APPENDIX

APPENDIX A

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

CELGENE CORPORATION,
Appellant

v.

LAURA A. PETER, DEPUTY UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DEPUTY DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2018-1167, 2018-1168, 2018-1169

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2015-01096, IPR2015-01102, IPR2015-01103.

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CELGENE CORPORATION,
Appellant

v.

LAURA A. PETER, DEPUTY UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DEPUTY DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2018-1171

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2015-01092.

Decided: July 30, 2019

GREGORY A. CASTANIAS, Jones Day, Washington, DC, argued for appellant. Also represented by JIHONG LOU, JENNIFER LORAINE SWIZE; GASPER LAROSA, New York, NY; ANTHONY INSOGNA, San Diego, CA; FRANK CHARLES CALVOSA, F. DOMINIC CERRITO, ANDREW CHALSON, Quinn Emanuel Urquhart & Sullivan, LLP, New York, NY.

AMY J. NELSON, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, argued for intervenor. Also represented by MEREDITH HOPE SCHOENFELD, THOMAS W. KRAUSE. Also argued by KATHERINE TWOMEY ALLEN, Appellate Staff, Civil Division, United States Department of Justice, Washington, DC. Also represented by MARK R. FREEMAN, SCOTT R. MCINTOSH, JOSEPH H. HUNT.

Before PROST, *Chief Judge*, BRYSON and REYNA, *Circuit Judges*.

PROST, *Chief Judge*.

The Coalition for Affordable Drugs VI LLC ("CFAD") filed a petition for *inter partes* review ("IPR") challenging the validity of all of the claims of U.S. Patent No. 6,045,501 ("the '501 patent") and three petitions for IPR challenging the validity of all of the claims of U.S. Patent No. 6,315,720 ("the '720 patent").

The Patent Trial and Appeal Board ("Board") determined that all of the claims of the '501 patent and claims 1–9 and 11–32 of the '720 patent were obvious. Celgene Corporation ("Celgene") appeals the Board's decisions.

For the reasons explained below, we affirm the Board's decisions finding the appealed claims obvious. We also hold that the retroactive application of IPR proceedings to pre-AIA patents is not an unconstitutional taking under the Fifth Amendment.

I

A

A teratogen is an agent known to disturb the development of an embryo or fetus. Teratogenic drugs can cause birth defects or other abnormalities following fetal exposure during pregnancy. One example of a teratogenic drug is thalidomide. Thalidomide, first synthesized in 1957, was originally marketed for use as a sedative in many countries, not including the United States. *See* '501 patent col. 1 ll. 19–22. Following reports of serious birth defects, thalidomide was withdrawn from all markets by 1962. *Id.* at col. 1 ll. 22–24. Despite these teratogenic effects, thalidomide has proven to be effective in treating other conditions. *See id.* at col. 1 ll. 24–35. The '501 patent and the '720 patent are generally directed to methods for safely distributing teratogenic or other potentially hazardous drugs while avoiding exposure to a fetus to avoid adverse side effects of the drug.

B

In order to obtain FDA approval to sell and distribute thalidomide, Celgene developed a system to

safely distribute thalidomide to patients, which it called the System for Thalidomide Education and Prescription Safety ("Original S.T.E.P.S."). Appeal No. 18-1171, Appellant's Br. 8–9. According to Celgene, the '501 patent is directed to its Original S.T.E.P.S. program. *See id.* at 10.

Celgene's '501 patent relates to "methods for delivering a drug to a patient while preventing the exposure of a foetus or other contraindicated individual to the drug." '501 patent at Abstract. Claim 1 is representative and states:

> 1. A method for delivering a teratogenic drug to patients in need of the drug while avoiding the delivery of said drug to a foetus comprising:
>
> a. registering in a computer readable storage medium prescribers who are qualified to prescribe said drug;
>
> b. registering in said medium pharmacies to fill prescriptions for said drug;
>
> c. registering said patients in said medium, including information concerning the ability of female patients to become pregnant and the ability of male patients to impregnate females;
>
> d. retrieving from said medium information identifying a subpopulation of said female patients who are capable of becoming pregnant and male patients who are capable of impregnating females;
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> e. providing to the subpopulation, counseling information concerning the risks attendant to fetal exposure to said drug;

> f. determining whether patients comprising said subpopulation are pregnant; and
>
> g. in response to a determination of non-pregnancy for said patients, authorizing said registered pharmacies to fill prescriptions from said registered prescribers for said non-pregnant registered patients.

Id. at claim 1. Claim 2 recites "[t]he method of claim 1 wherein said drug is thalidomide." The remaining claims depend from claim 1 and are not limited to thalidomide.

CFAD filed a petition for IPR challenging all ten claims of the '501 patent. The Board instituted review of claims 1–10 on a single ground—obviousness based on Powell,[1] Mitchell,[2] and Dishman.[3] *Coalition for Affordable Drugs VI LLC v. Celgene Corp.*, No. IPR2015-01092, Paper 20 (P.T.A.B. Oct. 27, 2015).

In its final written decision, the Board held that CFAD had shown by a preponderance of the evidence that claims 1–10 of the '501 patent are unpatentable as obvious over the combination of Powell, Mitchell, and Dishman. *Coalition for Affordable Drugs VI LLC*

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[1] R.J. Powell & J.M.M. Gardner-Medwin, *Guideline for the Clinical Use and Dispensing of Thalidomide*, 70 Postgrad Med. J. 901–904 (1994) (Appeal No. 18-1171, J.A. 324–25).

[2] Allen A. Mitchell et al., *A Pregnancy-Prevention Program in Women of Childbearing Age Receiving Isotretinoin*, 333:2 New Eng. J. Med. 101–06 (July 13, 1995) (Appeal No. 18-1171, J.A. 328–33).

[3] Benjamin R. Dishman et al., *Pharmacists' Role in Clozapine Therapy at a Veterans Affairs Medical Center*, 51 Am. J. Hosp. Pharm. 899–901 (Apr. 1, 1994) (Appeal No. 18-1171, J.A. 334–36).

v. Celgene Corp., No. IPR2015-01092, Paper 73, at 33 (P.T.A.B. Oct. 26, 2016) ("*'501 Final Written Decision*"). The Board denied Celgene's request for rehearing.

C

In the interim, Celgene "overhaul[ed]" its Original S.T.E.P.S. program to create what it called an "Enhanced S.T.E.P.S." program. Appeal No. 18-1167, Appellant's Br. 8–9. According to Celgene, the '720 patent is directed to its Enhanced S.T.E.P.S. program. *See id.* at 10.

Celgene's '720 patent relates to "[i]mproved methods for delivering to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by the drug." '720 patent at Abstract. Claim 1, written in Jepson format, states:

> 1. In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:

> a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;
>
> b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;
>
> c. in response to said information set, assigning said patient to at least one of said risk groups and entering said risk group assignment in said medium;
>
> d. based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and
>
> e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

CFAD filed three petitions for IPR, each challenging all 32 claims of the '720 patent. The Board instituted review of claims 1–32 in all three cases. In the first IPR, the Board instituted review based on obviousness over the Thalomid Package Insert,[4] Cunningham,[5] Zeldis,[6] and other prior art. *Coalition for Affordable*

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[4] *Thalomid™ (Thalidomide) Capsules Revised Package Insert* (July 15, 1998) (Appeal No. 18-1167, J.A. 411–32).

[5] U.S. Patent No. 5,832,449 (Appeal No. 18-1167, J.A. 440–62).

[6] Jerome B. Zeldis et al., *S.T.E.P.S.™: A Comprehensive Program for Controlling and Monitoring Access to Thalidomide*,

Drugs VI, LLC v. Celgene Corp., No. IPR2015-01096, Paper 21 (P.T.A.B. Oct. 27, 2015). In the second IPR, the Board instituted review based on obviousness over Powell and Dishman, in view of Cunningham, and further in view of Mann[7] and other prior art. *Coalition for Affordable Drugs VI, LLC v. Celgene Corp.*, No. IPR2015-01102, Paper 21 (P.T.A.B. Oct. 27, 2015). In the third IPR, the Board instituted review based on obviousness over the same references as the second IPR but using Mitchell instead of Powell as the base reference. *Coalition for Affordable Drugs VI, LLC v. Celgene Corp.*, No. IPR2015-01103, Paper 22 (P.T.A.B. Oct. 27, 2015).

In each of its final written decisions, the Board held that CFAD had shown by a preponderance of the evidence that claims 1–32 of the '720 patent were unpatentable as obvious over the instituted ground. *Coalition for Affordable Drugs VI, LLC v. Celgene Corp.*, No. IPR2015-01096, Paper 73 (P.T.A.B. Oct. 26, 2016) ("*-01096 Final Written Decision*"); *Coalition for Affordable Drugs VI, LLC v. Celgene Corp.*, No. IPR2015-01102, Paper 75 (P.T.A.B. Oct. 26, 2016) ("*-01102 Final Written Decision*"); *Coalition for Affordable Drugs VI, LLC v. Celgene Corp.*, No. IPR2015-01103, Paper 76 (P.T.A.B. Oct. 26, 2016) ("*-01103 Final Written Decision*"). Following Celgene's request for rehearing, the Board modified its final

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Clinical Therapeutics® 21:2, 319–30 (1999) (Appeal No. 18-1167, J.A. 491–502).

[7] Thaddeus Mann & Cecelia Lutwak-Mann, *Passage of Chemicals into Human and Animal Semen: Mechanisms and Significance*, 11:1 CRC Critical Reviews in Toxicology 1, 1–14 (1982) (Appeal No. 18-1167, J.A. 8237–52).

written decisions to uphold the patentability of claim 10 because CFAD failed to prove that claim obvious by a preponderance of the evidence.

D

Celgene timely appealed all four IPRs. We consolidated the appeals from the three IPRs on the '720 patent (Appeal Nos. 18-1167, 18-1168, 18-1169) and designated the appeal from the IPR on the '501 patent (Appeal No. 18-1171) as a companion case. CFAD did not participate in these appeals. The Director of the United States Patent and Trademark Office ("PTO") intervened pursuant to 35 U.S.C. § 143.

We have jurisdiction over these appeals pursuant to 28 U.S.C. § 1295(a)(4)(A).

II

On appeal, Celgene argues that the Board erred in finding all claims of the '501 patent and claims 1–9 and 11–32 of the '720 patent obvious. Celgene also argues that the retroactive application of IPRs to patents filed before September 16, 2012, when the relevant provisions of the Leahy-Smith America Invents Act went into effect ("pre-AIA patents"), is an unconstitutional taking. We begin by addressing the merits of these appeals. Then, because we affirm the Board's obviousness determinations, we turn to the constitutional challenge.

A

1

Obviousness is a question of law based on underlying factual determinations. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015). We review the Board's ultimate obviousness

determination de novo and underlying factual findings for substantial evidence. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). Substantial evidence is "more than a mere scintilla" and means "'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'" *Biestek v. Berryhill*, 139 S. Ct. 1148, 1154 (2019) (quoting *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938)).

We review the Board's determination of the broadest reasonable interpretation of the claim language de novo. *Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1360 (Fed. Cir. 2015).[8]

2

We begin with the '501 patent. Celgene seeks reversal, or at least vacatur and remand, of the Board's determination that CFAD established by a preponderance of the evidence that claims 1–10 would have been obvious over the combination of Powell, Mitchell, and Dishman. The Board relied on Powell's teachings of the clinical use and dispensing of thalidomide; Mitchell's description of a pregnancy-prevention program for women users of Accutane, another teratogenic drug; and Dishman's

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[8] We note that the PTO has since changed the claim construction standard used in IPR proceedings. *See* 37 C.F.R. § 42.100(b); *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (to be codified at 37 C.F.R. pt. 42). The new standard applies only to petitions filed on or after November 13, 2018, and therefore does not impact these cases. In these IPRs, the claims were to be construed using the broadest reasonable interpretation in light of the specification. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2146 (2016).

disclosure of a registry for pharmacies, prescribers, and users of clozapine, an anti-psychotic drug with serious potential side effects. *'501 Final Written Decision* at 13. The Board determined that a person of ordinary skill in the art would have been motivated to combine Powell, Mitchell, and Dishman "to address the problem of limiting thalidomide access to patients likely to suffer serious adverse side effects, including birth defects in a developing fetus." *Id.* at 24.

On appeal, Celgene challenges three aspects of the Board's obviousness determination: (1) its finding that the prior art satisfies the "computer readable storage medium," limitation, which rises and falls with a claim construction argument; (2) its finding that it would have been obvious to counsel male patients about the risks of teratogenic drugs; and (3) its findings on secondary considerations. We address each in turn.

a

Before the Board, Celgene argued that the term "computer readable storage medium" in claim 1 requires a *centralized* computer readable storage medium, namely "a centralized database that includes all registration information regarding the claimed prescribers, pharmacies, and patients." *'501 Final Written Decision* at 9–10. The Board considered Celgene's proffered construction and rejected its argument that the computer readable storage medium of claim 1 must be centralized. *Id.* at 10–11. First, the Board noted that the term "centralized" does not appear in claim 1. *Id.* at 10. In addition, the Board found that the specification does not require that all registration information be centralized in one

database. *Id.* ("'The computer readable storage medium in which the pharmacies are registered may be the same as, or different from the computer readable storage medium in which the prescribers are registered.'" (quoting '501 patent col. 4 ll. 54–57)). Finally, the Board considered and rejected Celgene's prosecution history and extrinsic evidence arguments. *See id.* at 10–11.

On appeal, Celgene again argues that the claims require a *centralized* computer readable storage medium. Appeal No. 18-1171, Appellant's Br. 31–36. According to Celgene, the claims' use of the term "said medium" referring back to "a computer readable storage medium" indicates that it must be a single, centralized computer readable storage medium. *Id.* at 32. But, as the PTO points out, the use of "a" or "an" in an open-ended "comprising" claim connotes "one or more." Appeal No. 18-1171, Intervenor's Br. 26–27; *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008). And "[t]he subsequent use of definite articles 'the' or 'said' in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning." *Baldwin*, 512 F.3d at 1342. Exceptions to the general rule that "a" or "an" means more than one arise only when "the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule." *See id.* at 1342–43.

Neither the claims themselves, the specification, nor the prosecution history necessitate such a departure. *See '501 Final Written Decision* at 10–11. The claims recite "a computer readable storage medium" and do not specify that it is centralized. The

specification does not require that the computer readable storage medium be centralized. In fact, the specification envisions that there may be multiple, distinct computer readable storage media, i.e., separate media for prescribers, pharmacies, and patients. *See* '501 patent at col. 4 ll. 54–57, col. 10 ll. 13–17.

Further, we are not persuaded by Celgene's argument that the prosecution history disclaimed a non-centralized computer readable storage medium. *See* Appeal No. 18-1171, Appellant's Br. 33–34. We agree with the PTO that the better reading of the prosecution history is that Celgene distinguished the claimed invention from the prior art on the basis that the invention uses a computer readable storage medium while the prior art used the Internet. *See* Appeal No. 18-1171, Intervenor's Br. 31–33.

Finally, because the intrinsic evidence does not require a *centralized* computer readable storage medium, the Board was correct to not allow the extrinsic evidence, including expert testimony, to "trump the persuasive intrinsic evidence in this case." *'501 Final Written Decision* at 10. Under the broadest reasonable interpretation, the Board was therefore correct in determining that claim 1 was not limited to a *centralized* computer readable storage medium.

Based on the Board's finding that the computer readable storage medium recited in claim 1 need not be centralized, the Board found that Dishman's "computerized lockout system" satisfied the claim limitation. *Id.* at 18–20. Celgene concedes that Dishman teaches a decentralized storage medium and

does not dispute that Dishman satisfies this limitation under the Board's construction. *See* Appeal No. 18-1171, Appellant's Br. 37. Because Celgene's challenge relies entirely on its proposed claim construction and we affirm the Board's construction, Celgene's challenge must fail.[9]

For these reasons, Celgene's arguments on the "computer readable storage medium" limitation are unpersuasive and are not grounds for reversal or vacatur and remand.

b

Claim 1 of the '501 patent requires providing "male patients who are capable of impregnating females" with "counseling information concerning the risks attendant to fetal exposure to said drug." Celgene argues that counseling male patients about the risks of fetal exposure to the drug upon or after fertilization would not have been obvious. Appeal No. 18-1171, Appellant's Br. 25–31.

In finding this limitation obvious, the Board relied on CFAD's expert Dr. Jeffrey Fudin's opinion that at the time of the alleged invention, "the sperm of male patients could be damaged by teratogenic drugs and consequently result in birth defects, if the male was to impregnate a female." *'501 Final Written Decision* at 15–16. For support, Dr. Fudin relied on the Mann study, which showed that thalidomide had negative effects on the sperm of male rabbits and the fetuses

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[9] Even under Celgene's claim construction, the Board determined that its ultimate determination on obviousness would not change. *'501 Final Written Decision* at 11, 20. Specifically, the Board held, in the alternative, that using a centralized database would have been obvious. *See id.* at 20.

resulting from mating with female rabbits. *See id.* at 15–17.

The Board evaluated Dr. Fudin's opinion and the supporting Mann study and credited his testimony that a person of ordinary skill in the art would have "understood the necessity of counseling males, capable of impregnating females, about the risks that attend fetal exposure to a teratogenic drug." *Id.* at 16–17. The Board acknowledged that Powell stated that "[n]o effects on male sperm are recognized," but found that statement alone insufficient to defeat Dr. Fudin's testimony that an ordinarily skilled artisan would have recognized that sperm of male patients treated with teratogenic drugs could lead to birth defects in fetuses. *Id.* at 17.

On appeal, Celgene primarily disputes the Board's reading of Powell, specifically the statement that "[n]o effects on male sperm are recognized." *See* Appeal No. 18-1171, Appellant's Br. 26–29. The Board found that, when read in context, this statement in Powell refers to the *contraceptive* effects thalidomide has on male sperm, not the *teratogenic* effects thalidomide has on male sperm. *See '501 Final Written Decision* at 17. Celgene argues that "[n]o reasonable fact finder could possibly read" this sentence in Powell "as referring to the *contraceptive* effects of thalidomide." Appeal No. 18-1171, Appellant's Br. 27. But, the Board's decision on this limitation relied on Dr. Fudin's opinion, supported by Mann, as described above.

Celgene's main challenge to Dr. Fudin's opinion and his reliance on Mann was that the Mann study was conducted on male rabbits rather than human men.

Appeal No. 18-1171, Appellant's Br. 30–31, Reply Br. 7–8. The Board considered and rejected this argument. *See '501 Final Written Decision* at 17 (noting that Celgene previously admitted that studies related to rabbit sperm were relevant to evaluating the effects of thalidomide on human sperm). Substantial evidence supports the Board's ultimate determination, based on Dr. Fudin's opinion as supported by Mann, that it would have been obvious in light of the prior art to counsel male patients about the risks of fetal exposure to the drug.

c

Finally, Celgene challenges the Board's determination that Celgene's evidence of objective indicia of non-obviousness was unpersuasive. The Board considered and weighed Celgene's evidence of long-felt but unmet need, industry praise, and unexpected results. Substantial evidence supports the Board's conclusions on each of these secondary considerations and its conclusion that they do not outweigh the showing of obviousness.

The Board found that Celgene failed to establish a long-felt but unsolved need because it did not show that the prior art methods of controlling the distribution of hazardous drugs—including Mitchell and Dishman—were insufficient to meet any need to control distribution of thalidomide. *'501 Final Written Decision* at 28. The Board acknowledged Celgene's evidence of industry praise and gave it weight. *See id.* The Board also considered Celgene's evidence of unexpected results but ultimately gave it "little weight" because the Board was not persuaded that the results obtained by combining the features of the prior

art drug distribution programs to control distribution of thalidomide would have been truly unexpected. *See id.* at 28–29. The Board concluded that the evidence of secondary considerations did not outweigh the strong showing of obviousness. *See id.* at 29.

On appeal, Celgene challenges the Board's findings on unexpected results and long-felt need. Appeal No. 18-1171, Appellant's Br. 38–41, Reply Br. 16–23. On unexpected results, Celgene faults the Board's decision to give its evidence "little weight" and argues that it should have been given "significant, if not dispositive weight." Appeal No. 18-1171, Appellant's Br. 39–40. However, substantial evidence supports the Board's assessment and weighing of this evidence, and we decline to reweigh the evidence on appeal. *See In re NTP, Inc.*, 654 F.3d 1279, 1292 (Fed. Cir. 2011) ("This court does not reweigh evidence on appeal, but rather determines whether substantial evidence supports the Board's fact findings."); *Regents of the Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1294 (Fed. Cir. 2018) ("We do not reweigh the evidence. It is not our role to ask whether substantial evidence supports fact-findings not made by the Board, but instead whether such evidence supports the findings that were in fact made.").

On long-felt need, Celgene identifies what it contends is an "inconsisten[cy]" between the Board's determination in this IPR on the '501 patent and the IPRs on the '720 patent. Appeal No. 18-1171, Reply Br. 22–23. In this case, the Board found no long-felt but unmet need for a better system to distribute potentially hazardous drugs like thalidomide in part because existing systems were available and adequate. *'501 Final Written Decision* at 28. As

explained below, in the IPRs on the '720 patent, the Board found that there was a motivation to improve existing distribution systems for potentially hazardous drugs because of the severity of the possible adverse effects. *See, e.g.*, *-01096 Final Written Decision* at 22–23.

Contrary to Celgene's assertion, this tension is not irreconcilable. The fact that there is no long-felt, unmet need does not necessarily mean that there is no motivation to improve a system. *See Spectrum Pharm., Inc. v. Sandoz Inc.*, 802 F.3d 1326, 1336 (Fed. Cir. 2015) (upholding district court's finding that "despite the motivation . . . there was not a long-felt but unmet need"). In fact, Celgene stated that it was "committed to making the S.T.E.P.S. program succeed and will make any modifications to the program that are necessary to ensure its effectiveness." *See* Appeal No. 18-1167, J.A. 501. Especially in this context involving safety, we see no conflict between finding a motivation to improve the safety of existing systems even though the existing systems were mostly successful. We conclude that substantial evidence supports the Board's assessment of Celgene's evidence of long-felt, unresolved need.

Finally, we see no error in the Board's ultimate determination of obviousness. Before concluding that the claims would have been obvious, the Board weighed the "strong showing of obviousness" against the "appropriate weight" given to evidence of industry praise and the "little weight" given to evidence of unexpected results. *'501 Final Written Decision* at 28–29.

We therefore affirm the Board's holding that claims 1–10 of the '501 patent are unpatentable as obvious over the asserted prior art.

3

Turning to the '720 patent, Celgene seeks reversal, or at least vacatur and remand, of the Board's determinations that CFAD established by a preponderance of the evidence that claims 1–9 and 11–32 would have been obvious over the prior art. The Board's analysis relevant to this appeal was nearly identical across all three proceedings. *See -01096 Final Written Decision* at 15–26; *-01102 Final Written Decision* at 16–27; *-01103 Final Written Decision* at 16–27; *see also* Appeal No. 18-1167, Appellant's Br. 27, Intervenor's Br. 26.

On motivation, the Board determined that a person of ordinary skill in the art would have been motivated to improve the existing distribution methods of potentially hazardous drugs because "where significant safety risks exist with a drug, one would continuously search for safer ways to control the distribution of the drug." *-01096 Final Written Decision* at 22–23; *-01102 Final Written Decision* at 24–25; *-01103 Final Written Decision* at 24–25.

The Board construed the claim term "prescription approval code" and adopted Celgene's proposed construction: "[A] code representing that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable." *-01096 Final Written*

Decision at 12–13; *-01102 Final Written Decision* at 13; *-01103 Final Written Decision* at 13.

The Board then considered whether the prior art taught the following disputed limitation: "upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled." The Board determined that it would have been obvious to a person of ordinary skill in the art because they would have appreciated that Cunningham's approval code, used to track and manage trial pharmaceutical products, could likewise be used by prescribers and pharmacies to track and manage prescription pharmaceutical products. *-01096 Final Written Decision* at 24; *-01102 Final Written Decision* at 26; *-01103 Final Written Decision* at 26. The Board concluded that:

> We further hold that the claimed improvement recited in the challenged claims represents a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects).

-01096 Final Written Decision at 24–25; *-01102 Final Written Decision* at 26; *-01103 Final Written Decision* at 26.

On appeal, Celgene challenges two aspects of the Board's obviousness determination: (1) its finding that there was a motivation to improve the existing distribution methods of potentially hazardous drugs; and (2) its finding that a person of skill in the art would have been motivated to develop the claimed invention. We address each below.

a

Celgene first argues that there was no motivation to improve the existing method for avoiding birth defects from exposure to thalidomide (the Original S.T.E.P.S. program) because it was working so well that there had been no reports of birth defects or even potential fetal exposure to thalidomide using that system. Appeal No. 18-1167, Appellant's Br. 32–33, 35–37. Celgene contends that because there were no problems with the Original S.T.E.P.S. program, a person skilled in the art would not have been motivated to improve it. *See id.* Celgene essentially argues that there was no motivation because, "[i]f it ain't broke, don't fix it." *Id.* at 33.

The Board considered and rejected this argument, finding that there was a motivation because there are serious concerns with distributing a drug, like thalidomide, that is known to cause severe adverse side effects. *-01096 Final Written Decision* at 22–23; *-01102 Final Written Decision* at 24–25; *-01103 Final Written Decision* at 24–25 ("[W]here significant safety risks exist with a drug, one would continuously search for safer ways to control the distribution of the drug. Put simply, where significant safety concerns exist[], one of ordinary skill in the art would not wait

until an accident occurred to seek out improvements.").

The Board's motivation determination is supported by substantial evidence. For example, in Zeldis, Celgene professed its commitment to making improvements to the S.T.E.P.S. program. Appeal No. 18-1167, J.A. 501 ("Celgene is committed to making the S.T.E.P.S. program succeed and will make any modifications to the program that are necessary to ensure its effectiveness.").

Finally, Celgene challenges the Board's motivation as too "generic." Appeal No. 18-1167, Appellant's Br. 35–37. We disagree. The desire to decrease the risks of administering a drug with adverse side effects, like thalidomide, is a specific motivation to improve the prior art. *See, e.g.*, *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1371–72 (Fed. Cir. 2011) (upholding obviousness determination and motivation finding based on the "need in the prior art for safer utility lighters"); *Hologic, Inc. v. Minerva Surgical, Inc.*, 764 F. App'x 873, 880 (Fed. Cir. 2019) ("The lack of any specific safety concerns does not preclude a motivation to make a device safer."). We disagree with Celgene's assertion that approving of this motivation "leave[s] no room for patents on improvement." Appeal No. 18-1167, Appellant's Br. 37. In a case like this, where safety is a concern and where the potential adverse side effects are so severe, the Board did not err in finding that the desire to improve a system that is working well qualifies as a valid motivation.

b

Celgene also argues that, even if there had been a general motivation to improve the prior art systems,

"substantial evidence does not show that there was motivation to overhaul that program with the particular, *prospective*, doctor-interfering system claimed by the '720 patent." Appeal No. 18-1167, Appellant's Br. 38; *see also id.* at 38–43.

First, Celgene faults the Board for allegedly failing to explain "how the prior art renders obvious the claims' required affirmative risk assessment." *Id.* at 40. Contrary to Celgene's assertions, the Board did not "ignore" its affirmative risk assessment argument. In fact, the Board incorporated the notion of affirmative risk assessment into its claim construction and considered it in its obviousness findings. *See -01096 Final Written Decision* at 12–15; *-01102 Final Written Decision* at 13–16; *-01103 Final Written Decision* at 13–16. The Board relied on each of the primary references—Thalomid Package Insert, Powell, and Mitchell—for the teaching of an affirmative risk assessment. *See -01096 Final Written Decision* at 17–18, 20 (Thalomid Package Insert); *-01102 Final Written Decision* at 17–18, 21–22 (Powell); *-01103 Final Written Decision* at 17–18, 21–22 (Mitchell). And the Board found that it would have been obvious to modify the methods for limiting distribution of drugs with adverse side effects to high risk groups, disclosed in Thalomid Package Insert, Powell, or Mitchell, to require issuance of an approval code prior to dispensing the drug as disclosed in Cunningham. *See -01096 Final Written Decision* at 23–25; *-01102 Final Written Decision* at 25–27; *-01103 Final Written Decision* at 25–27. Substantial evidence supports those findings.

Next, Celgene faults the Board for not including the word "prospective" in its final written decisions.

Appeal No. 18-1167, Appellant's Br. 40. But the term "prospective" does not appear in claim 1 or in the Board's construction of "prescription approval code." Thus, it is neither erroneous nor particularly surprising that it does not appear in the Board's final written decisions.

Finally, Celgene argues that none of the prior art references disclose a system to "override" a doctor's prescription. *See, e.g.*, Appeal No. 18-1167, Appellant's Br. 40–42, Reply Br. 3–4, 6–7. However, a physician "override" is not required by the language of claim 1 or by the Board's construction of "prescription approval code."

We therefore affirm the Board's determination that claims 1–9 and 11–32 of the '720 patent are unpatentable as obvious over the asserted prior art.

B

We now turn to the constitutional issue of whether the retroactive application of IPRs to pre-AIA patents is an unconstitutional taking.[10]

1

We must first decide whether to reach the constitutional challenge even though Celgene did not raise it before the Board and makes the argument for the first time on appeal.

"It is well-established that a party generally may not challenge an agency decision on a basis that was not presented to the agency." *In re DBC*, 545 F.3d

[10] The parties' arguments on the constitutional issue are almost identical in the two appeals. Therefore, in this section, we cite only to the briefs in Appeal No. 18-1167 unless otherwise noted.

1373, 1378 (Fed. Cir. 2008). But we have discretion to reach issues raised for the first time on appeal, and in *DBC* we recognized that there are exceptions that may justify considering constitutional arguments not raised below. *Id.* at 1379–80 ("Because we retain discretion to reach issues raised for the first time on appeal, we must consider whether this is one of those exceptional cases that warrants consideration of the [constitutional] issue despite its tardy presentation.").

Departing from the general rule of waiver is appropriate only in limited circumstances. *See id.* at 1380 (stating that addressing an issue not raised below is "an exceptional measure" appropriate only in "rare cases"); *see also Golden Bridge Tech., Inc. v. Nokia, Inc.*, 527 F.3d 1318, 1322–23 (Fed. Cir. 2008) (stating that "deviat[ing] from this general rule of waiver" and "hearing new arguments for the first time on appeal" is disfavored "absent limited circumstances"). One such circumstance that can justify departing from the general rule of waiver is an intervening change in the law. *See Golden Bridge*, 527 F.3d at 1323. We also consider whether the "interest of justice" guides us to consider the issue despite the fact that it was not raised below. *See id.*

The PTO concedes that we have discretion to deviate from our general rule of waiver and that doing so here to resolve the constitutional issue presented may be in the interest of justice. As the PTO recognized, "[g]iven the growing number of retroactivity challenges apparently prompted by the reference to retroactivity in *Oil States*, however, this Court may nevertheless conclude that the interests of justice warrant addressing the retroactivity question quickly to avert further uncertainty regarding the

constitutionality of inter partes review." Intervenor's Br. 37 (footnote omitted).

We have indeed seen a growing number of retroactivity challenges following the Supreme Court's decision in *Oil States*, including several that are currently pending before this court. The Supreme Court left open this challenge with the following passage near the end of its decision in *Oil States*:

> Moreover, we address only the precise constitutional challenges that Oil States raised here. Oil States does not challenge the retroactive application of inter partes review, even though that procedure was not in place when its patent issued. Nor has Oil States raised a due process challenge. Finally, our decision should not be misconstrued as suggesting that patents are not property for purposes of the Due Process Clause or the Takings Clause.

Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC, 138 S. Ct. 1365, 1379 (2018). While Celgene's constitutional challenge does not rely on a change in the law articulated in *Oil States*, it raises an issue not directly resolved by *Oil States*. *Oil States* was decided on April 24, 2018, well after the Board's October 26, 2016 final written decisions in the IPRs involved in this appeal, which at least partially explains why Celgene did not raise the argument before the Board.

Even if Celgene had raised its constitutional challenge before the Board, it is unclear how the Board could have corrected the alleged constitutional defect as it could have in *DBC*. *See DBC*, 545 F.3d at 1379 ("If DBC had timely raised this issue before the Board, the Board could have evaluated and corrected the

alleged constitutional infirmity by providing DBC with a panel of administrative patent judges appointed by the Secretary.").[11]

Moreover, the constitutional challenge presented here is purely a question of law, so addressing it would not require us "to make factual findings" for the first time on appeal. *See Golden Bridge*, 527 F.3d at 1323.

Finally, the briefing on the constitutional issue in this case is sufficiently thorough for our review. *See* Appellant's Br. 44–52; Intervenor's Br. 35–44; Reply Br. 20–28. This case stands in sharp contrast with *Trading Technologies International, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019), where we declined to consider a number of constitutional challenges to IPRs included in "a total of four sentences" in the appellant's opening brief. *Id.* ("Such a conclusory assertion with no analysis is insufficient to preserve the issue for appeal."). Here, a single constitutional issue received thorough briefing from the parties and was addressed extensively at oral argument. *See* Oral Argument at 5:06–21:50, 50:22–

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[11] The Supreme Court has "stated that 'adjudication of the constitutionality of congressional enactments has generally been thought beyond the jurisdiction of administrative agencies.'" *Elgin v. Dep't of Treasury*, 567 U.S. 1, 16 (2012) (quoting *Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 215 (1994)). When asked at oral argument if the Board had authority to adjudicate a constitutional challenge to the AIA, the PTO responded that if the Board determined that the retroactive application of IPRs to pre-AIA patents was an unconstitutional taking, the Board could exercise its discretion to decline to institute the IPR. *See* Oral Argument at 36:52–37:57, *Celgene Corp. v. Peter* (No. 2018-1167), http://www.cafc.uscourts.gov/oral-argument-recordings. That decision, however, would be unreviewable but for the possibility of mandamus. *See Cuozzo*, 136 S. Ct. at 2142.

52:56 (Celgene), 36:27–48:47 (Director), *Celgene Corp. v. Peter* (No. 2018-1167), http://www.cafc.uscourts.gov/oral-argument-recordings.[12]

We therefore conclude that this is one of those exceptional circumstances in which our discretion is appropriately exercised to hear Celgene's constitutional challenge even though it was not raised below.

2

We now turn to the merits of Celgene's constitutional challenge that the retroactive application of IPRs to pre-AIA patents is an unconstitutional taking.

The Takings Clause of the Fifth Amendment states that private property shall not "be taken for public use, without just compensation." U.S. Const. amend. V. The PTO does not dispute that a valid patent is private property for the purposes of the Takings Clause. *See*

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[12] As to the suggestion that we wait until a case reaches us where the retroactivity challenge was raised below and decided by the Board, the first such case identified is *Agarwal v. TopGolf International, Inc.*, No. 18-2270. In *TopGolf*, the Board allowed additional briefing on the constitutional issues left open by *Oil States*. In a single sentence of analysis, the Board determined that the retroactive application of IPRs was not unconstitutional, reasoning that "the patent at issue here was subject to *ex parte* reexamination, and, therefore, the United States Patent and Trademark Office has always had the ability to look at the patentability of an issued United States Patent." *TopGolf Int'l, Inc. v. Amit Agarwal*, No. IPR2017-00928, Paper 40, at 80 (P.T.A.B. June 13, 2018). On appeal, Mr. Agarwal's constitutional challenge to the retroactive application of IPRs to pre-AIA patents is one page of his opening brief. Brief for Appellant at 69–70, *Agarwal v. TopGolf Int'l, Inc.* (No. 18-2270). The reply brief is due on November 12, 2019, and the case will likely not be argued for at least several months thereafter.

Intervenor's Br. 43 ("A patent holder has a property interest in a valid patent . . . "); Oral Argument at 41:06–41:22, *Celgene Corp. v. Peter* (No. 2018-1167), http://www.cafc.uscourts.gov/oral-argument-recordings. ("We don't dispute that a valid patent is property for purposes of the Takings Clause.").

Celgene argues that the retroactive application of IPRs to their pre-AIA patents without just compensation is an unconstitutional taking under the Fifth Amendment. Appellant's Br. 44–52. Specifically, Celgene advances a regulatory takings theory and argues that subjecting its pre-AIA patents to IPR, a procedure that did not exist at the time its patents issued, unfairly interferes with its reasonable investment-backed expectations without just compensation. *Id.* at 44–45, 49–51.

The PTO responds on two fronts. First, the PTO argues that when the Board finds claims unpatentable in an IPR, it does not effectuate a taking under the Fifth Amendment because the patent owner "never had a valid property right because the patent was erroneously issued in the first instance." Intervenor's Br. 38; *see also id.* at 38–41. Second, the PTO argues that Celgene's takings claim fails "because patents have been subject to reconsideration and cancellation by the USPTO in administrative proceedings for nearly four decades, and Celgene's own patent[s were] issued subject to this administrative revocation authority." *Id.* at 42; *see also id.* at 42–44. The PTO does not expressly engage Celgene's reasonable investment-backed expectations argument. But the PTO does respond that "the AIA did not alter patent holders' substantive rights." *See id.* at 43. Rather, the PTO maintains that the AIA "merely revised the

procedures by which [the] USPTO conducts these administrative proceedings" and that the procedural differences do not effect a Fifth Amendment taking. *See id.*

In determining whether the retroactive application of IPRs to pre-AIA patents is an unconstitutional taking, we consider the effect that doing so has on the patent right granted by the PTO, and specifically whether IPRs differ from the pre-AIA review mechanisms significantly enough, substantively or procedurally, to effectuate a taking. We conclude that they do not. On this basis, we reject Celgene's challenge even apart from the rationales of our prior decisions—which we also think control the outcome here, but which Celgene asks us to reconsider—that rejected constitutional challenges to retroactive application of the pre-AIA *ex parte* reexamination mechanism.[13]

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[13] In *Patlex Corp. v. Mossinghoff*, 758 F.2d 594 (Fed. Cir. 1985), we faced a challenge to the retroactive application of *ex parte* reexaminations and held that it did not violate the due process clause of the Fifth Amendment, the jury trial guarantee of the Seventh Amendment, or Article III. *Id.* at 603, 605. Our retroactivity analysis in *Patlex* relied in part on the "curative" nature of reexaminations and that "[c]urative statutes have received relatively favored treatment from the courts even when applied retroactively." *Id.* at 603.

We later considered a challenge to the retroactive application of *ex parte* reexaminations based on the Takings Clause in *Joy Technologies, Inc. v. Manbeck*, 959 F.2d 226 (Fed. Cir. 1992), *superseded by statute on other grounds*. Applying our reasoning in *Patlex*, we rejected the patent owner's argument that *ex parte* reexamination and subsequent cancellation of some claims of its patent constituted a taking even though no PTO reexamination mechanisms existed when its patent issued. *See id.* at 228–29.

The patent owners in *Patlex* and *Joy Technologies* had a

The validity of patents has always been subject to challenge in district court. And for the last forty years, patents have also been subject to reconsideration and possible cancellation by the PTO. As explained below, IPRs do not differ significantly enough from preexisting PTO mechanisms for reevaluating the validity of issued patents to constitute a Fifth Amendment taking.

By the time Celgene filed the application that became the '501 patent (1998) and the patent was issued (2000), and by the time Celgene filed the application that became the '720 patent (2000) and the patent was issued (2001), *ex parte* reexamination had existed for roughly two decades. *Ex parte* reexamination, created by Congress in 1980 and still available today, allows "[a]ny person at any time" to "file a request for reexamination." 35 U.S.C. § 302. The PTO determines whether the request raises "a substantial new question of patentability affecting any claim of the patent." *Id.* § 303(a). If it does, the reexamination is "conducted according to the procedures established for initial examination," and the patent owner has the opportunity to amend claims. *Id.* § 305. The reexamination results in the confirmation of claims found to be patentable and the cancellation of claims found to be unpatentable. *Id.* § 307(a).

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stronger argument than Celgene does here because, before the creation of *ex parte* reexaminations, there were no PTO reexamination procedures. In contrast, pre-AIA patent owners, including Celgene, have known for almost forty years that their patents were issued subject to substantively similar forms of PTO reexamination.

Inter partes reexamination, created by Congress in 1999, was also available when Celgene filed the '720 patent, although not when it filed the '501 patent. A third party could request *inter partes* reexamination, and the standard to initiate the reexamination was whether the request raised a "substantial new question of patentability." 35 U.S.C. §§ 311–12 (1999) (amended). *Inter partes* reexamination "granted third parties greater opportunities to participate in the Patent Office's reexamination proceedings," and, following amendments in 2002, also allowed third parties to participate in any appeal of the PTO's final reexamination decision. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2137 (2016).

Celgene's pre-AIA patents were therefore granted subject to existing judicial and administrative avenues for reconsidering their validity. Not only were they subject to challenge in district court, "[f]or several decades, the Patent Office has also possessed the authority to reexamine—and perhaps cancel—a patent claim that it had previously allowed." *Id.*

IPRs are the most recent legislative modification to the PTO's longstanding reconsideration procedures.[14] In 2011, as part of the AIA, Congress created IPRs, which replaced *inter partes* reexamination. Leahy–Smith America Invents Act, Pub. L. No. 112-29, § 6, 125 Stat. 284, 299–313 (2011) (codified as amended at 35 U.S.C. §§ 311–19 (2012)). IPRs allow a third party to request that the PTO "reexamine the claims in an already-issued patent and to cancel any claim that the

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[14] Celgene's suggestion that PTO reconsideration "is a creation of the 2011 AIA legislation" or only available "[s]ince the AIA" is incorrect. *See* Appellant's Br. 46.

agency finds to be unpatentable in light of [the] prior art" specified in 35 U.S.C. § 311(b). *Cuozzo*, 136 S. Ct. at 2136.

In this case it suffices for us to decide that IPRs do not differ sufficiently from the PTO reconsideration avenues available when the patents here were issued to constitute a Fifth Amendment taking. Celgene identifies a number of differences between reexaminations and IPRs, including that IPRs are adjudicative and have discovery, briefing, and an oral hearing, Appellant's Br. 47, but as explained below, these differences are not sufficiently substantive or significant to constitute a taking.

Unsurprisingly, Celgene does not grapple with the far more significant similarities between IPRs and their reexamination predecessors. In IPRs, patents are reviewed on the same substantive grounds—anticipation and obviousness, based on the same categories of prior art—as *ex parte* and *inter partes* reexaminations.[15] IPRs and reexaminations use the same preponderance of the evidence standard of proof. *See* 35 U.S.C. § 316(e) ("In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence."); *In re Baxter Int'l, Inc.*, 678 F.3d 1357, 1364 (Fed. Cir. 2012) ("In PTO reexaminations 'the standard of proof [is] a preponderance of the evidence.'" (quoting *In re Swanson*, 540 F.3d 1368, 1377 (Fed. Cir. 2008)). And

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[15] It is undisputed that the Board's grounds for determining unpatentability were available under the reexamination procedures in place at the time the '501 patent and '720 patent issued in 2000 and 2001, respectively.

the same broadest reasonable interpretation standard for claim construction used in reexaminations also applied in these IPRs.[16] *See In re CSB-Sys. Int'l, Inc.*, 832 F.3d 1335, 1340 (Fed. Cir. 2016) ("During reexamination proceedings of unexpired patents, however, the Board uses the 'broadest reasonable interpretation consistent with the specification' standard, or BRI." (quoting *In re NTP, Inc.*, 654 F.3d 1268, 1274 (Fed. Cir. 2011)).

IPRs and reexaminations are also similar in that the Director has discretion to initiate the proceeding. In *ex parte* reexamination, the Director determines "whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request." 35 U.S.C. § 303(a). In IPRs, the Director has discretion to institute IPR if there is "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *Id.* § 314(a). In both proceedings, the Director's discretionary determination is final and non-appealable. *See id.* §§ 303(c), 314(d).

Notably, IPRs serve essentially the same purpose as their reexamination predecessors. As the Supreme Court has said:

> The [IPR] proceeding involves what used to be called a *reexamination* (and, as noted above, a cousin of inter partes review, *ex parte* reexamination, 35 U.S.C. § 302 *et seq.*, still bears that name). The name and accompanying

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[16] As noted above, the PTO has since changed the claim construction standard used in IPR proceedings to align with the standard used in district court proceedings, a change that is favorable to the patent owner. *See supra* note 8.

> procedures suggest that the proceeding offers a second look at an earlier administrative grant of a patent. Although Congress changed the name from "reexamination" to "review," nothing convinces us that, in doing so, Congress wanted to change its basic purposes, namely, to reexamine an earlier agency decision.

Cuozzo, 136 S. Ct. at 2144; *see also Oil States*, 138 S. Ct. at 1374 ("Inter partes review is 'a second look at an earlier administrative grant of a patent.'" (quoting *Cuozzo*, 136 S. Ct. at 2144)).[17]

Moreover, the Supreme Court has described district court challenges, *ex parte* reexaminations, and IPRs as different forms of the same thing—reexamination. *See Return Mail, Inc. v. United States Postal Serv.*, 139 S. Ct. 1853, 1860 (2019) ("In sum, in the post-AIA world, a patent can be reexamined either in federal court during a defense to an infringement action, in an ex parte reexamination by the Patent Office, or in the suite of three post-issuance review proceedings before the Patent Trial and Appeal Board."). All three serve the purpose of correcting prior agency error of issuing patents that should not have issued in the first place:

> Sometimes, though, bad patents slip through. Maybe the invention wasn't novel, or maybe it was obvious all along, and the patent owner

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[17] The legislative history of the AIA confirms that one of the objectives of IPRs was to "revisit and revise" issued patents. *See Cuozzo*, 136 S. Ct. at 2140. In this way, IPRs serve the broader goal of improving patent quality. *See* H.R. Rep. No. 112-98, pt. 1, at 48 (2011), as *reprinted in* 2011 U.S.C.C.A.N. 67, 78 (explaining objective to "improve patent quality and restore confidence in the presumption of validity that comes with issued patents").

> shouldn't enjoy the special privileges it has received. To remedy these sorts of problems, Congress has long permitted parties to challenge the validity of patent claims in federal court. More recently, Congress has supplemented litigation with various administrative remedies.

SAS Inst., Inc. v. Iancu, 138 S. Ct. 1348, 1353 (2018) (citation omitted); *see also Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 96 (2011) (describing district court challenges as an "attempt to prove that the patent never should have issued in the first place"); *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1338 (Fed. Cir. 2013) (stating that "ex parte reexamination is a curative proceeding meant to correct or eliminate erroneously granted patents").

There are undoubtedly differences between IPRs and their predecessors. This is not surprising given that Congress passed the AIA with post grant review procedures that were intentionally more robust and would provide a "more efficient system for challenging patents that should not have issued." *See* H.R. Rep. No. 112-98, pt. 1, at 39–40 (2011), as *reprinted in* 2011 U.S.C.C.A.N. 67, 69.[18] Celgene is correct that IPRs are "adjudicatory in nature." *Return Mail*, 139 S. Ct. at 1860. Among the "adjudicatory characteristics" of IPRs Celgene notes are discovery, briefing, and an oral

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[18] Implementing IPRs to create a more robust and efficient system for challenging the validity of patents is not unlike the PTO or Congress making the system more robust by, for example, increasing the budget for or number of examiners in the reexamination unit. While those changes might result in significantly more requests for reexamination and more claims being canceled, we doubt that anyone would argue that they effectuate a taking.

hearing. *See* Appellant's Br. 47. But these procedural differences come with the longstanding recognition that "'[n]o one has a vested right in any given mode of procedure.'" *Denver & Rio Grande W. R.R. Co. v. Bhd. of R.R. Trainmen*, 387 U.S. 556, 563 (1967) (quoting *Ex parte Collett*, 337 U.S. 55, 71 (1949)). These differences do not disrupt the expectation that patent owners have had for nearly four decades—that patents are open to PTO reconsideration and possible cancelation if it is determined, on the grounds specified in § 311(b), that the patents should not have issued in the first place.

Celgene also argues that statistics show that IPRs have caused a permanent reduction in the value of patents granted before the AIA. *See* Appellants' Br. 48–49 (citing statistics); Reply Br. 26–27 (citing statistics and arguing that they show that "patents subjected to *inter partes* review have been clobbered in ways previously unimaginable").[19] But Celgene has made no showing—nor could it—that claims canceled in IPRs, including its own claims, would have fared any better in the preexisting reexamination procedures.

Recognizing that its patents were also always open to challenge in district court, Celgene attempts to distinguish IPRs from district court proceedings by arguing that while IPRs resemble district court

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[19] Celgene notes that almost as many IPRs were filed and instituted in the first four years after they were created as were filed in the twelve years *inter partes* reexamination were available. Appellant's Br. 48. This statistic, which merely compares the frequency that these procedures are utilized but does not compare ultimate outcomes, does not sway our analysis.

proceedings in some respects,[20] IPRs lack the "same process or rights as civil litigation." *See* Appellants' Br. 47–48; Reply Br. 26–27. But the differences that Celgene identifies between district court proceedings and IPRs only serve to demonstrate that IPRs are similar to reexaminations. For example, IPRs use a preponderance of the evidence burden of proof rather than the district court's clear and convincing evidence burden of proof. And IPRs, at the time of these proceedings, used the broadest reasonable interpretation for claim construction rather than the narrower standard from *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc) used in district court. While these IPR standards differ from those used in district court, they were previously used in *ex parte* and *inter partes* reexamination procedures, as explained above. Celgene also notes that the presumption of validity that applies in district court proceedings, overcome only by clear and convincing evidence, does not apply in IPRs. Reply Br. 26–27. However, the presumption of validity also did not apply in the preexisting reexamination proceedings. *See In re Etter*, 756 F.2d 852, 855–56 (Fed. Cir. 1985). Moreover, we long ago explained that "[w]e do not consider the section 282 presumption [of validity] . . .

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[20] That IPRs resemble district court litigation in some ways is in line with one of the objectives of the AIA, which was to provide an alternative to district court litigation. *See* H.R. Rep. No. 112-98, pt. 1, at 48 (describing IPR as a "quick and cost effective alternativ[e] to litigation"); S. Rep. No. 110-259, at 20 (2008) (describing IPR as "a quick, inexpensive, and reliable alternative to district court litigation"). The fact that IPRs may have shifted some validity challenges from the district court to the PTO does not effectuate a taking.

to be a property right subject to the protection of the Constitution." *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 605 (Fed. Cir. 1985), *reh'g granted on other grounds*, 771 F.2d 480 (Fed. Cir. 1985). In any event, because Celgene's patents were granted subject to similar reexamination standards, as discussed above, the differences between IPRs and district court proceedings that Celgene identifies do not create a constitutional issue.

In light of the foregoing, we hold that the retroactive application of IPR proceedings to pre-AIA patents is not an unconstitutional taking under the Fifth Amendment. Patent owners have always had the expectation that the validity of patents could be challenged in district court. For forty years, patent owners have also had the expectation that the PTO could reconsider the validity of issued patents on particular grounds, applying a preponderance of the evidence standard. Although differences exist between IPRs and their reexamination predecessors, those differences do not outweigh the similarities of purpose and substance and, at least for that reason, do not effectuate a taking of Celgene's patents.

III

We have considered Celgene's remaining arguments and find them unpersuasive. We affirm the Board's determination that all of the claims of the '501 patent and claims 1–9 and 11–32 of the '720 patent are invalid as obvious.

AFFIRMED

APPENDIX B

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Paper 73
Entered: October 26, 2016

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

COALITION FOR AFFORDABLE DRUGS VI LLC,
Petitioner,

v.

CELGENE CORPORATION,
Patent Owner.

Case IPR2015-01092
Patent 6,045,501

Before MICHAEL P. TIERNEY, GRACE KARAFFA OBERMANN, and TINA E. HULSE, *Administrative Patent Judges*.

OBERMANN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

This is a Final Written Decision in an *inter partes* review of claims 1–10 ("the challenged claims") of U.S. Patent No. 6,045,501 (Ex. 1001, "the '501 patent"). We have jurisdiction under 35 U.S.C. § 6. We find that Petitioner shows by a preponderance of the evidence that claims 1–10 are unpatentable under 35 U.S.C. § 103. We deny the parties' Motions to Exclude Evidence. Papers 57, 58. In addition, we deny Petitioner's Motion to Submit Supplemental Information. Paper 36. We grant Patent Owner's combined Motion to Seal and Motion for Entry of Protective Order. Paper 39. We grant Petitioner's Motion to Seal. Paper 50.

A. Procedural History

The Petition for *inter partes* review was filed pursuant to 35 U.S.C. § 311. Paper 1 ("Pet."). Patent Owner filed a Preliminary Response. Paper 10 ("Prelim. Resp."). We instituted trial on the single ground whether claims 1–10 are unpatentable under 35 U.S.C. § 103(a) as obvious over Powell,[1] Mitchell,[2] and Dishman.[3] Paper 20 ("Dec.").

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[1] *Guideline for the clinical use and dispensing of thalidomide*, R.J. Powell and J.M.M Gardner-Medwin, *Postgrad Med. J.* (1994) 79, 901–904 (Ex. 1005, "Powell").

[2] *A Pregnancy-Prevention Program in Women of Childbearing Age Receiving Isotretinoin*, Allen A. Mitchell *et al.*, *New Eng. J. Med.* (Jul. 13, 1995) 333:2, 101–06 (Ex. 1006, "Mitchell").

[3] *Pharmacists' role in clozapine therapy at a Veterans Affairs medical center*, Benjamin R. Dishman

Patent Owner filed a Response (Paper 40, "Resp.") and Petitioner filed a Reply (Paper 49, "Reply"). Patent Owner filed a Sur-Reply and Petitioner filed a Response to the Sur-Reply pursuant to authorization provided by the Board during an interlocutory teleconference held June 13, 2016. Paper 59 (order authorizing Sur-Reply, limited to two defined issues, and an Opposition thereto); Paper 60 ("Sur-Reply"); Paper 66 (response to the Sur-Reply). A final oral hearing was held July 21, 2016. The record includes a transcript of the final oral hearing. Paper 72.

B. Related Proceedings

Petitioner identifies six district court actions relating to the '501 patent: *Celgene Corp. v. Lannett Holdings, Inc.*, DNJ-2:15-cv-00697 (filed Jan. 30, 2015); *Celgene Corp. v. Natco Pharma Ltd.*, DNJ-2:10-cv-05197 (filed Oct. 8, 2010); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2:08-cv-03357 (filed July 3, 2008); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2:07-cv-05485 (filed Nov. 14, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2:07-cv-04050 (filed Aug. 23, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2:07-cv-00286 (filed Jan. 18, 2007). Pet. 2–3.

C. The '501 Patent (Ex. 1001)

The '501 patent relates to a method of delivering a teratogenic drug to a patient while preventing delivery to a fetus. Ex. 1001, Abstract. The patent discusses the history of thalidomide, a drug first synthesized in 1957 and marketed in many countries as a sedative. *Id*. at 1:19–22. Thalidomide was withdrawn from all

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et al., *Am. J. Hosp. Pharm.* (Apr. 1, 1994) 51, 899–901 (Ex. 1007, "Dishman").

markets by 1962 after reports of serious birth defects. *Id*. at 1:22–24.

Investigators thereafter discovered that thalidomide might be effective in treating cancer, AIDS-related ulcers, macular degeneration, and other serious conditions. *Id*. at 1:29–36. For example, Patent Owner received approval to market thalidomide for treating a type of leprosy. *Id*. at 1:24–29; 36–39. According to the specification of the '501 patent, however, given the severe teratogenic risks associated with thalidomide, at the time of the invention, there was a need for a method to prevent administration of the drug to fetuses and persons for whom the drug was contraindicated. *Id*. at 1:41–46.

The '501 patent describes an existing pregnancy-prevention program developed for women prescribed Accutane (isotretinoin), a known teratogenic drug effective for treating severe forms of acne. *Id*. at 1:48–60. According to the '501 patent, enrollment in the Accutane program was voluntary, therefore, "improved methods" were needed to provide a distribution system "more representative of all users of a particular drug, such as thalidomide." *Id*. at 1:60–67. The '501 patent also discloses a need for a program "to educate men and women about the risk of teratogenic drugs, such as thalidomide." *Id*. at 2:1–5.

The specification describes registering patients, prescribers, and pharmacies in a computer readable storage medium; retrieving from the medium information identifying a subpopulation of women capable of becoming pregnant, as well as males capable of impregnating females; providing counseling information about the risks of a teratogenic drug to the

subpopulation; determining whether patients in the subpopulation are pregnant; and, in response to a determination of non-pregnancy, authorizing registered pharmacies to fill prescriptions from registered prescribers for non-pregnant registered patients. *Id*. at 2:16–37.

D. Illustrative Claim

Claim 1, the only independent claim, is illustrative and is reproduced below:

> 1. A method for delivering a teratogenic drug to patients in need of the drug while avoiding the delivery of said drug to a foetus comprising:
>
> a. registering in a computer readable storage medium prescribers who are qualified to prescribe said drug;
>
> b. registering in said medium pharmacies to fill prescriptions for said drug;
>
> c. registering said patients in said medium, including information concerning the ability of female patients to become pregnant and the ability of male patients to impregnate females;
>
> d. retrieving from said medium information identifying a subpopulation of said female patients who are capable of becoming pregnant and male patients who are capable of impregnating females;
>
> e. providing to the subpopulation, counseling information concerning the risks attendant to fetal exposure to said drug;
>
> f. determining whether patients comprising said subpopulation are pregnant; and

g. in response to a determination of non-pregnancy for said patients, authorizing said registered pharmacies to fill prescriptions from said registered prescribers for said non-pregnant registered patients.

II. DISCUSSION

Petitioner alleges that claims 1–10 are unpatentable as obvious over the combined disclosures of Powell, Mitchell, and Dishman.[4] In support of that challenge, Petitioner relies on the Declaration of Jeffrey Fudin, Pharm.D. (Ex. 1002).[5] Patent Owner responds that the claims are not proven invalid, relying on the Declarations of Dr. Lourdes Frau (Ex. 2059), Dr. Joseph DiPiro (Ex. 2060), and Mr. John Freeman (Ex. 2068).[6] We hold that Petitioner

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[4] Citations are to original page numbers, not those added by Petitioner.

[5] Dr. Fudin is a registered pharmacist, holding a B.S. in Pharmacy and a Pharm.D. Ex. 1002 ¶¶ 6, 9. Petitioner shows sufficiently that Dr. Fudin has practiced as a Clinical Pharmacy Specialist for more than 20 years, and is the Director of a Pain and Palliative Care Pharmacy Residency. *Id.* at ¶ 4. We determine that Dr. Fudin is qualified to opine on the views of a person of ordinary skill in art at the time of the invention.

[6] Patent Owner offers Dr. Frau's opinions to respond to Petitioner's obviousness challenge "through the eyes of" an ordinary artisan as defined by Patent Owner. Patent Owner also advances the testimony of Dr. DiPiro, who "offers no opinion on the appropriate

demonstrates by a preponderance of the evidence that the subject matter of claims 1–10 would have been obvious over the combined disclosures of Powell, Mitchell, and Dishman.

A. Principles of Law

Petitioner bears the burden of proving unpatentability of the challenged claims, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must establish facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). Obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary

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level of ordinary skill in the art, but responds directly to Dr. Fudin's opinions through the eyes of" the ordinary artisan as defined by Petitioner. Resp. 16 n.4. Mr. Freeman provides testimony in support of Patent Owner's contentions regarding secondary considerations of nonobviousness. *Id*. at 59–60.

considerations. *See Graham v. John Deere Co.,* 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner argues that "[t]he level of ordinary skill in the art is apparent from the cited art." Pet. 20. Petitioner also directs us to witness testimony that an ordinary artisan "would typically have either a Pharm. D. or a BS in pharmacy with approximately 5–10 years of related experience and a license to practice as a registered pharmacist in any one or more the United States." *Id.* (citing Ex. 1002 ¶ 15). Patent Owner counters that Petitioner challenge is "fatally flawed" for having failed to define correctly the person of ordinary skill in the art. *Id.* at 13, 15. On that point, Patent Owner argues that an ordinary artisan "would have had at least a bachelor's degree and at least 2 years of experience in risk management relating to pharmaceutical drug products, or a B.S. or M.S. in pharmaceutical drug product risk management or a related field." *Id.* at 16 (citing Ex. 2059 ¶ 60).

We are not persuaded that accepting Patent Owner's view of the qualifications of an ordinary artisan, over the somewhat different qualifications proposed by Petitioner, would materially alter the obviousness inquiry. The prior art references asserted in the Petition are representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (absence of specific findings on "level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown'" (quoting *Litton Indus. Prods., Inc. v.*

Solid State Sys. Corp., 755 F.2d 158, 163 (Fed. Cir. 1985))).

To the extent that a more specific definition of the ordinary artisan is required, we hold that the definition encompasses pharmacists and other persons having experience restricting the distribution of teratogenic drugs. Specifically, we find that the prior art references, like the '501 patent specification, focus on controlling the distribution of a drug. *See, e.g.,* Ex. 1001, 1:13–16 (describing "the distribution to patients of drugs, particularly teratogenic drugs, in ways wherein such distribution can be carefully monitored and controlled"); Ex. 1005, 901 (Powell, disclosing guidelines for restricting the distribution of thalidomide); Ex. 1006, 101 (Mitchell, describing a method for restricting the distribution of the teratogenic drug Accutane); Ex. 1007, 899 (Dishman, describing a national registry for restricting distribution of the psychoactive drug Clozaril).

Consistent with the prior art, Dr. Fudin testifies that the types of problems encountered by a person of ordinary skill in the art included creating a restricted drug distribution program to prevent adverse side effects, such as teratogenic risks. Ex. 1002 ¶¶ 33–55. The prior art demonstrates that a person of ordinary skill in the art would have experience in controlling the distribution of a drug. We credit Dr. Fudin's testimony that a person of ordinary skill in the art would encompass a pharmacist. Ex. 1002 ¶ 15. We also credit Dr. Frau's testimony that an ordinary artisan would not be limited to pharmacists but also would encompass persons having at least two years of experience in risk management relating to pharmaceutical products, as pharmacists are not the

only persons having restricted drug distribution experience and knowledge. Ex. 2059 ¶ 60.

Accordingly, we find that a person of ordinary skill in the art would include pharmacists and persons having at least two years of experience in risk management relating to pharmaceutical products as pharmacists. Additionally, we determine that, even if we were to adopt verbatim Dr. Frau's definition of ordinary skill in the art, Patent Owner has failed to present sufficient and credible evidence to persuade us that Patent Owner's defined person of ordinary skill in the art would be led to a different outcome regarding the obviousness of the challenged claims. Specifically, Dr. DiPiro, testifying for Patent Owner, acknowledged that many types of pharmacists use risk management techniques in their practice on a day-to-day basis. Ex. 1066, 95:17–96:1. Dr. DiPiro's testimony is consistent with an article he wrote where he stated that pharmacists could be assured of an important role in health care as long as they are focused on needs and problems, such as medication errors and preventable adverse drug effects. Ex. 1065, 2. Accordingly, we determine that Petitioner appropriately has conducted its obviousness analysis from the perspective of a person of ordinary skill in the art.

C. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are assigned their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Claim terms generally are given their ordinary and customary meaning as understood by one of ordinary skill in the art in the context of the

entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). If an inventor acts as his or her own lexicographer, the definition must be set forth with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998).

No claim term requires express construction for the purposes of this Decision. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). One issue of claim construction, however, requires some discussion. Patent Owner argues that the term "computer readable storage medium" in claim 1 should be read to require a "centralized" computer readable storage medium—namely "a centralized database that includes all registration information regarding the claimed prescribers, pharmacies, and patients." Resp. 22, 35. We are not persuaded that the wording of the claim, or the disclosure of the '501 patent specification, supports Patent Owner's view.

The word "centralized" does not appear anywhere in claim 1. And Patent Owner's position—that the storage medium of claim 1 must be "centralized" to include, in one database, all registration information—is not supported by the disclosure of the '501 patent specification:

> In accordance with the methods described herein, pharmacies which may fill prescriptions for the particular drug being prescribed including, for example, teratogenic drugs, are also preferably

> registered in a computer readable storage medium. *The computer readable storage medium in which the pharmacies are registered may be the same as, or different from the computer readable storage medium in which the prescribers are registered.*

Ex. 1001, 4:50–57 (emphasis added); *see id.* at 10:12–16 ("registration into one or more computer readable storage media of the prescriber, pharmacy and patient . . . provide[s] a means to monitor and authorize distribution of" teratogenic drugs).

Patent Owner further argues that the inventors of the '501 patent disavowed the full scope of claim 1 during patent prosecution. Resp. 22–23. That argument is unpersuasive because the prosecution history upon which Patent Owner relies supports the specification disclosure that claim 1 is directed to a method for centralizing access to information, and does not suggest that the information must be located in one single structure, a database, that contains all of the information. *See* Ex. 1004, 78 (prosecution history, distinguishing computer readable storage medium from internet communication); Reply 9 (explaining why prosecution history does not rise to the level of disclaimer of claim scope) (citing Ex. 1003, 1).

Patent Owner also directs us to extrinsic evidence, including Dr. Fudin's deposition testimony, which does not trump the persuasive intrinsic evidence in this case. *See* Resp. 23 and n.5 (arguing that Dr. Fudin agreed that the challenged claims require a centralized storage medium). In any event, as explained below, even if we were to apply Patent Owner's proposed construction of the term "computer

readable storage medium," our ultimate conclusion on the question of obviousness would not change.

D. Patent Owner's Sur-Reply

During an interlocutory teleconference held June 13, 2016, we authorized Patent Owner to file a Sur-Reply limited to two discrete issues. Paper 59 (order relating conduct of proceeding). Patent Owner styles its Sur-Reply as a Motion to Strike and asserts that the Board authorized a Motion to Strike during the teleconference. Sur-Reply 1. On the contrary, we authorized a Sur-Reply limited to addressing: 1) alleged "new" issues raised in Petitioner's Reply; and 2) antedating the references cited in Petitioner's Reply. Order, 3. In this Decision, we consider the Sur-Reply only to the extent that it complies with our Order. *Id.*

We authorized the Sur-Reply specifically to afford Patent Owner an opportunity to address antedating evidence that it claimed to have had in its possession at the time of the teleconference, yet Patent Owner fails to present any antedating evidence in the Sur-Reply. Sur-Reply 3, 9–10. Accordingly, we hold that Patent Owner has waived its opportunity to address any antedating evidence.

Further, Patent Owner in the Sur-Reply does not persuade us that the two prior art references sought to be antedated and excluded (identified by the parties as Marwick (Ex. 2063) and Vanchieri (Ex. 2064) (*id.* at 9; Reply 1)) represent "new" evidence raised improperly in Petitioner's Reply. Patent Owner itself introduced those references into the record by citing them in the Response, and Patent Owner's own experts cited them in support of propositions related to the state of the

prior art. Resp. 58; Ex. 2059 ¶¶ 26, 45, 101; Ex. 2060 ¶¶ 99, 103, 104. On this record, we find unpersuasive Patent Owner's suggestion that those references do not qualify as prior art. Sur-Reply 3, 9–10.

We also find unpersuasive Patent Owner's suggestion that it has been prejudiced by Petitioner's discussion of those references in the Reply. Sur-Reply 3–6. Petitioner's discussion of those background references in the Reply does not unfairly prejudice Patent Owner, where Patent Owner itself introduced them into the record in the context of describing the state of the prior art. Resp. 58; Ex. 2059 ¶¶ 26, 45, 101; Ex. 2060 ¶¶ 99, 103, 104. A third reference (identified as Zeldis (Ex. 1068) (Sur-Reply 2)) was fairly raised in the Reply to counter arguments and evidence asserted in the Response addressing whether an ordinary artisan would have formed a reasonable expectation of success in combining the disclosures of the applied prior art, namely, Powell, Mitchell, and Dishman. Resp. 53–54; Reply 10–11.

E. Analysis of the Ground of Unpatentability

The single ground of unpatentability at issue in this case is whether the subject matter of claims 1–10 of the '501 patent would have been obvious to a person of ordinary skill in the art at the time of the invention over the combined disclosures of Powell, Mitchell, and Dishman. We first analyze the prior art against claim 1, the only independent claim, and then address dependent claims 2–10. Before reaching our ultimate conclusion on the question whether the subject matter of any challenged claim would have been obviousness at the time of the invention, we take account of

available objective evidence of secondary considerations of nonobviousness.

1. Analysis of Claim 1 over Powell, Mitchell, and Dishman

We first address whether the combined disclosures of the asserted prior art discloses or suggests the invention of claim 1 of the '501 patent. We determine that the following facts are supported by a preponderance of the evidence.

Powell provides guidance regarding "the clinical use and dispensing" of thalidomide. Pet. 21 (quoting Ex. 1005, 901). Mitchell relates to an existing pregnancy-prevention program for women users of Accutane, a Vitamin A analogue of isotretinoin and a known teratogenic drug. Pet. 15; Ex. 1006, 101–102. Dishman describes a registry for pharmacies, prescribers, and users of Clorazil, a potent anti-psychotic drug with potential for serious side effects. Pet. 27–28 (quoting Ex. 1007, 899). A person of ordinary skill in the art would have understood how to implement Powell's teachings "in clinical and pharmacy settings" in view "of the Accutane Pregnancy Prevention Program described in Mitchell and the Clozaril controlled distribution model outlined in Dishman." *Id*. at 21 (quoting Ex. 1002 ¶ 88).

a. Women as a Subpopulation for Controlled Access to Thalidomide

Powell discloses that "women of childbearing potential" should not be treated with thalidomide if they "wish to become pregnant," "have not practiced a reliable form of contraception for 1 year," "are unwilling to take reliable contraceptive precautions," or "are considered not capable of complying with the

requirements for reliable contraception." *Id*. at 22 (quoting Ex. 1005, 901). Similarly, Mitchell discloses a program of preventative measures, such as pregnancy-risk warnings on packaging, targeted "specifically at women." *Id*. (quoting Ex. 1006, 101). Mitchell targets "women of childbearing age (12 to 59 years of age)" for the pregnancy-prevention program. *Id*. (quoting Ex. 1006, 102).

The combined disclosures of Powell and Mitchell would have suggested to a person of ordinary skill in the art at the time of the invention the step of identifying "a subpopulation" of female patients who are capable of becoming pregnant, from among a larger group of patients in need of a teratogenic drug. Ex. 1001, claim 1 (step (d)). Both Powell and Mitchell are focused on restricting access of a teratogenic drug to minimize birth defects. Ex. 1002 ¶ 95. Both references address that common problem in the same way—by controlling the distribution of the drug to a subpopulation of patients (pregnant women) likely to realize the potential harm caused by the drug. A person of ordinary skill in the art would have been led to apply known methods for controlling the distribution of drugs that pose the risk of serious side effects—including the known method disclosed in Dishman for controlling distribution of Clorazil, a drug known to present a potential for serious side effects—to further implement a computerized registry for avoiding birth defects from other teratogenic drugs, including the thalidomide disclosed in Powell. Ex. 1002 ¶ 115.

b. Counseling as a Feature for Controlling the Risk of Side Effects

Powell discloses a method of providing "counseling information concerning the risks attendant to fetal exposure to" a teratogenic drug. Ex. 1001, claim 1 (step (e)). Powell states that a prescriber of thalidomide "must inform the patient of any contraindications, warnings, and precautions associated with the use of the drug." Pet. 23–24 (quoting Ex. 1005, 902). Figure 1 of Powell is a sample Patient Information Sheet that reveals potential "[d]amage to babies," and informs that thalidomide is "toxic to the developing baby, especially in the early months of pregnancy." *Id*. at 24 (quoting Ex. 1005, Fig. 1) (emphasis omitted). Powell discusses securing patient agreements to use contraception for 3 months after discontinuing use of thalidomide. *Id*. (citing Ex. 1005, 901–902).

Under Mitchell's program, "physicians were given instructions 'to warn patients of risks' involved in treatment with the teratogenic drug and 'communication between physicians and patients regarding the drug's teratogenic risk and the need to prevent pregnancy' was encouraged." *Id*. at 24 (quoting Ex. 1006, 101, 105). Both Mitchell and Powell suggest the use of pregnancy testing prior to starting drug therapy. *Id*. at 25 (citing Ex. 1005, 901; Ex. 1006, 101). Accordingly, we find that an ordinary artisan would have been led to use pregnancy testing to determine whether patients in the subpopulation "are pregnant." Ex. 1001, claim 1 (step (f)).

Like Powell, Mitchell suggests that female patients, who are capable of becoming pregnant, should be

isolated for counseling. Pet. 22 (quoting Ex. 1002 ¶ 94). Mitchell describes the use of contraceptive information, a consent form, and warnings about risks of becoming pregnant while taking isotretinoin. *Id.* at 24–25 (quoting Ex. 1006, 101).

c. Men as a Targeted Subpopulation for Receiving Counseling

A question arises whether the combined teachings of Powell and Mitchell would have suggested including males, capable of impregnating females, within the subpopulation isolated to receive counseling. *Compare* Pet. 23, *with* Resp. 44–46. Petitioner alleges that a person of ordinary skill in the art would have understood that "a subgroup of male patients capable of impregnating females" would be among the patients targeted for counseling, because such men "could be affected by the teratogenic nature of the drug," and "the purpose of the programs of Powell and Mitchell is to minimize birth defects." Pet. 23 (quoting Ex. 1002 ¶¶ 95, 97). Petitioner advances credible and persuasive evidence—the opinion of Dr. Fudin, as supported by Mann[7]—showing that, at the time of the invention, an ordinary artisan would have recognized "that the sperm of male patients could be damaged by teratogenic drugs and consequently result in birth defects, if the male was to impregnate a female." *Id.* (quoting Ex. 1002 ¶ 96 (citing Ex. 1018, 7–8)).

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[7] *Passage of Chemicals into Human and Animal Semen: Mechanisms and Significance*, Thaddeus Mann and Cecelia Lutwak-Mann, CRC Critical Reviews in Toxicology (1982) 11:1, 1–14 (Ex. 1018, "Mann").

As an initial matter, we determine that Petitioner complies with our rules, and precedent of our reviewing court, by presenting Mann as objective support for Dr. Fudin's opinion testimony. *See* 37 C.F.R. § 42.65(a) (opinion testimony that does not disclose underlying facts "is entitled to little or no weight"); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (lack of objective support for expert opinion "may render the testimony of little probative value in a validity determination"). We have considered, but find unpersuasive, Patent Owner's counterview that the Board should disregard Mann because, according to Patent Owner, the reference is directed "to teratologists or reproductive toxicologists, not pharmacists or [ ] those focusing on risk management." Resp. 44. Patent Owner's position on that point is not persuasive in view of Patent Owner's own prior reliance on information supplied by teratologists in connection with the controlled distribution of thalidomide. Reply 16–17 (citing Ex. 2094, 7, 130, 137). Taking account of the full record developed during trial, we credit Dr. Fudin's testimony that a person of ordinary skill in the art would have recognized the desirability of identifying a subpopulation of male patients in view of Mann. Ex. 1002 ¶¶ 95–98.

We are persuaded that Mann reveals the state of the art at the time of the invention, and supports Dr. Fudin's testimony that an ordinary artisan would have understood the necessity of counseling males, capable of impregnating females, about the risks that attend fetal exposure to a teratogenic drug. Pet. 23 (quoting Ex. 1002 ¶¶ 95–98 (citing Ex. 1018, 7–8)

(Mann, suggesting that thalidomide was known to become "strongly adsorbed by spermatozoa" and adversely affect the pregnancy in female rabbits mated to males that were administered thalidomide prior to conception)). We have considered, but are not persuaded by, Patent Owner's counterview that one would not have considered Mann's discussion of rabbit sperm to apply to human sperm. Resp. 44–45. As Petitioner points out, Patent Owner previously admitted that studies relating to rabbit sperm were relevant to evaluating the effects of thalidomide on human sperm. Reply 17 (citing Ex. 2064, 951). Dr. Fudin's opinion—that it would have been "apparent that the sperm of male patients could be damaged by teratogenic drugs and consequently result in birth defects, if the male was to impregnate a female"—is supported by objective factual evidence, namely, Mann. Pet. 23 (quoting Ex. 1002 ¶ 96) (citing Ex. 1018, 7–8)).

We recognize that Powell's Patient Information Sheet, under a heading relating to "side effects," contains this statement: "No effects on male sperm are recognized." Ex. 1005, 903; Resp. 45. That isolated statement in Powell, standing alone, does not defeat the sufficiency of Petitioner's evidence that one of ordinary skill in the art would have recognized that the sperm of male patients, treated with teratogenic drugs, could result in birth defects. Pet. 23 (quoting Ex. 1002 ¶ 96) (citing Mann (Ex. 1018, 7–8)). Significantly, the statement in Powell is preceded by a discussion of the necessity of using "adequate contraception throughout the duration of thalidomide therapy." Ex. 1005, 903. When read in the context of the surrounding disclosure, Powell suggests that no

contraceptive "effects on male sperm are recognized" as a side effect of thalidomide therapy. *Id.*

On this record, Petitioner shows sufficiently that a person of ordinary skill in the art would have recognized the desirability of identifying a subpopulation of male patients having "the ability . . . to impregnate females" and, further, the utility of providing that group with "counseling information concerning the risks attendant to fetal exposure to" a teratogenic drug, as specified in claim 1. Ex. 1001, claim 1 (steps (c) and (e)).

d. Registry as a Known Solution for Controlling Distribution of a Drug

We next turn to the question whether the applied art would have suggested the steps of registering prescribers, pharmacies, and patients in a computer readable storage medium as specified in claim 1. Ex. 1001, claim 1 (steps (a)–(c)). The overarching purpose of Powell and Mitchell is to prevent birth defects by limiting prescriptions for teratogenic drugs to only non-pregnant women. *See, e.g.*, Ex. 1005, 901 (Powell, explaining "[p]regnancy should be excluded before instituting therapy with thalidomide"); *see also* Ex. 1006, 101 (Mitchell, disclosing "an aggressive program designed to reduce the risk of pregnancy among women taking" Accutane). Petitioner shows sufficiently that Dishman would have led an ordinary artisan to advance that purpose through an obvious modification; that is, by storing patient, prescriber, and pharmacy records in a computer readable storage medium. *See* Pet. 37–39, 41 (claim chart, steps (a)–(c), (g)).

Dishman describes a nationwide registry for patients requiring clozapine, a potent anti-psychotic drug with potential for serious side effects. Pet. 27 (quoting Ex. 1002 ¶¶ 116–117). Although Dishman does not expressly relate to side effects that include birth defects, Petitioner shows sufficiently that "a person of ordinary skill in the art would have been motivated to look to the system disclosed in Dishman to further implement a computerized registry for avoiding birth defects from a teratogenic drug." Pet. 26–27 (citing Ex. 1002 ¶ 115). We find that one of ordinary skill in the art would have turned to Dishman as a source of "ways to restrict access to drugs that could be potentially hazardous." *Id.* at 27 (quoting Ex. 1002 ¶¶ 116–117).

Dishman explains that "all prescribers and patients" of clozapine must "be registered with" the national registry, "which requires weekly monitoring of each patient's white blood cell (WBC) count" and also "limits medication dispensing to a one-week supply." Ex. 1007, 899. The national registry, moreover, is used to store a "pharmacist's verification" relating to the weekly WBC monitoring requirement. Pet. 28 (quoting Ex. 1007, 899); *see* Ex. 1002 ¶ 122 (Dr. Fudin, testifying that Dishman discloses a need for cooperation between patients, physicians, laboratories, and pharmacies). In that context, Dishman refers to "a computerized clozapine prescription lockout system." Ex. 1007, 900; *see* Ex. 1002 ¶ 123 (Dr. Fudin, explaining "that each hospital [must] have a computerized clozapine prescription lockout system" that "ties the hospital's laboratory databases to the outpatient pharmacy dispensing software").

The combined disclosures of Powell, Mitchell, and Dishman would have prompted an ordinary artisan to implement a pregnancy-prevention program for thalidomide patients that makes mandatory the use of a registry for patients, prescribers, and pharmacies; that limitation is suggested by Dishman's disclosure of registering a pharmacist's verification before any patient is authorized to receive a drug. Pet. 21–22 (citing Ex. 1002 ¶ 89).

Patent Owner counters that Dishman does not disclose a registry for pharmacies, asserting that "[t]he pharmacist's verification" in Dishman means that a pharmacist is "obtaining information from, not providing information to" a registry. Resp. 39 n.8, 40 (emphasis omitted). That view runs counter to the disclosure of Dishman. Dishman suggests a registry of pharmacies because it refers to the use of the registry to store a pharmacist's verification. Ex. 1007, 899. We agree with Petitioner that it defies logic that a pharmacy would be given access to verify information in the registry without being registered itself, because Dishman requires dispensing the restricted drug on a weekly basis, and it would have been impossible to verify that requirement if pharmacists entered no records in the registry. Ex. 1007, 899–900; Reply 18 (citing Ex. 1001 ¶ 121).

Dishman discloses registering physician, patient, and pharmacy information in a computer readable storage medium. For reasons discussed in the claim construction analysis above, we are not persuaded that the claim term "computer readable storage medium" requires a "centralized database" of any sort. Resp. 35. Dishman expressly discloses the use of a "computer readable storage medium" in its description

of a "computerized lockout system." Ex. 1007, 900. At the time of the invention, it was well known that prescription records could be and were kept in computerized systems. Pet. 12 (citing Ex. 1012, 175, Fig. 12.1; Ex. 1002 ¶ 48). Pharmacists had been using such systems to track patient data as far back as 1975. *Id.* (citing Ex. 1012, Ch. 12; Ex. 1002 ¶ 48). Petitioner comes forward with credible and persuasive evidence, which is not refuted effectively on this record, that it was well known in the art to isolate groups of patients, including contraindicated individuals, based on computerized sorting of computerized records. *Id.* at 12–13 (citing Ex. 1002 ¶¶ 53–54).

In the alternative, even if Dishman discloses registering patient, prescriber, and pharmacist information in different computers (as expressly disclosed in the '501 patent as a suitable means for carrying out the method of the invention (Ex. 1001, 4:50–57; 10:12–16)), providing that information in a centralized database would have been a predictable variation that provides no patentable distinction over the combined disclosures of the applied prior art references. A person of ordinary skill is also a person of ordinary creativity, not an automaton. *KSR*, 550 U.S. at 421.

e. Retrieving Information from a Registry to Control Distribution of a Drug

We are persuaded that Dishman would have led a person of ordinary skill in the art, seeking to improve the methods of Powell and Mitchell, to maintain the mandatory registry of records in a computer readable storage medium for "ease in sharing and storing." Pet. 26 (quoting Ex. 1002 ¶ 114). The only practical reason

for storing information in a computer readable medium is to permit later retrieval of that information. We are directed to no persuasive evidence disputing that fact. Resp. 26, 34, 36 (discussion of the "retrieval" step of claim 1); *see KSR Int'l*, 550 U.S. at 421 (a person of ordinary skill in the art possesses ordinary creativity and is not an automaton). Furthermore, Dishman's disclosure of registering a pharmacist's verification, before any patient is authorized to receive a drug, implies a retrieval of such information. Pet. 21–22 (citing Ex. 1002 ¶ 89). On this record, the applied prior art suggests a method of registering prescriber, pharmacy, and patient information in "a computer readable storage medium," and retrieving information necessary to ensure that prescriptions for a teratogenic drug are authorized for only non-pregnant patients. Ex. 1001, claim 1 (steps (a)–(d)).

Patent Owner's arguments narrowly focus on the express teachings of individual prior art references, to the exclusion of a balanced approach that considers what the combined disclosures of the prior art fairly would have suggested to a person of ordinary skill in the art. We discuss that aspect of the dispute in greater depth in the next section.

f. Further Observations on the Parties' Dispute Surrounding Reasons to Combine

The nub of the dispute in this case is whether a person of ordinary skill in the art would have been led to combine features of known methods for controlling potentially hazardous drugs—such as Mitchell's method for controlling distribution of Accutane and Dishman's method for controlling distribution of

Clozaril—and apply those features to controlling the distribution of another potentially hazardous drug (thalidomide, which Powell discusses as requiring controlled distribution). Patent Owner's contention that a person of ordinary skill in the art would not have recognized or applied the teachings of Mitchell or Dishman to the problem identified in Powell lacks merit. Resp. 49–53. On that point, Patent Owner itself identifies in the Response an article, which explains that Patent Owner's "plan [for thalidomide] is built on experience with restrictions on such other drugs with severe side effects as Accutane . . . and Clorazil." Ex. 2063, 1136; *see* Resp. 6 (quoting Ex. 2063, 1135).

Furthermore, both of Patent Owner's witnesses acknowledged the relevance of the programs disclosed in Mitchell and Dishman to the problem at hand, namely, controlling distribution of thalidomide. Specifically, Dr. DiPiro testified that, "in some of the literature where isotretinoin [Accutane] and clozapine [Clorazil] systems were discussed," even researchers employed by Patent Owner recognized "that the results from these systems could guide an individual in either direction, as a way to do it or as a way not to do it. So in that sense they are relevant." Ex. 1066, 326:23–327:5. Dr. Frau similarly acknowledged that the clozapine program was a restricted distribution program (Ex. 1067, 112:7–15; 113:3–8) and, thus, addressed the very same problem that would have been focused upon by a person of ordinary skill in the art. We find unpersuasive Patent Owner's assertions that a person of ordinary skill in the art would not have been led to consider the combined disclosures of Mitchell, Dishman and Powell—all of which pertain to

controlling the distribution of a drug to a subpopulation of patients likely to suffer serious side effects. Resp. 31–32, 38–41 (arguing that various features of known methods for controlling distribution of Accutane and Clozaril, as disclosed or suggested by the combined prior art, would not have been applied to controlling distribution of thalidomide in the manner claimed).

Patent Owner, in essence, argues that an ordinary artisan would understand each applied reference only for its express teachings and would not have applied those teachings beyond the specific uses disclosed in the particular prior art reference. However, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418. In that regard, we are persuaded that the invention of claim 1 represents the "predictable use of prior art elements according to their established functions." *KSR Int'l*, 550 U.S. at 417. Claim 1 is directed to a combination of known steps (registering patients, prescribers, and pharmacies in a computer readable storage medium; identifying and counseling a subpopulation of patients whose access to a teratogenic drug should be restricted; and authorizing drug therapy only for non-pregnant patients) to accomplish a known purpose (prescribing drug only to non-pregnant patients) and achieve a predictable result (preventing fetal exposure to the drug). Pet. 36–41 (claim chart).

We agree with Petitioner that Patent Owner approaches this dispute as if the ground set for trial was based on anticipation. Reply 14 (pointing out that

Patent Owner's Response "reads as if [the ground set for trial] was based on an anticipation"). For example, Patent Owner focuses on specific features not present in one applied reference, without meeting head on the question whether all the features would have been suggested by the combined disclosures of the prior art. *See* Resp. 25–29, 31–32, 36–37 (attacking disclosures of each applied reference in isolation). Patent Owner's attack on the individual disclosures of Powell, Mitchell, and Dishman is ineffective to counter Petitioner's evidence that the subject matter of claim 1 would have been obvious over the combined disclosures of those prior art references. We find that a person of ordinary skill in the art would have been led to combine, in the manner claimed, the disclosures of Powell, Mitchell, and Dishman to address the problem of limiting thalidomide access to patients likely to suffer serious adverse side effects, including birth defects in a developing fetus.

g. Reasonable Expectation of Success

The prior art methods were successful; even the inventors of the '501 patent touted their success in an article entitled *S.T.E.P.S.™ A Comprehensive Program for Controlling and Monitoring Access to Thalidomide*, by inventors Bruce Williams and Mark El Sayed (along with other Celgene authors). Ex. 1068. Patent Owner's arguments in this proceeding are inconsistent with prior assertions that the programs for controlling distribution of Accutane and Clorazil were "successful" and "provided guides" for the controlling and monitoring access to thalidomide. *Id*. at 329. Indeed, the inventors explained that their method was "based partly on 2 existing models—the safety programs developed for isotretinoin and

clozapine." *Id.* at 320; *see id.* at 323 (describing programs for controlling distribution of Accutane and Clorazil as "successful" and explaining that elements of both programs were incorporated into the inventors' method for controlling distribution of thalidomide). When it benefitted Patent Owner's interests before the FDA, moreover, Patent Owner freely admitted that its "plan [for thalidomide] is built on experience with restrictions on such other drugs with severe adverse effects as Accutane . . . and Clorazil." Ex. 2063, 1136.

Patent Owner's arguments in this proceeding also are contrary to disclosures of the applied prior art references. For example, Mitchell explicitly points out that the methods of control discussed in connection with Accutane could be used for controlling the distribution of thalidomide. Ex. 1006, 105. Based on the evidence of record, we find unpersuasive Patent Owner's arguments that an ordinary artisan would not have formed a reasonable expectation of success in applying the prior art programs for controlling the distribution of hazardous drugs to the problem of controlling the distribution of thalidomide. Resp. 53–54.

2. Analysis of Claims 2–10 over Powell, Mitchell, and Dishman

We next turn to Petitioner's contention that the subject matter of claims 2–10, which depend from claim 1, would have been obvious over the combined disclosures of Powell, Mitchell, and Dishman. The following facts are supported by a preponderance of the evidence.

The dependent claims require thalidomide as the teratogenic drug (claim 2); registering information

about male patients in the subpopulation (claim 3); determining non-pregnancy by pregnancy testing (claim 4); recording in the computer readable storage medium information about prescription issuance and fulfillment (claim 5); authorizing prescription refills only in response to information contained on the computer readable storage medium (claim 6); that prescriptions are filled for no more than about 28 days (claim 7); that prescriptions are filled together with distribution of literature warning of the effects of the drug on fetuses (claim 8); providing patients with contraception counseling (claim 9); and providing patients capable of becoming pregnant a contraceptive device or formulation (claim 10).

Petitioner's arguments and evidence, including the detailed claim charts, establish adequately that the subject matter of the dependent claims would have been obvious over the combined teachings of Powell, Mitchell, and Dishman. Pet. 30–36 (textual arguments, including citations to Dr. Fudin's testimony); 42–45 (claim charts). Patent Owner makes no additional arguments with respect to claims 3, 4, 7, 8, or 9. Resp. 46–49.[8] Patent Owner's sole argument with respect to claims 3, 4, and 7–9 is that Petitioner fails to show unpatentability as to claim 1, from which those claims depend. Resp. 46. That

[8] Patent Owner states that Petitioner fails to prove that claim 7 is unpatentable "for the following additional reasons" (Resp. 46) but then declines to address claim 7 in the analysis. *Id.* at 46–49. We view Patent Owner to have waived, therefore, arguments pertaining to claim 7 that we rejected as unpersuasive in our Decision to Institute. Dec. 15.

argument is unpersuasive, for reasons stated above in our analysis of claim 1.

Patent Owner raises additional arguments and evidence relating to claims 2, 5, 6, and 10. None is persuasive. For example, as to claim 2, which requires thalidomide as the teratogenic drug, Patent Owner argues that Powell's focus on the use of thalidomide by hospital doctors on a "named patient" basis somehow makes unobvious the application of prior art methods for controlling the distribution of hazardous drugs to the problem of controlling the distribution of thalidomide. Resp. 47–48. On that point, we agree with Petitioner that nothing in Powell suggests "that its methods could not be used on a larger scale." Reply 19. Patent Owner, moreover, ignores that Mitchell explicitly points out that the methods of control discussed in connection with Accutane could be used for controlling the distribution of thalidomide. Ex. 1006, 105 (noting that "[t]halidomide appears to be an effective treatment for various medical conditions" and that "experience gained with [Accutane] can serve as a basis for considering how [thalidomide] should be used and monitored, with a view to ensuring that pregnancies and malformations are reduced to an absolute minimum").

Patent Owner's "additional arguments" as to claims 5 and 6 add nothing beyond the arguments made in connection with claim 1 regarding the construction of the claim term "computer readable storage medium." Resp. 48. Patent Owner's contentions in that regard are unpersuasive for the reasons discussed above in connection with claim 1.

As for claim 10, Patent Owner argues that the step of "providing a contraceptive device or formulation" would not have been obvious because "counseling" about contraception is not the same as "providing" contraception. Resp. 49. On that point, we credit Dr. Fudin's testimony that it would have been obvious from the prior art to "provide contraception," where, for example, Mitchell discloses providing patients with "the necessary forms for a contraception referral program," and an ordinary artisan would understand from this disclosure that the consulting physician would, after ensuring it is medically appropriate, provide contraception. Ex. 1002 ¶¶ 168–169.

3. Secondary Considerations

Before reaching an ultimate conclusion on the question whether the subject matter of claims 1–10 of the '501 patent would have been obvious over the applied prior art, we take account of objective evidence of secondary considerations of nonobviousness. *See Graham*, 383 U.S. at 17–18. We are mindful that "evidence rising out of the so-called 'secondary considerations' must always when presented be considered en route to a determination of obviousness." *Stratoflex v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983). The totality of the evidence submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include, for example, long-felt but unsolved need, industry praise, and unexpected results. *Graham*, 383 U.S. at 17; *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349, 1355 (Fed. Cir. 2012). Patent Owner advances

objective evidence related to each of those secondary considerations, which we weigh en route to ruling on Petitioner's obviousness challenge. Resp. 54–60.

We consider but find unpersuasive Patent Owner's evidence that the claimed invention satisfied a long-felt but unsolved need for a method of controlling the distribution of thalidomide. On that point, no showing is made that other methods of controlling the distribution of hazardous drugs, which were readily available in the prior art and included the methods disclosed in Mitchell and Dishman, were insufficient to meet any demonstrated need for a controlled distribution system for thalidomide. Patent Owner directs us to studies showing a need for thalidomide, based on findings that thalidomide is useful for various ailments, but does not show persuasively that there existed a long-felt or unmet need for an effective method of distributing a potentially hazardous drug. Resp. 55–57; Reply 21–22.

Patent Owner also directs us to evidence that the claimed method of distributing thalidomide generated some praise within the industry. Resp. 57. Specifically, the National Organization for Rare Disorders praised Patent Owner's "extraordinary courage" in moving ahead toward regulatory approval of thalidomide and for incorporating "numerous safeguards for pregnancy prevention" in connection with its distribution. Resp. 57 (quoting Ex. 2020, 1–2). That evidence is not without some merit, and we give it appropriate weight in reaching our ultimate conclusion on obviousness.

Patent Owner's evidence of unexpected results is less clear. Patent Owner contends that its claimed

method "has been 100% successful in preventing birth defects of the type associated with thalidomide." Resp. 58 (citing Ex. 2059 ¶ 143, Ex. 2060 ¶ 100). Petitioner responds with evidence that the method "was not 100 percent successful in achieving" the goal stated in claim 1—namely, preventing fetal exposure—and directs us to evidence of "four confirmed fetal exposures." Reply 24 (emphasis omitted) (quoting Ex. 1064, 5). Claim 1 makes plain that preventing fetal exposure is the goal. Ex. 1001, claim 1. Given that Patent Owner's evidence is predicated on an unsupported assertion that the method of the invention "has been 100% successful," Patent Owner fails to make out a persuasive showing of unexpected results. In that regard, we are not persuaded that combining the features of the prior art drug distribution programs (according to their known functions) to control distribution of thalidomide in the manner claimed would have produced a result that would have been truly unexpected to a person of ordinary skill in the art. We, therefore, afford Patent Owner's evidence of unexpected results little weight in the ultimate obviousness determination.

When Patent Owner's evidence of secondary considerations is given the appropriate weight to which it is entitled, that evidence is insufficient to overcome the strong showing of obviousness made out by Petitioner on the evidence of the combined disclosures of the prior art. *See Sud-Chemie, Inc. v. Multisorb Techs., Inc.*, 554 F.3d 1001, 1009 (Fed. Cir. 2009) ("[E]vidence of unexpected results and other secondary considerations will not necessarily overcome a strong prima facie showing of obviousness."). Accordingly, we hold that Petitioner

shows by a preponderance of the evidence that the subject matter of claims 1–10 of the '501 patent would have been obvious to a person of ordinary skill in the art at the time of the invention.

III. MOTIONS TO EXCLUDE EVIDENCE

Both Patent Owner and Petitioner filed a Motion to Exclude Evidence. Papers 57, 58. We address each motion in turn.

A. Patent Owner's Motion to Exclude Evidence

Patent Owner moves to exclude to two prior art references (Vanchieri (Ex. 2064) and Marwick (Ex. 2063)), addressed above in our discussion of the Sur-Reply. Paper 57, 1–3. Patent Owner further moves to exclude Exhibit 2094, which is a document related to an FDA meeting. *Id*. at 3.

As an initial matter, we observe that Patent Owner itself introduced into the record each of the exhibits sought to be excluded and, further, Patent Owner itself relies upon each in this proceeding. Resp. 5–6; Ex. 2059 ¶¶ 20, 84; Ex. 2060 ¶ 32 (examples of Patent Owner's own reliance on Exhibit 2064); *see* Resp. 6, 9; Ex. 2059 ¶¶ 19, 84; Ex. 2060 ¶¶ 32–34 (examples of Patent Owner's reliance on Exhibit 2064); *see also* Resp. 5; Ex. 2059 ¶¶ 18, 86; Ex. 2060 ¶ 31 (examples of Patent Owners reliance on Exhibit 2094). Under the circumstances, we agree with Petitioner that Patent Owner's request to exclude Exhibits 2063, 2064, and 2094 as hearsay, only for Petitioner's purposes, is an "unusual request." Paper 63, 1.

In any event, Patent Owner argues that Exhibits 2063, 2064, and 2094 reflect out-of-court statements offered to prove the truth of a matter asserted and, on that basis, should be excluded as hearsay. *Id*. at 1–3.

In actuality, Patent Owner's objections go to the credibility of the statements and not to the admissibility of the exhibits themselves. A prior art document "is offered simply as evidence of what it described, not for proving the truth of the matters addressed in the document." *See, e.g., Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 233 n.2 (D.D.C. 1990), *judgment aff'd*, 959 F.2d 226 (Fed. Cir. 1992); Fed. R. Evid. 801(c) 1997 Adv. Comm. Note ("If the significance of an offered statement lies solely in the fact that it was made, no issue is raised as to the truth of anything asserted, and the statement is not hearsay."). We deny Patent Owner's request to exclude Exhibits 2063, 2064, and 2094 as hearsay under Federal Rule of Evidence 801(c).

Patent Owner further alleges that Petitioner relies upon irrelevant evidence and, on that basis, seeks to exclude that evidence. Paper 57, 3–9. Petitioner disagrees and contends that Patent Owner's relevance objections go to the weight given to the evidence. Paper 63, 11–14. We agree with Petitioner. It is the Board's discretion to assign the appropriate weight to be accorded the evidence and we hold that, in this instance, it is not necessary to resort to a formal exclusion of the identified evidence in assessing the sufficiency of the evidence.

In addition, Patent Owner contends that Petitioner mischaracterized certain portions of Dr. Frau's testimony. Paper 57, 10–14. Patent Owner states that the testimony should be excluded unless the Board considers it in the context of surrounding testimony or relevant redirect testimony. *Id*. at 11. To the extent the Board relies upon the testimony, we review it in that context.

Additionally, Patent Owner seeks to exclude a statement in Petitioner's Reply that is alleged to mischaracterize a fact asserted in the Freeman Declaration advanced by Patent Owner. *Id*. at 15. Here again, we agree with Petitioner that Patent Owner's objection goes to the weight of the evidence, not its admissibility. Paper 63, 14–15.

Patent Owner's Motion to Exclude Evidence is denied for the reasons stated above. Patent Owner is reminded that a motion to exclude is limited to explaining why the evidence is not admissible. A motion to exclude is not the place to challenge the sufficiency of the evidence to prove a particular fact.

B. Petitioner's Motion to Exclude Evidence

Petitioner also filed a Motion to Exclude Evidence. Paper 58. Specifically, Petitioner seeks exclusion of certain testimony of Dr. Fudin elicited during cross examination on the basis of relevance. *Id*. at 1. Petitioner also seeks to exclude Patent Owner's arguments regarding the cited testimony. *Id*. at 3. Petitioner's Motion to Exclude Evidence is denied as moot because, even taking the evidence into consideration, we hold that Petitioner has established by a preponderance of the evidence that claims 1–10 of the '501 patent are unpatentable as obvious.

IV. PETITIONER'S MOTION TO SUBMIT SUPPLEMENT INFORMATION

Petitioner moves to submit supplemental information to confirm the public accessibility of two documents, described as "*NIH*" (Ex. 1008) and "*CDC minutes*" (Ex. 1015), Paper 36, 1–3. Patent Owner opposes. Paper 41. Because the information sought to be submitted is unnecessary to this Decision, we deny

as moot Petitioner's Motion to Submit Supplemental Information.

V. MOTIONS TO SEAL AND FOR ENTRY OF PROTECTIVE ORDER

In a combined Motion to Seal and Motion for Entry of Protective Order, Patent Owner requests that the Board seal Exhibit 2107 in its entirety, along with unredacted versions of the Frau Declaration (Ex. 2059), the DiPiro Declaration (Ex. 2060), and the Freeman Declaration (Ex. 2068), which discuss Exhibit 2107. Paper 39, 1. According to Patent Owner, the documents sought to be sealed disclose Patent Owner's "business confidential information and trade secrets," relating to an agreement between Patent Owner and a non-party. *Id.* Patent Owner states that Exhibit 2107 "has not been previously disclosed to the public and [ ] remains confidential." *Id.* Patent Owner requests entry of the Board's Default Protective Order to govern the disclosure of confidential information in this proceeding. *Id.* Petitioner filed no opposition.

Petitioner filed a Motion to Seal unredacted versions of Exhibits 1066 and 1067 (deposition transcripts). Paper 50, 1. Petitioner states that those documents discuss Patent Owner's confidential business information. *Id.* at 2. Patent Owner filed no opposition.

We conclude that the documents sought to be sealed reflect confidential business information and, accordingly, grant both motions. The confidential content of documents placed under seal in this proceeding has not been identified in this Decision. We are persuaded that good cause exists to maintain

those documents under seal. The terms of the Board's Default Protective Order shall govern any disclosure of those documents.

The record will be maintained undisturbed pending the outcome of any appeal taken from this decision. At the conclusion of any appeal, or if no appeal is taken, the documents may be made public. *See* Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). Further, either party may file a motion to expunge the sealed documents from the record pursuant to 37 C.F.R. § 42.56. Any such motion will be decided after the conclusion of any appeal or the expiration of the time period for appealing.

IV. CONCLUSION

Taking account of the arguments and evidence presented during trial, including the objective evidence of secondary considerations, we determine that Petitioner establishes by a preponderance of the evidence that claims 1–10 of the '501 patent are *unpatentable* under 35 U.S.C. § 103(a) over the combined disclosures of Powell, Mitchell, and Dishman.

Patent Owner's Motion to Exclude Evidence is *denied*. Petitioner's Motion to Exclude Evidence is *denied*. Petitioner's Motion to Submit Supplemental Information is *denied*. Patent Owner's combined Motion to Seal and Motion for Entry of Protective Order is *granted*. Petitioner's Motion to Seal is *granted*.

V. ORDER

It is

ORDERED that claims 1–10 of the '501 patent are *unpatentable*;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence (Paper 57) is *denied*;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence (Paper 58) is *denied*;

FURTHER ORDERED that Petitioner's Motion to Submit Supplemental Information (Paper 36) is *denied*;

FURTHER ORDERED that Patent Owner's combined Motion to Seal and Motion for Entry of Protective Order (Paper 39) is *granted*;

FURTHER ORDERED that Petitioner's Motion to Seal (Paper 50) is *granted*;

FURTHER ORDERED that the terms of the Board's Default Protective Order shall govern the disclosure of sealed documents in this proceeding; and

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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APPENDIX C

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Papel No. 73
Entered: October 26, 2016

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

COALITION FOR AFFORDABLE DRUGS VI LLC,
Petitioner,

v.

CELGENE CORPORATION,
Patent Owner.

Case IPR2015-01096
Patent 6,315,720 B1

Before MICHAEL P. TIERNEY, GRACE KARAFFA OBERMANN, and TINA E. HULSE, Administrative Patent Judges.

TIERNEY, Administrative Patent Judge.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. §318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Coalition for Affordable Drugs VI, LLC ("Petitioner"), filed a Petition requesting an *inter partes* review of claims 1–32 of U.S. Patent 6,315,720 (Ex. 1001, "the '720 patent"). Paper 1 ("Pet."). Patent Owner, Celgene Corporation, ("Patent Owner") filed a Preliminary Response. Paper 11 ("Prelim. Resp." with redacted version Paper 12). We determined that there was a reasonable likelihood that Petitioner would prevail in challenging those claims as unpatentable. Pursuant to 35 U.S.C. § 314, we authorized an *inter partes* review to be instituted, on October 27, 2015. Paper 21 ("Dec. on Inst.").

After institution, Patent Owner filed a redacted Patent Owner Response. Paper 40 ("PO Resp." with redacted version Paper 41). Petitioner filed a Reply. Paper 52, ("Reply" with readacted version paper 51). Additionally, Petitioner filed a Motion to Submit Supplemental Information (Paper 36), a Motion to Exclude Evidence (Paper 61), and a Motion to Seal (Paper 53). Further, Patent Owner filed a Motion to Exclude Evidence (Paper 60) and Motions to Seal and for Entry of Protective Order (Papers 10 and 39).

An oral hearing was held on July 21, 2016. A transcript of the hearing has been entered into the record of the proceeding as Paper 72 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–32 are unpatentable.

A. Related Proceedings

According to Petitioner, the '720 patent has been the subject of the following judicial matters: *Celgene Corp. v. Lannett Holdings, Inc.*, DNJ-2-15-00697 (filed Jan. 30, 2015); *Celgene Corp. v. Natco Pharma Ltd.*, DNJ-2-10-cv-05197 (filed Oct. 8, 2010); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-08-cv-03357 (filed July 3, 2008); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-05485 (filed Nov. 14, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-04050 (filed Aug. 23, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-00286 (filed Jan. 18, 2007). Pet. 2–3. Additionally, the claims of the '720 patent have been challenged in two related *inter partes* review proceedings, IPR2015-01102 and IPR2015-01103.

B. The '720 Patent

The '720 patent specification describes methods for delivering a drug to a patient. Ex. 1001, 1:8–9. For example, the method can be used to deliver a drug known to cause birth defects in pregnant women, while avoiding the occurrence of known or suspected side effects of the drug. *Id*. at 1:9–13, 19–30.

The patent describes prior-art methods that involved filling drug prescriptions, only after a computer readable storage medium was consulted, to assure that the prescriber is registered in the medium and qualified to prescribe the drug, and that the patient is registered in the medium and approved to receive the drug. *Id*. at 2:50–60. The '720 patent specification is said to describe an improvement over the acknowledged prior art, where the improvement involves assigning patients to risk groups based on the

risk that the drug will cause adverse side effects. The improvement further requires entering the risk group assignment in the storage medium. After determining the acceptability of likely adverse effects, a prescription approval code is generated to the pharmacy before the prescription is filled. *Id*. at 2:60–3:4. The specification states that this method may minimize and simplify demands on the pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. *Id*. at 2:8–12.

The '720 patent specification states that it is preferable that information probative of the risk of a drug's side effects is collected from the patient. *Id*. at 6:30–33. This information can then be compared with a defined set of risk parameters for the drug, allowing for assignment of the patient to a particular risk group. *Id*. at 6:33–37. If the risk of adverse side effects is deemed acceptable, the patient may receive the drug from a registered pharmacy, subject to conditions such as a negative pregnancy test, but may not receive refills without a renewal prescription from the prescriber. *Id*. at 11:62–12:8.

The '720 patent specification states that its method can be used to deliver teratogenic drugs, and drugs that can cause severe birth defects when administered to a pregnant woman, such as thalidomide. *Id*. at 4:1–14, 8:39–45.

C. Illustrative Claims

The '720 patent contains two independent claims and thirty dependent claims, all of which are challenged by Petitioner. Each of the independent claims, 1 and 28, are directed to a method of delivering a drug to a patient in need of the drug and is written

in a Jepson claim format, where the preamble defines admitted prior art of prescribing drugs only after a computer readable storage medium has been consulted properly. The claimed improvement over the admitted prior art includes defining a plurality of patient risk groups, defining information to be obtained from a patient that is probative of risk of an adverse side effect, assigning the patient to a risk group, determining whether the risk of the side effect is acceptable, and generating an approval code to be retrieved by a pharmacy before filling a prescription for the drug.

Claims 2–27 depend, directly or through other dependent claims, upon claim 1. Dependent claims 2–4 require that a prescription is filled only following verified full disclosure and consent of the patient. Dependent claims 5–6 require that the informed consent is verified by the prescriber at the time the patient is registered in a computer, and consent is transmitted via facsimile and interpreted by optical character recognition software. Dependent claims 7–10 require information be obtained from the patient prior to treatment, including the results of diagnostic testing, which can comprise genetic testing. Dependent claims 11–14 and 20–25 further require additional features, such as a teratogenic effect being otherwise likely to arise in the patient, arise in a fetus carried by the patient, and that the drug is thalidomide. Dependent claims 15–19 and 26–27 require defining a second set of information to be collected from the patient on a periodic basis, which can comprise a telephonic survey regarding the results of pregnancy testing, and where the adverse side effect of the drug can be a teratogenic effect.

Dependent claims 29–32 each depend, directly or through other dependent claims, from independent claim 28. Dependent claims 29–32 further require that the information collected be probative of likelihood that the patient may take the drug and other drugs in combination, and that the diagnostic testing test for evidence of the use and adverse effect of the other drug.

Independent claim 1 is illustrative of the challenged claims, and is recited below:

> 1. In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:
>
> a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;
>
> b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;

> c. in response to said information set, assigning said patient to at least one of said risk groups and entering said risk group assignment in said medium;
>
> d. based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and
>
> e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

Claim 28, the only other independent claim, includes all the elements of claim 1 and adds a wherein clause that "said adverse side effect is likely to arise in patients who take the drug in combination with at least one other drug." Prelim. Resp. at 15.

D. Prior Art Relied Upon

Petitioner relies upon the following prior art:

"THALOMID™ (thalidomide) Capsules Revised Package Insert" (Jul. 15, 1998) ("Thalomid PI") (Ex. 1006)

U.S. 5,832,449, Nov. 30, 1998 ("Cunningham") (Ex. 1009)

Jerome B. Zeldis et al., *S.T.E.P.S.TM: A Comprehensive Program for Controlling and Monitoring Access to Thalidomide*, CLINICAL THERAPEUTICS® 21:2, 319–30 (1999) ("Zeldis") (Ex. 1012)

Daniel P. Keravich and Charles E. Daniels, *Challenges of Thalidomide Distribution in a Hospital Setting*, AM.

J. HEALTH-SYST. PHARM. vol. 56, 1721–75 (Sept. 1, 1999) ("Keravich") (Ex. 1018)

James C. Mundt, *Interactive Voice Response Systems in Clinical Research and Treatment*, PSYCHIATRIC SERVICES (May 1997) 48:5, 611–12, 623 ("Mundt") (Ex. 1024)

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103 based on the following specific grounds (Pet. 14–60):

Reference(s)	**Basis**	**Claims challenged**
Thalomid PI in view of Cunningham and further in view of Keravich, Zeldis, and Mundt[1]	§ 103	1–32

E. Level of Ordinary Skill in the Art

The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level

[1] Petitioner's heading merely states that claims 1–32 are obvious over Thalomid PI in view of Cunningham and further in view of the knowledge of one of ordinary skill in the art. Pet. 51. The Petition, however, goes on to rely upon additional art to explain the Thalomid PI reference. Specifically, the Petitioner relies upon Keravich, Zeldis, and Mundt. *Id*. at 17, 24–25, 33, 42, 46–47, 49–50, and 55–56. In the Decision to Institute we included the additional art relied upon, Keravich, Zeldis, and Mundt, in the stated grounds, so that the record was clear as to the prior art relied upon. Dec. on Inst.

of active workers in the field. In a given case, one or more factors may predominate. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

The challenged claims are directed to the subject matter of delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug. The claims are said to be an improvement over prior art distribution systems where the improvement includes using an approval code to help minimize and simplify demands on a pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. Ex. 1001 at 2:8–12.

Petitioner contends that a person skilled in the art of pharmaceutical prescriptions, which would involve controlling distribution of a drug, typically would have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a registered pharmacist in any one or more of the United States. Ex. 1021, Declaration of Dr. Jeffrey Fudin ¶¶ 13, 16. Patent Owner disagrees with Petitioner's definition of a person of ordinary skill in art and contends that such a person would have at least 2 years of experience in risk management relating to pharmaceutical drug products or a B.S. or M.S. in pharmaceutical drug product risk management or a related field. PO Resp. 12–13.

Based on the record presented, we hold that the cited prior art is representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The prior art references, like the '720 patent specification, focus on controlling the distribution of a drug. *See, e.g.*, Ex. 1001, 1:13–16

(describing "the distribution to patients of drugs, particularly teratogenic drugs, in ways wherein such distribution can be carefully monitored and controlled"); *see generally* Exs. 1003, 1006, 1009, 1012, 1018. Consistent with the prior art, Petitioner's Declarant, Dr. Fudin, testifies that the types of problems encountered by one of ordinary skill in the art included creating a restricted drug distribution program to prevent adverse side effects, such as teratogenic risks. Ex. 1021 ¶¶ 44–50. Accordingly, the prior art demonstrates that one of ordinary skill in the art would have experience in controlling the distribution of a drug. To the extent a more specific definition is required, we hold, for the reasons provided below, that a person of ordinary skill in the art would have several years of experience in risk management relating to pharmaceutical drug products, which encompasses experience as a pharmacist.

Patent Owner contends that a pharmacist would not be considered a person of ordinary skill in the art. Patent Owner relies upon the declaration of Dr. Frau, who testifies that "an average pharmacist at the time of the invention would have lacked the ability and the motivation to design an all inclusive system of drug delivery for a hazardous drug that is focused on preprescription patient assessment." Ex. 2059, ¶ 47. The challenged claims, however, are directed to an improvement of an existing drug distribution method that provides an approval code after a prescriber has prescribed the drug. Specifically, the approval code checks to see if all the requisite information was properly registered in the storage medium and if the approval code is provided the pharmacy provides the

drug. Ex. 1001, 14:45–57. Additionally, as to preprescription patient assessment, Dr. Frau fails to explain why pharmacists would lack awareness of preprescription patient assessment for drugs requiring prescriptions, *e.g.*, checking patient history to prevent prescription of contraindicated drugs.

Patent Owner contends that neither of the inventors of the challenged patent are pharmacists and relies upon the Dr. Frau's testimony as support for its position. Ex. 2059, ¶ 46. Although Dr. Frau states that the inventors are not pharmacists, Dr. Frau does not provide the basis for her testimony.

Patent Owner contends that the focus of the '720 patent is avoiding adverse events associated with drug products and not pharmaceutical prescriptions. PO Resp. 13. The challenged claims, however, do not prevent a patient taking a drug from experiencing the side effects associated with the drug. Rather, the challenged claims attempt to prevent a person from obtaining a drug where the person has an unacceptable risk associated with the known side effects of the drug. Specifically, the claims seek to control the distribution of a prescribed drug.

Patent Owner, relying on the testimony of Dr. Frau, contends that a person of ordinary skill in the art would have education or experience focused on safety surveillance, pharmacovigilance or pharmacoepidemiology. *Id.* at 14. On cross-examination, Dr. Frau did not identify any schools in the United States that offered a degree in pharmaceutical risk management or related fields, such as pharmacoepidemiology, but did identify two

schools located outside the United States. Ex. 1075, 166:19–167:19.

Patent Owner contends that Dr. Fudin acknowledged on cross-examination that, under his definition, one of ordinary skill in the art would not know how to design the "full system" claimed in the '720 patent. PO Resp. 15 citing Ex. 2061, 199:8–200:25. The challenged claims of the '720 patent are Jepson claims where the preamble defines admitted prior art. On this record it is unclear whether Dr. Fudin was testifying that a person of ordinary skill under his definition would be unable to develop the admitted prior art. Regardless, Dr. Fudin testified that pharmacists "don't need to know how to design it," which is distinct from would not know how to design it. Ex. 2061, 201:1–6.

We credit Dr. Fudin's testimony that a person of ordinary skill in the art would encompass a pharmacist as his testimony is consistent with the '720 patent specification, which states that the use of the approval code is focused on helping a pharmacy and a pharmacist would understand what would help simplify demands on a pharmacy. Ex. 1001 at 2:8–12. We likewise credit Dr. Frau's testimony that the person of ordinary skill in the art is not limited to pharmacists but would likewise encompass persons having at least 2 years of experience in risk management relating to pharmaceutical products, as pharmacists are not the only persons having restricted drug distribution experience and knowledge. Ex. 2059, ¶ 39.

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b).

Generally, Petitioner states that the claim terms are presumed to take on the ordinary and customary meaning that they would have to one of ordinary skill in the art. Pet. at 10. Petitioner however, proposes constructions for several claim terms including "consulted," "teratogenic effect," and "adverse side effect." *Id.* at 9–11. Patent Owner does not propose distinct constructions of these terms. We determine that the identified claim terms should be given their ordinary and customary meaning, as would be understood by one with ordinary skill in the art, and need not be construed explicitly at this time for purposes of this Decision.

Independent claims 1 and 28 are written in a Jepson claim format. Patent Owner acknowledges that the challenged claims are written to be an improvement over its prior program for controlling patient access to thalidomide known as the System for Thalidomide Education and Prescribing Safety, or S.T.E.P.S., which originally was claimed in U.S. Patent No. 6,045,501. Prelim. Resp. at 1, 10.

Patent Owner contends that the term "prescription approval code" requires construction and that the term has a specific meaning. PO Resp. 21–22. According to Patent Owner, the term "prescription approval code" means:

> [A] code representing that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

Id. at 21, 23. Petitioner disagrees, stating that there is no requirement for an "affirmative" risk assessment. Reply 9–12.

The specification defines prescription approval code such that the prescription approval code is not provided unless certain conditions are met. Ex. 1001, 13:42–52. The conditions include the prescriber, pharmacy, patient, patient's risk group and the patient's informed consent have been properly registered in the storage medium. *Id*. Specifically, the '720 patent specification describes "approval code" as follows:

> In certain embodiments of the invention, the methods may require that the registered pharmacy consult the computer readable medium to retrieve a prescription approval code before dispensing the drug to the patient. This approval code is preferably not provided unless the prescriber, the pharmacy, the patient, the patient's risk group and the patient's informed consent have been properly registered in the storage medium. Additionally, depending upon the risk group assignment, generation of the prescription approval code may further require the registration in the storage medium of the additional set of information, including periodic surveys and the results of diagnostic tests, as

> have been defined as being relevant to the risk group assignment.

Id. The specification also states that if a patient's risk group assignment so indicates, a prescription approval code "generally" will not be generated until specific periodic diagnostic tests have been performed and satisfactory results entered into the storage medium. *Id*. at 14:37–15:6. As apparent from the specification, the prescription approval code is "preferably" or "generally" not provided unless certain information is properly registered in a storage medium. An affirmative risk assessment, however, is not mentioned in the specification as a mandatory requirement for generation of the prescription approval code.

Patent Owner contends that during prosecution they overcame a prior-art rejection by defining the term prescription approval code. PO Resp. 22. Specifically, Patent Owner overcame the rejection by noting that the prior art cited by the Examiner merely described an "identifier for the prescription, and . . . not an *approval code* as recited in Applicant's claims." Ex. 1002, 107. Patent Owner also stated that the prior art was merely a prescription identifier and not reflective of a determination that the risk of the side effect occurring has been found to be acceptable. *Id*.

Patent Owner also states both Petitioner's expert (Dr. Fudin) and Patent Owner's expert (Dr. Frau) agree with Patent Owner's claim construction. PO Resp. 23, citing Ex. 2059 ¶¶ 50–52, Ex. 2060 ¶¶ 36–38, Ex. 2061, 434:8–15. Patent Owner notes that Dr. Fudin also insisted that the claimed prescription code

is just a number and could even be a credit card. *Id.* citing Ex. 2061 at 432:21–24.

During cross examination, Dr. Fudin was asked questions regarding the meaning of the terms "approval code" and "prescription approval code." Ex. 2061 at 412:17–25, 429:18–430:10, 433:14–434:15. When Dr. Fudin was asked what an "approval code" means as used in the '720 patent claims, Dr. Fudin testified that it meant a code generated to allow a prescription to be filled and noted that it could be like a consumer credit card approval code. *Id.* at 412:17–25. When questioned as to how Cunningham taught an approval code used to represent a determination made concerning risk of side effects, Dr. Fudin testified that the code is used to track things and the technology should allow you to combine it with other materials that you could track. *Id.* at 429:18–430:10. When Dr. Fudin was asked whether the claimed *prescription* approval code was merely a number, Dr. Fudin stated that it was a number associated with the prescription and agreed that the claimed *prescription* approval code represented a determination that the risk of a side effect occurring was acceptable and that approval and affirmative decision had been made for the prescription to be filled. *Id.* at 433:14– 434:15.

Based on the record presented, we adopt Patent Owner's construction of the term prescription approval code. Specifically, we credit Dr. Fudin's testimony that an approval code may be an identifier, such as an approval code identifier used in consumer credit card transactions (approved/declined). We further credit Dr. Fudin's testimony, as well as Dr. Frau and Dr. DiPiro's, that a *prescription* approval code represents the fact that a prescription has been

provided and that the prescription approval code thereby represents that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

B. Claims 1–32 Obviousness over Thalomid PI in view of Cunningham and Further in view of Keravich, Zeldis, and Mundt

Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 53–54. Patent Owner disagrees. PO Resp. 16–58.

1. Background on Obviousness

A claimed invention is not patentable under 35 U.S.C. § 103 if it is obvious. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426–27 (2007). In *Graham v. John Deere Co.*, the Supreme Court established the facts underlying an obviousness inquiry.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 17 (1966). In addressing the findings of fact, "[t]he combination of

familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. As explained in *KSR*:

> If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417. Accordingly, a central question in analyzing obviousness is "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

2. Scope and Content of the Prior Art

a. Thalomid PI

Thalomid PI is a thalidomide capsules revised package insert. Ex. 1006, 1. Thalomid PI states that, in an effort to make the chance of fetal exposure to thalidomide as negligible as possible, thalidomide is approved by the FDA only under a special restricted distribution program. *Id.* The restricted program is called "System for Thalidomide Education and Prescribing Safety," (i.e., "S.T.E.P.S."). *Id.* According to Thalomid PI, only prescribers and pharmacists registered with the program may prescribe and dispense the product. *Id.* Further, under the program, patients must be advised of, and agree to, comply with the S.T.E.P.S. program in order to receive the product. *Id.* For example, Thalomid PI states that prescriptions for thalidomide for women of childbearing potential

must not be issued until a written report of a negative pregnancy test has been obtained by the prescriber. *Id*. at 2. For sexually mature males, patients must acknowledge the need for using barrier contraception. *Id*. at 4. Sexually mature males and women of childbearing potential also are required to be capable of complying with a S.T.E.P.S. patient survey. *Id*. at 3–4. Thalidomide is to be supplied only to pharmacists registered with the S.T.E.P.S. program, and patient compliance with the specific informed consent and patient registry and survey are required prior to dispensing thalidomide. *Id*. at 19.

Thalomid PI describes counseling patients by giving patients both oral and written warnings of the hazards of taking thalidomide. *Id*. at 3–4. In addition to counseling, before starting treatment, women of childbearing potential should have a pregnancy test within 24 hours prior to beginning therapy, so as to avoid risks of severe birth defects or death to an unborn baby. *Id*. at 1–2. Further, women of childbearing potential are to be referred to a qualified provider of contraceptive methods, if needed. *Id*. at 2. Authorization for thalidomide is provided by a physician only after the patient and physician acknowledge that the patient has been given a warning as to the nature, purpose, and risks of the treatment. *Id*. at 21.

When taking thalidomide, Thalomid PI teaches that pregnancy testing should occur weekly during the first month of use, then monthly thereafter. *Id*. at 2. Thalomid PI also teaches that drug prescribing should be contingent upon initial and confirmed negative results of pregnancy testing. *Id*. at 18. In addition to pregnancy testing, white blood cell count and

differential should be monitored on an ongoing basis. *Id*. at 10. Patients taking thalidomide must participate in a survey and patient registry. *Id*. at 20–21.

Thalomid PI describes adverse side effects when taking thalidomide in combination with other drugs. For example, Thalomid PI teaches that thalidomide has been reported to enhance sedative activity of barbiturates, alcohol, chlorpromazine, and reserpine. *Id*. at 12. Further, medications known to be associated with peripheral neuropathy are to be used with caution when taking thalidomide. *Id*. Thalomid PI also teaches testing pharmacokinetic profiles of patients on oral contraceptives. *Id*. at 12.

b. Cunningham

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical product samples. Ex. 1009, 1:6–10. The method involves communicatively linking prescribers and pharmacies to a central computing station. *Id*. at 1:8–11. Specifically, before filling any prescription for a pharmaceutical trial product, a pharmacy must upload defined information into a central computing station. *Id*. at 11:6–13. Only if the central computing station establishes that the uploaded information is valid, can the central computing station issue a pharmacy approval code for the pharmacy to dispense the pharmaceutical product. *Id*. at 11:13–24.

c. Keravich

Keravich states that pharmacies under the S.T.E.P.S. program are to dispense a maximum 28-day supply and that refills are not authorized. Ex. 1018, 1722. Under the S.T.E.P.S. program, patients are

eligible to continue to receive thalidomide, if they participate in a mandatory and confidential patient survey every 30 days for women and 90 days for men. *Id.* Keravich states that Celgene provides telephone and fax services for patient registration, approval, and prescriber verification. *Id.* at 1723–24. Keravich also teaches that the S.T.E.P.S. program patient database provides critical patient related information that is found on a consent form. *Id.* at 1723.

d. Zeldis

Zeldis teaches that the S.T.E.P.S. program provides a method for controlling and monitoring access to thalidomide. Ex. 1012, 319. Zeldis also teaches that thalidomide is efficacious in treating erythema nodosum leprosum (ENL). *Id.* at 320–21.

e. Mundt

Mundt describes the use of interactive voice response systems for clinical research and treatment. Ex. 1024. According to Mundt, the use of interactive voice response systems can strengthen clinical practice, extend research methods, and enhance administrative support of service quality and value. *Id.* at 612. Mundt also teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. *Id.*

3. Analysis

Petitioner contends that Thalomid PI describes all of the claim limitations recited in independent claims 1 and 28, with the exception of the generation of a prescription approval code to be retrieved by a pharmacy before the prescription is filled. Pet. 52.

Petitioner states that one skilled in the art, following the teachings of Thalomid PI and seeking to avoid treating pregnant women with thalidomide, would have implemented the methods disclosed in Cunningham to limit dispensation of a drug associated with adverse effects to certain risk groups. *Id*. at 54. We understand Petitioner as contending that the challenged claims represent a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects). For the reasons provided below, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are obvious over the cited prior art.

a. Person of Ordinary Skill in the Art

Patent Owner contends that Petitioner has failed to demonstrate that the challenged claims would have been obvious to one of ordinary skill in the art. According to Patent Owner, Petitioner conducted its obviousness analysis using the wrong person of ordinary skill in the art. PO Resp. 2. Dr. Fudin, Petitioner's declarant, testified that the art related to pharmaceutical prescriptions and use of computer systems to regulate access to prescription drugs. Ex. 1021, ¶ 13. Dr. Fudin also testified that a person of ordinary skill in the art would typically have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a

registered pharmacist in any one or more of the United States. *Id.* at ¶ 16. Dr. Frau, testifying on behalf of Patent Owner, opined that a person of ordinary skill in the art would have experience in risk management relating to pharmaceutical drug products or B.S. or M.S. in pharmaceutical drug product risk management or related field. Ex. 2059, ¶ 39.

As stated above, we hold on this record that a person of ordinary skill in the art would include a pharmacist and/or persons having at least 2 years of experience in risk management relating to pharmaceutical products as pharmacists. Based on the record presented, we hold that Petitioner has conducted its obviousness analysis from an appropriate person of ordinary skill in the art. Additionally, even we adopted Dr. Frau's definition of ordinary skill in the art verbatim, Patent Owner has failed to present sufficient and credible evidence to persuade us that Patent Owner's defined person of ordinary skill in the art would be led to a different outcome regarding the obviousness of the challenged claims. Specifically, Dr. DiPiro, testifying for Patent Owner, acknowledged that many types of pharmacists use risk management techniques in their practice on a day-to-day basis. Ex. 1074 at 95:17–96:1. Dr. DiPiro's testimony is consistent with an article he wrote where he stated that pharmacists can be assured of an important role in health care as long as they are focused on needs and problems, such as medication errors and preventable adverse drug effects. Ex. 1073 at 2.

b. Problem to be Solved

Patent Owner states that the challenged claims were conceived as part of Patent Owner's efforts to

improve its existing controlled patient access thalidomide program, which is said to be embodied in U.S. Patent No. 6,045,501. PO Resp. 1. Patent Owner states that, as of the effective filing date, the prior art thalidomide program was 100% successful in preventing birth defects associated with thalidomide. *Id*. at 4. Patent Owner contends that Petitioner has not identified any reason to modify or improve upon Patent Owner's prior art thalidomide program. PO Resp. 17. Patent Owner states that Dr. Fudin admitted that there was nothing in the prior thalidomide program that would suggest a problem. *Id*. Additionally, Patent Owner contends that Zeldis, which describes the prior art thalidomide program, fails to supply a person of ordinary skill in the art with any reason to try to improve the restricted distribution program. *Id*. at 18.

Thalidomide is known to cause severe malformations in children of mothers who took the drug during pregnancy, resulting in over 10,000 birth defects in Europe. PO. Resp. 3. As such, as evidenced by the art of record, there are serious concerns regarding the distribution and use of thalidomide. Zeldis teaches that the prior art thalidomide program provided mechanisms for close constant monitoring to identify noncompliance or other problems, but concluded by stating that Celgene was committed to making the program succeed and would be willing to make any modifications to the program necessary to ensure its effectiveness. Ex. 1012 at 329. This willingness to make any modifications is consistent with the understanding that the underlying drug remains a safety concern because controlling the distribution of the drug does not negate the actual side

effects of the underlying drug. In dealing with such drugs, such as those capable of causing severe birth defects, the highest level of safety is desired. Under such circumstances, consistent with the teachings of Zeldis and the art of record one skilled in the art would understand that where significant safety risks exist with a drug, one would continuously search for safer ways to control the distribution of the drug. Put simply, where significant safety concerns exists, one of ordinary skill in the art would not wait until an accident occurred to seek out improvements.

c. Reason to Combine

As stated above, Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 53–54. Patent Owner contends however, that the prior art did not teach, disclose, or suggest the claimed prescription approval code. PO Resp. 35–39.

Patent Owner states that Cunningham's pharmacy approval code is part of a method of tracking and managing the dispensing of pharmaceutical trial products and has no connection to patient information at all. *Id.* at 37. Patent Owner also states that Cunningham's pharmacy approval code is merely a number or identifier associated with samples of pharmaceutical products. *Id.* at 38. Patent Owner contends that a person of ordinary skill in the art would therefore have understood that Cunningham's

pharmacy approval code is not the same as the claimed prescription approval code. *Id*. at 38.

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical products whereby prescribers and pharmacies are linked to a central computing station. Ex. 1009, 1:6–11. Certain pharmaceutical drugs, such as thalidomide, were known in the art to require a prescription in order for a patient to be provided the drug whereby a prescriber would authorize a patient to receive a drug from a pharmacy. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421. Dr. Fudin testified that the use of an approval code of Cunningham could be like that of a consumer credit card approval code, and is used to track things and the technology should allow you to combine it with other materials that you could track. Ex. 2061 at 412:17–25, 429:18–430:10. Based on the record presented, we hold that a person of ordinary skill in the art would understand that an approval code used by prescribers and pharmacies to track and manage pharmaceutical products could likewise be used by prescribers and pharmacies to track and manage prescription pharmaceutical products. We further hold that the claimed improvement recited in the challenged claims represents a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects).

Patent Owner raised a new contention at Oral Hearing that, with the prior system, a drunk doctor may have let a patient who wanted to have a baby take thalidomide. Tr. at 41:9–23. According to Patent Owner, in contrast to the prior system, the new improved system embodied by the challenged Jepson claims would have caught such a mistake because of the use of the approval code. *Id*. at 41:23–44:22. Patent Owner did not identify sufficient and credible evidence of record to support such a contention or provide sufficient evidence that the existence of drunk doctor prescriptions was a problem to be overcome. Additionally, parties are not permitted to raise new arguments or evidence at oral hearing. *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012).

As to the dependent claims, claims 2–27 and 29–32, Petitioner provides detailed explanations and claim charts identifying where the additional limitations are taught in the prior art. Pet. 22–60. Additionally, Petitioner relies upon the Declaration of Dr. Fudin to demonstrate that the one of ordinary skill in the art would understand that the prior art teaches each and every requirement of the challenged dependent claims, and that one would have had reason to employ the additional requirements in combination with the subject matter of the independent claims. Ex. 1021 ¶¶ 107–233. For the reasons provided in the Petition, and below with respect to claims 5, 6, 10 and 17, we hold that Petitioner has demonstrated by a preponderance of the evidence that the dependent claims are unpatentable as obvious over the cited prior art.

d. Dependent Claims 5 and 6

Dependent claim 5 requires that the informed consent be verified by the prescriber at the time the patient is registered in the computer readable storage medium. Claim 6 depends from claim 5 and further requires the use of facsimile and optical character recognition software.

Petitioner states that Thalomid PI teaches that prescribers are to screen risk group assignment and informed consent at the time a patient is registered into the controlled drug distribution program. Pet. 42. Dr. Fudin testifies that one of ordinary skill in the art would have reason to have the prescriber verify both risk group assignment and informed consent at the time of computer entry to eliminate error and delay. Ex. 1021 ¶ 220. Dr. Fudin also testifies that it was well known in the art to use optical character recognition software to interpret paper data. *Id.* at ¶ 128.

Patent Owner states that the prior art discloses that pharmacists, not the prescribers, verified the informed consent at the time of patient registration. PO Resp. 40. Specifically, Patent Owner contends that Thalomid PI discloses that the prescriber only ensures that the patient completes the informed consent form, not that the prescriber verifies the informed consent. *Id.* at 41. Rather, Patent Owner states that the pharmacist registers the patient and verifies the informed consent. *Id.* at 42–44.

Both parties agree that Thalomid PI teaches the use of informed consent forms and that the consent forms were entered into the patient registration database prior to dispensing thalidomide to a patient. As Dr. Fudin testifies, one of ordinary skill in the art

would have reason to have the prescriber verify the informed consent at the time the informed consent form is completed. Specifically, Dr. Fudin testifies that one of ordinary skill in the art would understand that prescribers verifying patient consent and associated risk group assignment at the time the consent forms are completed could eliminate error and delay. Ex. 1021, ¶ 220. We credit Dr. Fudin's testimony as it is consistent with the understanding that allowing verification at the time the consent forms are completed reduces the potential for delays associated with incorrectly completed forms.

e. Dependent Claim 10

Claim 10 depends from claim 7, which depends from claim 1. Claim 7 requires that the set of information obtained from a patient include diagnostic testing and claim 10 requires the diagnostic testing comprise genetic testing.

Petitioner contends that genetic testing was a well-known diagnostic procedure as of the effective filing date of the '720 patent. Pet. 58. Petitioner states that it would have been obvious to include genetic testing given that genetic testing was well-known and that such testing was to precede last-resort treatments, such as that disclosed in Thalomid PI. *Id*.

Patent Owner states that the references of record do not disclose or suggest genetic testing. PO Resp. 45. Patent Owner further states that Dr. Fudin has failed to provide evidence in support of his opinion that genetic testing was "common" as of the effective filing date. *Id*. at 46. Patent Owner however, did not dispute that genetic testing was known in the art for obtaining diagnostic information.

Based on the evidence of record, we credit Dr. Fudin's testimony that genetic testing was a known diagnostic procedure as of the effective filing date. Dr. Fudin's testimony is consistent with the FDA Meeting Minutes (Ex. 1013), which contain a statement from a Dr. Holmes, said to represent the American College of Medical Genetics and the Teratology Society. Ex. 1013, 137. According to the FDA Meeting Minutes, Mr. Holmes stated that:

> It may seem strange to you that a genetics society would be standing here, commenting on potential environmental exposures with awful fetal effects, but many clinical geneticists around the country are expected to provide counseling to pregnant women about exposures in pregnancies, so the geneticists, in fact, are often the clinical teratologists. And I am speaking myself as an active clinical teratologist in the Boston area.

Id.

We hold that the genetic testing of dependent claim 10 represents a combination of known elements for their known use to achieve a predictable result, genetic testing to obtain information for diagnosis and treatment.

f. Dependent Claim 17

Claim 17 depends from claim 16, which depends from claim 15. Claim 15 depends from claim 1 and requires defining, obtaining, and entering a second set of information for each risk group. Claim 16 further requires the second set of information comprise a survey regarding patient behavior and compliance. Claim 17 further requires that the survey be

conducted telephonically using an integrated voice response system.

Petitioner relies upon Thalomid PI for its teaching of collecting patient survey data regarding behavior and compliance. Pet. 46 (citing Ex. 1006 at 3, 4, 10, 20, and 21). Petitioner also relies upon Mundt, which teaches that use of interactive voice response systems can strengthen clinical practice, extend research methods, and enhance administrative support of service quality and value. Pet. 59 (citing Ex. 1024, 611–612, 623). Petitioner contends that it would have been obvious to a person of ordinary skill in the art to utilize an integrated voice response system in conducting surveys as such surveys were well known in the art as of the effective filing date and that it is not inventive to provide a mechanical or automatic means to replace a manual activity. Pet. 59.

Patent Owner contends that no single reference disclosed, taught, or suggested the limitation recited in claim 17. PO Resp. 47. Patent Owner notes that Keravich and Zeldis disclose that the patient surveys are physical paper forms. *Id*. at 48. As to Mundt, Patent Owner states that Mundt does not mention using integrated voice response systems for risk group assignments. *Id*. at 49. Additionally, Patent Owner contends that one skilled in the art would not have expected the claimed voice response system to accomplish the same result as paper surveys as paper surveys allow for interactive prescriber/patient risk counseling. *Id*.

Based on the record presented we find that one of ordinary skill in the art would have understood that there are benefits and detriments to both paper

surveys and integrated voice response systems. For example, Mundt teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. Ex. 1024 at 612. One of ordinary skill in the art would have been familiar with collecting patient information and would have been able to determine which collection method best served their needs, automated process or in-person process. We hold that the record demonstrates that the use of integrated response systems in combination with a controlled distribution drug program is a combination of known elements being used for their known purpose to achieve a predictable result, obtaining patient information through an automated process to aid in assessing risk group assignment for prescribing drugs.

g. Remaining Arguments

We have considered Patent Owner's remaining arguments, *e.g.*, implementation would be beyond the level of ordinary skill in the art, but do not find them persuasive. For example, at Oral Hearing, Patent Owner acknowledged that a person of ordinary skill in the art need only to design the invention, and does not need to be able to implement the invention. Tr. 69:12–75:11, 87:11–94:11. Additionally, Patent Owner acknowledged at Oral Hearing that they were not arguing unexpected results for the '720 patent. Tr. at 35:15–18.

We hold that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over the combined teachings of Thalomid PI in view of

Cunningham and further in view of Keravich, Zeldis, and Mundt.

III. Motions to Exclude

Patent Owner filed a Motion to Exclude Evidence. Paper 60. Patent Owner alleges that Petitioner relied improperly upon Mundt (Exhibit 1024) and FDA Meeting (Exhibit 1076). *Id*. at 2. Patent Owner states that Petitioner made statements that are not supported by the exhibits and that the exhibits should therefore be excluded as out-of-court statements to prove the truth of the matter asserted. *Id*. Patent Owner's objection to Petitioner's statements go to the credibility of the statements made by Petitioner and do not go to the exhibits themselves. A prior art document "is offered simply as evidence of what it described, not for proving the truth of the matters addressed in the document." *See, e.g., Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 233 n.2 (D.D.C. 1990), *judgment aff'd*, 959 F.2d 226 (Fed. Cir. 1992); Fed. R. Evid. 801(c) 1997 Adv. Comm. Note ("If the significance of an offered statement lies solely in the fact that it was made, no issue is raised as to the truth of anything asserted, and the statement is not hearsay."). Therefore, Mundt and the FDA Meeting exhibits are not hearsay under Federal Rule of Evidence 801(c).

Patent Owner alleges that Petitioner relied upon irrelevant evidence and seeks to exclude the evidence as they are irrelevant for the purposes for which it is offered. Paper 60, 3. Petitioner disagrees with Patent Owner and contends that Patent Owner's relevance objections go to the weight given to the evidence. Paper 64, 5–8. We agree with Petitioner. It is the Board's

discretion to assign the appropriate weight to be accorded the evidence and we hold that, in this instance, it is not necessary to resort to a formal exclusion of the identified evidence in assessing the sufficiency of the evidence.

Patent Owner contends that Petitioner mischaracterized certain portions of Dr. Frau's testimony. Paper 60, 9–13. Patent Owner states that the testimony should be excluded unless the Board considers the testimony surrounding the context and/or relevant redirect testimony. *Id*. at 9. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context.

Additionally, Patent Owner seeks to exclude Exhibit 1076 at page 119 as Petitioner allegedly mischaracterized the particular statement made by Mr. Williams and mischaracterized and/or ignored the full testimony on the issue. *Id*. at 13. Patent Owner states that the Board should exclude the exhibit unless the Board also considers the testimony at Exhibit 1076 pages 118–119. *Id*. at 15. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context.

Patent Owner's Motion to Exclude is denied for the reasons stated above. Patent Owner is reminded that a motion to exclude is limited to explaining why the evidence is not admissible. A motion to exclude is not the place to challenge the sufficiency of the evidence to prove a particular fact.

Petitioner filed a Motion to Exclude Evidence. Paper 61. Specifically, Petitioner requests that the Board

exclude certain testimony of Dr. Fudin elicited during cross examination as the testimony is said to be irrelevant. *Id*. at 1. Petitioner also seeks to exclude Patent Owner's arguments regarding the cited testimony. *Id*. at 3. Petitioner's Motion to Exclude is denied as moot as even taking the evidence into consideration, we hold that Petitioner has established by a preponderance of the evidence that claims 1– 32 of the '720 patent are unpatentable as obvious.

IV. Motion for Supplemental Information

Petitioner moves to submit supplemental information concerning FDA Meeting Transcripts (Ex. 1013, 1014) and CDC minutes (Ex. 1015). Paper 36. Specifically, Petitioner seeks to introduce supplemental evidence that is said to confirm the public availability of Exhibits 1013, 1014 and 1015. *Id*. at 2–3. Patent Owner opposes. Paper 42.

As our Decision does not exclude the disputed exhibits, we deny Petitioner's Motion to Supplement as moot.

V. Motions to Seal

Patent Owner requests that the Board seal Exhibit 2007 in its entirety, along with the unredacted version of the Preliminary Response (Paper 11) and for entry of the Board's Default Protective Order. Paper 10, 1. Patent Owner also requests that the Board seal the unredacted versions of the Patent Owner Response (Paper 40), the Frau Declaration (Ex. 2059) and the DiPiro Declaration (Ex. 2060), which discuss confidential Exhibit 2007. Paper 39, 1. According to Patent Owner, the documents discuss a confidential, non-public submission to the U.S. Food and Drug Administration. *Id*.

Petitioner requests that the Board seal its unredacted Petitioner's Reply to Patent Owner Response (Paper 52) and Exhibits 1074 and 1075 (deposition transcripts). Paper 53, 1. Petitioner states that the documents to be sealed discuss Patent Owner's confidential business information.

Neither party opposes the grant of the motions to seal.

We have reviewed documents sought to be sealed. We conclude that they discuss confidential business information. The content of those documents that is asserted as constituting confidential business information has not been identified in this Final Written Decision in reaching a determination in this proceeding with respect to the claims of the '720 patent. We are persuaded that good cause exists to have those documents remain under seal.

The record will be maintained undisturbed pending the outcome of any appeal taken from this decision. At the conclusion of any appeal proceeding, or if no appeal is taken, the documents may be made public. *See* Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). Further, either party may file a motion to expunge the sealed documents from the record pursuant to 37 C.F.R. § 42.56. Any such motion will be decided after the conclusion of any appeal proceeding or the expiration of the time period for appealing.

VI. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over Thalomid PI in view of

Cunningham and further in view of Keravich, Zeldis, and Mundt.

VII. ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–32 of the '720 patent are held unpatentable;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Seal are *granted*;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Exclude are *denied*;

FURTHER ORDERED that Petitioner's Motion to File Supplemental Information is *denied*;

and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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APPENDIX D

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Papel No. 75
Entered: October 26, 2016

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

COALITION FOR AFFORDABLE DRUGS VI LLC,
Petitioner,

v.

CELGENE CORPORATION,
Patent Owner.

Case IPR2015-01102
Patent 6,315,720 B1

Before MICHAEL P. TIERNEY, GRACE KARAFFA OBERMANN, and TINA E. HULSE, Administrative Patent Judges.

TIERNEY, Administrative Patent Judge.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. §318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Coalition for Affordable Drugs VI, LLC ("Petitioner"), filed a Petition requesting an *inter partes* review of claims 1–32 of U.S. Patent 6,315,720 (Ex. 1001, "the '720 patent"). Paper 1 ("Pet."). Patent Owner, Celgene Corporation, ("Patent Owner") filed a Preliminary Response. Paper 11 ("Prelim. Resp." with redacted version Paper 12). We determined that there was a reasonable likelihood that Petitioner would prevail in challenging those claims as unpatentable. Pursuant to 35 U.S.C. § 314, we authorized an *inter partes* review to be instituted, on October 27, 2015. Paper 21 ("Dec. on Inst.").

After institution, Patent Owner filed a redacted Patent Owner Response. Paper 41 ("PO Resp." with redacted version Paper 42). Petitioner filed a Reply. Paper 54, ("Reply" with a redacted version Paper 53). Additionally, Petitioner filed Motions to Submit Supplemental Information (Papers 36 and 37), a Motion to Exclude Evidence (Paper 63), and a Motion to Seal (Paper 55). Further, Patent Owner filed a Motion to Exclude Evidence (Paper 62) and Motions to Seal and for Entry of Protective Order (Papers 10 and 40).

An oral hearing was held on July 21, 2016. A transcript of the hearing has been entered into the record of the proceeding as Paper 74 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–32 are unpatentable.

A. Related Proceedings

According to Petitioner, the '720 patent has been the subject of the following judicial matters: *Celgene Corp. et al. v. Lannett Holdings, Inc.*, DNJ-2-15-00697 (filed Jan. 30, 2015); *Celgene Corp. v. Natco Pharma Ltd.*, DNJ-2-10-cv-05197 (filed Oct. 8, 2010); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-08-cv-03357 (filed July 3, 2008); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-05485 (filed Nov. 14, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-04050 (filed Aug. 23, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-00286 (filed Jan. 18, 2007). Pet. 2–3. Additionally, the claims of the '720 patent have been challenged in two related *inter partes* review proceedings, IPR2015-01096 and IPR2015-01103.

B. The '720 Patent

The '720 patent specification describes methods for delivering a drug to a patient. Ex. 1001, 1:8–9. For example, the method can be used to deliver a drug known to cause birth defects in pregnant women, while avoiding the occurrence of known or suspected side effects of the drug. *Id*. at 1:9–13, 19–30.

The patent describes prior-art methods that involved filling drug prescriptions, only after a computer readable storage medium was consulted, to assure that the prescriber is registered in the medium and qualified to prescribe the drug, and that the patient is registered in the medium and approved to receive the drug. *Id*. at 2:50–60. The '720 patent specification is said to describe an improvement over the acknowledged prior art, where the improvement involves assigning patients to risk groups based on the

risk that the drug will cause adverse side effects. The improvement further requires entering the risk group assignment in the storage medium. After determining the acceptability of likely adverse effects, a prescription approval code is generated to the pharmacy before the prescription is filled. *Id*. at 2:60–3:4. The specification states that this method may minimize and simplify demands on the pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. *Id*. at 2:8–12.

The '720 patent specification states that it is preferable that information probative of the risk of a drug's side effects is collected from the patient. *Id*. at 6:30–33. This information can then be compared with a defined set of risk parameters for the drug, allowing for assignment of the patient to a particular risk group. *Id*. at 6:33–37. If the risk of adverse side effects is deemed acceptable, the patient may receive the drug from a registered pharmacy, subject to conditions such as a negative pregnancy test, but may not receive refills without a renewal prescription from the prescriber. *Id*. at 11:62–12:8.

The '720 patent specification states that its method can be used to deliver teratogenic drugs, and drugs that can cause severe birth defects when administered to a pregnant woman, such as thalidomide. *Id*. at 4:1–14, 8:39–45.

C. Illustrative Claims

The '720 patent contains two independent claims and thirty dependent claims, all of which are challenged by Petitioner. Each of the independent claims, claims 1 and 28, is directed to a method of delivering a drug to a patient in need of the drug and

is written in a Jepson claim format, where the preamble defines admitted prior art of prescribing drugs only after a computer readable storage medium has been consulted properly. The claimed improvement over the admitted prior art includes defining a plurality of patient risk groups, defining information to be obtained from a patient that is probative of risk of an adverse side effect, assigning the patient to a risk group, determining whether the risk of the side effect is acceptable, and generating an approval code to be retrieved by a pharmacy before filling a prescription for the drug.

Claims 2–27 depend, directly or through other dependent claims, upon claim 1. Dependent claims 2–4 and require that a prescription is filled only following verified full disclosure and consent of the patient. Dependent claims 5–6 require that the informed consent is verified by the prescriber at the time the patient is registered in a computer, and consent is transmitted via facsimile and interpreted by optical character recognition software. Dependent claims 7–10 require information be obtained from the patient prior to treatment, including the results of diagnostic testing, which can comprise genetic testing. Dependent claims 11–14 and 20–25 further require additional features, such as a teratogenic effect being otherwise likely to arise in the patient, arise in a fetus carried by the patient, and that the drug is thalidomide. Dependent claims 15–19 and 26–27 require defining a second set of information to be collected from the patient on a periodic basis, which can comprise a telephonic survey regarding the results of pregnancy testing, and where the adverse side effect of the drug can be a teratogenic effect.

Dependent claims 29–32 each depend, directly or through other dependent claims, from independent claim 28. Dependent claims 29–32 further require that the information collected be probative of likelihood that the patient may take the drug and other drugs in combination, and that the diagnostic testing test for evidence of the use and adverse effect of the other drug.

Independent claim 1 is illustrative of the challenged claims, and is recited below:

> 1. In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:
>
> a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;
>
> b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;

> c.in response to said information set, assigning said patient to at least one of said risk groups and entering said risk group assignment in said medium;
>
> d. based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and
>
> e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

Claim 28, the only other independent claim, includes all the elements of claim 1 and adds a wherein clause that "said adverse side effect is likely to arise in patients who take the drug in combination with at least one other drug." Prelim. Resp. at 15.

D. Prior Art Relied Upon

Petitioner relies upon the following prior art:

R.J. Powell & J.M.M Gardner-Medwin, *Guideline for the clinical use and dispensing of thalidomide*, 70 POSTGRAD MED. J. 901, 901–04 (1994) ("Powell") (Ex 1006)

Benjamin R. Dishman *et al.*, *Pharmacists' role in clozapine therapy at a Veterans Affairs medical center*, 51 AM. J. HOSP. PHARM. 899, 899–901 (1994) ("Dishman") (Ex 1007)

U.S. 5,832,449; Nov. 3, 1998 ("Cunningham") (Ex. 1008)

James C. Mundt, *Interactive Voice Response Systems in Clinical Research and Treatment*, 48:5 PSYCHIATRIC SERVICES 611, 611–12, 623 (1997) ("Mundt") (Ex. 1017)

Thaddeus Mann & Cecelia Lutwak-Mann, *Passage of Chemicals into Human and Animal Semen: Mechanisms and Significance*, 11:1 CRC CRITICAL REVIEWS IN TOXICOLOGY 1, 1–14 (1982) ("Mann") (Ex. 1018)

Cori Vanchieri, *Preparing for Thalidomide's Comeback*, 127:10 ANNALS OF INTERNAL MED. 951, 951–54 (1997) ("Vanchieri") (Ex. 1019)

Arthur F. Shinn et al., *Development of a Computerized Drug Interaction Database (MedicomSM) for Use in a Patient Specific Environment*, 17 DRUG INFORM. J. 205, 205–10 (1983) ("Shinn") (Ex. 1020)

R. Linnarsson, *Decision support for drug prescription integrated with computer-based patient records in primary care*, 18:2 MED. INFORM. 131, 131–42 (1993) ("Linnarsson") (Ex. 1021)

P.E. Grönroos et al., *A medication database – a tool for detecting drug interactions in hospital*, 53 EUR. J. CLIN. PHARMACOL. 13, 13–17 (1997) ("Grönroos") (Ex. 1022)

M. Soyka et al., *Prevalence of Alcohol and Drug Abuse in Schizophrenic Inpatients*, 242 EUR. ARCH. PSYCHIATRY CLIN. NEUROSCI. 362, 362–72 (1993) ("Soyka") (Ex. 1023)

Edna Hamera et al., *Alcohol, Cannabis, Nicotine, and Caffeine Use and Symptom Distress in Schizophrenia*, 183:9 J. OF NERVOUS AND MENTAL DISEASE 559, 559–65 (1995) ("Hamera") (Ex. 1024)

Thomas R. Kosten & Douglas M. Ziedonis, *Substance Abuse and Schizophrenia: Editors' Introduction*, 23:2 SCHIZOPHRENIA BULLETIN 181, 181–86 (1997) ("Kosten") (Ex. 1025)

Jeffrey C. Menill, *Substance Abuse and Women on Welfare*, NATIONAL CENTER ON ADDICTION AND SUBSTANCE ABUSE AT COLUMBIA UNIVERSITY 1–8 (1994) ("Menill") (Ex. 1026)

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103 based on the following specific grounds (Pet. 14–60):

Reference(s)	**Basis**	**Claims challenged**
Powell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.[1]	§ 103	1–32

E. Level of Ordinary Skill in the Art

The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to,

[1] Petitioner's heading merely states that claims 1–32 are obvious over Powell and Dishman in view of Cunningham and further in view of the knowledge of one of ordinary skill in the art. Pet. 17. The Petition, however, goes on to rely upon additional art to explain the knowledge possessed by one skilled in the art at the time of the invention and cites additional references to support its position. Specifically, the Petitioner relies upon Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill. In the Decision to Institute we include the additional art relied upon, Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill, in the stated grounds, so that the record was clear as to the prior art relied upon. Dec. on Inst.

the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. In a given case, one or more factors may predominate. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

The challenged claims are directed to the subject matter of delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug. The claims are said to be an improvement over prior art distribution systems where the improvement includes using an approval code to help minimize and simplify demands on a pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. Ex. 1001 at 2:8–12.

Petitioner contends that a person skilled in the art of pharmaceutical prescriptions, which would involve controlling distribution of a drug, typically would have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a registered pharmacist in any one or more of the United States. Ex. 1027, Declaration of Dr. Jeffrey Fudin, ¶¶ 13, 16. Patent Owner disagrees with Petitioner's definition of a person of ordinary skill in art and contends that such a person would have at least 2 years of experience in risk management relating to pharmaceutical drug products or a B.S. or M.S. in pharmaceutical drug product risk management or a related field. PO Resp. 12–13.

Based on the record presented, we hold that the cited prior art is representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The prior art references,

like the '720 patent specification, focus on controlling the distribution of a drug. *See, e.g.*, Ex. 1001, 1:13–16 (describing "the distribution to patients of drugs, particularly teratogenic drugs, in ways wherein such distribution can be carefully monitored and controlled"); *see generally* Exs. 1003; 1008; 1011; 2062; 2066. Consistent with the prior art, Petitioner's Declarant, Dr. Fudin, testifies that the types of problems encountered by one of ordinary skill in the art included creating a restricted drug distribution program to prevent adverse side effects, such as teratogenic risks. Ex. 1027 ¶¶ 44–50. Accordingly, the prior art demonstrates that one of ordinary skill in the art would have experience in controlling the distribution of a drug. To the extent a more specific definition is required, we hold, for the reasons provided below, that a person of ordinary skill in the art would have several years of experience in risk management relating to pharmaceutical drug products, which encompasses experience as a pharmacist.

Patent Owner contends that a pharmacist would not be considered a person of ordinary skill in the art. Patent Owner relies upon the declaration of Dr. Frau, who testifies that "an average pharmacist at the time of the invention would have lacked the ability and the motivation to design an all inclusive system of drug delivery for a hazardous drug that is focused on preprescription patient assessment." Ex. 2059, ¶ 47. The challenged claims, however, are directed to an improvement of an existing drug distribution method that provides an approval code after a prescriber has prescribed the drug. Specifically, the approval code checks to see if all the requisite information was

properly registered in the storage medium and if the approval code is provided the pharmacy provides the drug. Ex. 1001, 14:45–57. Additionally, as to preprescription patient, Dr. Frau fails to explain why pharmacists would lack awareness of preprescription patient assessment for drugs requiring prescriptions, *e.g.*, checking patient history to prevent prescription of contraindicated drugs.

Patent Owner contends that neither of the inventors of the challenged patent are pharmacists and relies upon the Dr. Frau's testimony as support for its position. Ex. 2059, ¶ 46. Although Dr. Frau states that the inventors are not pharmacists, Dr. Frau does not provide the basis for her testimony.

Patent Owner contends that the focus of the '720 patent is avoiding adverse events associated with drug products and not pharmaceutical prescriptions. PO Resp. 13. The challenged claims, however, do not prevent a patient taking a drug from experiencing the side effects associated with the drug. Rather, the challenged claims attempt to prevent a person from obtaining a drug where the person has an unacceptable risk associated with the known side effects of the drug. Specifically, the claims seek to control the distribution of a prescribed drug.

Patent Owner, relying on the testimony of Dr. Frau, contends that a person of ordinary skill in the art would have education or experience focused on safety surveillance, pharmacovigilance or pharmacoepidemiology. *Id.* at 14. On cross-examination, Dr. Frau did not identify any schools in the United States that offered a degree in pharmaceutical risk management or related fields,

such as pharmacoepidemiology, but did identify two schools located outside the United States. Ex. 1086, 166:19–167:19.

Patent Owner contends that Dr. Fudin acknowledged on cross-examination that, under his definition, one of ordinary skill in the art would not know how to design the "full system" claimed in the '720 patent. PO Resp. 15 (citing Ex. 2061, 199:8–200:25). The challenged claims of the '720 patent are Jepson claims where the preamble defines admitted prior art. On this record it is unclear whether Dr. Fudin was testifying that a person of ordinary skill under his definition would be unable to develop the admitted prior art. Regardless, Dr. Fudin testified that pharmacists "don't need to know how to design it," which is distinct from would not know how to design it. Ex. 2061, 201:1–6.

We credit Dr. Fudin's testimony that a person of ordinary skill in the art would encompass a pharmacist as his testimony is consistent with the '720 patent specification, which states that the use of the approval code is focused on helping a pharmacy and a pharmacist would understand what would help simplify demands on a pharmacy. Ex. 1001 at 2:8–12. We likewise credit Dr. Frau's testimony that the person of ordinary skill in the art is not limited to pharmacists but would likewise encompass persons having at least 2 years of experience in risk management relating to pharmaceutical products, as pharmacists are not the only persons having restricted drug distribution experience and knowledge. Ex. 2059, ¶ 39.

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b).

Generally, Petitioner states that the claim terms are presumed to take on the ordinary and customary meaning that they would have to one of ordinary skill in the art. Pet. 10. Petitioner proposes constructions for several claim terms including "consulted," "teratogenic effect," and "adverse side effect." *Id*. at 9–11. Patent Owner does not propose distinct constructions of the identified terms. We determine that the identified claim terms should be given their ordinary and customary meaning, as would be understood by one with ordinary skill in the art, and need not be construed explicitly at this time for purposes of this Decision.

Independent claims 1 and 28 are written in a Jepson claim format. Patent Owner acknowledges that the challenged claims are written to be an improvement over its prior program for controlling patient access to thalidomide known as the System for Thalidomide Education and Prescribing Safety, or S.T.E.P.S., which originally was claimed in U.S. Patent No. 6,045,501. Prelim. Resp. at 1, 10.

Patent Owner contends that the term "prescription approval code" requires construction and that the term has a specific meaning. PO Resp. 21–23. According to Patent Owner, the term "prescription approval code" means:

> [A] code representing that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

Id. at 22–23. Petitioner disagrees, stating that there is no requirement for an "affirmative" risk assessment. Reply 7–9.

The specification defines prescription approval code such that the prescription approval code is not provided unless certain conditions are met. Ex. 1001, 13:42–52. The conditions include the prescriber, pharmacy, patient, patient's risk group and the patient's informed consent have been properly registered in the storage medium. *Id*. Specifically, the '720 patent specification describes "approval code" as follows:

> In certain embodiments of the invention, the methods may require that the registered pharmacy consult the computer readable medium to retrieve a prescription approval code before dispensing the drug to the patient. This approval code is preferably not provided unless the prescriber, the pharmacy, the patient, the patient's risk group and the patient's informed consent have been properly registered in the storage medium. Additionally, depending upon the risk group assignment, generation of the prescription approval code may further require the registration in the storage medium of the additional set of information, including periodic surveys and the results of diagnostic tests, as

> have been defined as being relevant to the risk group assignment.

Id. The specification also states that if a patient's risk group assignment so indicates, a prescription approval code "generally" will not be generated until specific periodic diagnostic tests have been performed and satisfactory results entered into the storage medium. *Id*. at 14:37–15:6. As apparent from the specification, the prescription approval code is "preferably" or "generally" not provided unless certain information is properly registered in a storage medium. An affirmative risk assessment, however, is not mentioned in the specification as a mandatory requirement for generation of the prescription approval code.

Patent Owner contends that during prosecution they overcame a prior-art rejection by defining the term prescription approval code. PO Resp. 22–23. Specifically, Patent Owner overcame the rejection by noting that the prior art cited by the Examiner merely described an "identifier for the prescription, and is not an *approval code* as recited in Applicant's claims." Ex. 1002, 107. Patent Owner also stated that the prior art was merely a prescription identifier and not reflective of a determination that the risk of the side effect occurring has been found to be acceptable. *Id*.

Patent Owner also states both Petitioner's expert (Dr. Fudin) and Patent Owner's expert (Dr. Frau) agree with Patent Owner's claim construction. PO Resp. 23 (citing Ex. 2059 ¶¶ 50–52, Ex. 2060 ¶¶ 36–38, Ex. 2061, 434:8–15). Patent Owner notes that Dr. Fudin also insisted that the claimed prescription code

is just a number and could even be a credit card. *Id*. (citing Ex. 2061 at 432:21–24).

During cross examination, Dr. Fudin was asked questions regarding the meaning of the terms "approval code" and "prescription approval code." Ex. 2061 at 412:17–25, 429:18–430:10, 433:14–434:15. When Dr. Fudin was asked what an "approval code" means as used in the '720 patent claims, Dr. Fudin testified that it meant a code generated to allow a prescription to be filled and noted that it could be like a consumer credit card approval code. *Id*. at 412:17–25. When questioned as to how Cunningham taught an approval code used to represent a determination made concerning risk of side effects, Dr. Fudin testified that the code is used to track things and the technology should allow you to combine it with other materials that you could track. *Id*. at 429:18–430:10. When Dr. Fudin was asked whether the claimed *prescription* approval code was merely a number, Dr. Fudin stated that it was a number associated with the prescription and agreed that the claimed *prescription* approval code represented a determination that the risk of a side effect occurring was acceptable and that approval and affirmative decision had been made for the prescription to be filled. *Id*. at 433:14–434:15.

Based on the record presented, we adopt Patent Owner's construction of the term prescription approval code. Specifically, we credit Dr. Fudin's testimony that an approval code may be an identifier, such as an approval code identifier used in consumer credit card transactions (approved/declined). We further credit Dr. Fudin's testimony, as well as Dr. Frau and Dr. DiPiro's, that a *prescription* approval code represents the fact that a prescription has been

provided and that the prescription approval code thereby represents that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

B. Claims 1–32 Obviousness over Powell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 23. Patent Owner disagrees. PO Resp. 24–60.

1. Background on Obviousness

A claimed invention is not patentable under 35 U.S.C. § 103 if it is obvious. *See KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 426–27 (2007). In *Graham v. John Deere Co.*, the Supreme Court established the facts underlying an obviousness inquiry.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 17 (1966). In addressing the findings of fact, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. As explained in *KSR*:

> If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417. Accordingly, a central question in analyzing obviousness is "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

2. Scope and Content of the Prior Art

a. Powell

Powell is an article that describes guidelines designed to promote the safest possible clinical use and dispensing of thalidomide. Ex. 1006, 901. Powell teaches that certain patients should be specifically excluded from treatment with thalidomide. *Id.* Patients to be excluded include women of childbearing potential who have not practiced a reliable form of contraception for 1 year, are unwilling to take reliable contraceptive precautions, and those who are not considered capable of complying with the requirements for reliable contraception. *Id.* Additionally, Powell excludes pregnant women by

requiring that a pregnancy test be taken within the 2 weeks prior to starting therapy. *Id.*

Powell teaches that fully informed consent should be obtained using a written consent form. *Id.* Powell also teaches that appropriate clinical and electrophysiological measurements should be recorded before treatment is commenced, and that follow-up visits should be at monthly intervals. *Id.* at 902. Warnings about possible toxicity and adequate contraception should be reinforced during the follow-up visits. *Id.* Powell provides a sample patient information sheet containing information regarding use and potential side effects of thalidomide including "[*d*]*amage to babies*." *Id.* at 902–903.

b. Dishman

Dishman is an article that describes a Veterans Affairs program for controlling the dispensation of clozapine, an antipsychotic drug. Ex. 1007. A high frequency side effect of clozapine is agranulocytosis, a life-threatening side effect. *Id.* at 899. To avoid such effects, Dishman teaches that prescribers and patients must be registered in a national registry, patients are monitored weekly, and that only a one-week supply is dispensed at a time. *Id.* Further, pharmacists may only dispense clozapine upon the pharmacist's verification that the patient's white blood cell counts are within acceptable limits. *Id.*

To ensure proper patient monitoring, the VA developed its own clozapine monitoring program. *Id.* at 900. The VA established a National Clozapine Coordinating Center (NCCC) where physicians review each candidate's file before granting approval for use and review weekly patient tracking sheets. *Id.* The

NCCC requires each hospital have a computerized clozapine prescription lockout system tied to the hospital's laboratory database and outpatient pharmacy dispensing software. *Id.* The lockout system prevents the filling of a clozapine prescription where the computer notices three consecutive drops in the white blood cell count. *Id.*

Dishman teaches that the NCCC requires extensive patient evaluation and documentation. *Id.* In particular, a complete physical examination is required and certain clozapine therapy contraindications are noted including seizures and pregnancy. *Id.*

c. Cunningham

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical product samples. Ex. 1008, 1:6–10. The method involves communicatively linking prescribers and pharmacies to a central computing station. *Id*. at 1:8–11. Specifically, before filling any prescription for a pharmaceutical trial product, a pharmacy must upload defined information into a central computing station. *Id*. at 11:6–13. Only if the central computing station establishes that the uploaded information is valid, can the central computing station issue a pharmacy approval code for the pharmacy to dispense the pharmaceutical product. *Id*. at 11:13–24.

d. Mundt

Mundt describes the use of interactive voice response systems for clinical research and treatment. Ex. 1017. According to Mundt, the use of interactive voice response systems can strengthen clinical practice, extend research methods, and enhance

administrative support of service quality and value. *Id*. at 612. Mundt also teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. *Id*.

e. Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill

The references, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill (Exs. 1018–1026) are cited by Petitioner as indicative of the knowledge of one of ordinary skill in the art. For example, Petitioner cites Mann and Vanchieri as demonstrating that it was well known in the art that certain drugs, such as thalidomide, could be transmitted to a sexual partner of a male undergoing treatment with the drug. Pet. 31–32. Petitioner cites Shinn, Linnarsson, and Grönroos as demonstrating that it was well known in the art that drug-drug interactions could cause serious and even lethal adverse side effects. *Id.* at 41–42. Petitioner states that Dishman's regimen was designed to treat schizophrenics and that Soyka, Hamera and Kosten demonstrate that it was well known in the art that substance abuse was prevalent among schizophrenics. *Id.* at 42–43. Further, Petitioner cites Menill as demonstrating that it was well known in the art that people are generally reluctant to admit to alcohol or drug abuse and addiction. *Id.* at 43–44.

3. Analysis

Petitioner contends that one skilled in the art would understand that Powell describes the desirability of

obtaining patient information and defining patient risk groups, based on the information, when treating patients with drugs associated with adverse side effects to certain risk groups. Pet. 19. Petitioner states that Powell teaches a checklist for assigning patients to risk groups, for example, risk groups that can and cannot be administered drugs such as thalidomide. *Id.* Petitioner states further that Powell discloses that risk groups include women who wish to become pregnant, and patients who cannot comply with the prescribing instructions. *Id.* at 19–20. Petitioner acknowledges that Powell does not describe explicitly the use of a specific computerized registry to store the risk group information. *Id.* Petitioner states that one skilled in the art would recognize that storing risk group assignments in a computer registry, such as that described by Dishman, would be useful. *Id.* at 20–21.

Petitioner relies upon Dishman for its disclosure of a program for tightly controlling the dispensation of the antipsychotic drug clozapine. *Id.* at 20. Specifically, Petitioner cites Dishman for its description of a computerized clozapine lockout system that ties a hospital's lab database to outpatient pharmacy dispensing software. *Id.* at 21. The lockout system prevents the filling of clozapine prescriptions where the computer notices three consecutive drops in white blood cell count. *Id.* at 22. Although Dishman does not mention an approval code, Petitioner states that it would have been obvious to one of ordinary skill in the art at the time of the invention to employ an approval code system in the system of Dishman. *Id.* at 22–24. According to Petitioner, it would have been obvious to combine Dishman's computer lockout

system with the computer approval code system taught by Cunningham to limit the dispensation of a drug, where the drug was known to be associated with adverse effects to certain risk groups. *Id*. at 23–24.

We understand Petitioner as contending that the challenged claims represent a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects). For the reasons provided below, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are obvious over the cited prior art.

a. Person of Ordinary Skill in the Art

Patent Owner contends that Petitioner has failed to demonstrate that the challenged claims would have been obvious to one of ordinary skill in the art. According to Patent Owner, Petitioner conducted its obviousness analysis using the wrong person of ordinary skill in the art. PO Resp. 2. Dr. Fudin, Petitioner's declarant, testified that the art related to pharmaceutical prescriptions and use of computer systems to regulate access to prescription drugs. Ex. 1027, ¶ 13. Dr. Fudin also testified that a person of ordinary skill in the art would typically have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a registered pharmacist in any one or more of the United

States. *Id.* at ¶ 16. Dr. Frau, testifying on behalf of Patent Owner, opined that a person of ordinary skill in the art would have experience in risk management relating to pharmaceutical drug products or B.S. or M.S. in pharmaceutical drug product risk management or related field. Ex. 2059, ¶ 39.

As stated above, we hold on this record that a person of ordinary skill in the art would include a pharmacist and/or persons having at least 2 years of experience in risk management relating to pharmaceutical products as pharmacists. Based on the record presented, we hold that Petitioner has conducted its obviousness analysis from the perspective of an appropriate person of ordinary skill in the art. Additionally, even if we adopted Dr. Frau's definition of ordinary skill in the art verbatim, Patent Owner has failed to present sufficient and credible evidence to persuade us that Patent Owner's defined person of ordinary skill in the art would be led to a different outcome regarding the obviousness of the challenged claims. Specifically, Dr. DiPiro, testifying for Patent Owner, acknowledged that many types of pharmacists use risk management techniques in their practice on a day-to-day basis. Ex. 1085 at 95:17–96:1. Dr. DiPiro's testimony is consistent with an article he wrote where he stated that pharmacists can be assured of an important role in health care as long as they are focused on needs and problems, such as medication errors and preventable adverse drug effects. Ex. 1084 at 2.

b. Problem to be Solved

Patent Owner states that the challenged claims were conceived as part of Patent Owner's efforts to improve its existing controlled patient access

thalidomide program, which is said to be embodied in U.S. Patent No. 6,045,501. PO Resp. 1. Patent Owner states that, as of the effective filing date, the prior art thalidomide program was 100% successful in preventing birth defects associated with thalidomide. *Id*. at 4. Patent Owner contends that Petitioner has not identified any reason to modify or improve upon Patent Owner's prior art thalidomide program. PO Resp. 17. Patent Owner states that Dr. Fudin admitted that there was nothing in the prior thalidomide program that would suggest a problem. *Id*. Additionally, Patent Owner contends that Zeldis, which describes the prior art thalidomide program, fails to supply a person of ordinary skill in the art with any reason to try to improve the restricted distribution program. *Id*. at 18.

Thalidomide is known to cause severe malformations in children of mothers who took the drug during pregnancy, resulting in over 10,000 birth defects in Europe. PO. Resp. 3. As such, as evidenced by the art of record, there are serious concerns regarding the distribution and use of thalidomide. Zeldis teaches that the prior art thalidomide program provided mechanisms for close constant monitoring to identify noncompliance or other problems, but concluded by stating that Celgene was committed to making the program succeed and would be willing to make any modifications to the program necessary to ensure its effectiveness. Ex. 1011 at 329. This willingness to make any modifications is consistent with the understanding that the underlying drug remains a safety concern because controlling the distribution of the drug does not negate the actual side effects of the underlying drug. In dealing with such

drugs, such as those capable of causing severe birth defects, the highest level of safety is desired. Under such circumstances, consistent with the teachings of Zeldis and the art of record one skilled in the art would understand that where significant safety risks exist with a drug, one would continuously search for safer ways to control the distribution of the drug. Put simply, where significant safety concerns exists, one of ordinary skill in the art would not wait until an accident occurred to seek out improvements.

c. Reason to Combine

As stated above, Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 23. Patent Owner contends however, that the prior art did not teach, disclose, or suggest the claimed prescription approval code. PO Resp. 34–40.

Patent Owner states that Cunningham's pharmacy approval code is part of a method of tracking and managing the dispensing of pharmaceutical trial products and has no connection to patient information at all. *Id*. at 38. Patent Owner also states that Cunningham's pharmacy approval code is merely a number or identifier associated with samples of pharmaceutical products. *Id*. at 39. Patent Owner contends that a person of ordinary skill in the art would have therefore understood that Cunningham's pharmacy approval code is not the same as the claimed prescription approval code. *Id*. at 39–40.

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical products whereby prescribers and pharmacies are linked to a central computing station. Ex. 1008, 1:6–11. Certain pharmaceutical drugs, such as thalidomide, were known in the art to require a prescription in order for a patient to be provided the drug whereby a prescriber would authorize a patient to receive a drug from a pharmacy. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421. Dr. Fudin testified that the use of an approval code of Cunningham could be like that of a consumer credit card approval code, and is used to track things and the technology should allow you to combine it with other materials that you could track. Ex. 2061 at 412:17–25, 429:18–430:10. Based on the record presented, we hold that a person of ordinary skill in the art would understand that an approval code used by prescribers and pharmacies to track and manage pharmaceutical products could likewise be used by prescribers and pharmacies to track and manage prescription pharmaceutical products. We further hold that the claimed improvement recited in the challenged claims represents a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects).

Patent Owner raised a new contention at Oral Hearing that, with the prior system, a drunk doctor

may let a patient who wanted to have a baby take thalidomide. Tr. at 41:9–23. According to Patent Owner, in contrast to the prior system, the new improved system embodied by the challenged Jepson claims would have caught such a mistake because of the use of the approval code. *Id*. at 41:23–44:22. Patent Owner did not identify sufficient and credible evidence of record to support such a contention or provide sufficient evidence that the existence of drunk doctor prescriptions was a problem to be overcome. Additionally, parties are not permitted to raise new arguments or evidence at oral hearing. *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012).

We conclude that, based on the evidence of record, Petitioner has demonstrated by a preponderance of the evidence that the independent claims would have been obvious to one of ordinary skill in the art over the cited prior art.

As to the dependent claims, claims 2–27 and 29–32, Petitioner provides detailed claim charts identifying where the additional limitations are taught in the prior art. Pet. 48–60. For example, as to claim 4, which requires filling a prescription only after informed consent, Petitioner identifies how Powell teaches that thalidomide should only be prescribed after fully informed consent has been obtained using a written consent formed. Pet. 49; Ex. 1006, 901. Additionally, Petitioner relies upon the Declaration of Dr. Fudin to demonstrate that the one of ordinary skill in the art would understand that the prior art teaches each and every requirement of the challenged dependent claims, and that one would have had reason to employ the additional requirements in combination with the

subject matter of the independent claims. Ex. 1027 ¶¶ 109–202. For the reasons provided in the Petition, and below with respect to claims 5, 6, 10 and 17, we hold that Petitioner has demonstrated by a preponderance of the evidence that the dependent claims are unpatentable as obvious over the cited prior art.

d. Dependent Claims 5 and 6

Dependent claim 5 requires that the informed consent be verified by the prescriber at the time the patient is registered in the computer readable storage medium. Claim 6, depends from claim 5 and further requires the use of facsimile and optical character recognition software.

Petitioner states that Powell teaches that a doctor prescribing thalidomide is responsible for the patient's welfare and that the patient is to be given an information sheet that counsels as to the severe side effects of thalidomide, including toxicity to developing babies. Pet. 25–26. Petitioner further states that Powell teaches that fully informed consent should be obtained using a written consent form and signed agreement. *Id*. at 26. Petitioner also relies upon Dishman for its teaching that pharmacists fax tracking sheets containing weekly follow-up evaluations to a central coordinating center. *Id*. at 26–27. Petitioner states that it was known in the art to transfer paper data into a computer database by fax and use optical character recognition to interpret the data. *Id*. at 27 (citing Ex. 1027, ¶ 121).

Patent Owner states that the prior art discloses that pharmacists, not the prescribers, verified the informed consent at the time of patient registration. PO Resp.

41–45. Specifically, Patent Owner contends that Powell merely teaches that the prescriber give the patient an information sheet and provides risk counseling. *Id.* at 41. As to Dishman, Patent Owner contends that Dishman teaches only that the pharmacist forwards patient information to the central coordinating center and the doctors at the coordinating center review the patient file before approving usage of the drug. *Id.* at 42.

Powell specifically states that the physician prescribing thalidomide is entirely responsible for the patient's welfare. Ex. 1006 at 902. The doctor is responsible for informing the patient of any contraindications, warning and precautions associated with thalidomide. *Id.* Suppliers, however, are not required to provide contraindications, warnings and precautions. *Id.* Dishman teaches that, to avoid physician's having to evaluate candidates who are not ineligible for clozapine therapy, candidates are to be screened by pharmacists by reviewing the patient file and interviewing the patients. Ex. 1007 at 900. We credit Dr. Fudin's testimony that it would have been obvious to have the prescribing doctor verify the patient's informed consent and risk group assignment, as Powell teaches that doctors, as opposed to pharmacists, are required to provide patients with contraindications, warnings and precautions.

e. Dependent Claim 10

Claim 10 depends from claim 7, which depends from claim 1. Claim 7 requires that the set of information obtained from a patient include diagnostic testing and claim 10 requires the diagnostic testing comprise genetic testing.

Petitioner contends that genetic testing was a well-known diagnostic procedure as of the effective filing date of the '720 patent. Pet. 29–30. Petitioner states that it would have been obvious to include genetic testing given that genetic testing was well-known and that such testing was to precede last-resort treatments, such as that disclosed in Powell and Dishman. *Id*.

Patent Owner states that the references of record do not disclose or suggest genetic testing. PO Resp. 47. Patent Owner further states that Dr. Fudin has failed to provide evidence in support of his opinion that genetic testing was "common" as of the effective filing date. *Id*. at 47–48. Patent Owner however, did not dispute that genetic testing was known in the art for obtaining diagnostic information.

Based on the evidence of record, we credit Dr. Fudin's testimony that genetic testing was a known diagnostic procedure as of the effective filing date. Dr. Fudin's testimony is consistent with the FDA Meeting Minutes (Ex. 1013), which contain a statement from a Dr. Holmes, said to represent the American College of Medical Genetics and the Teratology Society. Ex. 1012, 137. According to the FDA Meeting Minutes, Mr. Holmes stated that:

> It may seem strange to you that a genetics society would be standing here, commenting on potential environmental exposures with awful fetal effects, but many clinical geneticists around the country are expected to provide counseling to pregnant women about exposures in pregnancies, so the geneticists, in fact, are often the clinical

> teratologists. And I am speaking myself as an active clinical teratologist in the Boston area.

Id.

We hold that the genetic testing of dependent claim 10 represents a combination of known elements for their known use to achieve a predictable result, genetic testing to obtain information for diagnosis and treatment.

f. Dependent Claim 17

Claim 17 depends from claim 16, which depends from claim 15. Claim 15 depends from claim 1 and requires defining, obtaining, and entering a second set of information for each risk group. Claim 16 further requires the second set of information comprise a survey regarding patient behavior and compliance. Claim 17 further requires that the survey be conducted telephonically using an integrated voice response system.

Petitioner relies upon Powell and Dishman for their teaching of collecting patient survey data regarding behavior and compliance. Pet. 36 (citing Ex. 1006 at 901, and Ex. 1007 at 900). Petitioner also relies upon Mundt, which teaches that use of interactive voice response systems can strengthen clinical practice, extend research methods, and enhance administrative support of service quality and value. Pet. 37 (citing Ex. 1017 at 611–612, 623). Petitioner contends that it would have been obvious to a person of ordinary skill in the art to utilize an integrated voice response system in conducting surveys as such surveys were well known in the art as of the effective filing date and that it is not inventive to provide a mechanical or automatic means to replace a manual activity. *Id.*

Patent Owner contends that Mundt failed to disclose, teach or suggest the limitation recited in claim 17. PO Resp. 48. Specifically, Patent Owner states that Mundt does not mention using integrated voice response systems for risk group assignments. *Id*. Patent Owner also contends that Powell and Dishman's surveys would have been completed during in-person patient interviews and follow-up appointments and that Keravich and Zeldis disclose that their patient surveys are physical paper forms. *Id*. at 49. Additionally, Patent Owner contends that one skilled in the art would not have expected the claimed voice response system to accomplish the same result as paper surveys as paper surveys allow for interactive prescriber/patient risk counseling. *Id*.

Based on the record presented we find that one of ordinary skill in the art would have understood that there are benefits and detriments to both paper surveys and integrated voice response systems. For example, Mundt teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. Ex. 1017 at 612. One of ordinary skill in the art would have been familiar with collecting patient information and would have been able to determine which collection method best served their needs, automated process or in-person process. We hold that the record demonstrates that the use of integrated response systems in combination with a controlled distribution drug program is a combination of known elements being used for their known purpose to achieve a predictable result, obtaining patient

information through an automated process to aid in assessing risk group assignment for prescribing drugs.

g. Remaining Arguments

We have considered Patent Owner's remaining arguments, *e.g.*, implementation would be beyond the level of ordinary skill in the art, but do not find them persuasive. For example, at Oral Hearing, Patent Owner acknowledged that a person of ordinary skill in the art need only to design the invention, and does not need to be able to implement the invention. Tr. 69:12–75:11, 87:11–94:11. Additionally, Patent Owner acknowledged at Oral Hearing that they were not arguing unexpected results for the '720 patent. Tr. at 35:15–18.

We hold that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over Powell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

III. Motions to Exclude

Patent Owner filed a Motion to Exclude Evidence. Paper 62. Patent Owner alleges that Petitioner relied improperly upon Mundt (Exhibit 1017) and FDA Meeting (Exhibit 1012). *Id*. at 2. Patent Owner states that Petitioner made statements that are not supported by the exhibits and that the exhibits should therefore be excluded as out-of-court statements to prove the truth of the matter asserted. *Id*. Patent Owner's objection to Petitioner's statements go to the credibility of the statements made by Petitioner and do not go to the exhibits themselves. A prior art

document "is offered simply as evidence of what it described, not for proving the truth of the matters addressed in the document." *See, e.g., Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 233 n.2 (D.D.C. 1990), *judgment aff'd*, 959 F.2d 226 (Fed. Cir. 1992); Fed. R. Evid. 801(c) 1997 Adv. Comm. Note ("If the significance of an offered statement lies solely in the fact that it was made, no issue is raised as to the truth of anything asserted, and the statement is not hearsay."). Therefore, Mundt and the FDA Meeting exhibits are not hearsay under Federal Rule of Evidence 801(c).

Patent Owner alleges that Petitioner relied upon irrelevant evidence and seeks to exclude the evidence as they are irrelevant for the purposes for which they are offered. Paper 62, 3. Petitioner disagrees with Patent Owner and contends that Patent Owner's relevance objections go to the weight given to the evidence. Paper 66, 5–8. We agree with Petitioner. It is the Board's discretion to assign the appropriate weight to be accorded the evidence and we hold that, in this instance, it is not necessary to resort to a formal exclusion of the identified evidence in assessing the sufficiency of the evidence.

Patent Owner contends that Petitioner mischaracterized certain portions of Dr. Frau's testimony. Paper 62, 9–13. Patent Owner states that the testimony should be excluded unless the Board considers the testimony surrounding the context and/or relevant redirect testimony. *Id*. at 10. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context.

Additionally, Patent Owner seeks to exclude Exhibit 1012 at page 119 as Petitioner allegedly mischaracterized the particular statement made by Mr. Williams and mischaracterized and/or ignored the full testimony on the issue. *Id*. at 14. Patent Owner states that the Board should exclude the exhibit unless the Board also considers the testimony at Exhibit 1012 pages 118–119. *Id*. at 15. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context.

Patent Owner's Motion to Exclude is denied for the reasons stated above. Patent Owner is reminded that a motion to exclude is limited to explaining why the evidence is not admissible. A motion to exclude is not the place to challenge the sufficiency of the evidence to prove a particular fact.

Petitioner filed a Motion to Exclude Evidence. Paper 63. Specifically, Petitioner requests that the Board exclude certain testimony of Dr. Fudin elicited during cross examination as the testimony is said to be irrelevant. *Id*. at 1. Petitioner also seeks to exclude Patent Owner's arguments regarding the cited testimony. *Id*. at 3. Petitioner's Motion to Exclude is denied as moot as even taking the evidence into consideration, we hold that Petitioner has established by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious.

IV. Motion for Supplemental Information

Petitioner moves to submit supplemental information concerning FDA Meeting Transcripts (Ex. 1012, 1013) and CDC minutes (Ex. 1014). Paper 36. Specifically, Petitioner seeks to introduce

supplemental evidence that is said to confirm the public availability of Exhibits 1012, 1013 and 1014. *Id*. at 2–3. Patent Owner opposes. Paper 43.

As our Decision does not exclude the disputed exhibits, we deny Petitioner's Motion to Supplement as moot.

Petitioner also moves to submit supplemental information concerning Menill to demonstrate its public accessibility. Paper 36, 2. Patent Owner opposes. Paper 44. As Patent Owner did not challenge the public accessibility of Menill, we deny Petitioner's Motion to Supplement as moot.

V. Motions to Seal

Patent Owner requests that the Board seal Exhibit 2007 in its entirety, along with the unredacted version of the Preliminary Response (Paper 11) and for entry of the Board's Default Protective Order. Paper 10, 1. Patent Owner also requests that the Board seal the unredacted versions of the Patent Owner Response (Paper 41), the Frau Declaration (Ex. 2059) and the DiPiro Declaration (Ex. 2060), which discuss confidential Exhibit 2007. Paper 40, 1. According to Patent Owner, the documents discuss a confidential, non-public submission to the U.S. Food and Drug Administration. *Id*.

Petitioner requests that the Board seal its unredacted Petitioner's Reply to Patent Owner Response (Paper 54) and Exhibits 1085 and 1086 (deposition transcripts). Paper 53, 1. Petitioner states that the documents to be sealed discuss Patent Owner's confidential business information.

Neither party opposes the grant of the motions to seal.

We have reviewed documents sought to be sealed. We conclude that they discuss confidential business information. The content of those documents that is asserted as constituting confidential business information has not been identified in this Final Written Decision in reaching a determination in this proceeding with respect to the claims of the '720 patent. We are persuaded that good cause exists to have those documents remain under seal.

The record will be maintained undisturbed pending the outcome of any appeal taken from this decision. At the conclusion of any appeal proceeding, or if no appeal is taken, the documents may be made public. *See* Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). Further, either party may file a motion to expunge the sealed documents from the record pursuant to 37 C.F.R. § 42.56. Any such motion will be decided after the conclusion of any appeal proceeding or the expiration of the time period for appealing.

VI. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over Powell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

VII. ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–32 of the '720 patent are held unpatentable;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Seal are *granted*;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Exclude are *denied*;

FURTHER ORDERED that Petitioner's Motions to File Supplemental Information are *denied*;

and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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APPENDIX E

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UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

COALITION FOR AFFORDABLE DRUGS VI LLC,
Petitioner,

v.

CELGENE CORPORATION,
Patent Owner.

Case IPR2015-01103
Patent 6,315,720 B1

Before MICHAEL P. TIERNEY, GRACE KARAFFA OBERMANN, and TINA E. HULSE, Administrative Patent Judges.

TIERNEY, Administrative Patent Judge.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. §318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Coalition for Affordable Drugs VI, LLC ("Petitioner"), filed a Petition requesting an *inter partes* review of claims 1–32 of U.S. Patent 6,315,720 (Ex. 1001, "the '720 patent"). Paper 1 ("Pet."). Patent Owner, Celgene Corporation, ("Patent Owner") filed a Preliminary Response. Paper 11 ("Prelim. Resp." with redacted version Paper 12). We determined that there was a reasonable likelihood that Petitioner would prevail in challenging those claims as unpatentable. Pursuant to 35 U.S.C. § 314, we authorized an *inter partes* review to be instituted, on October 27, 2015. Paper 22 ("Dec. on Inst.").

After institution, Patent Owner filed a redacted Patent Owner Response. Paper 42 ("PO Resp." with redacted version Paper 43). Petitioner filed a Reply. Paper 55 ("Reply" with a redacted version Paper 54). Additionally, Petitioner filed Motions to Submit Supplemental Information (Papers 37 and 38), a Motion to Exclude Evidence (Paper 63), and a Motion to Seal (Paper 56). Further, Patent Owner filed a Motion to Exclude Evidence (Paper 63) and Motions to Seal and for Entry of Protective Order (Papers 9 and 41).

An oral hearing was held on July 21, 2016. A transcript of the hearing has been entered into the record of the proceeding as Paper 75 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–32 are unpatentable.

A. Related Proceedings

According to Petitioner, the '720 patent has been the subject of the following judicial matters: *Celgene Corp. et al. v. Lannett Holdings, Inc.*, DNJ-2-15-00697 (filed Jan. 30, 2015); *Celgene Corp. v. Natco Pharma Ltd.*, DNJ-2-10-cv-05197 (filed Oct. 8, 2010); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-08-cv-03357 (filed July 3, 2008); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-05485 (filed Nov. 14, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-04050 (filed Aug. 23, 2007); *Celgene Corp. v. Barr Laboratories, Inc.*, DNJ-2-07-cv-00286 (filed Jan. 18, 2007). Pet. 2–3. Additionally, the claims of the '720 patent have been challenged in two related *inter partes* review proceedings, IPR2015-01096 and IPR2015-01102.

B. The '720 Patent

The '720 patent specification describes methods for delivering a drug to a patient. Ex. 1001, 1:8–9. For example, the method can be used to deliver a drug known to cause birth defects in pregnant women, while avoiding the occurrence of known or suspected side effects of the drug. *Id*. at 1:9–13, 19–30.

The patent describes prior-art methods that involved filling drug prescriptions, only after a computer readable storage medium was consulted, to assure that the prescriber is registered in the medium and qualified to prescribe the drug, and that the patient is registered in the medium and approved to receive the drug. *Id*. at 2:50–60. The '720 patent specification is said to describe an improvement over the acknowledged prior art, where the improvement involves assigning patients to risk groups based on the

risk that the drug will cause adverse side effects. The improvement further requires entering the risk group assignment in the storage medium. After determining the acceptability of likely adverse effects, a prescription approval code is generated to the pharmacy before the prescription is filled. *Id*. at 2:60–3:4. The specification states that this method may minimize and simplify demands on the pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. *Id*. at 2:8–12.

The '720 patent specification states that it is preferable that information probative of the risk of a drug's side effects is collected from the patient. *Id*. at 6:30–33. This information can then be compared with a defined set of risk parameters for the drug, allowing for assignment of the patient to a particular risk group. *Id*. at 6:33–37. If the risk of adverse side effects is deemed acceptable, the patient may receive the drug from a registered pharmacy, subject to conditions such as a negative pregnancy test, but may not receive refills without a renewal prescription from the prescriber. *Id*. at 11:62–12:8.

The '720 patent specification states that its method can be used to deliver teratogenic drugs, and drugs that can cause severe birth defects when administered to a pregnant woman, such as thalidomide. *Id*. at 4:1–14, 8:39–45.

C. Illustrative Claims

The '720 patent contains two independent claims and thirty dependent claims, all of which are challenged by Petitioner. Each of the independent claims, claims 1 and 28, is directed to a method of delivering a drug to a patient in need of the drug and

is written in a Jepson claim format, where the preamble defines admitted prior art of prescribing drugs only after a computer readable storage medium has been consulted properly. The claimed improvement over the admitted prior art includes defining a plurality of patient risk groups, defining information to be obtained from a patient that is probative of risk of an adverse side effect, assigning the patient to a risk group, determining whether the risk of the side effect is acceptable, and generating an approval code to be retrieved by a pharmacy before filling a prescription for the drug.

Claims 2–27 depend, directly or through other dependent claims, upon claim 1. Dependent claims 2–4 and require that a prescription is filled only following verified full disclosure and consent of the patient. Dependent claims 5–6 require that the informed consent is verified by the prescriber at the time the patient is registered in a computer, and consent is transmitted via facsimile and interpreted by optical character recognition software. Dependent claims 7–10 require information be obtained from the patient prior to treatment, including the results of diagnostic testing, which can comprise genetic testing. Dependent claims 11–14 and 20–25 further require additional features, such as a teratogenic effect being otherwise likely to arise in the patient, arise in a fetus carried by the patient, and that the drug is thalidomide. Dependent claims 15–19 and 26–27 require defining a second set of information to be collected from the patient on a periodic basis, which can comprise a telephonic survey regarding the results of pregnancy testing, and where the adverse side effect of the drug can be a teratogenic effect.

Dependent claims 29–32 each depend, directly or through other dependent claims, from independent claim 28. Dependent claims 29–32 further require that the information collected be probative of likelihood that the patient may take the drug and other drug in combination, and that the diagnostic testing test for evidence of the use and adverse effect of the other drug.

Independent claim 1 is illustrative of the challenged claims, and is recited below:

> 1. In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:
>
> a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;
>
> b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;

c. in response to said information set, assigning said patient to at least one of said risk groups and entering said risk group assignment in said medium;

d. based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and

e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

Claim 28, the only other independent claim, includes all the elements of claim 1 and adds a wherein clause that "said adverse side effect is likely to arise in patients who take the drug in combination with at least one other drug." Prelim. Resp. at 15.

D. Prior Art Relied Upon

Petitioner relies upon the following prior art:

Benjamin R. Dishman *et al.*, *Pharmacists' role in clozapine therapy at a Veterans Affairs medical center*, 51 AM. J. HOSP. PHARM. 899, 899–901 (1994) ("Dishman") (Ex 1007)

U.S. 5,832,449; Nov. 3, 1998 ("Cunningham") (Ex. 1008)

Allen A. Mitchell *et al.*, *A Pregnancy-Prevention Program in Women of Childbearing Age Receiving Isotretinoin*, New Eng. J. Med. (Jul. 13, 1995) 333:2, 101–06 (Ex. 1010, "Mitchell")

James C. Mundt, *Interactive Voice Response Systems in Clinical Research and Treatment*, 48:5 PSYCHIATRIC SERVICES 611, 611–12, 623 (1997) ("Mundt") (Ex. 1017)

Thaddeus Mann & Cecelia Lutwak-Mann, *Passage of Chemicals into Human and Animal Semen: Mechanisms and Significance*, 11:1 CRC CRITICAL REVIEWS IN TOXICOLOGY 1, 1–14 (1982) ("Mann") (Ex. 1018)

Cori Vanchieri, *Preparing for Thalidomide's Comeback*, 127:10 ANNALS OF INTERNAL MED. 951, 951–54 (1997) ("Vanchieri") (Ex. 1019)

Arthur F. Shinn et al., *Development of a Computerized Drug Interaction Database (MedicomSM) for Use in a Patient Specific Environment*, 17 DRUG INFORM. J. 205, 205–10 (1983) ("Shinn") (Ex. 1020)

R. Linnarsson, *Decision support for drug prescription integrated with computer-based patient records in primary care*, 18:2 MED. INFORM. 131, 131–42 (1993) ("Linnarsson") (Ex. 1021)

P.E. Grönroos et al., *A medication database – a tool for detecting drug interactions in hospital*, 53 EUR. J. CLIN. PHARMACOL. 13, 13–17 (1997) ("Grönroos") (Ex. 1022)

M. Soyka et al., *Prevalence of Alcohol and Drug Abuse in Schizophrenic Inpatients*, 242 EUR. ARCH. PSYCHIATRY CLIN. NEUROSCI. 362, 362–72 (1993) ("Soyka") (Ex. 1023)

Edna Hamera et al., *Alcohol, Cannabis, Nicotine, and Caffeine Use and Symptom Distress in Schizophrenia*, 183:9 J. OF NERVOUS AND MENTAL DISEASE 559, 559–65 (1995) ("Hamera") (Ex. 1024)

Thomas R. Kosten & Douglas M. Ziedonis, *Substance Abuse and Schizophrenia: Editors' Introduction*, 23:2 SCHIZOPHRENIA BULLETIN 181, 181–86 (1997) ("Kosten") (Ex. 1025)

Jeffrey C. Menill, *Substance Abuse and Women on Welfare*, NATIONAL CENTER ON ADDICTION AND SUBSTANCE ABUSE AT COLUMBIA UNIVERSITY 1–8 (1994) ("Menill") (Ex. 1026)

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103 based on the following specific grounds (Pet. 14–60):

Reference(s)	**Basis**	**Claims challenged**
Mitchell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.[1]	§ 103	1–32

E. Level of Ordinary Skill in the Art

The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of

[1] Petitioner's heading merely states that claims 1–32 are obvious over Mitchell and Dishman in view of Cunningham and further in view of the knowledge of one of ordinary skill in the art. Pet. 17. The Petition, however, goes on to rely upon additional art to explain the knowledge possessed by one skilled in the art at the time of the invention and cites additional references to support its position. Specifically, the Petitioner relies upon Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill. In the Decision to Institute, we included the additional art relied upon, Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill, in the stated grounds, so that the record was clear as to the prior art relied upon. Dec. on Inst.

ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. In a given case, one or more factors may predominate. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

The challenged claims are directed to the subject matter of delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug. The claims are said to be an improvement over prior art distribution systems where the improvement includes using an approval code to help minimize and simplify demands on a pharmacy and reduce the risk that the drug will be dispensed to a contraindicated individual. Ex. 1001 at 2:8–12.

Petitioner contends that a person skilled in the art of pharmaceutical prescriptions, which would involve controlling distribution of a drug, typically would have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a registered pharmacist in any one or more of the United States. Ex. 1027, Declaration of Dr. Jeffrey Fudin, ¶¶ 13, 16. Patent Owner disagrees with Petitioner's definition of a person of ordinary skill in art and contends that such a person would have at least 2 years of experience in risk management relating to pharmaceutical drug products or a B.S. or M.S. in pharmaceutical drug product risk management or a related field. PO Resp. 12–13.

Based on the record presented, we hold that the cited prior art is representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d

1350, 1355 (Fed. Cir. 2001). The prior art references, like the '720 patent specification, focus on controlling the distribution of a drug. *See, e.g.*, Ex. 1001, 1:13–16 (describing "the distribution to patients of drugs, particularly teratogenic drugs, in ways wherein such distribution can be carefully monitored and controlled"); *see generally* Exs. 1003, 1008, 1011, 2062, 2067. Consistent with the prior art, Petitioner's Declarant, Dr. Fudin, testifies that the types of problems encountered by one of ordinary skill in the art included creating a restricted drug distribution program to prevent adverse side effects, such as teratogenic risks. Ex. 1027 ¶¶ 43–50. Accordingly, the prior art demonstrates that one of ordinary skill in the art would have experience in controlling the distribution of a drug. To the extent a more specific definition is required, we hold, for the reasons provided below, that a person of ordinary skill in the art would have several years of experience in risk management relating to pharmaceutical drug products, which encompasses experience as a pharmacist.

Patent Owner contends that a pharmacist would not be considered a person of ordinary skill in the art. Patent Owner relies upon the declaration of Dr. Frau, who testifies that "an average pharmacist at the time of the invention would have lacked the ability and the motivation to design an all inclusive system of drug delivery for a hazardous drug that is focused on preprescription patient assessment." Ex. 2059, ¶ 47. The challenged claims, however, are directed to an improvement of an existing drug distribution method that provides an approval code after a prescriber has prescribed the drug. Specifically, the approval code

checks to see if all the requisite information was properly registered in the storage medium and if the approval code is provided the pharmacy provides the drug. Ex. 1001, 14:45–57. Additionally, as to preprescription patient, Dr. Frau fails to explain why pharmacists would lack awareness of preprescription patient assessment for drugs requiring prescriptions, *e.g.*, checking patient history to prevent prescription of contraindicated drugs.

Patent Owner contends that neither of the inventors of the challenged patent are pharmacists and relies upon Dr. Frau's testimony as support for its position. Ex. 2059, ¶ 46. Although Dr. Frau states that the inventors are not pharmacists, Dr. Frau does not provide the basis for her testimony.

Patent Owner contends that the focus of the '720 patent is avoiding adverse events associated with drug products and not pharmaceutical prescriptions. PO Resp. 13. The challenged claims, however, do not prevent a patient taking a drug from experiencing the side effects associated with the drug. Rather, the challenged claims attempt to prevent a person from obtaining a drug where the person has an unacceptable risk associated with the known side effects of the drug. Specifically, the claims seek to control the distribution of a prescribed drug.

Patent Owner, relying on the testimony of Dr. Frau, contends that a person of ordinary skill in the art would have education or experience focused on safety surveillance, pharmacovigilance or pharmaco-epidemiology. *Id.* at 14. On cross-examination, Dr. Frau did not identify any schools in the United States that offered a degree in pharmaceutical risk

management or related fields, such as pharmacoepidemiology, but did identify two schools located outside the United States. Ex. 1086, 166:19–167:19.

Patent Owner contends that Dr. Fudin acknowledged on cross-examination that, under his definition, one of ordinary skill in the art would not know how to design the "full system" claimed in the '720 patent. PO Resp. 15 (citing Ex. 2061, 199:8–200:25). The challenged claims of the '720 patent are Jepson claims where the preamble defines admitted prior art. On this record it is unclear whether Dr. Fudin was testifying that a person of ordinary skill under his definition would be unable to develop the admitted prior art. Regardless, Dr. Fudin testified that pharmacists "don't need to know how to design it," which is distinct from would not know how to design it. Ex. 2061, 201:1–6.

We credit Dr. Fudin's testimony that a person of ordinary skill in the art would encompass a pharmacist as his testimony is consistent with the '720 patent specification, which states that the use of the approval code is focused on helping a pharmacy and a pharmacist would understand what would help simplify demands on a pharmacy. Ex. 1001 at 2:8–12. We likewise credit Dr. Frau's testimony that the person of ordinary skill in the art is not limited to pharmacists but would likewise encompass persons having at least 2 years of experience in risk management relating to pharmaceutical products, as pharmacists are not the only persons having restricted drug distribution experience and knowledge. Ex. 2059, ¶ 39.

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b).

Generally, Petitioner states that the claim terms are presumed to take on the ordinary and customary meaning that they would have to one of ordinary skill in the art. Pet. at 10. Petitioner proposes constructions for several claim terms including "consulted," "teratogenic effect," and "adverse side effect." *Id*. at 10–11. Patent Owner does not propose distinct constructions of the identified terms. We determine that the identified claim terms should be given their ordinary and customary meaning, as would be understood by one with ordinary skill in the art, and need not be construed explicitly at this time for purposes of this Decision.

Independent claims 1 and 28 are written in a Jepson claim format. Patent Owner acknowledges that the challenged claims are written to be an improvement over its prior program for controlling patient access to thalidomide known as the System for Thalidomide Education and Prescribing Safety, or S.T.E.P.S., which originally was claimed in U.S. Patent No. 6,045,501. Prelim. Resp. at 1, 10.

Patent Owner contends that the term "prescription approval code" requires construction and that the term has a specific meaning. PO Resp. 21–24. According to Patent Owner, the term "prescription approval code" means:

> [A] code representing that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

Id. at 23–24. Petitioner disagrees, stating that there is no requirement for an "affirmative" risk assessment. Reply 6–9.

The specification defines prescription approval code such that the prescription approval code is not provided unless certain conditions are met. Ex. 1001, 13:42–52. The conditions include the prescriber, pharmacy, patient, patient's risk group and the patient's informed consent have been properly registered in the storage medium. *Id*. Specifically, the '720 patent specification describes "approval code" as follows:

> In certain embodiments of the invention, the methods may require that the registered pharmacy consult the computer readable medium to retrieve a prescription approval code before dispensing the drug to the patient. This approval code is preferably not provided unless the prescriber, the pharmacy, the patient, the patient's risk group and the patient's informed consent have been properly registered in the storage medium. Additionally, depending upon the risk group assignment, generation of the prescription approval code may further require the registration in the storage medium of the additional set of information, including periodic surveys and the results of diagnostic tests, as

> have been defined as being relevant to the risk group assignment.

Id. The specification also states that if a patient's risk group assignment so indicates, a prescription approval code "generally" will not be generated until specific periodic diagnostic tests have been performed and satisfactory results entered into the storage medium. *Id*. at 14:37–15:6. As apparent from the specification, the prescription approval code is "preferably" or "generally" not provided unless certain information is properly registered in a storage medium. An affirmative risk assessment, however, is not mentioned in the specification as a mandatory requirement for generation of the prescription approval code.

Patent Owner contends that during prosecution they overcame a prior-art rejection by defining the term prescription approval code. PO Resp. 21–22. Specifically, Patent Owner overcame the rejection by noting that the prior art cited by the Examiner merely described an "identifier for the prescription, and . . . not an *approval code* as recited in Applicant's claims." Ex. 1002, 107. Patent Owner also stated that the prior art was merely a prescription identifier and not reflective of a determination that the risk of the side effect occurring has been found to be acceptable. *Id*.

Patent Owner also states both Petitioner's expert (Dr. Fudin) and Patent Owner's expert (Dr. Frau) agree with Patent Owner's claim construction. PO Resp. 23 (citing Ex. 2059 ¶¶ 50–52, Ex. 2060 ¶¶ 36–38, Ex. 2061, 434:8–15). Patent Owner notes that Dr. Fudin also insisted that the claimed prescription code

is just a number and could even be a credit card. *Id*. (citing Ex. 2061 at 432:21–24).

During cross examination, Dr. Fudin was asked questions regarding the meaning of the terms "approval code" and "prescription approval code." Ex. 2061 at 412:17–25, 429:18–430:10, 433:14–434:15. When Dr. Fudin was asked what an "approval code" means as used in the '720 patent claims, Dr. Fudin testified that it meant a code generated to allow a prescription to be filled and noted that it could be like a consumer credit card approval code. *Id*. at 412:17–25. When questioned as to how Cunningham taught an approval code used to represent a determination made concerning risk of side effects, Dr. Fudin testified that the code is used to track things and the technology should allow you to combine it with other materials that you could track. *Id*. at 429:18–430:10. When Dr. Fudin was asked whether the claimed *prescription* approval code was merely a number, Dr. Fudin stated that it was a number associated with the prescription and agreed that the claimed *prescription* approval code represented a determination that the risk of a side effect occurring was acceptable and that approval and affirmative decision had been made for the prescription to be filled. *Id*. at 433:14–434:15.

Based on the record presented, we adopt Patent Owner's construction of the term prescription approval code. Specifically, we credit Dr. Fudin's testimony that an approval code may be an identifier, such as an approval code identifier used in consumer credit card transactions (approved/declined). We further credit Dr. Fudin's testimony, as well as Dr. Frau and Dr. DiPiro's, that a *prescription* approval code represents the fact that a prescription has been

provided and that the prescription approval code thereby represents that an affirmative risk assessment has been made based upon risk-group assignment and the information collected from the patient, and that is generated only upon a determination that the risk of a side effect occurring is acceptable.

B. Claims 1–32 Obviousness over Mitchell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 23–24. Patent Owner disagrees. PO Resp. 24–60.

1. Background on Obviousness

A claimed invention is not patentable under 35 U.S.C. § 103 if it is obvious. *See KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 426–27 (2007). In *Graham v. John Deere Co.*, the Supreme Court established the facts underlying an obviousness inquiry.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 17 (1966). In addressing the findings of fact, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. As explained in *KSR*:

> If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417. Accordingly, a central question in analyzing obviousness is "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

2. Scope and Content of the Prior Art

a. Mitchell

Mitchell relates to a pregnancy-prevention program for women users of Accutane®, a Vitamin A analogue of isotretinoin and a known teratogenic. Ex. 1010, 101–102. The prevention program was implemented to keep the drug available while minimizing the teratogenic hazards. *Id.* at 105. As such, Mitchell targets "women of childbearing age (12 to 59 years of age)" for the pregnancy-prevention program. *Id.* at 102.

Mitchell suggests that female patients, who are capable of becoming pregnant, should be isolated for counseling. Specifically, Mitchell describes the use of contraceptive information, a consent form, and

warnings about risks of becoming pregnant while taking isotretinoin. *Id*. Under Mitchell's program physicians were given instructions to warn patients of risks involved in treatment with the teratogenic drug and communication between physicians and patients regarding the drug's teratogenic risk and the need to prevent pregnancy was encouraged. *Id*. at 101, 105. Additionally, Mitchell describes preventative measures, such as pregnancy-risk warnings on packaging, targeted "specifically at women." *Id*. at 101. Mitchell also suggests the use of pregnancy testing prior to starting drug therapy. *Id*. 101.

Mitchell states that the experience gained with isotretinoin can serve as a basis for considering how drugs, such as thalidomide, should be used and monitored, with a view to ensuring that adverse side effects are reduced to an absolute minimum. *Id*. at 105.

b. Dishman

Dishman is an article that describes a Veterans Affairs program for controlling the dispensation of clozapine, an antipsychotic drug. Ex. 1007. A high frequency side effect of clozapine is agranulocytosis, a life-threatening side effect. *Id*. at 899. To avoid such effects, Dishman teaches that prescribers and patients must be registered in a national registry, patients are monitored weekly, and that only a one-week supply is dispensed at a time. *Id*. Further, pharmacists may only dispense clozapine upon the pharmacist's verification that the patient's white blood cell counts are within acceptable limits. *Id*.

To ensure proper patient monitoring, the VA developed its own clozapine monitoring program. *Id*.

at 900. The VA established a National Clozapine Coordinating Center (NCCC) where physicians review each candidate's file before granting approval for use and review weekly patient tracking sheets. *Id.* The NCCC requires each hospital have a computerized clozapine prescription lockout system tied to the hospital's laboratory database and outpatient pharmacy dispensing software. *Id.* The lockout system prevents the filling of a clozapine prescription where the computer notices three consecutive drops in the white blood cell count. *Id.*

Dishman teaches that the NCCC requires extensive patient evaluation and documentation. *Id.* In particular, a complete physical examination is required and certain clozapine therapy contraindications are noted including seizures and pregnancy. *Id.*

c. Cunningham

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical product samples. Ex. 1008, 1:6–10. The method involves communicatively linking prescribers and pharmacies to a central computing station. *Id*. at 1:8–11. Specifically, before filling any prescription for a pharmaceutical trial product, a pharmacy must upload defined information into a central computing station. *Id*. at 11:6–13. Only if the central computing station establishes that the uploaded information is valid, can the central computing station issue a pharmacy approval code for the pharmacy to dispense the pharmaceutical product. *Id*. at 11:13–24.

d. Mundt

Mundt describes the use of interactive voice response systems for clinical research and treatment. Ex. 1017. According to Mundt, the use of interactive voice response systems can strengthen clinical practice, extend research methods, and enhance administrative support of service quality and value. *Id*. at 612. Mundt also teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. *Id*.

e. Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill

The references, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill (Exs. 1018–1026) are cited by Petitioner as indicative of the knowledge of one of ordinary skill in the art. For example, Petitioner cites Mann and Vanchieri as demonstrating that it was well known in the art that certain drugs, such as thalidomide, could be transmitted to a sexual partner of a male undergoing treatment with the drug. Pet. 32–33. Petitioner cites Shinn, Linnarsson, and Grönroos as demonstrating that it was well known in the art that drug-drug interactions could cause serious and even lethal adverse side effects. *Id.* at 42–43. Petitioner states that Dishman's regimen was designed to treat schizophrenics and that Soyka, Hamera and Kosten demonstrate that it was well known in the art that substance abuse was prevalent among schizophrenics. *Id.* at 43–44. Further, Petitioner cites Menill as

demonstrating that it was well known in the art that people are generally reluctant to admit to alcohol or drug abuse and addiction. *Id.* at 44–45.

3. Analysis

Petitioner contends that one skilled in the art would understand that Mitchell describes the desirability of obtaining patient information and defining patient risk groups, based on the information, when treating patients with drugs associated with adverse side effects to certain risk groups. Pet. 19–20. Petitioner states that Mitchell teaches a patient-qualification checklist for assigning patients to risk groups, for example, risk groups that can and cannot be administered teratogenic drugs, such as isotretinoin. *Id*. Petitioner states further that Mitchell discloses that risk groups include women of childbearing age and women who were at high risk of becoming pregnant. *Id*. Petitioner acknowledges that Mitchell does not describe explicitly the use of a specific computerized registry to store the risk group information. *Id*. Petitioner states that one skilled in the art would recognize that storing risk group assignments in a computer registry, such as that described by Dishman, would be useful. *Id*. at 20–21.

Petitioner relies upon Dishman for its disclosure of a program for tightly controlling the dispensation of the antipsychotic drug clozapine. *Id*. at 21. Specifically, Petitioner cites Dishman for its description of a computerized clozapine lockout system that ties a hospital's lab database to outpatient pharmacy dispensing software. *Id*. at 22. The lockout system prevents the filling of clozapine prescriptions where the computer notices three consecutive drops in

white blood cell count. *Id.* at 22–23. Although Dishman does not mention an approval code, Petitioner states that it would have been obvious to one of ordinary skill in the art at the time of the invention to employ an approval code system in the system of Dishman. *Id.* at 22–24. According to Petitioner, it would have been obvious to combine Dishman's computer lockout system with the computer approval code system taught by Cunningham to limit the dispensation of a drug, where the drug was known to be associated with adverse effects to certain risk groups. *Id.* at 23–25.

We understand Petitioner as contending that the challenged claims represent a combination of known prior art elements (identifying patient risk groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects). For the reasons provided below, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the challenged claims are obvious over the cited prior art.

a. Person of Ordinary Skill in the Art

Patent Owner contends that Petitioner has failed to demonstrate that the challenged claims would have been obvious to one of ordinary skill in the art. According to Patent Owner, Petitioner conducted its obviousness analysis using the wrong person of ordinary skill in the art. PO Resp. 2. Dr. Fudin,

Petitioner's declarant, testified that the art related to pharmaceutical prescriptions and use of computer systems to regulate access to prescription drugs. Ex. 1027, ¶ 13. Dr. Fudin also testified that a person of ordinary skill in the art would typically have either a Pharm.D. or a B.S. in pharmacy with approximately 5–10 years of experience and a license to practice as a registered pharmacist in any one or more of the United States. *Id*. at ¶ 16. Dr. Frau, testifying on behalf of Patent Owner, opined that a person of ordinary skill in the art would have experience in risk management relating to pharmaceutical drug products or B.S. or M.S. in pharmaceutical drug product risk management or related field. Ex. 2059, ¶ 39.

As stated above, we hold on this record that a person of ordinary skill in the art would include a pharmacist and/or persons having at least 2 years of experience in risk management relating to pharmaceutical products as pharmacists. Based on the record presented, we hold that Petitioner has conducted its obviousness analysis from the perspective of an appropriate person of ordinary skill in the art. Additionally, even if we adopted Dr. Frau's definition of ordinary skill in the art verbatim, Patent Owner has failed to present sufficient and credible evidence to persuade us that Patent Owner's defined person of ordinary skill in the art would have been led to a different outcome regarding the obviousness of the challenged claims. Specifically, Dr. DiPiro, testifying for Patent Owner, acknowledged that many types of pharmacists use risk management techniques in their practice on a day-to-day basis. Ex. 1085 at 96:17–97:1. Dr. DiPiro's testimony is consistent with an article he wrote where he stated that pharmacists can be assured of an

important role in health care as long as they are focused on needs and problems, such as medication errors and preventable adverse drug effects. Ex. 1084 at 2.

b. Problem to be Solved

Patent Owner states that the challenged claims were conceived as part of Patent Owner's efforts to improve its existing controlled patient access thalidomide program, which is said to be embodied in U.S. Patent No. 6,045,501. PO Resp. 1. Patent Owner states that, as of the effective filing date, the prior art thalidomide program was 100% successful in preventing birth defects associated with thalidomide. *Id*. at 4. Patent Owner contends that Petitioner has not identified any reason to modify or improve upon Patent Owner's prior art thalidomide program. PO Resp. 17. Patent Owner states that Dr. Fudin admitted that there was nothing in the prior thalidomide program that would suggest a problem. *Id*. Additionally, Patent Owner contends that Zeldis, which describes the prior art thalidomide program, fails to supply a person of ordinary skill in the art with any reason to try to improve the restricted distribution program. *Id*. at 18.

Thalidomide is known to cause severe malformations in children of mothers who took the drug during pregnancy, resulting in over 10,000 birth defects in Europe. PO. Resp. 3. As such, as evidence by the art of record, there are serious concerns regarding the distribution and use of thalidomide. Zeldis teaches that the prior art thalidomide program provided mechanisms for close constant monitoring to identify noncompliance or other problems, but concluded by

stating that Celgene was committed to making the program succeed and would have been willing to make any modifications to the program necessary to ensure its effectiveness. Ex. 1011 at 329. This willingness to make any modifications is consistent with the understanding that the underlying drug remains a safety concern because controlling the distribution of the drug does not negate the actual side effects of the underlying drug. In dealing with such drugs, such as those capable of causing severe birth defects, the highest level of safety is desired. Under such circumstances, consistent with the teachings of Zeldis and the art of record one skilled in the art would understand that where significant safety risks exist with a drug, one would continuously search for safer ways to control the distribution of the drug. Put simply, where significant safety concerns exists, one of ordinary skill in the art would not wait until an accident occurred to seek out improvements.

c. Reason to Combine

As stated above, Petitioner contends that the challenged claims, which utilize approval codes to implement known drug restriction requirements, represent no more than an arrangement of old elements with each performing the same functions it had been known to perform and yields no more than one would expect from such an arrangement. Pet. 24. Patent Owner contends however, that the prior art did not teach, disclose, or suggest the claimed prescription approval code. PO Resp. 34–40.

Patent Owner states that Cunningham's pharmacy approval code is part of a method of tracking and managing the dispensing of pharmaceutical trial

products and has no connection to patient information at all. *Id*. at 39. Patent Owner also states that Cunningham's pharmacy approval code is merely a number or identifier associated with samples of pharmaceutical products. *Id*. at 40. Patent Owner contends that a person of ordinary skill in the art would have therefore understood that Cunningham's pharmacy approval code is not the same as the claimed prescription approval code. *Id*.

Cunningham describes a method of dispensing, tracking, and managing pharmaceutical products whereby prescribers and pharmacies are linked to a central computing station. Ex. 1008, 1:6–8. Certain pharmaceutical drugs, such as thalidomide, were known in the art to require a prescription in order for a patient to be provided the drug whereby a prescriber would authorize a patient to receive a drug from a pharmacy. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421. Dr. Fudin testified that the use of an approval code of Cunningham could be like that of a consumer credit card approval code, and is used to track things and the technology should allow you to combine it with other materials that you could track. Ex. 2061 at 412:17–25, 429:18–430:10. Based on the record presented, we hold that a person of ordinary skill in the art would understand that an approval code used by prescribers and pharmacies to track and manage pharmaceutical products could likewise be used by prescribers and pharmacies to track and manage prescription pharmaceutical products. We further hold that the claimed improvement recited in the challenged claims represents a combination of known prior art elements (identifying patient risk

groups, collecting patient information relating to the risk, determining whether the risk is acceptable, and controlling dispensation of the drug using both a prescription and an approval code) for their known purpose (control distribution of drug) to achieve a predictable result (avoid giving patients drugs that have an unacceptable risk of side effects).

Patent Owner raised a new contention at Oral Hearing that, with the prior art system, a drunk doctor may let a patient who wanted to have a baby take thalidomide. Tr. at 41:9–23. According to Patent Owner, in contrast to the prior system, the new improved system embodied by the challenged Jepson claims would have caught such a mistake because of the use of the approval code. *Id*. at 41:23–44:22. Patent Owner did not identify sufficient and credible evidence of record to support such a contention or provide sufficient evidence that the existence of drunk doctor prescriptions was a problem to be overcome. Additionally, parties are not permitted to raise new arguments or evidence at oral hearing. *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012).

We conclude that, based on the evidence of record, Petitioner has demonstrated by a preponderance of the evidence that the independent claims would have been obvious to one of ordinary skill in the art over the cited prior art.

As to the dependent claims, claims 2–27 and 29–32, Petitioner provides detailed claim charts identifying where the additional limitations are taught in the prior art. Pet. 49–60. For example, as to claim 4, which requires filling a prescription only after informed

consent, Petitioner identifies how Mitchell teaches that thalidomide should only be prescribed after fully informed consent has been obtained using a written consent formed. Pet. 49 (citing Ex. 1010, 101, 102, 105). Additionally, Petitioner relies upon the Declaration of Dr. Fudin to demonstrate that the one of ordinary skill in the art would understand that the prior art teaches each and every requirement of the challenged dependent claims, and that one would have had reason to employ the additional requirements in combination with the subject matter of the independent claims. Ex. 1027 ¶¶ 101–192. For the reasons provided in the Petition, and below with respect to claims 5, 6, 10 and 17, we hold that Petitioner has demonstrated by a preponderance of the evidence that the dependent claims are unpatentable as obvious over the cited prior art.

d. Dependent Claims 5 and 6

Dependent claim 5 requires that the informed consent be verified by the prescriber at the time the patient is registered in the computer readable storage medium. Claim 6, depends from claim 5 and further requires the use of facsimile and optical character recognition software.

Mitchell teaches that a doctor prescribing the teratogenic drug isotretinoin is provided guidelines including a patient-qualification checklist, a patient information brochure and a consent form. Ex. 1010 at 101. Petitioner contends that it would have been obvious that the prescribing doctor would have verified the disclosed treatment requirements, such as informed consent, when screening the enrollment

forms and registering the patient into the database. Pet. 27.

Petitioner relies upon Dishman for its teaching that pharmacists fax tracking sheets containing weekly follow-up evaluations to a central coordinating center. *Id*. at 28. Petitioner states that it was known in the art to transfer paper data into a computer database by fax and use optical character recognition to interpret the data. *Id*. at 28 (citing Ex. 1027, ¶ 114).

Patent Owner states that the prior art discloses that pharmacists, not the prescribers, verified the informed consent at the time of patient registration. PO Resp. 41–45. Specifically, Patent Owner contends that Mitchell does not teach screening forms with respect to treatment and registering them into the computer readable storage medium. *Id*. at 42. As to Dishman, Patent Owner contends that Dishman teaches only that the pharmacist forwards patient information to the central coordinating center and the doctor's at the coordinating center review the patient file before approving usage of the drug. *Id*. at 43.

Mitchell specifically provides physicians with guidelines and materials, including a patient-qualification checklist, contraceptive information, information about the necessary forms for contraception referral program, and a consent form. Ex. 1010 at 101. Dishman teaches that, to avoid physicians having to evaluate candidates who are not ineligible for clozapine therapy, candidates are to be screened by pharmacists by reviewing the patient file and interviewing the patients. Ex. 1007 at 900. We credit Dr. Fudin's testimony that it would have been obvious to have the prescribing doctor verify the

patient's informed consent and risk group assignment, as Mitchell teaches that physicians are to warn patients of risks and provide informed consent forms. Ex. 1027, ¶¶ 106–110.

e. Dependent Claim 10

Claim 10 depends from claim 7, which depends from claim 1. Claim 7 requires that the set of information obtained from a patient include diagnostic testing and claim 10 requires the diagnostic testing comprise genetic testing.

Petitioner contends that genetic testing was a well-known diagnostic procedure as of the effective filing date of the '720 patent. Pet. 30–31. Petitioner states that it would have been obvious to include genetic testing given that genetic testing was well-known and that such testing was to precede last-resort treatments, such as that disclosed in Mitchell and Dishman. *Id*.

Patent Owner states that the references of record do not disclose or suggest genetic testing. PO Resp. 48. Patent Owner further states that Dr. Fudin has failed to provide evidence in support of his opinion that genetic testing was "common" as of the effective filing date. *Id*. at 48–49. Patent Owner however, did not dispute that genetic testing was known in the art for obtaining diagnostic information.

Based on the evidence of record, we credit Dr. Fudin's testimony that genetic testing was a known diagnostic procedure as of the effective filing date. Dr. Fudin's testimony is consistent with the FDA Meeting Minutes (Ex. 1012), which contain a statement from a Dr. Holmes, said to represent the American College of Medical Genetics and the Teratology Society. Ex.

1012, 137. According to the FDA Meeting Minutes, Mr. Holmes stated that:

> It may seem strange to you that a genetics society would be standing here, commenting on potential environmental exposures with awful fetal effects, but many clinical geneticists around the country are expected to provide counseling to pregnant women about exposures in pregnancies, so the geneticists, in fact, are often the clinical teratologists. And I am speaking myself as an active clinical teratologist in the Boston area.

Id.

We hold that the genetic testing of dependent claim 10 represents a combination of known elements for their known use to achieve a predictable result, genetic testing to obtain information for diagnosis and treatment.

f. Dependent Claim 17

Claim 17 depends from claim 16, which depends from claim 15. Claim 15 depends from claim 1 and requires defining, obtaining, and entering a second set of information for each risk group. Claim 16 further requires the second set of information comprise a survey regarding patient behavior and compliance. Claim 17 further requires that the survey be conducted telephonically using an integrated voice response system.

Petitioner relies upon Mitchell for its teaching of collecting patient survey data regarding behavior and compliance. Pet. 37–38 (citing Ex. 1006 at 901, and Ex. 1010 at 101–104). Petitioner also relies upon Mundt, which teaches that use of interactive voice response systems can strengthen clinical practice, extend

research methods, and enhance administrative support of service quality and value. Pet. 38 (citing Ex. 1017 at 611–612, 623). Petitioner contends that it would have been obvious to a person of ordinary skill in the art to utilize an integrated voice response system in conducting surveys as such surveys were well known in the art as of the effective filing date and that it is not inventive to provide a mechanical or automatic means to replace a manual activity. *Id*.

Patent Owner contends that Mundt failed to disclose, teach or suggest the limitation recited in claim 17. PO Resp. 50. Specifically, Patent Owner states that Mundt does not mention using integrated voice response systems for risk group assignments. *Id*. Patent Owner also contends that Mitchell's surveys would have been completed during interactive patient interviews and that Keravich and Zeldis disclose that their patient surveys are physical paper forms. *Id*. Additionally, Patent Owner contends that one skilled in the art would not have expected the claimed voice response system to accomplish the same result as prior art interactive prescriber/patient surveys. *Id*. at 51.

Based on the record presented we find that one of ordinary skill in the art would have understood that there are benefits and detriments to both paper surveys and integrated voice response systems. For example, Mundt teaches that individuals may disclose sensitive information to a computer that they would be reluctant to discuss with another person and that interactive voice response systems can cost-effectively enhance service. Ex. 1017 at 612. One of ordinary skill in the art would have been familiar with collecting patient information and would have been able to determine which collection method best served their

needs, automated process or in-person process. We hold that the record demonstrates that the use of integrated response systems in combination with a controlled distribution drug program is a combination of known elements being used for their known purpose to achieve a predictable result, obtaining patient information through an automated process to aid in assessing risk group assignment for prescribing drugs.

g. Remaining Arguments

We have considered Patent Owner's remaining arguments, *e.g.*, implementation would be beyond the level of ordinary skill in the art, but do not find them persuasive. For example, at Oral Hearing, Patent Owner acknowledged that a person of ordinary skill in the art need only to design the invention, and does not need to be able to implement the invention. Tr. 69:12–75:11, 87:11–94:11. Additionally, Patent Owner acknowledged at Oral Hearing that they were not arguing unexpected results for the '720 patent. Tr. at 35:15–18.

We hold that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over Mitchell and Dishman in view of Cunningham and further in view of Mundt, Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

III. Motions to Exclude

Patent Owner filed a Motion to Exclude Evidence. Paper 63. Patent Owner alleges that Petitioner relied improperly upon Mundt (Exhibit 1017) and FDA Meeting (Exhibit 1012). *Id*. at 2. Patent Owner states that Petitioner made statements that are not supported by the exhibits and that the exhibits should

therefore be excluded as out-of-court statements to prove the truth of the matter asserted. *Id*. Patent Owner's objection to Petitioner's statements go to the credibility of the statements made by Petitioner and do not go to the exhibits themselves. A prior art document "is offered simply as evidence of what it described, not for proving the truth of the matters addressed in the document." *See, e.g., Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 233 n.2 (D.D.C. 1990), *judgment aff'd*, 959 F.2d 226 (Fed. Cir. 1992); Fed. R. Evid. 801(c) 1997 Adv. Comm. Note ("If the significance of an offered statement lies solely in the fact that it was made, no issue is raised as to the truth of anything asserted, and the statement is not hearsay."). Therefore, Mundt and the FDA Meeting exhibits are not hearsay under Federal Rule of Evidence 801(c).

Patent Owner alleges that Petitioner relied upon irrelevant evidence and seeks to exclude the evidence as they are irrelevant for the purposes for which they are offered. Paper 63, 3. Petitioner disagrees with Patent Owner and contends that Patent Owner's relevance objections go to the weight given to the evidence. Paper 67, 5–8. We agree with Petitioner. It is the Board's discretion to assign the appropriate weight to be accorded the evidence and we hold that, in this instance, it is not necessary to resort to a formal exclusion of the identified evidence in assessing the sufficiency of the evidence.

Patent Owner contends that Petitioner mischaracterized certain portions of Dr. Frau's testimony. Paper 63, 9–13. Patent Owner states that the testimony should be excluded unless the Board considers the testimony surrounding the context

and/or relevant redirect testimony. *Id*. at 10–12. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context. Patent Owner also moves to exclude a statement by Petitioner concerning Dr. Frau's testimony at Ex. 1086 at 130:4–11. As we did not rely upon this particular testimony of Dr. Frau, the issue is moot.

Additionally, Patent Owner seeks to exclude Exhibit 1012 at page 119 as Petitioner allegedly mischaracterized the particular statement made by Mr. Williams and mischaracterized and/or ignored the full testimony on the issue. *Id*. at 14. Patent Owner states that the Board should exclude the exhibit unless the Board also considers the testimony at Exhibit 1076 pages 118–119. *Id*. at 15. To the extent the Board has relied upon the testimony, the Board has reviewed the testimony and the surrounding context.

Patent Owner's Motion to Exclude is denied for the reasons stated above. Patent Owner is reminded that a motion to exclude is limited to explaining why the evidence is not admissible. A motion to exclude is not the place to challenge the sufficiency of the evidence to prove a particular fact.

Petitioner filed a Motion to Exclude Evidence. Paper 64. Specifically, Petitioner requests that the Board exclude certain testimony of Dr. Fudin elicited during cross examination as the testimony is said to be irrelevant. *Id*. at 1. Petitioner also seeks to exclude Patent Owner's arguments regarding the cited testimony. *Id*. at 3. Petitioner's Motion to Exclude is denied as moot as even taking the evidence into

consideration, we hold that Petitioner has established by a preponderance of the evidence that claims 1– 32 of the '720 patent are unpatentable as obvious.

IV. Motion for Supplemental Information

Petitioner moves to submit supplemental information concerning FDA Meeting Transcripts (Ex. 1012, 1013) and CDC minutes (Ex. 1014). Paper 37. Specifically, Petitioner seeks to introduce supplemental evidence that is said to confirm the public availability of Exhibits 1012, 1013 and 1014. *Id*. at 2–3. Patent Owner opposes. Paper 44.

As our Decision does not exclude the disputed exhibits, we deny Petitioner's Motion to Supplement as moot.

Petitioner also moves to submit supplemental information concerning Menill to demonstrate its public accessibility. Paper 38, 2. Patent Owner opposes. Paper 45. As Patent Owner did not challenge the public accessibility of Menill, we deny Petitioner's Motion to Supplement as moot.

V. Motions to Seal

Patent Owner requests that the Board seal Exhibit 2007 in its entirety, along with the unredacted version of the Preliminary Response (Paper 11) and for entry of the Board's Default Protective Order. Paper 9, 1. Patent Owner also requests that the Board seal the unredacted versions of the Patent Owner Response (Paper 42), the Frau Declaration (Ex. 2059) and the DiPiro Declaration (Ex. 2060), which discuss confidential Exhibit 2007. Paper 41, 1. According to Patent Owner, the documents discuss a confidential, non-public submission to the U.S. Food and Drug Administration. *Id*.

Petitioner requests that the Board seal its unredacted Petitioner's Reply to Patent Owner Response (Paper 55) and Exhibits 1085 and 1086 (deposition transcripts). Paper 56, 1. Petitioner states that the documents to be sealed discuss Patent Owner's confidential business information.

Neither party opposes the grant of the motions to seal.

We have reviewed documents sought to be sealed. We conclude that they discuss confidential business information. The content of those documents that is asserted as constituting confidential business information has not been identified in this Final Written Decision in reaching a determination in this proceeding with respect to the claims of the '720 patent. We are persuaded that good cause exists to have those documents remain under seal.

The record will be maintained undisturbed pending the outcome of any appeal taken from this decision. At the conclusion of any appeal proceeding, or if no appeal is taken, the documents may be made public. *See* Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). Further, either party may file a motion to expunge the sealed documents from the record pursuant to 37 C.F.R. § 42.56. Any such motion will be decided after the conclusion of any appeal proceeding or the expiration of the time period for appealing.

VI. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–32 of the '720 patent are unpatentable as obvious over Mitchell and Dishman in view of Cunningham and further in view of Mundt,

Mann, Vanchieri, Shinn, Linnarsson, Grönroos, Soyka, Hamera, Kosten, and Menill.

VII. ORDER

In consideration of the foregoing, it is:

ORDERED that claims 1–32 of the '720 patent are held unpatentable;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Seal are *granted*;

FURTHER ORDERED that Patent Owner and Petitioner's Motions to Exclude are *denied*;

FURTHER ORDERED that Petitioner's Motions to File Supplemental Information are *denied*;

and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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APPENDIX F

NOTE: This order is nonprecedential.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

CELGENE CORPORATION,
Appellant

v.

LAURA A. PETER, DEPUTY UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DEPUTY DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2018-1167, 2018-1168, 2018-1169

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2015-01096, IPR2015-01102, IPR2015-01103.

ON MOTION

Before PROST, *Chief Judge*, NEWMAN, LOURIE, BRYSON[1], DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.

PER CURIAM.

O R D E R

Appellant Celgene Corporation filed a petition for rehearing en banc. A response to the petition was invited by the court and filed by Intervenor Laura A. Peter. 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 December 16, 2019.

FOR THE COURT

December 9, 2019
Date

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

[1] Circuit Judge Bryson participated only in the decision on the petition for panel rehearing.

APPENDIX G

NOTE: This order is nonprecedential.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

CELGENE CORPORATION,
Appellant

v.

LAURA A. PETER, DEPUTY UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DEPUTY DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2018-1171

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2015-01092.

ON MOTION

Before PROST, *Chief Judge*, NEWMAN, LOURIE, BRYSON[1], DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.

PER CURIAM.

O R D E R

Appellant Celgene Corporation filed a petition for rehearing en banc. A response to the petition was invited by the court and filed by Intervenor Laura A. Peter. 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 December 16, 2019.

FOR THE COURT

December 9, 2019
Date

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

[1] Circuit Judge Bryson participated only in the decision on the petition for panel rehearing.

APPENDIX H

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Paper 76
Entered: September 8, 2017

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

COALITION FOR AFFORDABLE DRUGS VI LLC,
Petitioner,

v.

CELGENE CORPORATION,
Patent Owner.

Case IPR2015-01096 (Patent 6,315,720 B1)
Case IPR2015-01102 (Patent 6,315,720 B1)
Case IPR2015-01103 (Patent 6,315,720 B1)[1]

[1] Patent Owner filed a substantially identical Request for Rehearing in each proceeding. IPR2015-01096, Paper 74; IPR2015-01102, Paper 76; IPR2015-01103, Paper 77. This Decision addresses issues common to all cases. Accordingly, we issue a single Decision to be entered in each case. For convenience, we refer to papers filed in IPR2015-01096.

Before MICHAEL P. TIERNEY, *Vice Chief Administrative Patent Judge*, GRACE KARAFFA OBERMANN, and TINA E. HULSE, *Administrative Patent Judges*.

OBERMANN, *Administrative Patent Judge.*

DECISION
Granting Patent Owner's Request for Rehearing
37 C.F.R. § 42.71(d)

I. INTRODUCTION

On November 25, 2016, Celgene Corporation ("Patent Owner") filed a Request for Rehearing of the Final Written Decision. Paper 74 ("Req."). In the Final Written Decision, we held that claims 1–32 of U.S. Patent No. 6,315,720 B1 ("the '720 patent") are unpatentable. Paper 73, ("Dec."). The Request for Rehearing is confined to our holding that claim 10 is unpatentable. Req. 1; *see* Dec. 27–28 (addressing claim 10).

For reasons that follow, we grant the Request for Rehearing. We are persuaded that the Final Written Decision should be modified as to claim 10. Specifically, we hold that Petitioner fails to establish by a preponderance of the evidence that claim 10 of the '720 patent is unpatentable. This Decision does not disturb our holding, stated in the Final Written Decision, that Petitioner establishes by a preponderance of the evidence that claims 1–9 and 11–32 are unpatentable. Dec. 34.

II. ANALYSIS

Patent Owner asserts that the Board overlooked or misapprehended evidence and arguments showing that the subject matter of claim 10 would not have been obvious under 35 U.S.C. § 103(b). Req. 1.

In pertinent part, 37 C.F.R. § 42.71(d) states:

> The burden of showing a decision should be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.

Claim 10 depends from claim 7, which depends from claim 1. Claim 1 requires, *inter alia*, defining a set of information to be obtained from a patient. Ex. 1001, 18:30–31. Claim 7 further requires that the "information to be obtained" from the patient "includes the results of diagnostic testing." *Id*. at 18:59–60. Claim 10 requires that "said diagnostic testing comprises genetic testing." *Id*. at 18:66–67.

In the Final Written Decision, we found that the subject matter of claim 10 would have been obvious, even though "the references of record do not disclose or suggest genetic testing." Dec. 27–28. On that point, we credited Dr. Fudin's declaration testimony that genetic testing was a known diagnostic procedure as of the effective filing date of the '720 patent. *Id*. at 28. We reasoned that Dr. Fudin's testimony was consistent with FDA Meeting Minutes (Ex. 1013), which contained a statement from a Dr. Holmes, said to represent the American College of Medical Genetics and the Teratology Society. Ex. 1013, 137. Specifically, Mr. Holmes stated that:

> It may seem strange to you that a genetics society would be standing here, commenting on potential environmental exposures with awful fetal effects, but many clinical geneticists around the country are expected to provide counseling to pregnant women about exposures in pregnancies, so the geneticists, in fact, are often the clinical teratologists. And I am speaking myself as an active clinical teratologist in the Boston area.

Id.

Based on that objective support, we held "that the genetic testing of dependent claim 10 represents a

combination of known elements for their known use to achieve a predictable result, genetic testing to obtain information for diagnosis and treatment." Dec. 28. Having reconsidered the record on rehearing, however, we find that this finding is not supported by a preponderance of the evidence.

As an initial matter, Patent Owner argues that the Board improperly shifted the burden of proof by holding that Patent Owner "did not dispute that genetic testing was known in the art for obtaining diagnostic information."[2] Req. 3 (quoting Dec. 27). Patent Owner, in fact, timely disputed that genetic testing would have been understood as common in the art, and identified a gap in Petitioner's evidence on that point. Req. 3 (citing PO Resp. 45–56). Specifically, Patent Owner pointed to the absence of disclosure in the asserted prior art, which teaches various other tests but not genetic testing. PO Resp. 46. Patent Owner argued that the lack of disclosure in the record evidence "undermines Dr. Fudin's opinion that such testing was 'common.'" *Id*.

We agree that the proper focus is not whether Patent Owner disputed that fact, but whether Petitioner came forward with evidence sufficient to demonstrate that genetic testing was known and would have been used in the combination required by

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[2] Patent Owner asserts that in its Patent Owner Response it did dispute that genetic testing was known in the art or common. Req. 3. Other than citing its entire argument regarding claim 10, which we already address throughout this Decision, Patent Owner does not identify any specific argument or evidence that we overlooked or misapprehended in connection with this assertion. *Id.*

claim 10. We also agree that the lack of disclosure in the prior art of record—coupled with the record's disclosure of other types of tests—cuts against a finding "that genetic testing would be used, let alone that it would have been common." Req. 3. Dr. Fudin states that "[i]t was common in the art at the time of" the invention "to conduct genetic testing at the same time as the pregnancy testing taught in" the prior art, but directs us to no disclosure in the asserted prior art, or any other objective evidence, on point. Pet. 27–31 (citing Ex. 1021 ¶¶ 141–143).

On that point, Dr. Fudin does not cite, or otherwise explain the significance of, the disclosure in the FDA Meeting Minutes that we relied upon in the Final Written Decision. Ex. 1021 ¶¶ 140–143. PO Resp. 45–46; Pet. 58 (citing Ex. 1021 ¶¶ 229–231); Dec. 28. That disclosure, cited for the first time in Petitioner's Reply[3], does not refer to genetic testing, much less suggest using genetic testing in the combination required by claim 10. Reply 25–26 (citing Ex. 1076[4], 137); *see* Req. 3 (arguing on rehearing that the Petitioner "relied solely on a single passage" in the FDA Meeting Minutes "that focuses on the geneticist acting as a clinical teratologist that might counsel patients on the risks of exposure") (citing Reply 25–26; Ex. 1013, 137). Patent Owner correctly points out that "the cited passage says nothing about genetic testing,

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[3] The Petition cites other disclosures in the FDA Meeting Minutes to support arguments unrelated to the genetic testing limitation of claim 10. Pet. 13–14 (citing Ex. 1013).

[4] The same material appears on page 137 of Exhibit 1013, which is cited in the Final Written Decision. Dec. 28.

nor does it suggest such testing." Req. 3 (emphasis omitted); Ex. 1013, 137; Ex. 1076, 137.

We find that the FDA Meeting Minutes fail to support adequately Dr. Fudin's opinion testimony that genetic testing would have been common at the time of the invention. Contrary to "Dr. Fudin's opinion that [genetic] testing was 'common,'" the asserted prior art references do not disclose, teach, or suggest genetic testing, "despite disclosing various other types of tests." Req. 2; PO Resp. 46. Given that Dr. Fudin's opinion on that point is unsupported by objective evidence, we assign his testimony little weight in the analysis of claim 10. Req. 2–3; PO Resp. 46 (citing 37 C.F.R. § 42.65(a) and *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)). The gap in the disclosures of the prior art, occurring at or near the time of the invention, carries more weight than the much later, unsupported opinion of Dr. Fudin.

Petitioner fails to demonstrate that it would have been obvious at the time of the invention to use genetic testing in the method of claim 10. Req. 3. The objective evidence on point consists of a single paragraph from the FDA Meeting Minutes, raised in Petitioner's Reply, which is not relied upon in the relevant witness testimony, and does not disclose genetic testing. Accordingly, we hold that Petitioner fails to establish by a preponderance of the evidence that claim 10 is unpatentable.

II. CONCLUSION

For the foregoing reasons, Patent Owner establishes that the Final Written Decisions in each proceeding should be modified to hold that, based on the record

developed in this proceeding, a preponderance of the evidence demonstrates that claim 10 is not proven unpatentable.

III. ORDER

It is

ORDERED that the Request for Rehearing is *granted*;

FURTHER ORDERED that the Final Written Decision is modified to hold that, based on the record developed in this proceeding, a preponderance of the evidence demonstrates that claim 10 is not proven unpatentable;

FURTHER ORDERED that this Decision does not disturb the holding in the Final Written Decision that Petitioner establishes by a preponderance of the evidence that claims 1–9 and 11–32 are unpatentable.

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APPENDIX I

35 U.S.C. § 311
INTER PARTES REVIEW

(a) In General.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

(b) Scope.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

(c) Filing Deadline.—A petition for inter partes review shall be filed after the later of either—

(1) the date that is 9 months after the grant of a patent; or

(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

35 U.S.C. § 312
PETITIONS

(a) Requirements of Petition.—A petition filed under section 311 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 311;

(2) the petition identifies all real parties in interest;

(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) Public Availability.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

35 U.S.C. § 313

PRELIMINARY RESPONSE TO PETITION

If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon

the failure of the petition to meet any requirement of this chapter.

35 U.S.C. § 314

INSTITUTION OF INTER PARTES REVIEW

(a) Threshold.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

(b) Timing.—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

(1) receiving a preliminary response to the petition under section 313; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(c) Notice.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(d) No Appeal.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

35 U.S.C. § 315

RELATION TO OTHER PROCEEDINGS OR ACTIONS

(a) Infringer's Civil Action.—

(1) Inter partes review barred by civil action.—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) Stay of civil action.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) Treatment of counterclaim.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) Patent Owner's Action.—An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging

infringement of the patent. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

(c) Joinder.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(d) Multiple Proceedings. — Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including providing for stay, transfer, consolidation, or termination of any such matter or proceeding.

(e) Estoppel.—

(1) Proceedings before the Office.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(2) Civil actions and other proceedings.—The petitioner in an inter partes review of a claim in a

patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

35 U.S.C. § 316

CONDUCT OF INTER PARTES REVIEW

(a) Regulations.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

(A) the deposition of witnesses submitting affidavits or declarations; and

(B) what is otherwise necessary in the interest of justice;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

(12) setting a time period for requesting joinder under section 315(c); and

(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

(b) Considerations.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) Patent Trial and Appeal Board.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

(d) Amendment of the Patent.—

(1) In general.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) Additional motions.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

(3) Scope of claims.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) Evidentiary Standards.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

35 U.S.C. § 317

SETTLEMENT

(a) In General.—An inter partes review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

(b) Agreements in Writing.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements

referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

35 U.S.C. § 318

DECISION OF THE BOARD

(a) Final Written Decision.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

(b) Certificate.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) Intervening Rights.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) Data on Length of Review.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each inter partes review.

35 U.S.C. § 319

APPEAL

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections 141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.

35 U.S.C. § 321

POST-GRANT REVIEW

(a) In General.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute a post-grant review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the

review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the post-grant review.

(b) Scope.—A petitioner in a post-grant review may request to cancel as unpatentable 1 or more claims of a patent on any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).

(c) Filing Deadline.—A petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).

35 U.S.C. § 322

PETITIONS

(a) Requirements of Petition.—A petition filed under section 321 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 321;

(2) the petition identifies all real parties in interest;

(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on other factual evidence or on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) Public Availability.—As soon as practicable after the receipt of a petition under section 321, the Director shall make the petition available to the public.

35 U.S.C. § 323

PRELIMINARY RESPONSE TO PETITION

If a post-grant review petition is filed under section 321, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no post-grant review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

35 U.S.C. § 324

INSTITUTION OF POST-GRANT REVIEW

(a) Threshold.—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

(b) Additional Grounds.—The determination required under subsection (a) may also be satisfied by

a showing that the petition raises a novel or unsettled legal question that is important to other patents or patent applications.

(c) Timing.—The Director shall determine whether to institute a post-grant review under this chapter pursuant to a petition filed under section 321 within 3 months after—

(1) receiving a preliminary response to the petition under section 323; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(d) Notice.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a) or (b), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(e) No Appeal.—The determination by the Director whether to institute a post-grant review under this section shall be final and nonappealable.

35 U.S.C. § 325

RELATION TO OTHER PROCEEDINGS OR ACTIONS

(a) Infringer's Civil Action.—

(1) Post-grant review barred by civil action.—A post-grant review may not be instituted under this chapter if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) Stay of civil action.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for post-grant review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) Treatment of counterclaim.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) Preliminary Injunctions.—If a civil action alleging infringement of a patent is filed within 3 months after the date on which the patent is granted, the court may not stay its consideration of the patent owner's motion for a preliminary injunction against infringement of the patent on the basis that a petition for post-grant review has been filed under this chapter or that such a post-grant review has been instituted under this chapter.

(c) Joinder.—If more than 1 petition for a post-grant review under this chapter is properly filed against the same patent and the Director determines that more than 1 of these petitions warrants the institution of a post-grant review under section 324, the Director may consolidate such reviews into a single post-grant review.

(d) Multiple Proceedings. — Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of any post-grant review under this chapter, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the post- grant review or other proceeding or matter may proceed, including providing for the stay, transfer, consolidation, or termination of any such matter or proceeding. In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.

(e) Estoppel.—

(1) Proceedings before the Office.—The petitioner in a post-grant review of a claim in a patent under this chapter that results in a final written decision under section 328(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that post-grant review.

(2) Civil actions and other proceedings.—The petitioner in a post- grant review of a claim in a patent under this chapter that results in a final written decision under section 328(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under

section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that post-grant review.

(f) Reissue Patents.—A post-grant review may not be instituted under this chapter if the petition requests cancellation of a claim in a reissue patent that is identical to or narrower than a claim in the original patent from which the reissue patent was issued, and the time limitations in section 321(c) would bar filing a petition for a post-grant review for such original patent.

35 U.S.C. § 326

CONDUCT OF POST-GRANT REVIEW

(a) Regulations.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under subsections (a) and (b) of section 324;

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing a post-grant review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to evidence directly related to factual assertions advanced by either party in the proceeding;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 323 after a post-grant review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in any post-grant review be issued not later than 1 year after the date on which the Director notices the institution of a proceeding under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 325(c); and

(12) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

(b) Considerations.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) Patent Trial and Appeal Board.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each post-grant review instituted under this chapter.

(d) Amendment of the Patent.—

(1) In general.—During a post-grant review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) Additional motions.—Additional motions to amend may be permitted upon the joint request of

the petitioner and the patent owner to materially advance the settlement of a proceeding under section 327, or upon the request of the patent owner for good cause shown.

(3) Scope of claims.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) Evidentiary Standards.—In a post-grant review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

35 U.S.C. § 327

SETTLEMENT

(a) In General.—A post-grant review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the post-grant review is terminated with respect to a petitioner under this section, no estoppel under section 325(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that post-grant review. If no petitioner remains in the post-grant review, the Office may terminate the post-grant review or proceed to a final written decision under section 328(a).

(b) Agreements in Writing.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the

termination of a post-grant review under this section shall be in writing, and a true copy of such agreement or understanding shall be filed in the Office before the termination of the post-grant review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

35 U.S.C. § 328

DECISION OF THE BOARD

(a) Final Written Decision.—If a post-grant review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 326(d).

(b) Certificate.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) Intervening Rights.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following a post-grant

review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) Data on Length of Review.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each post-grant review.

35 U.S.C. § 329

APPEAL

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 328(a) may appeal the decision pursuant to sections 141 through 144. Any party to the post-grant review shall have the right to be a party to the appeal.

Leahy-Smith America Invents Act,
Pub. L. No. 112-29, § 18, 125 Stat 284, 329 (2011)
(35 U.S.C. § 321 note)

SEC. 18. TRANSITIONAL PROGRAM FOR COVERED BUSINESS METHOD PATENTS.

(a) TRANSITIONAL PROGRAM.—

(1) ESTABLISHMENT.—Not later than the date that is 1 year after the date of the enactment of this Act, the Director shall issue regulations establishing and implementing a transitional post-grant review proceeding for review of the validity of covered business method patents. The transitional proceeding implemented pursuant to this subsection shall be regarded as, and shall employ the standards and procedures of, a post-grant review under chapter 32 of title 35, United States Code, subject to the following:

(A) Section 321(c) of title 35, United States Code, and subsections (b), (e)(2), and (f) of section 325 of such title shall not apply to a transitional proceeding.

(B) A person may not file a petition for a transitional proceeding with respect to a covered business method patent unless the person or the person's real party in interest or privy has been sued for infringement of the patent or has been charged with infringement under that patent.

(C) A petitioner in a transitional proceeding who challenges the validity of 1 or more claims in a covered business method patent on a ground raised under section 102 or 103 of title 35, United States Code, as in effect on the day before the

effective date set forth in section 3(n)(1), may support such ground only on the basis of—

(i) prior art that is described by section 102(a) of such title of such title (as in effect on the day before such effective date); or

(ii) prior art that—

(I) discloses the invention more than 1 year before the date of the application for patent in the United States; and

(II) would be described by section 102(a) of such title (as in effect on the day before the effective date set forth in section 3(n)(1)) if the disclosure had been made by another before the invention thereof by the applicant for patent.

(D) The petitioner in a transitional proceeding that results in a final written decision under section 328(a) of title 35, United States Code, with respect to a claim in a covered business method patent, or the petitioner's real party in interest, may not assert, either in a civil action arising in whole or in part under section 1338 of title 28, United States Code, or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337), that the claim is invalid on any ground that the petitioner raised during that transitional proceeding.

(E) The Director may institute a transitional proceeding only for a patent that is a covered business method patent.

(2) EFFECTIVE DATE.—The regulations issued under paragraph (1) shall take effect upon the expiration of the 1–year period beginning on the date of the enactment of this Act and shall apply to any covered business method patent issued before, on, or after that effective date, except that the regulations shall not apply to a patent described in section 6(f)(2)(A) of this Act during the period in which a petition for post-grant review of that patent would satisfy the requirements of section 321(c) of title 35, United States Code.

(3) SUNSET.—

(A) IN GENERAL.—This subsection, and the regulations issued under this subsection, are repealed effective upon the expiration of the 8–year period beginning on the date that the regulations issued under to paragraph (1) take effect.

(B) APPLICABILITY.—Notwithstanding subparagraph (A), this subsection and the regulations issued under this subsection shall continue to apply, after the date of the repeal under subparagraph (A), to any petition for a transitional proceeding that is filed before the date of such repeal.

(b) REQUEST FOR STAY.—

(1) IN GENERAL.—If a party seeks a stay of a civil action alleging infringement of a patent under section 281 of title 35, United States Code, relating to a transitional proceeding for that patent, the court shall decide whether to enter a stay based on—

(A) whether a stay, or the denial thereof, will simplify the issues in question and streamline the trial;

(B) whether discovery is complete and whether a trial date has been set;

(C) whether a stay, or the denial thereof, would unduly prejudice the nonmoving party or present a clear tactical advantage for the moving party; and

(D) whether a stay, or the denial thereof, will reduce the burden of litigation on the parties and on the court.

(2) REVIEW.—A party may take an immediate interlocutory appeal from a district court's decision under paragraph (1). The United States Court of Appeals for the Federal Circuit shall review the district court's decision to ensure consistent application of established precedent, and such review may be de novo.

(c) ATM EXEMPTION FOR VENUE PURPOSES.—In an action for infringement under section 281 of title 35, United States Code, of a covered business method patent, an automated teller machine shall not be deemed to be a regular and established place of business for purposes of section 1400(b) of title 28, United States Code.

(d) DEFINITION.—

(1) IN GENERAL.—For purposes of this section, the term "covered business method patent" means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or

management of a financial product or service, except that the term does not include patents for technological inventions.

(2) REGULATIONS.—To assist in implementing the transitional proceeding authorized by this subsection, the Director shall issue regulations for determining whether a patent is for a technological invention.

(e) RULE OF CONSTRUCTION.—Nothing in this section shall be construed as amending or interpreting categories of patent-eligible subject matter set forth under section 101 of title 35, United States Code.

APPENDIX J

DOCKET NO: CELG-0088 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Marc Elsayed and
Bruce Williams

Serial No: **09/143,569** Group Art Unit: **3736**

Filed: **August 28, 1998** Examiner: **M. Astorino**

For: **METHOD FOR DELIVERING A DRUG TO A PATIENT WHILE PREVENTING THE EXPOSURE OF A FOETUS OR OTHER CONTRAINDICATED INDIVIDUAL TO THE DRUG**

I, **David A. Cherry**, Registration No. **35,099**, certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.
On November 10, 1999

s/David A Cherry
David A. Cherry, Registration No. **35,099**

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

REPLY UNDER 37 C.F.R. § 1.111 TO OFFICE ACTION DATED OCTOBER 7, 1999

In response to the Office Action mailed October 7, 1999, reconsideration of the present application in view of the following remarks is requested respectfully.

DISCUSSION OF THE OFFICE ACTION

The Office Action includes a rejection of claims 1 and 4 to 11 under 35 U.S.C. § 103(a) as being unpatentable over Sloane, U.S. Patent No. 5,619,991 ("Sloane"). It is basically asserted in the Office Action that the Sloane patent discloses the methods defined in Applicants' claims. Applicants respectfully traverse the rejection, and respectfully submit that the present method is neither disclosed nor suggested in the cited reference.

THE CLAIMED INVENTION

Generally speaking, the present invention is directed to methods for delivering a drug to a patient. An important and critical feature of the invention, which is recited in independent claim 1, is that the methods may be used, *e.g.*, to deliver a teratogenic drug to patients in need of the drug **while avoiding the delivery of the drug to a foetus**. Independent claim 11 importantly and critically defines methods for delivering a potentially hazardous drug to patients in need of the drug **while avoiding the delivery of the drug to persons for whom the drug is**

contraindicated. As discussed in detail below, there is no disclosure or suggestion in the cited art of the methods defined in Applicants' claims.

DISCUSSION OF THE SLOANE PATENT

Sloane discloses methods for delivering medical services by using the internet to facilitate communication between several remote locations (column 1, lines 40 to 62). According to the methods in this document, an "e-doc" can communicate with a patient, then email, or otherwise transmit via the internet, instructions or data back to the patient, to remote medical diagnostic centers, to other medical service providers, such as pharmacies, hospitals and ambulance services, and to the Center for Disease Control or some other epidemiological database computer facility (column 1, lines 63 *et seq*.).

Independent claim 1 distinguishes over Sloane by defining methods for the delivery of a teratogenic drug to patients in need of the drug while avoiding the delivery of the drug to a foetus. Independent claim 11 distinguishes over Sloane by defining methods for delivering a potentially hazardous drug to patients in need of the drug while avoiding the delivery of the drug to persons for whom the drug is contraindicated. It is submitted respectfully that there is no disclosure or suggestion **whatsoever** in Sloane of the methods defined in Applicants' claims. Instead, Sloane is merely directed to the general use of electronic data communications to improve the process by which patient disease is diagnosed and/or treated. Sloane is utterly silent regarding the use of computer readable storage media to deliver to patients potentially dangerous drugs, for example, teratogenic drugs,

while at the same time avoiding their delivery to persons to whom the drugs are contraindicated, for example, foetuses. Clearly, Sloane fails completely to disclose or suggest the elements recited in Applicants' defined methods including, for example, (a) registering in a computer readable medium drug prescribers, pharmacies and patients (including information regarding the likelihood of patients having a condition (*e.g.*, female patients who are capable of becoming pregnant) which contraindicates exposure to a drug (*e.g.*, a teratogenic drug); (b) retrieving from the medium information to identify a subpopulation of the patients that have a condition making them contraindicated to the drug (for example, in the case of teratogenic drugs, female patients capable of becoming pregnant and/or male patients capable of impregnating females); (c) providing to the subpopulation counseling information regarding the risks associated with exposure to the drug; (d) determining whether patients in the subpopulation have the contraindicated condition; and (e) authorizing the registered pharmacies to fill prescriptions from the registered prescribers for the non-contraindicated, registered patients. These claimed method steps are utterly lacking in the Sloane patent.

In making the rejection, the following statement appears in the Office Action.

> In regard to claims 1 and 11, Sloane discloses a method for delivering drugs to patients while avoiding the delivery of said drug to a foetus comprising registering a qualified prescriber (12) in a computer readable storage medium (10), registering patients and patient data (11)

> registering pharmacies to fill prescriptions (13), registering patients and patient data (11), providing counseling information to a patient (column 3-5, lines 38-8), determining whether the patient is pregnant (65), and authorization of prescriptions to be filled (column 6, lines 47-51).

See Office Action, page 2. Applicants respectfully disagree with the Examiner's statement, and submit respectfully that the Examiner has mischaracterized the teachings in the Sloane patent.

In this connection, Applicants acknowledge that Sloan's "e-doc" may contain patient data, for example, name, address, billing insurance information and previous illnesses and surgeries (column 3, lines 56 to 60). Sloane also teaches that systems, such as epidemiological systems, may be invoked to gather information regarding foods the patient may have eaten, whether the patient has traveled recently, and the like (column 4, lines 34 to 40). In addition, the Sloane's "e-doc" may electronically order diagnostic tests, such as blood tests, sputum analysis or throat cultures (column 2, lines 3 to 4). However, what Sloane does not show are procedures for identifying an at-risk subpopulation, and prescribing a drug to patients while avoiding delivery of that drug to the at-risk subpopulation as described and claimed in the present application. Nor does Sloane teach how the disclosed methods would provide any checks and balances to insure that only registered prescribers or pharmacies would be allowed access to the drug in question.

Sloane fails also to teach methods in which the information regarding the parties involved in the

disclosed methods, for example, physician, pharmacy and patient, are registered in a central computer readable storage medium. In this regard, the above-quoted text from the Office Action refers to item (10) as a computer readable storage medium. However, Applicants submit that item (10) in Sloane refers solely to the internet (*see* column 2, line 65), *i.e.*, a communications network. Applicant submits respectfully that this is not a computer readable storage medium, as defined in Applicants' claims.

It is submitted respectfully that Sloane merely describes a method of facilitating traditional medical practices by taking advantage of the communication efficiency of the internet. Applicants' claims, on the other hand, define methods for centralizing certain information in a computer readable medium, requiring that qualified prescribers, pharmacies, and patients be registered in that medium, and requiring that the medium be accessed and certain procedures complied with before the medication in question can be delivered to the patient. Thus, Applicants' invention clearly goes far beyond merely using computers to facilitate communication between a patient and medical service providers as described in the Sloane patent. It is submitted respectfully that there is simply no reason to conclude that it would have been obvious for one skilled in the art to arrive at the methods of the present invention based on the Sloane patent.

The methods defined in the present claims differ from the methods disclosed in Sloane based not only in the recited process steps, but also in the benefits and attributes which flow from the recited steps. In this connection, Applicants teach in the present

application that the present methods provide advantageous and effective means for monitoring, controlling and authorizing the distribution of drugs to patients, particularly teratogenic drugs (page 4, lines 12 to 14). The claimed methods include a variety of checks and controls which serve to limit unauthorized and possibly inappropriate distribution of the drug (page 4, lines 14 to 16). Thus, drugs, including potentially hazardous drugs, may be distributed in accordance with embodiments of the present invention and such drugs may be distributed in such a fashion that persons for whom such drugs are contraindicated will not receive them (page 4, lines 21 to 24). In the case of teratogenic drugs, the checks and balances may be particularly advantageous for preventing distribution of the drug to patients whose use of the drug may pose an unacceptable risk of foetal exposure (page 4, lines 16 to 18). Accordingly, the present methods may be advantageously used to avoid exposure of foetuses to teratogenic drugs, thereby avoiding the terrible birth defects which may result from such exposure (page 4, lines 18 to 20). These benefits and attributes are completely lacking in the teachings of the Sloane patent.

Applicants note also that the methods of the present invention have been approved by the U.S. Food and Drug Administration ("FDA") for use in delivering the teratogen thalidomide to patients while avoiding foetal delivery. It is submitted respectfully that the FDA's approval of Applicants' methods confirms that the methods defined in the present claims are a remarkable advance in the art of safe and effective drug delivery.

MISCELLANEOUS

Applicants acknowledge the Examiner's favorable indication that claims 2 and 3 would be allowable if rewritten in independent form to include all of the recitations of the base claim and any intervening claims from which they depend. Applicants appreciate the Examiner's willingness to allow these dependent claims. However, in view of the above remarks, it is submitted respectfully that it is unnecessary to place claims 2 and 3 in independent form, at this time.

CONCLUSION

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending claims 1 to 11 is respectfully requested.

Respectfully Submitted,

s/David A Cherry
David A. Cherry
Registration No. **35,099**

Date: **November 10, 1999**

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APPENDIX K

DOCKET NO: CELG-0188 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Bruce Williams, et al.

Serial No: **09/694,217** Group Art Unit: **3734**

Filed:
October 23, 2000 Examiner: **Veniaminov, N.**

For: **METHODS FOR DELIVERING A DRUG TO A PATIENT WHILE AVOIDING THE OCCURRENCE OF AN ADVERSE SIDE EFFECT KNOWN OR SUSPECTED OF BEING CAUSED BY THE DRUG.**

I, **S. Maurice Valla**, Registration No. **43,966**, certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

On March 23, 2001

s/S. Maurice Valla
S. Maurice Valla, Registration No. **43,966**

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

AMENDMENT

This is a response to an Office Action mailed on January 18, 2001. Please amend the application, without prejudice, as follows.

In the Claims:

Amend claims 1, 10 and 15, without prejudice, as follows:

1. (Amended) In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:

a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;

b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;

c. in response to said information set, assigning said patient to at least one of said risk groups and entering said risk group assignment in said medium ;

d. based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and

e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

10. (Amended) The method of claim 7 wherein said diagnostic testing comprises genetic testing.

15. (Amended) The method of claim 1 further comprising:

f. defining for each said risk group a second set of information to be collected from said patient on a periodic basis;

g. obtaining said second set of information from said patient; and

h. entering said second set of information in said medium before said patient is approved to receive said drug.

REMARKS

Reconsideration of the present application in view of the above amendments and following remarks is requested respectfully. Claims 1 to 32 are pending in the application. Claims 1, 10 and 15 have been amended. No claims have been added or canceled.

The amendment to Claim l is fully supported in the application as filed and no new matter has been

introduced by this amendment. The step of determining that the risk is acceptable is disclosed, for example, at page 17, lines 22 to 26. Generation of a prescription approval code to be retrieved by the pharmacy before the prescription is filled is disclosed, for example, at page 20, line 17 to page 21, line 5. The amendments to Claims 10 and 15 are editorial in nature.

In the Office Action dated January 18, 2001, it is indicated that Claims 28 to 32 would be allowable if rewritten in independent form. Applicants thank the Examiner for indicating that these claims define allowable subject matter. As will be discussed more fully below, Applicants believe amended Claim 1 also defines allowable subject matter. Accordingly, Applicants have elected not to re-cast Claim 28 in independent form at this time.

Claims 1 to 27 stand rejected under 35 U.S.C. § 103(a) over Elsayed, et al, U.S. Patent No. 6,045,50l ("Elsayed") in view of Schauss, et al., U.S. Patent No. 6,063,026 ("Schauss"). Although Applicants respectfully disagree with the Examiner in this regard, in order to facilitate prosecution of the instant application, Applicants have amended Claim 1 to further define over the cited references.

Claim 1 defines an improved method for delivering a drug to a patient in need of the drug while avoiding the occurrence of an adverse side effect known or suspected of being caused by the drug. In this method, the drug is to be delivered to the patient only after a computer readable storage medium has been consulted to assure that the prescriber, the patient and the pharmacy have been registered in the

medium. This method further involves the assignment of the patient to a risk group, based upon information gathered from the patient that is probative of the risk that the adverse side effect will occur if the drug is taken by the patient, and the entry of this risk group assignment in the computer readable storage medium. As amended herein, Claim 1 further involves a determination, based upon the risk group assignment and the information collected from the patient, whether the risk of the side effect occurring is acceptable, and upon a determination that the risk is acceptable, generation of a prescription approval code, which is to be retrieved by the pharmacy before the prescription may be filled.

Elsayed, although teaching a method which contains many of the steps of the present invention, contains no disclosure of the generation of a prescription approval code as recited in amended Claim 1. Nor is there any explicit description in Elsayed of the benefits and attributes which flow from the inclusion of this step. As discussed in the specification, for example at page 20, line 27 to page 21, line 5, the inventors have found that improved compliance with the drug delivery methods of the present invention may be achieved when the patient's risk group assignment and all required information is entered in the computer readable storage medium, and it is determined that the risk is acceptable, prior to generation of a prescription approval code. Thus, in accordance with the methods defined in the present claims, when the patient presents a prescription to the pharmacy, all the registered pharmacy need do is consult the computer readable storage medium, and the pharmacy is permitted to dispense the drug upon

successfully retrieving a prescription approval code therefrom. Elsayed simply does not teach or suggest the improved methods defined by Applicants' claims.

Applicants respectfully submit that the aforementioned teachings are also lacking from Schauss. Although Schauss may describe a medical diagnostic analysis system that evaluates patient data obtained from questioning a patient or medical testing, Schauss contains no disclosure remotely related to the generation of a prescription approval code, this being the subject of Applicants' claims.

For these reasons, Applicants respectfully submit that the invention defined by Claim 1 and all claims dependent therefrom is patentable over the combined disclosure of Elsayed and Schauss, and request that the rejection under Section 103 be withdrawn.

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending Claims 1 to 32 are respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Respectfully submitted,

s/S. Maurice Valla
S. Maurice Valla
Registration No. **43,966**

Date: **March 23, 2001**

WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103
(215) 568-3100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) In a method for delivering a drug to a patient in need of the drug, while avoiding the occurrence of an adverse side effect known or suspected of being caused by said drug, wherein said method is of the type in which prescriptions for said drug are filled only after a computer readable storage medium has been consulted to assure that the prescriber is registered in said medium and qualified to prescribe said drug, that the pharmacy is registered in said medium and qualified to fill the prescription for said drug, and the patient is registered in said medium and approved to receive said drug, the improvement comprising:

a. defining a plurality of patient risk groups based upon a predefined set of risk parameters for said drug;

b. defining a set of information to be obtained from said patient, which information is probative of the risk that said adverse side effect is likely to occur if said drug is taken by said patient;

c. in response to said information set, assigning said patient to at least one of said risk groups

and entering said risk group assignment in said medium ; [and]

d. [entering said risk group assignment in said medium before said patient is approved to receive said drug] based upon said information and said risk group assignment, determining whether the risk that said adverse side effect is likely to occur is acceptable; and

e. upon a determination that said risk is acceptable, generating a prescription approval code to be retrieved by said pharmacy before said prescription is filled.

10. (Amended) The method of claim 7 wherein said diagnostic testing comprises genetic testing.

15. (Amended) The method of claim 1 further comprising:

[e]f. defining for each said risk group a second set of information to be collected from said patient on a periodic basis;

[f]g. obtaining said second set of information from said patient; and

[g]h. entering said second set of information in said medium before said patient is approved to receive said drug.