argues that the Cave Article teaches reading in claims data, validating that data, and reading a pre-defined relationship between the coding in that data and established medical conditions.[138] However, as explained earlier, the Cave

134. *Id.* at 37.

135. *See* Dkt. No. 167-4 at 38.

136. *See Apotex*, 254 F.3d at 1038-39.

137. *See* Dkt. No. 147-4 at 38.

138. *Id.* at 40.

Article does not disclose a "dynamic time window."[139] Accordingly, given the clear and convincing evidence standard, a reasonable jury could find that CCGroup has not met its burden of showing that the Cave Article does not anticipate each and every element as set forth in the asserted claims of the Seare Patents. Therefore, the Court DENIES CCGroup's summary judgment as to invalidity of the asserted claims of the Seare Patents.

b. Whether the asserted claims of the Seare Patents are definite and enabled under 35 U.S.C. § 112?

CCGroup asserts that element (d), the "grouping" step, is indefinite and lacks enablement because they are "fatally vague and are also inoperable." [140] Specifically, the seemingly two conflicting requirements in the claimed grouping step: (1) satisfying the predefined relationship between the claimed data and the episode treatment category, and (2) satisfying the temporal requirements of the "dynamic time window" for that episode treatment category.[141] The Court disagrees.

Patents are presumed to be valid, and the party challenging the validity of a patent bears the burden of proving invalidity by clear and convincing evidence.[142] The Court looks to the intrinsic evidence because it is the

139. *See* Dkt. No. 139 at 34-38.

140. *See* Dkt. No. 147-4 at 38.

141. *See* CCGroup Ex. 25 at ¶ 76.

142. 35 U.S.C. § 282

primary source for determining the meaning of a claim.[143] Here, the patent examiner rejected claim of the '079 patent as allegedly failing to provide an enabling disclosure for this element.[144] In response, the applicant provided a detailed description of how this feature is enabled by the disclosure, including providing an analysis of the source code appendix.[145] The patent examiner withdrew the rejection.[146]

Accordingly, in light of the clear and convincing evidence standard for proving invalidity, a reasonable jury could find that CCGroup has not met its burden of showing that the specification in the Seare Patents are not definite and enabling under 35 U.S.C. § 112. Therefore, the Court DENIES CCGroup's summary judgment of invalidity relating to the asserted claims of the Seare Patents under §112.

B. Non-Infringement

Both parties move for summary judgment on the infringement issue. OptumInsight moves for summary judgment of non-infringement on all of CCGroup's asserted claims in the '126 Patent.[147] CCGroup moves for summary judgment of non-infringement on all asserted

143. *Phillips v. AWH Corp., et al.*, 415 F.3d 1303, 1312-1324 (Fed. Cir. 2005).

144. *See* Ex. 28 at ING00001552-56.

145. *See id.* at ING00001559-68.

146. *See id.* at ING00001731-33.

147. Dkt. No. 139.

claims in the Seare Patents.[148] The Court DENIES both motions for summary judgment for the following reasons.

i. The Cave '126 Patent

OptumInsight moves for summary judgment on three non-infringement arguments with respect to asserted claims 22 and 29 of the '126 Patent.[149] Specifically, OptumInsight argues that Impact Intelligence uses a different method, and it does not infringe any of the asserted claims of the '126 Patent because Impact Intelligence does not: (1) use a "maximum duration rule to identify" episodes of care; (2) perform a step of "determining eligible physicians and episode of care assignments"; and (3) "calculat[e] weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions."[150] Having reviewed the evidence, the Court disagrees.

A claim for patent infringement must be proven by a preponderance of evidence.[151] Patent infringement is a two-step inquiry. First, the court must construe the asserted patent claim(s) as a matter of law.[152] Second, the

148. Dkt. No. 169.

149. Dkt. No. 139 at 11-12.

150. *Id.*

151. *Advanced Cardiovascular Sys., v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001).

152. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372-74, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996); *Cybor Corp., v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998).

fact finder — here, the court for purposes of summary judgment — must determine whether the accused product, composition, system, or process contains each limitation of the properly construed claims, either literally or under the doctrine of equivalents.[153] The first step is a question of law; the second step is a question of fact.[154]

"Summary judgment on the issue of infringement [or noninfringement] is proper when no reasonable jury could find that every limitation recited in a properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents."[155] To be entitled to summary judgment of noninfringement, the moving party must demonstrate that the facts and inferences, when viewed in the light most favorable to the nonmoving party, would not persuade a reasonable jury to return a verdict in favor of the nonmoving party — the patent owner.[156]

First, the Court has already heard and resolved these issues through the claim construction hearing.[157]

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153. *Id.*

154. *Markman*, 517 U.S. at 372-74; *Ferguson Beauregard v. Mega Sys., Inc.*, 350 F.3d 1327, 1338 (Fed. Cir. 2003).

155. *PC Connector Solutions LLC v SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005).

156. *Bus. Objects, S.A. v. Microstrategy, Inc.*, 393 F.3d 1366, 1372 (Fed. Cir. 2005) (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 106 S. Ct. 2505, 91 L. Ed. 2d 202 (1986)).

157. Dkt. No. 92.

For example, the Court construed "'maximum duration rule' shall mean '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.'"[158] The Court based its definition on its recognition that the '126 Patent's specification and claims "make clear [that] the maximum duration rule is used to control the formation of episodes of care ..."[159] Now, OptumInsight requests the Court for construction of the new term "identify."[160] However, a "trial judge need not repeat or restate every claim term in order to comply with the ruling that claim construction is for the court as it is not an obligatory exercise in redundancy."[161] OptumInsight's argument for the new term "identify" is an attempt to re-litigate the scope of the "maximum duration rule" limitation. As such, "restating a previously settled argument does not create an 'actual dispute regarding the proper scope of the claims' within the meaning of the "maximum duration rule" limitation.[162] Similarly, OptumInsight's argument

158. Dkt. No. 92 at 11.

159. *Id.*

160. Dkt. No. 139

161. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 1997) ("Defendants attempted to resurrect a claim construction that the district court already rejected, without offering a new definition. Restating a previously settled argument does not create an 'actual dispute regarding the proper scope of the claims' within the meaning of 02 Micro. In this situation, the district court was not obligated to provide additional guidance to the jury.").

162. *See Finjan*, 626 F.3d at 1207.

regarding "predefined set" term is an attempt to re-litigate the "calculating weighted episode of care statistics across medical conditions utilizing a predefined set of medical conditions."[163] The Court has already construed "'Weighted Episode of Care Statistics' shall 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."[164] These are both arguments the Court heard and construed during claim construction.[165] Because the Court has already resolved these issues through the construction of the terms, the Court is not obligated to provide another claim construction to these new terms.[166]

Finally, the Court has construed that the ordinary meaning of the term "determining eligible physicians and episode of care assignments" shall apply.[167] OptumInsight argue that Impact Intelligence does not have a step of "determining eligible physicians and episode of care assignments," rather it simply assigns the physicians to report groups and episodes to physicians using a peer group definition, and does not perform an additional step of "determining" whether such previously made assignments are "eligible."[168] Further, OptumInsight argues that the

163. Dkt. No. 139

164. Dkt. No. 92 at 6.

165. *Id.*

166. *See id.*

167. Dkt. No. 92 at 9.

168. *See* Dkt. 139 at 18-19; *see also* Dkt. No. 188 at 5-12.

claims require that the "determining" step come after the "assigning" steps.[169] In response, CCGroup argues that there is nothing in the asserted claims requiring that the determining step be performed in a specific order relative to the assigning steps of the asserted claims.[170] Moreover, CCGroup argues that a proper claim interpretation allows the determining step to be performed before, after, or contemporaneously with the assigning step.[171]

This is a dispute between parties as to how a skilled artisan would interpret the plain and ordinary meaning of the terms at issue. However, disputes over how one skilled in the art would understand the plain meaning of term raises a factual question that must be resolved by the jury.[172] Therefore, "at trial parties may introduce evidence as to the plain and ordinary meaning of the terms not construed by the Court to one skilled in the art, so long as the evidence does not amount to arguing claim construction to the jury."[173]

All three of OptumInsight's non-infringement arguments for Claims 22 and 29 turn on the factual

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169. *Id.*

170. *See* Dkt. No. 164-4 at 12-17.

171. *Id.*

172. *See Apple, Inc. v. Samsung Electronics Co., Ltd.*, 2014 U.S. Dist. LEXIS 22938, 2014 WL 660857, at *3 (N.D. Cal. 2014) ("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. ").

173. *Id.*

question of how one skilled in the art would interpret the plain meaning of the claim terms. Because such questions must be resolved by the jury, it would be inappropriate for the Court to entertain OptumInsight's request for summary judgment of non-infringement at this point.[174] Accordingly, OptumInsight's motion for summary judgment of non-infringement is DENIED in view of the factual dispute as to how a skilled artisan would interpret the plain and ordinary meaning of the terms at issue.

ii. The Seare Patents

CCGroup moves for summary judgment of non-infringement and argues that its Cave Grouper does not infringe the asserted claims of the Seare Patents.[175] The Court disagrees.

While claim construction is a matter of law, infringement itself is a question of fact.[176] Therefore, a plaintiff is only entitled to summary judgment on the question of infringement "if the facts and inferences, when

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174. *See id.* ("The parties did not seek construction of this limitation, accordingly, it must be given its ordinary and customary meaning to a person ordinary skill in the art in question at the time of the invention ... Because reasonable minds could differ both as to the meaning and presence of this final limitation, the court declines to grant either parties' motion for summary judgment with respect to the [] patent.").

175. Dkt. No. 147-4.

176. *See Frank's Casing Crew and Rental Tools, Inc. v. Weatherford International, Inc.*, 389 F.3d 1370, 1376 (Fed. Cir. 2004)

viewed in the light most favorable to [non-moving party], would not persuade a reasonable jury to return a verdict in favor of ...the non-moving party."[177] As such, OptumInsight can defeat the summary judgment motion by presenting evidence from which a reasonable jury could resolve the issue in its favor.[178]

Claim 1 of the Seare Patents requires a step of "(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."[179] The Court has construed that "Episode Treatment Category" shall mean "a classification that includes one or more episode treatment groups" and that the plain meaning of the term "validate" shall apply.[180]

CCGroup asserts that OptumInsight has failed to point to any evidence that the Cave Grouper performs the "reading" function of this step.[181] OptumInsight's expert, Dr. Rattray, points to a pre-programmed table

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177. *Business Objects, S.A. v. Microstrategy, Inc.*, 393 F.3d 1366, 1371 (Fed. Cir. 2004); *see also Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 812 (Fed. Cir. 2002).

178. *Armco, Inc. v. Cyclops Corp.*, 791 F.2d 147, 149 (Fed. Cir. 1986) ("[t]he party opposing the motion is required merely to point to an evidentiary conflict created on the record").

179. *See* '079 Patent at 38:51-54; '252 Patent at 30:45-48.

180. *See* Dkt. No. 92.

181. *See* Dkt. No. 147-4 at 31-32.

in the Cave Grouper to satisfy this step (c) limitation.[182] However, CCGroup argues that the pre-programmed table in the Cave Grouper does not satisfy the claim limitation because it "has nothing to do with reading a diagnosis or treatment code from a claim data record ...."[183] In response, OptumInsight argues that CCGroup's argument is premised on an improper reading of the claim language.[184] In step (c), "the claim requires reading a relationship between [A] and [B], where A is the diagnosis code or the treatment code in the validated data record and B is the pre-defined episode treatment categories. The reference to 'in the validated at least one of a plurality of data records' modifies the source of the diagnosis and treatment codes and is clearly not specifying where the pre-modified relationship or the pre-defined episode treatment categories are being read from."[185]

The Court looks to the intrinsic evidence because it is the primary source for determining the meaning of a claim.[186] The specification supports this plain reading of the claims language. For example, the patent discloses "that CPT treatment codes and ICD-9 diagnosis codes are read from the medical claims data. The index code

182. *See* Rattray Report at ¶¶ 73-74; *see also* Rattray Dep. Tr., 121:12-129:11.

183. *See* Dkt. No. 189-4 at 21-22.

184. *See* Dkt. No. 168 at 31-32.

185. *Id.*

186. *Phillips v. AWH Corp., et al.*, 415 F.3d 1303, 1312-1324 (Fed. Cir. 2005).

described in the '079 patent however, which is one example of the 'predefined relationship,' is read from a look up table in the software."[187] As such, OptumInsight argues that "the predefined relationship between an index code and an ICD-9 code is certainly 'read' — but it is read from a database that is part of the Cave Grouper medical 'knowledgebase' and not from the medical data records."[188]

Next, CCGroup disputes that the Cave Grouper performs step "(d) grouping the validated at least one of a plurality of data records to an episode treatment category based upon the predefined 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."[189]

Here, CCGroup argues that the Cave Grouper does not group claim data to an "episode treatment category" or use "dynamic time windows" to determine which episode treatment category a claim data record will be assigned.[190] Rather, CCGroup argues that since the Cave Grouper forms episodes of care and an episode of care is different from an episode treatment category, the Cave

187. *See* '079 Patent at 24:11-15.

188. Dkt. No. 168 at 32.

189. '079 Patent at 38:55-61; '252 Patent at 30:49-55.

190. *See* Dkt. No. 147-4 at 35-37.

Grouper does not use an episode treatment category.[191] As construed by the Court, an episode treatment category is a classification that includes one or more episode treatment groups.[192] An episode of care is a "group of all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition(s) within a period of interest."[193] Both parties agree that the Cave Grouper forms episodes of care and an episode treatment category is not the same as an episode of care.[194] However, CCGroup argues that the Cave Grouper does not group data records to an episode treatment category which necessarily requires grouping claims data to a "group of medical conditions."[195] OptumInsight contends that what CCGroup calls a "medical condition" in the Cave Grouper is properly viewed as an episode treatment group.[196] Under the Court's construction, a single episode treatment group may constitute an episode treatment category. Thus, the data records are grouped to an episode treatment category (the mechanism by which claims data records are grouped), as opposed to an episode of care, which is the final product resulting from the operation of the claimed process.[197]

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191. *Id.*

192. *See* Dkt. No. 92.

193. Dkt. No. 92 at 24.

194. *See* Dkt. No. 169 at 34.

195. Dkt. No. 189-4 at 21-22.

196. Dkt. No. 169 at 33-36.

197. *Id.*

CCGroup also argues that the Cave Grouper does not use a "dynamic time window" to group data records to an episode treatment category.[198] OptumInsight argues that a "dynamic time window" is performed by the Cave Grouper when forming episodes of care for acute conditions, as confirmed by CCGroup's corporate representative, who testified that "[e]ach medical condition acute has a certain predefined duration of days window period" assigned by CCGroup.[199] The Court has construed that "dynamic time window" shall mean "a time period that can reset based upon receipt of related claim records within a predefined time period."[200] CCGroup distinguishes the Cave Grouper by reading the claim limitation as requiring "the use of dynamic time window to select or alter an episode treatment category."[201]

Again, the Court looks to the intrinsic evidence because it is the primary source for determining the meaning of a claim.[202] The dynamic time window feature of the claim was discussed in the file history of the '079 Patent.[203] Specifically, in an amendment dated January 25, 2002, the applicant explained how the process of "grouping validated data records to episode treatment category" and

198. *See* Dkt. No. 189-4 at 24.

199. *See* Dkt. No. 169 at 36-37; *see also* SB Ex. 29 at 50:7-12.

200. Dkt. No. 92 at 22.

201. Dkt. No. 147-4 at 35.

202. *Phillips*, 415 F.3d at 1312-1324.

203. *See* SB Ex. 28 at ING00001559-68 at 4-7

the dynamic time window" were implemented in the Seare Patents.[204] OptumInsight argues that this explanation makes it clear that the episode treatment category has an associated dynamic time window and that dynamic time window is used to group claims data associated with the episode treatment category.[205] This Court must walk the fine line of using the specification to interpret the meaning of a claim without importing limitations from the specification into the claim.[206] However, the claim language, when properly construed, a genuine issue of material fact existed as to whether accused Cave Grouper contained, literally, every limitation of properly construed claims of the Seare Patents, precluding summary judgment of noninfringement.

Accordingly, CCGroup's summary judgment for non-infringement is DENIED because the Court finds that there is a material factual dispute as to whether CCGroup's Cave Grouper directly infringes Claims 1 of the Seare Patents.

IV. CONCLUSION

For the foregoing reasons, the Court GRANTS in part and DENIES in part OptumInsight's summary judgment. The Court DENIES CCGroup's summary judgment.

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204. *See id.*; *see also* Dkt. No. 169 at 37.

205. *See* Dkt. No. 169 at 37.

206. *Phillips*, 415 F.3d at 1323.

Appendix F

1. Court DENIES OptumInsight's summary judgment as to the invalidity of the '126 Patent.

2. Court DENIES OptumInsight's summary judgment as to the noninfringement of the '126 Patent.

3. Court DENIES OptumInsight's summary judgment as to the validity of the Seare Patents relating to the Cave Article.

4. Court GRANTS OptumInsight's summary judgment as to the validity of the Seare Patents relating to the Aetna Proposal.

5. Court DENIES CCGroup's summary judgment as to the noninfringement of the Seare Patents.

6. Court DENIES CCGroup's summary judgment as to the invalidity of the Seare Patents.

IT IS SO ORDERED.

Dated: February 20, 2015

/s/ Edward J. Davila
EDWARD J. DAVILA
United States District Judge

APPENDIX G — CLAIM CONSTRUCTION ORDER OF THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION, FILED JUNE 7, 2013

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

Case No. 5:11-CV-0469 EJD

CAVE CONSULTING GROUP, INC.,

Plaintiff,

v.

INGENIX, INC.,

Defendant.

June 7, 2013, Decided
June 7, 2013, Filed

CLAIM CONSTRUCTION ORDER

Plaintiff Cave Consulting Group, Inc. ("Cave") brings this suit against Defendant Ingenix, Inc. ("Ingenix") for infringement of U.S. Patent No. 7,739,126 ("the '126 patent"). Ingenix denies infringement, and raises counterclaims alleging infringement of eight of its patents: U.S. Patent Nos. 5,835,897 ("the '897 patent"); 6,370,511 ("the '511 patent); 7,620,560 ("the '560 patent"); 7,774,216 ("the '216 patent); 7,725,333 ("the '333 patent"); 7,979,290

("the '290 patent); 7,222,079 ("the '079 patent"); and 7,774,252 ("the '252 patent").

The parties dispute the proper construction of ten terms used in the claims of these patents. The court held a technology tutorial and claim construction hearing on August 9, 2012. Upon consideration of the claims, specifications, prosecution histories, and other relevant evidence, along with supplemental briefing filed by the parties, and after hearing the arguments of the parties, the court construes the contested language of the patents-in-suit as set forth below.

1. TECHNOLOGY OVERVIEW

The parties are competitors offering healthcare provider efficiency measurement software to the healthcare industry. The patents-in-suit relate to the sorting of healthcare claims data into meaningful groups and using those groupings to evaluate physician efficiency. Ingenix's technology, the Symmetry Episode Treatment Grouper ("Symmetry ETG") is based on the patents of two inventors: Dennis Dang and Jerry Seare. Ingenix Opening Br. 1-2, Dkt. No. 66. The Dang and Seare patents focus on sorting massive healthcare data into meaningful groups based on appropriate time windows. *Id.* at 2. These patents focus exclusively on grouping technology and do not address physician efficiency measurement. Cave's product, the Cave Marketbasket, is based on Dr. Doug Cave's '126 patent. Cave Opening Br. 2, Dkt. No. 64. This patent describes a way to evaluate a physician's performance relative to that of his or her peers, accomplished by first

creating meaningful groups of medical claims data and then by analyzing those groups to measure physician efficiency. *Id.* at 2. Cave's patent thus addresses both the grouping and the efficiency measurement technology.

2. LEGAL STANDARD

Claim construction is a question of law to be decided by the court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir. 1995) (*en banc*), *aff'd* 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). Patent claims are construed in the manner that "most naturally aligns with the patent's description of the invention." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed.Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed.Cir. 1998)). Claim terms are given their ordinary and customary meaning, which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1312-13. The person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1311; *see also Markman*, 52 F.3d at 979 (claims must be read "in view of the specification, of which they are a part").

Claims may be construed using both intrinsic and extrinsic evidence. Intrinsic evidence includes the language of the claims themselves, the patent specification, the prosecution history, and any other statements made by the patentee to the United States Patent and Trademark

Office regarding the scope of the invention. Extrinsic evidence includes dictionaries, technical treatises, and testimony from experts or inventors. Extrinsic evidence may be used if the sources are "helpful in determining the true meaning of language used in the patents." *Phillips*, 415 F.3d at 1318 (internal quotation omitted). However, extrinsic evidence may not be used to contradict the meaning of a claim term as derived from intrinsic sources. *Phillips*, 415 F.3d at 1322-23.

3. CONSTRUCTION OF DISPUTED TERMS

3.1. Disputed Terms in the Cave '126 Patent

3.1.1. "Weighted Episode of Care Statistics"

Cave	***Ingenix***
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	Statistics for an episode of care that are adjusted based on predetermined weight factors that are assigned to each medical condition, the weight factors reflecting the relative importance or relevance of the medical conditions

The '126 patent uses "marketbaskets" to evaluate physician efficiency. Each category of physician has its own marketbasket which reflects the universe of medical

conditions that a physician of that specialty is most likely to treat. Cave Reply Br. 6, Dkt. No. 71. Each medical condition is assigned a weight, which reflects the prevalence of that condition in that particular marketbasket. *Id.* Episodes of care are multiplied by these weights to generate weighted average statistics for the marketbasket as a whole. *Id.* This approach allows physicians within the same specialty to be compared, even if those physicians treat different case mixes.

The parties dispute whether these assigned weights, *i.e.* the "weighted episode of care statistics," must be "predetermined." The preferred embodiment teaches that marketbasket weights are predetermined values that are loaded into the system. *Id.* This approach to weighting is called indirect standardization. However, the '126 patent also claims a direct standardization approach in which the weights are assigned based on the actual mix of medical conditions treated by a physician or his/her peer group as reflected by the data loaded into the system. *Id.* at 7. Ingenix contends that indirect standardization is essential to the construction of this term because Dr. Cave disclaimed direct standardization. Cave argues that the file history does not contain any disclaimer, and that imposing the limitation of predetermined weight factors would effectively invalidate nine dependent claims in the '126 patent which rely on direct standardization.

Ingenix contends that the nine dependent claims relying on direct standardization have no support in the specification, and thus the doctrine of claim differentiation should not preclude the court from construing "weighted episode of care statistics" to be limited to indirect

standardization. Dr. Cave filed his patent application for the '126 patent on March 5, 2004. Several years later, on October 22, 2009, Dr. Cave filed an amendment that, *inter alia*, added the dependent claims reciting direct standardization. JA 3338-3358. The patent examiner rejected these claims as indefinite on January 21, 2010. JA 3408. Dr. Cave responded, describing how the claims utilize direct standardization. JA 3464. In that same exchange, the patent examiner also rejected claims reciting indirect standardization as indefinite, to which Dr. Cave directed the examiner's attention to the patent specification to illustrate how the claims used indirect standardization. The examiner ultimately withdrew the indefiniteness rejection on both the direct and the indirect standardization claims and on June 15, 2010 the '126 patent issued.

Ingenix highlights this background not to argue that Dr. Cave disclaimed direct standardization in the prosecution history, [1] but to show that the nine claims relying on direct standardization are insufficiently supported in the patent specification. Because Dr. Cave directed the examiner's attention to the patent specification to overcome the indefiniteness rejection

1. If Ingenix did intend to argue that this exchange constituted a disclaimer, its argument would fail. It is clear that Dr. Cave intended both direct and indirect standardization to be claimed in the '126 patent. The purpose of this exchange was to explain and support both direct and indirect standardization so that a patent reciting both methods would issue. Therefore, the court finds no "clear and unmistakable disavowal of scope" which would preclude direct standardization. *Grober v. Mako Products, Inc.*, 686 F.3d 1335, 1341 (Fed. Cir. 2012) (citing *Comp. Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374-75 (Fed. Cir. 2008).

for the indirect standardization claims, but could not point to any support in the specification to explain direct standardization, Ingenix contends that the nine dependent claims simply cannot be supported. Considering this background, Ingenix asks the court to view the nine dependent claims relying on direct standardization as a "nullity" because they were improperly added as "new matter" five years after the original patent application. *See* Ingenix Supplemental Br. 2, Dkt. No. 80 (explaining that the nine dependent claims reciting direct standardization were added five years after the initial patent application was filed); 35 U.S.C. § 132(a) (prohibiting amendments from introduction of new matter into the disclosure of the invention). Ingenix' briefing treats these claims as a nullity in its remaining arguments regarding direct standardization. Thus, Ingenix essentially asks the court to first determine what significance, if any, the dependent claims relying on direct standardization have before it construes this term. The court declines to do so. Arguments regarding "new matter" are directed at invalidity, an issue that is not properly before the court here. *See* 35 U.S.C. § 282(b)(2) (an invalidity defense may be based on any ground specified in part II of Title 35). Ingenix' remaining arguments all require the court to read out the nine dependent claims relying on direct standardization. Claims, even later-added dependent claims, are presumed valid (35 U.S.C. § 282) and "are generally construed so as to sustain their validity" (*Becton, Dickinson and Co. v. Tyco Healthcare Gr., LP*, 616 F.3d 1249, 1255 (Fed. Cir. 2010) (citing *Whittaker Corp. v. UNR Indus., Inc.*, 911 F.2d 709, 712 (Fed. Cir. 1990)). For this reason, each of Ingenix' remaining arguments fails.

First, Ingenix contends that Dr. Cave's criticism of direct standardization precludes the court from broadening the construction of this term beyond predetermined weight factors. Ingenix points to the fact that the original '126 patent application did not include any claims or preferred embodiments that relied on direct standardization, and in fact only referenced that method in the form of criticism in the "Background of the Invention" section. Generally, "when the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope." *On Demand Machine Corp. v. Ingram Industries, Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006). Ingenix points to several cases in which the Federal Circuit found a patentee's criticism to operate as a disclaimer. *See Honeywell Int'l, Inc. v. ITT Indus, Inc.*, 452 F.3d 1312, 1319 (Fed. Cir. 2006); *SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys. Inc.*, 242 F.3d 1337, 1341-45 (Fed. Cir. 2001). However, each of these cases address the question of whether or not to broaden a claim term to include an element *not otherwise present* in any of the patent's claims. In contrast, the inventor here criticized an element that later became essential to numerous dependent claims. The court sees no reason to depart from the general principle that claims are to be construed so as to preserve their validity. *See* 35 U.S.C. § 282.

Second, Ingenix points to Dr. Cave's statement that "[t]he system of the present invention uses an indirect standardization technique" to suggest that Dr. Cave intended to exclude direct standardization from the scope

of his claims. '126 patent 92:36-37. While a patentee's statement that a certain feature is part of the "present invention" can provide "strong evidence that the claims should not be read to encompass the opposite structure," (*Scimed*, 242 F.3d at 1343), when such a statement conflicts with other portions of the specification, it does not necessarily serve as a limitation on a patent's claims (*see Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136-37 (Fed. Cir. 2011)). In this case, the '126 patent specification does not uniformly refer to indirect standardization as the "present invention." Rather, it appears that the inventor used this phrase in describing the preferred embodiment. '126 patent 92:39-41. Interpreting Dr. Cave's statement to preclude direct standardization would conflict with other portions of the patent, namely, the nine dependent claims that rely on direct standardization. Therefore, the court finds that Dr. Cave's statements regarding "the present invention" did not operate as a disclaimer.

"Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. The court finds the '126 patent itself instructive here. To construe "weighted episode of care statistics" as being limited to "predetermined" weights would essentially read out the nine dependent claims that rely on direct standardization. Therefore, the court rejects Ingenix' proposal and adopts the Cave construction.

Appendix G

Construction

The court adopts Cave's construction. "Weighted Episode of Care Statistics" shall 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."

3.1.2. "Determining Eligible Physicians and Episode of Care Assignments"

Cave	***Ingenix***
Filtering to identify physicians or episode of care assignments that satisfy criteria for a particular report group	Plain meaning/ *determining physicians who meet eligibility criteria and determining assignments of physicians to episodes of care*

The term "determining eligible physicians and episode of care assignments" is found in both the claims and the specification of the '126 patent. Cave argues that this term is "nuanced" and that construction is necessary "to help the jury understand the functionality of Dr. Cave's inventive method." Dkt. No. 64 at 12. Ingenix maintains that the plain meaning should apply because Cave's proposed construction is an attempt to re-write the claim term and would render other claim language superfluous.

A claim term generally is given its ordinary and customary meaning as it would have been understood

by a person of ordinary skill in the art in question at the time of the invention. *Phillips*, 415 F.3d at 1312-13. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. The court has reviewed this term in the context of the '126 patent and finds that its ordinary meaning as understood by a person of ordinary skill in the art would include nothing more than the plain language of the term.

Each time the term appears, it is immediately followed by an explanation of how it operates. For instance, the term appears as the title of Step 13 in the patent specification. By the time this step is performed, claims data has already been grouped into episodes of care and those episodes have been assigned to treating physicians. '126 patent 50:48-51:38, 66:15-68:16. Step 13 provides:

> This step involves three main functions. The first function is to filter or eliminate physicians with an assigned specialty type that cannot be assigned to one of the 31 marketbaskets. For example, there is no radiologist marketbasket, so radiologists would be removed by this rule. The second function is to eliminate physicians that are not in a report group of interest... The third function is to filter out episode assignments not in a marketbasket.
>
> '126 patent 72:63-73:10.

Similarly, the term is explained in Claim 1 of the '126 patent, which recites

> Determining eligible physicians and episode of care assignments utilizing the computer system comprising:
>
> > Eliminating episode of care assignments to physicians not meeting a selected criterion for the report group of interest....
>
> '126 patent 109:29-33.

And again, in Claim 9 of the '126 patent:

> The method in claim **1** wherein determining eligible physicians and episodes of care assignments further comprises:
>
> > Eliminating physicians from the report group, said eliminated physicians having specialties that are not assigned to a grouping of medical conditions that account for some episodes of care treated by a physician having a specific specialty type.
>
> '126 patent 110:1-8.

The thorough explanations that immediately follow whenever this term appears resolve the parties' dispute. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.,*

Ltd., 521 F.3d 1351, 1361 (Fed. Cir. 2008) (finding that a determination that a claim term "needs no construction" or has the "plain and ordinary meaning" may be inadequate when a term has more than one "ordinary" meaning or when reliance on a term's "ordinary" meaning does not resolve the parties' dispute). From these explanations, it is clear that the invention filters out and eliminates physicians and/or episodes of care not meeting a report group's criteria. The invention separately addresses physicians and episodes of care, and either or both can be filtered out or eliminated.

Given the consistent explanation of this term throughout the '126 patent, the court finds that the jury will likely not be confused by its plain meaning. Indeed, additional construction could render the term more confusing by requiring the jury to cross reference the court's construction with the explanations already provided in the patent. Therefore, the court agrees with Ingenix and declines to construe this term. The ordinary meaning of the term "determining eligible physicians and episode of care assignments" shall apply.

3.1.3. "Maximum Duration Rule"

Cave	***Ingenix***
A time-based rule used to group claim data pertaining to a patient's medical condition(s) into an episode(s) of care	Plain meaning/*a rule that defines a maximum time period*

Appendix G

The term "maximum duration rule" appears in the '126 patent and describes a rule that controls the duration of episodes of care. Ingenix argues that the plain meaning of the term should be applied because the jury will not be confused by the words "maximum," "duration," or "rule." Dkt. No. 66 at 22. Cave contends that the plain meaning of the term does not accurately capture its meaning.

"In some cases, the ordinary meaning of claim language ... may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. However, in certain cases, the meaning of a claim term as understood by a person of ordinary skill in the art is not readily apparent. *Id.* Such is the case here. While the individual words "maximum," "duration," and "rule" are readily understood, when used together in the '126 patent, they comprise a term to which a person of ordinary skill in the art would attribute a special meaning.

Ingenix argues that Cave's proposed construction is improper because it strips out the requirement that the maximum duration rule be based on a "maximum" length of time, and broadens the term to include any time-based rule. Cave does not directly address this argument, but asserts that "the maximum duration rule can define episodes of care based on either a fixed or dynamic time window" and that "the maximum allowable duration may be varied." Dkt. No. 71 at 13 (quoting '126 patent 51:35-38). While these statements are accurate, they do not disprove the assertion that "maximum" durations, and

not simply time-based durations, are at issue in this term. Based on the patent specification and claims, the court has determined that a "time-based rule" is too broad a construction for this term.

As the patent specification and claims make clear, the maximum duration rule is used to control the formation of episodes of care based on the maximum number of days in a predetermined time window. The patent specification provides that "a medical condition's window period is based on the *maximum* number of days between contact with a provider for which follow-up care is still reasonable" and goes on to explain that each condition "has its own unique window period." '126 patent 51:10-15 (emphasis added). The patent claims describe the maximum duration rule's use of these "unique window periods." Particularly, Claim 11 states:

> The method of claim **1** wherein:
>
> > The first maximum duration rule includes claims from a first claim date for a *prespecified* number of days; and
> >
> > The second maximum duration rule includes claims from a first claim date *as long as a number of days between consecutive claims does not exceed a prespecified window.*
>
> '126 patent 110:13-19 (emphasis added).

As used in this claim, the maximum duration rule limits an episode of care to a prespecified window and restricts adding other claims to that episode of care outside of the prespecified window. The use of the maximum duration rule thus depends on a maximum number of days assigned to each medical condition and this concept must be included in the term's construction.

Ingenix also argues that Cave's inclusion of the grouping of claims data into episodes of care in the construction of this term is improper because such grouping is expressly addressed in separate claim language. Cave argues that the specification and claims make clear that the "maximum duration rule" is used to regulate the formation of episodes of care, and thus to understand the term, this language must be included in the construction. The court agrees with Cave. This term cannot be properly understood without a reference to its use in building episodes of care because that concept appears to be inextricably entwined with the rule itself. Thus, the inclusion of grouping in the term's construction is proper.

Construction

The court adopts a modified version of Cave's construction. "Maximum Duration Rule" shall mean "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."

Appendix G

3.2. Disputed Terms in the Ingenix Patents

3.2.1. "Validate/Validated/Validating"

Cave	***Ingenix***
Verifying through look-up tables the existence of a predetermined relationship between a particular diagnosis code and a particular treatment code, and discontinuing the processing of unverified claim data	Plain meaning/*verify or confirm that something is valid*

The term "validate" and variations thereof appear at least in Claim 1 of the '897 patent ("(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" and "(d) grouping the validated at least on of a plurality of data records to an episode treatment category based upon the pre-defined relationship") and Claim 1 of the '511 patent ("(b) validating each of the at least one of a plurality of data records for a valid drug code."). Ingenix argues that "validate" is not a term of art and therefore does not require construction. Cave argues that the plain meaning of the term would be misleading to the jury, as it is divorced from the context of the invention. Cave proposes three limitations to the term validate: 1) look-up tables, 2) a predetermined relationship between a particular diagnosis code and a particular treatment code, and 3) a

discontinuation of the process for invalid claim data. The court will look at each of these limitations in turn.

First, Cave argues that because the patent specification teaches that look-up tables are used to verify the relationship between diagnosis and treatment codes, the construction of validate must include look-up tables. Ingenix argues that use of look-up tables is simply described as a preferred embodiment, and that including a reference to look-up tables in the construction of validate would improperly narrow the scope of its claim.

While the specification is "always highly relevant," *Phillips*, 415 F.3d at 1313, courts "must not import limitations into the claims from the specification." *Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010) (citing *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009)). "Although the specification often describes very specific embodiments of the invention, [the Federal Circuit] ha[s] repeatedly warned against confining the claims to those embodiments." *Phillips*, 415 F.3d at 1323 (citing *Nazomi Communications, Inc. v. ARM Holdings, PLC*, 403 F.3d 1364, 1369 (Fed. Cir. 2005) (claims may embrace "different subject matter than is illustrated in the specific embodiments in the specification")). In fact, courts must take care to avoid limiting claim language to a disclosed preferred embodiment, "unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*,

299 F.3d 1313, 1327 (Fed. Cir. 2002)); *see also Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 807 (Fed. Cir. 2007) (finding that a claimed "transverse" hole in a bone nail was not limited to the particular "perpendicular" orientation shown in the preferred embodiment because the claim language allowed for a broader interpretation).

Here, the patentee showed no clear intention to limit the claim scope to a validation process using only look-up tables. The patent specification teaches the use of look-up tables as a preferred embodiment, but neither the specification nor the file history suggests that look-up tables comprise the exclusive embodiment. Nor has Cave pointed to any evidence supporting its assertion that the data can be verified only by reference to look-up tables. To construe validate to include a reference to look-up tables thus would be to include an unnecessary limitation, based on the preferred embodiment, in the construction of this term. This court declines to do so.

Second, Cave asserts that the treatment and diagnosis codes in the medical claims data are validated on the basis of a predetermined relationship between those codes, and that validate cannot be properly understood without including these predetermined relationships in its construction. Ingenix argues that the language teaching those predetermined relationships flows not from validate, but from the language later in the claim, and thus that including predetermined relationships in the construction of validate would impose improper limitations on the term.

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Step (b) of Claim 1 describes the validating step: "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." As Ingenix points out, the predetermined relationships appear in the following step, step (c) of Claim 1: "reading at least one pre-defined relationship between the at least one of a diagnosis code and a treatment code." From the language and order of the claim, it does not appear that a predetermined relationship is necessary to the validation step described in step (b). Rather, the predetermined relationship is read after the validating step is performed. Because the relationship flows from a separate step in the claimed methods, it would be improper to conflate the two by including predetermined relationships in the construction of validate.

Including predetermined relationships between treatment and diagnosis codes in the construction of validate would also be improper because it would create inconsistent meanings of the term across the patent family. Claim 1 of the '511 patent covers "(b) validating each of the at least one of a plurality of data records for a valid drug code." Validate, as used in this claim, does not relate to treatment and diagnosis codes, but rather to drug records. Cave proposes an alternative construction for validate as it appears in the '511 patent: "verifying through look-up tables whether a particular drug code can be assigned to an open episode treatment group, and discontinuing the processing of any drug codes that cannot be so assigned." Construing the same term in two different ways would not only be unnecessarily confusing but also inappropriate. The '511 patent and '897 patent are members of the same

patent family. Dkt. No. 66 at 4. Given this relationship among the patents, the court should construe the terms consistently across the entire patent family. *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) ("[W]e presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning."). The court thus declines to adopt Cave's limitation because including predetermined relationships between diagnosis and treatment codes in the construction of validate would create a construction that is inapplicable to the term as it is used in other claims in the same patent family.

Third, Cave argues that because the patent teaches that unvalidated claim records are not processed, the termination of processing of unverified claims data must be included in the construction of validate. Ingenix asserts that in doing so, Cave is attempting to append an entirely separate step into a simple claim term.

The parties both point to Figure 3 of the '897 patent:

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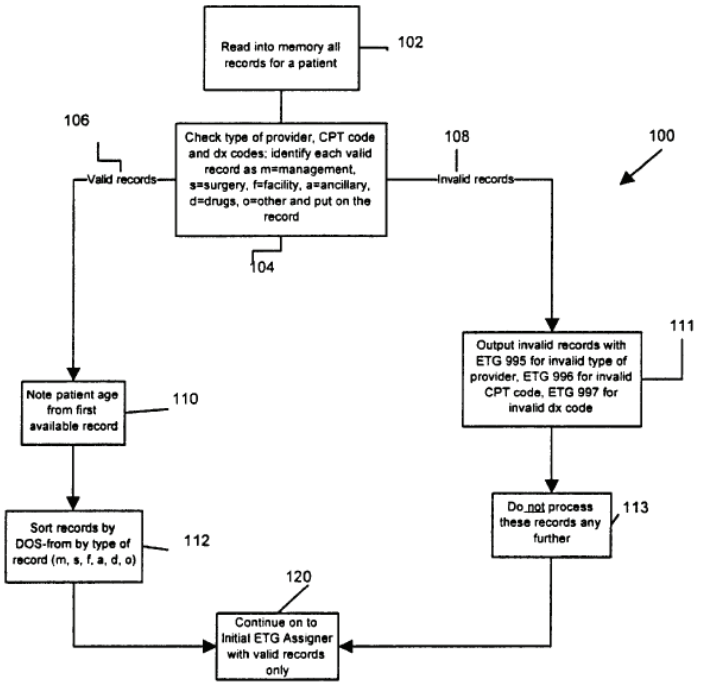
Fig. 3



The specification describes this figure as "a flow diagram illustrating an Eligible Record Check routine which validates and sorts patient claim data records." '897 patent 8:9-11. According to this figure, validation occurs at step 104, and discontinuation of invalid records occurs at step 113. The figure also depicts a number of other steps, including steps relating to loading the claims data into the system (step 102), and the process to follow for valid claims data (steps 106, 110, 112, 120).

It is clear that this figure describes an entire process, of which validation is only one part. Cave does not suggest that this court import other steps such as loading claims data or processing of validated records into the construction of "validate." Yet Cave insists that including the discontinuation step is essential to the construction of this term. Cave fails to explain why it has selectively suggested including the discontinuation step while ignoring others. This court finds that it would be wholly inappropriate to selectively import the discontinuation step into the construction of validate. Doing so would result in a bloated, misleading construction of an otherwise straightforward term.

The court agrees with Ingenix that no further construction of the term validate is necessary. The word validate connotes a process of checking to ensure something is valid or acceptable. As used in the claims, validate means nothing more than its plain meaning. The term is thus sufficiently clear, and the court will not construe it.

3.2.2. "Shift/Shifting/Shifted"

Cave	***Ingenix***
When the next claim line item processed indicates a change from a first to a second clinical condition, the episode is moved to that second clinical condition	Plain meaning/*to move, as in from one group to another*

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The '897 patent family's invention addresses changes in clinical condition through shifting. The term "shift" is found in several claims of the '897 patent family, including dependent Claim 23, which recites "shifting a medical episode to a different medical episode treatment category based upon changes in patient condition comprising at least one of comorbidity, complication and defining surgery." Ingenix argues that the plain meaning of shift is sufficient to understand the claim language. Cave argues the plain meaning ignores that shifting only occurs when the next claim line item indicates a change in clinical condition, and that that change is from a "first" clinical condition to a "second" one.

To support its suggested limitations, Cave points to several portions of the prosecution history in which Mr. Dang, the inventor, describes shifting as moving an episode from one episode treatment group to another based on later presented claims data. Particularly, the prosecution history contains the following descriptions:

- "Mr. Dang conceived of a new ETG construct that first chronologically groups each claim record into an ETG episode having a specific clean period, and then, if a later presented claim record warrants, based upon the diagnosis or treatment code on the later presented claim, potentially shifts the episode into another ETG to reflect the patient's changed condition." JA 553.

- "The version of the ETG Program which existed as of July 1994 did not include the features of an

> episode having dynamic windows of time during which medical claims having dates of service within the dynamic time window time frame could continue to group to the episode and possibly *shift the episode from one ETG identifier to another ETG identifier upon changes in clinical condition*." JA 561, Dang Aff. ¶ 4.

The court agrees with Cave that shifting cannot be understood without a reference to changing clinical conditions. However, the court disagrees with the specific limitations that Cave proposes. Neither the claim language nor the prosecution history demonstrate that the triggering event need be anything more than later claims data showing a change in clinical condition. Cave does not present evidence that the claims data is already sorted in any particular fashion that would make the "next" claim line item and only the "next" claim line item meaningful. Cave's suggestion that shifting is triggered by "the next claim line item" thus presents too narrow a limitation.

Similarly, Cave's proposal that shifting occurs from "a first to a second clinical condition" reads too much into the descriptions of shifting found in the claim language and prosecution history. These descriptions merely reference a shift from one clinical condition to another. The "first" and "second" limitations therefore have no support within the file history.

Construction

The court adopts a modified version of Cave's construction. "Shift/Shifted/Shifting" shall mean "when

later processed claims data indicates a change from one clinical condition to another, the episode is moved to the later clinical condition."

3.2.3. "Reset/Resetting"

Cave	***Ingenix***
When the next claim line item processed has a date of service within the defined time period and associated with the episode, the defined time period starts over	Plain meaning/*restoring an original condition or value of the thing that is reset, e.g., in the context of a dynamic time window, restoring the time window to zero and restarting the time window*

The term "reset" appears throughout the Dang patents and describes a way of increasing the period of time assigned to an episode. Ingenix argues that the term has a clear meaning, and therefore no construction is necessary. Cave argues that the plain meaning of reset would be misleading, because the term applies particularly to a slide in the predefined time window based on a change in claims data. To address this concern, Cave proposes adding two limitations to the construction of reset, namely, a triggering event and a predefined time period.

Ingenix' technology assigns a time period to each episode. For example, claims data reflecting treatment for an upper respiratory infection is grouped to an episode assigned a 30 day time period. When later processed claims data is added to an episode, the time period for that

episode "resets" to account for the new claims data. *See* '897 patent 19:11-14. The episode can be reset to account for an increase in severity in the patient's condition or for a recurrence of the same condition. In either scenario, the time period is reset to 0, and counts up to the new time period.

When the later processed claims data shifts the episode of care to a more severe condition, the time period "resets" to the time period for the new condition. Continuing the upper respiratory infection example, if the patient with the upper respiratory infection visits his doctor again on day 17 and is treated for pneumonia, the episode would reset to 90 days, *i.e.* the time period assigned to pneumonia. *See* JA 562 ("If a record is assigned to an episode and its diagnosis denotes an increase in the episode's severity causing the episode to shift to another ETG, the time window is then reset to the clean period of the new ETG."). Thus, the total time period for the episode in this example would be 107 days.

When the later processed claims data adds another claim to the episode but does not shift the episode to a more severe condition, the time period also resets to 0, but restarts the originally assigned time period. *See* '897 patent, 19:11-14 ("Subsequent episodes of the same nature within a window reset the window for an additional period of time until the patient is asymptomatic for a pre-determined time period....") Keeping with the previous example, if the patient visits his physician on day 17 of his initial 30 day period for upper respiratory infection, but the data reflects the patient was still only treated for an

upper respiratory infection, the time period resets to 0 and counts up to an additional 30 days. The total episode of care in this instance would be 47 days.

The court must determine whether the ordinary meaning of reset is sufficient, or whether to construe this term using the limitations suggested by Cave. Cave first proposes including the triggering event for a reset in the construction of the term. Specifically, Cave proposes the limitation of "[w]hen the next claim line item processed has a date of service within the defined time period and associated with the episode." Ingenix argues that adding a triggering event to the construction of reset would be improper because the triggering event is expressly covered by other claim language. For example in Claim 1 of the '560 patent, the triggering event is specified as "when later presented medical claim data having the at least one characteristic of the episode of care and falling within the first clean period is added to the episode of care." Similarly, Claim 21 of the '897 patent adds the "step of resetting the predefined time window of the medical episode *when a second at least one of the plurality of data records matches an open medical episode*...." The court agrees that the claim language sufficiently covers the triggering event for a reset, and that including a triggering event in the construction of reset itself would be improper. Therefore, the court declines to adopt the limitation of "when the next claim line item processed has a date of service within the defined time period and associated with the episode."

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Cave next proposes that reset requires construction to explain the concept of starting a predefined time period over. Both parties agree that "reset" means to start a time period over. But they disagree on the inclusion of a predefined time period in the term's construction. Again, other claim language makes clear that the time period for the later processed claims data is predefined. *See* '560 patent 40:57-60 ("resetting the first clean period to define a second clean period, the second clean period *defining a second predefined time duration*, wherein the first clean period is reset to the second clean period"); '897 patent 35:56-60 ("step of *resetting the predefined time window* of the medical episode when a second at least one of the plurality of data records matches an open medical episode...."). Appending this claim language to the construction of reset would thus be improper.

The court agrees with Ingenix that the plain meaning of "reset" is sufficient. As the parties agree, to reset is to start over. The claims use this term in the way suggested by its plain and ordinary meaning. Therefore, the court declines to construe this term.

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3.2.4. "Dynamic Time Window"

Cave	***Ingenix***
A predefined period assigned to a clinical condition associated with an episode that resets when claim data for service within the episode is received, and, when the next claim line item processed indicates a change in clinical condition, shifts to the pre-defined period assigned to that new clinical condition	A time period that can change based upon receipt of related claim records within a predefined time period

The dynamic time window is the backbone of Ingenix' technology. Prior to Mr. Dang's invention, the ETG Program was not capable "of accurately grouping claims to clinically homogeneous and statistically stable episode treatment groups and shifting the groupings for changed clinical conditions as would be required by healthcare providers." JA 561, Dang Aff. ¶ 4. By creating "dynamic time windows," in which the episode's time period could change based on changes in in the medical claims data, Mr. Dang was able to more accurately capture the length of a patient's treatment for a certain clinical condition. While the parties agree that in essence, a dynamic time window is a time period assigned to an episode that can change, they disagree as to how that change should be captured in

the term's construction. Particularly, the parties dispute whether the concepts of shifting and resetting need be included in the construction of dynamic time window.

Cave argues that Mr. Dang explicitly included shifting as an inseparable element of the dynamic time window in order to skirt around the on-sale bar issue during patent prosecution. To support its assertion Cave points to the following portions of the '897 patent file history:

- "Mr. Dang conceived of the concepts of dynamic time windows, *i.e.*, changing the time frame during which claims may group to an episode upon presentation of a medical claim having a date of service within the clean period for the episode, and shifting episodes upon changes in the clinical condition, on or about August 24, 1994...." JA 556.

- "[B]etween November 1993 and July 1994 the ETG Program in its developmental versions was neither performing nor capable of performing its intended purpose of grouping claims based on medical episodes and shifting for changes in clinical conditions." JA 553 (citing Dang. Aff. ¶ 4).

- "In August 1994 Mr. Dang conceived of a new ETG construct that first chronologically groups each claim record into an ETG episode having a specific clean period, and then, if a later presented claim record warrants, based upon the diagnosis or treatment coded on the later presented claim, potentially shifts the episode into another ETG to reflect the patient's changed condition." JA 553.

- "The episode's clean period for the purposes of grouping the next record thus could be reset to a new ETGs [*sic*] specific clean period. Hence, the window of time in which records could group to an episode can change as each record is grouped, *i.e.* it is dynamic. Thus, the use of the dynamic time window allows for the shifting of an episode from one ETG to another ETG to reflect a patient's changed condition." *Id.*

- "If a record is assigned to an episode and its diagnosis denotes an increase in the episode's severity causing the episode to shift to another ETG, the time window is then reset to the clean period of the new ETG. Hence, in this respect, the time window could be referred to as dynamic." JA 562, Dang Aff. ¶ 5.

As reflected in these citations, the inventor and his counsel indisputably address shifting and the dynamic time window together. However, Cave's reading of the file history is flawed because it conflates the two concepts. The file history makes clear that while shifting can facilitate a dynamic time window, it is not necessary. In the first section above cited by Cave, Mr. Dang's attorney explained that Mr. Dang conceived of the "concepts" of "dynamic time windows" and "shifting episodes upon changes in the clinical condition." The pluralization of "concepts" implies that dynamic time windows and shifting are not one in the same. Nor are they inextricably linked. In the third citation above, Mr. Dang's attorney explains that the invention "first" groups each claim record, and then "potentially shifts" the episode "if" a later record

warrants it. The conditional language here makes clear that shifting is a step that can, but does not have to, occur when building episodes.

The patent specification also makes clear that the dynamic time window can be employed without a shift. For instance, in the case where a patient visits the doctor with an upper respiratory infection and is assigned to an episode of care having a 30 day period, but visits the doctor again for his respiratory infection on day 17, the time window resets to another 30 day period, creating a 47 day period total. In this scenario, no shift in clinical condition has occurred, but the time period has changed. *See* '897 patent, 19:10-13 ("Subsequent episodes of the same nature within a window reset the window for an additional period of time until the patient is asymptomatic for a pre-determined time period...."). In this sense, the dynamic time window has operated wholly apart from the concept of shifting.

The dynamic time window does, however, facilitate shifting. In creating a way for the episode's assigned time period to change, "the dynamic time window allows for the shifting of an episode from one ETG to another ETG to reflect a patient's changed condition." JA 553. Taking again the example of the patient who visits the doctor with an upper respiratory infection and is assigned a 30 day time window, if that patient on day 17 visits his doctor with pneumonia, the time window changes to 90 days. This change in the time window allows for a shift in episode from upper respiratory infection to pneumonia. That the dynamic time window facilitates shifting, a separate

feature of the technology, is nevertheless insufficient to support Cave's argument that shifting is a necessary component to the construction of dynamic time window.

It is not quite as simple, however, to separate the concept of resetting from the concept of the dynamic time window. For the dynamic time window to be "dynamic," it has to change. That change, as described in the file history and as practiced in Ingenix' product, occurs through the resetting of time periods assigned to episodes when additional claims data so requires. Counsel for Ingenix suggests that a time window may be dynamic in ways apart from resetting, presenting the example of an insurance company that would like to assign different time periods to sequential office visits such that the first visit receives a 30 day time period, the second visit 20 days, and the third visit 15 days. Tutorial/Markman Hr'g Tr. 48:10-19, Aug. 9, 2012, Dkt. No. 82. While the court recognizes that this kind of dynamic time window may be possible, it disagrees with Ingenix that the file history supports this broader reading. Mr. Dang and his attorneys repeatedly referred to the time window as being "dynamic" because of its ability to reset. *See* JA 553, 561-62. The construction of "dynamic time window" therefore may properly include the reset limitation.

Construction

The court adopts a modified version of Ingenix' construction. "Dynamic Time Window" shall mean "a time period that can reset based upon receipt of related claim records within a predefined time period."

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3.2.5. Episode of Care

Cave	***Ingenix***
All claims data for the treatment of a patient's medical condition incurred within a specified period of time	A group of all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition(s) within a period of interest

The term "episode of care" appears in both the Seare patents and the Cave patent. The parties agree that the term should be construed in connection with the Ingenix patents, and that the construction should be the same for the Cave patent. [2] Dkt. No. 66 at 16:7-9. The parties fundamentally disagree on whether "episode of care" should be defined by the healthcare services provided to a patient, or the claims data reflecting the treatment of the patient's condition.

When a patentee acts as his own lexicographer and clearly sets forth a definition of a disputed claim term in the specification or the prosecution history, that express

2. Despite the parties' agreement, they each briefed "episode of care" twice—once for the Cave patent, and once for the Ingenix patents. This court has set a ten term limit for claim construction. Neither party filed for leave to designate additional terms pursuant to EJD Standing Order for Patent Cases § III.B and Local Rule 7-11(b). Therefore, the court will only construe "episode of care" based on the parties' arguments regarding that term as it appears in the Ingenix patents.

definition governs. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). The '079 patent specification states that "[a]n episode of care is generally considered to be all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition." '079 patent 21:3-6. In a response to the PTO, the inventor Jerry Seare affirmed that an episode of care is defined by the collection of services provided to the patient. JA 1881 ("An episode of care is defined as 'all healthcare services provided to the patient for the diagnosis, treatment and aftercare of a specific medical condition.'"). Thus from the intrinsic record it appears that the inventor has provided a definition for this term.

Cave argues that despite this evidence, using healthcare services instead of claims data as the anchor of the term's construction would result in a construction completely divorced from the context of the invention. Because claims data—not healthcare services—actually build the episodes of care, Cave argues, claims data must also be the basis of the term's construction. The intrinsic record here does not support Cave's assertions. The inventor clearly expressed a definition for this term. He included it as part of the patent specification, and quoted that same definition in a response to the PTO. In both instances, the inventor defined the term episode of care by the healthcare services a patient receives. Accordingly, "episode of care" shall be construed using healthcare services.

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Construction

The court adopts Ingenix' construction. "Episode of Care" shall mean "A group of all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition(s) within a period of interest."

3.2.6. "Episode Treatment Group"

Cave	***Ingenix***
All claims data for the treatment of a patient's medical condition incurred within a specified period of time	A group of medical condition(s) that have clinically similar cause(s), treatment(s), and/or diagnos(es)

The term "episode treatment group" ("ETG") appears throughout the claims of the Dang patents and describes the basic analytical unit of the Dang invention. '897 patent, 6:13-19. The '897 patent specification states that "[a]n episode treatment group (ETG) is a clinically homogeneous and statistically stable group of similar illness etiology and therapeutic treatment." '897 patent, 6:17-19. This description appears similar to that of an episode of care, a term found in both the Seare and the Cave patents, which is "all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition." '079 patent, 21:3-6. Ingenix contends that the two concepts are separate. Cave believes them to be identical.

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Ingenix emphasizes that an episode treatment group is defined as a group of medical *conditions*, whereas an episode of care is defined by a group of medical *services*. To highlight this distinction, Ingenix points to Table 1 in the '897 patent, which is a list of 558 episode treatment groups. '897 patent 9:33 and Table 1 9-18.

TABLE 1

	ETG DESCRIPTION
1	AIDS with major infectious complication
2	AIDS with minor infectious complication
3	AIDS with inflammatory complication
4	AIDS with neoplastic complication, with surgery
5	AIDS with neoplastic complication, w/o surgery
6	HIV sero-positive without AIDS
7	Major infectious disease except HIV, with comorbidity
8	Septicemia, w/o comorbidity
9	Major infectious disease except HIV and septicemia, w/o comorbidity

The first entry on this table, for example, is ETG 1 — "AIDS with major infectious complication." That entry and all that follow it describe clinical conditions, rather than the services provided to the patient for treatment of a clinical condition. In contrast, as discussed in the previous section, an episode of care describes the collection of treatments a patient receives for a certain clinical condition.

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Cave argues that, despite the difference in definitions, the two concepts are functionally the same. For instance, Cave points to Claim 3 of the '897 patent, which states:

> The process as claimed in claim **1** wherein the step (e) further includes the step of *classifying the patient records into at least one of a plurality of episode treatment groups* each of the episode treatment groups being defined by an episode treatment category.
>
> '897 patent 34:32-36

While the claimed processes use the same building material (patient records), the final products (episode treatment groups and episodes of care) are not the same. It is clear from the patent language that the process claimed in the Dang patent produces an analytical unit defined by medical conditions, and the process claimed in the Seare patents and used in the Cave patent produces a unit defined by medical services.

Furthermore, the two concepts have already been distinguished in the '079 patent file history. The '079 patent, which utilizes episodes of care, describes the use of "Index Codes." In a response to the PTO dated January 25, 2002, Seare, the inventor, described the creation of episodes of care as relying on Index Codes stating:

> The process of generating an episode of care for a particular general diagnosis involved processing the records from a patient's history

> that relate to the Index Code corresponding to such general diagnosis.
>
> JA 1881.

Seare went on to compare these Index Codes to the episode treatment groups found in the Dang patents:

> The present invention uses Index Codes for the same reason that the Dang 5,835,897 ("Dang") uses Episode Treatment Groups (ETG's), *i.e.*, to group diagnosis codes entered by a doctor on a medical claim form, or other record being used to create episodes of care, into a smaller number of categories that can be considered equivalent for episode of care purposes.
>
> *Id.* at 1882.

Seare certainly understood the concept of episodes of care, and clearly separated that concept from episode treatment groups. Based on this description, if episode treatment groups are identical to anything, it would be Index Codes, not episodes of care. The court therefore declines to conflate the two concepts in its construction.

Construction

The court adopts Ingenix' construction. "Episode Treatment Group" shall mean "a group of medical condition(s) that have clinically similar cause(s), treatment(s) and/or diagnos(es)."

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3.2.7. "Episode Treatment Category"

Cave	***Ingenix***
A table of related diagnosis and treatment codes consolidated into pre-defined medical conditions	A classification that includes one or more Episode Treatment Groups

The term "episode treatment category" appears in both the Dang '897 patent and the Seare '079 patent file history. Claim 1 of the '897 patent provides:

> (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 during which validated at least one of plurality of data records may be grouped to an episode treatment category.
>
> '897 patent 34:22-28.

The '079 file history explains that an episode treatment category is a "designator for a particular medical diagnosis or condition, e.g. acute bronchitis." JA 1881.

Cave proposes adding two limitations to the term episode treatment category. First, Cave proposes that the medical conditions must be predefined. Second, Cave proposes limiting the term's construction to a "table"

defining the relationship between treatment codes and diagnoses.

The court declines to adopt Cave's interpretation for similar reasons to those set forth in other sections of this Order. Particularly, other claim language makes sufficiently clear that episode treatment categories are made based on predefined relationships. *See* '897 patent, Claim 1. Additionally, while Cave argues that "it is inherent from the specification that the 'predefined relationship' is in the form of a table," (Cave Resp. Br. 23, Dkt. No. 71) it fails to point the court to any particular portion of the specification which would require that interpretation. As discussed in Section 3.2.1., though the preferred embodiment does reference look-up tables, Cave has failed to supply the court with evidence suggesting that tables are the exclusive embodiment. Therefore, Cave's proposed limitations are improper and the court will adopt Ingenix' construction.

Construction

The court adopts Ingenix' construction. "Episode Treatment Category" shall mean "a classification that includes one or more Episode Treatment Groups."

IT IS SO ORDERED.

Dated: June 7, 2013

/s/ Edward J. Davila
EDWARD J. DAVILA
United States District Judge

APPENDIX H — DENIAL OF REHEARING OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, DATED AUGUST 14, 2018

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1060

CAVE CONSULTING GROUP, LLC,

Plaintiff-Appellee,

v.

OPTUMINSIGHT, INC., FKA INGENIX, INC.,

Defendant-Appellant.

Appeal from the United States District Court for the Northern District of California in No. 5:11-cv-00469-EJD, Judge Edward J. Davila.

ON PETITION FOR REHEARING *EN BANC*

Before Prost, *Chief Judge*, Newman, Lourie, Dyk, Moore, O'Malley, Reyna, Wallach, Taranto, Chen, Hughes, and Stoll, *Circuit Judges.*

Per Curiam.

Appendix H

ORDER

Appellee Cave Consulting Group, LLC filed a petition for rehearing *en banc*. A response to the petition was invited by the court and filed by appellant OptumInsight, Inc. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing *en banc* was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

It Is Ordered That:

The petition for panel rehearing is denied.

The petition for rehearing *en banc* is denied.

The mandate of the court will issue on August 21, 2018.

For the Court

August 14, 2018
Date

/s/Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

APPENDIX I — STATUTORY PROVISIONS

35 U.S.C.

United States Code, 2011 Edition

Title 35 - PATENTS

PART II - PATENTABILITY OF INVENTIONS AND GRANT OF PATENTS

CHAPTER 11 - APPLICATION FOR PATENT

§112. Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

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Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

(July 19, 1952, ch. 950, 66 Stat. 798; Pub. L. 89–83, §9, July 24, 1965, 79 Stat. 261; Pub. L. 94–131, §7, Nov. 14, 1975, 89 Stat. 691; Pub. L. 112–29, §4(c), Sept. 16, 2011, 125 Stat. 296.)

Amendment of Section

Pub. L. 112–29, §4(c), (e), Sept. 16, 2011, 125 Stat. 296, 297, provided that, effective upon the expiration of the

1-year period beginning on Sept. 16, 2011, and applicable to any patent application that is filed on or after that effective date, this section is amended:

(1) in the first undesignated paragraph—

(A) by striking "The specification" and inserting "(a) IN GENERAL.—The specification"; and

(B) by striking "of carrying out his invention" and inserting "or joint inventor of carrying out the invention";

(2) in the second undesignated paragraph—

(A) by striking "The specification" and inserting "(b) CONCLUSION.—The specification"; and

(B) by striking "applicant regards as his invention" and inserting "inventor or a joint inventor regards as the invention";

(3) in the third undesignated paragraph, by striking "A claim" and inserting "(c) FORM.—A claim";

(4) in the fourth undesignated paragraph, by striking "Subject to the following paragraph," and inserting "(d) REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e),";

(5) in the fifth undesignated paragraph, by striking "A claim" and inserting "(e) REFERENCE IN MULTIPLE DEPENDENT FORM.—A claim"; and

(6) in the last undesignated paragraph, by striking "An element" and inserting "(f) ELEMENT IN CLAIM FOR A COMBINATION.—An element".

See 2011 Amendment note below.

Appendix I

Historical and Revision Notes

Based on Title 35, U.S.C., 1946 ed., §33 (R.S. 4888, amended (1) Mar. 3, 1915, ch. 94, §1, 38 Stat. 958; (2) May 23, 1930, ch. 312, §2, 46 Stat. 376).

The sentence relating to signature of the specification is omitted in view of the general requirement for a signature in section 111.

The last sentence is omitted for inclusion in the chapter relating to plant patents.

The clause relating to machines is omitted as unnecessary and the requirement for disclosing the best mode of carrying out the invention is stated as generally applicable to all types of invention (derived from Title 35, U.S.C., 1946 ed., §69, first defense).

The clause relating to the claim is made a separate paragraph to emphasize the distinction between the description and the claim or definition, and the language is modified.

A new paragraph relating to functional claims is added.

Amendments

2011—Pub. L. 112–29 designated first to sixth pars. as subsecs. (a) to (f), respectively, inserted headings, in subsec. (a), substituted "or joint inventor of carrying out

the invention" for "of carrying out his invention", in subsec. (b), substituted "inventor or a joint inventor regards as the invention" for "applicant regards as his invention", and in subsec. (d), substituted "Subject to subsection (e)," for "Subject to the following paragraph,".

1975—Pub. L. 94–131 substituted provision authorizing the writing of claims, if the nature of the case admits, in dependent or multiple dependent form for prior provision for writing claims in dependent form, required claims in dependent form to contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed, substituted text respecting construction of a claim in dependent form so as to incorporate by reference all the limitations of the claim to which it refers for prior text for construction of a dependent claim to include all the limitations of the claim incorporated by reference into the dependent claim, and inserted paragraph respecting certain requirements for claims in multiple dependent form.

1965—Pub. L. 89–83 permitted a claim to be written in independent or dependent form, and if in dependent form, required it to be construed to include all the limitations of the claim incorporated by reference into the dependent claim.

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent application that is filed

on or after that effective date, see section 4(e) of Pub. L. 112–29, set out as a note under section 111 of this title.

Effective Date of 1975 Amendment

Amendment by Pub. L. 94–131 effective Jan. 24, 1978, and applicable on and after that date to patent applications filed in the United States and to international applications, where applicable, see section 11 of Pub. L. 94–131, set out as an Effective Date note under section 351 of this title.

Effective Date of 1965 Amendment

Amendment by Pub. L. 89–83 effective three months after July 24, 1965, see section 7(a) of Pub. L. 89–83, set out as a note under section 41 of this title.

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35 U.S.C. 112 (PRE-AIA) SPECIFICATION.

[Editor Note: Not applicable to any patent application filed on or after September 16, 2012. See 35 U.S.C. 112 for the law otherwise applicable.]

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation

of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

(Amended July 24, 1965, Public Law 89-83, sec. 9, 79 Stat. 261; Nov. 14, 1975, Public Law 94-131, sec. 7, 89 Stat. 691.)