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Can Clinical Genetics Laboratories be Sued for Medical Malpractice?

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Introduction

From a legal perspective, is a clinical laboratory a health care provider? Physicians clearly are health care providers with associated fiduciary duties. It is less clear, however, which—if any—legal duties genetic testing labs owe to the individuals who seek their services. These issues may be more complex than they first appear. Clinical genetics laboratories perform multiple tasks. Most significantly, they sequence genetic samples and then go on to interpret the results. Although labs once toiled to generate simple genetic data, the availability of “next generation sequencing” revolutionized the process.¹ The technology has become more accessible, and laboratories now assess more genes. By doing so, labs can generate and interpret more sequence data for a growing number of clinical indications.² While standardized methods for generating and processing sequence data are in place, the way labs interpret genetic data remains in flux.³ And, increasingly, how a laboratory interprets genetic data has become more consequential, as physicians rely on those interpretations to make important medical and reproductive decisions. Changes in data interpretation have brought new medical and legal challenges.⁴

In the process of generating the findings that clinicians rely on, next generation sequencing produces large amounts of data that currently lack clinical significance. Available scientific

evidence simply cannot definitively interpret the vast majority of the variants detected. In fact, sequencing reveals many never before seen genetic variations.⁵ As such, labs lack sufficient data to designate these variations as either pathogenic—disease-causing—or benign. Consequently, labs classify them as variants of uncertain significance (“VUS”). VUS are extremely common: due to the large number of rare variants in the genome, insufficient information about the normal distribution of variants across normal populations, and lack of biological functional data, many variants are classified as being of uncertain significance. In fact, every patient who is sequenced currently has several VUS. The historic under-representation of minority populations in genetic studies exacerbates this problem for individuals of non-European ancestry.

As scientists report new findings, additional population data become available, and labs develop more advanced computational tools, the understanding of genetic information evolves.⁶ With time and more data, uncertain variants should be reclassified to be benign or pathogenic. In most cases VUS end up being benign and having no adverse clinical implications. Rarely, variants previously classified as pathogenic may be found to be benign or vice versa. Before a stable scientific consensus emerges, labs may reclassify the variant multiple times, moving it from pathogenic to non-pathogenic or the reverse.⁷ As labs face the challenge of dealing with this data, which may—or may not—gain clinical significance as science reveals more about genetic risk, the potential for legal liability raises the stakes of accurate variant interpretation in an environment of uncertainty.

Consider this hypothetical. A patient visits her primary care physician (“PCP”) to discuss her family history of colon cancer. As a result of their discussions, her doctor orders a genetic test for hereditary cancers from a clinical laboratory. Following the doctor’s orders, the lab sequences the patient’s DNA and sends a report to her PCP. That report indicates that the patient has no known pathogenic genetic variants, but the lab also notes a number of VUS. The PCP, relying on those findings, reports that there is nothing specifically actionable for the PCP or the patient to do based upon the genetic test report. Three years later, the patient is found to have ovarian cancer and asks whether her previous genetic test indicated that she was at increased risk for ovarian cancer. Her doctor asks the lab to look back at her previous testing. The lab finds that, six months ago, a peer-reviewed study linked one of the patient’s VUS to a risk of Lynch syndrome, which is associated with colon, uterine, and ovarian cancer. Had the patient known of this risk, she could have taken steps to screen for these cancers or had a hysterectomy and oophorectomy to reduce the risk of uterine and ovarian cancer. Yet no one communicated this information to the patient, and the patient dies of her cancer.⁸

If the patient’s family decides to sue the lab, which body of law will govern the claim? Is it medical malpractice with all of its accompanying doctrines?⁹ Or is her family’s claim more properly construed as ordinary negligence? The answer to these questions has serious consequences for plaintiffs, laboratories, and the attorneys who represent them.¹⁰

The lawyers litigating cases against clinical laboratories will have to anticipate which body of substantive law the courts will apply.¹¹ All fifty states have adopted some variation of a medical malpractice statute. The term malpractice statute, as used here, is broadly defined

to include: (1) statutes that directly bear on the conduct of malpractice suits in a state, such as statutes defining the tort standard of care, the statutes of repose/limitations, and medical malpractice reform statutes; and (2) medical practice acts and other general state laws relating to medical professional licensure and licensing and regulation of healthcare facilities, to the extent that these statutes help determine who falls within the scope of a state's malpractice doctrines. Typically, malpractice statutes apply only to health care providers.¹² Who constitutes a health care provider, however, isn't always immediately clear from the face of the statute.¹³

Medical malpractice laws have far-reaching implications. For example, malpractice legislation often caps damages.¹⁴ In fact, thirty out of the fifty states have established damage caps.¹⁵ These range from \$250,000¹⁶ to \$2,250,000.¹⁷ Some limit compensatory damages, while others restrict noneconomic damages.¹⁸ These caps might lessen plaintiffs' recoveries, particularly for noneconomic damages.¹⁹

Additionally, malpractice statutes often include statutes of limitations different than those that would apply to ordinary negligence claims. For example, Louisiana, Nevada, and North Carolina require malpractice actions to be brought no later than one year after the discovery of an actionable injury.²⁰ Statutes of repose also often apply in medical malpractice, whereas there is usually no statute of repose in general negligence cases.²¹ Health care providers use these provisions as defenses to bar claims after a statutorily determined amount of time has elapsed. Statutes of repose actually provide more robust protection to health care providers, as statutes of repose do not allow equitable tolling based on when the plaintiff discovered, or should have discovered, the cause of action.²² In malpractice cases involving genetics, these defenses have been important²³ because it may take a plaintiff several years to discover a genetic condition.²⁴ The latency of many genetic conditions—the fact that clinical symptoms may not emerge for years—has an impact on many facets of malpractice litigation.²⁵ And while some courts have been sympathetic to the perception that genetics cases raise unique issues, others have not.²⁶

Malpractice statutes also include several procedural provisions. They may compel arbitration, modify expert witness standards, or shift the costs and burdens of litigation from the provider to the injured patient.²⁷ Mandatory arbitration could limit how many medical malpractice claims go to court.²⁸ Yet even when cases are not sent to arbitration, the vast majority are settled rather than litigated.²⁹

Finally, malpractice law generally requires health care providers to meet medical standards of care and to perform the associated legal duties. Taken together, all these features of malpractice law share a common denominator: they can have a tremendous impact on the outcomes of claims construed as medical malpractice. Plaintiffs try to escape these harsh consequences by framing their claims as general negligence—this strategy is sometimes successful and sometimes not.

Clinical genetics laboratories need to consider the scope of their long-term obligations to update test results in response to evolving knowledge. This Article contemplates the potential tort liability of those labs. We begin with a relevant recent case, *Williams v.*

Quest Diagnostics. As *Williams* makes clear, the question of liability will—to some extent—turn on whether clinical laboratories are health care providers for purposes of medical malpractice statutes.³⁰

Williams v. Quest Diagnostics, Inc.

A current case playing out in the South Carolina courts, *Williams v. Quest Diagnostics, Inc.*, demonstrates the increasing relevance of these issues.³¹ In *Williams*, a mother sued Athena Diagnostics, Inc.³² on behalf of her deceased son, for failing to correctly diagnose the pathogenicity of a genetic variant. Christian Williams was born in the summer of 2005 and for four months seemed to be developing normally. At the four-month mark, he began suffering from severe seizures. When treatments failed and his condition worsened, the family consented to genetic testing by Athena's laboratory to identify mutations in a specific gene—*SCN1A*. The *SCN1A* gene encodes sodium channels, and defects in sodium channels in the brain's neurons can cause seizures.³³

On June 30, 2007, Athena reported that Christian had a *SCN1A* variant, which the lab classified as a VUS. Unbeknownst to Christian's parents, two publications, one released in 2006 and another in 2007—both of which predated Christian's testing—identified Christian's variant in patients with Dravet Syndrome, a severe form of epileptic encephalopathy.³⁴ In fact, Athena's chief compliance laboratory director, who signed off on Christian's test results, was an author on one of those publications.³⁵

Relying on the laboratory's report, Christian's doctors rejected a diagnosis of Dravet Syndrome. He received additional doses of medications that tragically exacerbate seizures in patients with Dravet Syndrome.³⁶ In 2008, following a seizure, Christian died.³⁷

In 2014, Williams' clinical geneticist requested a copy of the 2007 report. Athena then issued a revised 2015 report. The updated report correctly identified Christian's variant as pathogenic.³⁸ In light of this new information, a pediatric neurologist concluded that had Christian's Dravet Syndrome been properly diagnosed and treated, he could have avoided the fatal seizure.³⁹ His mother sued Athena for wrongful death.

The *Williams* case was promptly removed to federal court. Before considering any of the claims, the district court certified a question to the South Carolina Supreme Court.⁴⁰ The judge asked whether, under South Carolina state law, a clinical genetics laboratory is a licensed health care provider. This issue was crucial to the *Williams* case. Classifying the lab as a health care provider meant that medical malpractice statutes would apply. If the district court treated the claims as medical malpractice—as opposed to ordinary negligence—the statute of limitations could bar the case. Given that the genetic testing on Christian was performed at the request of a treating physician for the purpose of diagnosis and treatment, in a 4-to-1 ruling, the South Carolina Supreme Court determined that the clinical genetics laboratory is a health care provider for medical malpractice purposes.⁴¹

This vital question—how to classify clinical laboratories for purposes of medical malpractice claims—is a matter of state law. Malpractice statutes typically apply only to health care providers. Sometimes, the text of these laws explicitly defines health care

provider. Other times, as in *Williams*, courts make these determinations. Ultimately, whether a certain provider falls within the definition of health care provider differs from state to state. We therefore conducted a fifty-state survey to assess the current doctrinal landscape.

Survey Results

Whether clinical laboratories are health care providers for purposes of malpractice will often turn on how courts construe the applicable statutes. Understanding how these statutes apply to clinical labs is therefore essential to assessing their legal liability. We surveyed the statutes and relevant judicial opinions in each state to determine whether a clinical laboratory providing genetic testing services would likely be categorized as a health care provider.

By way of quick overview, we found that twenty-five states have no clear statutory provisions or caselaw on this issue. Thus, half of states have no definitive answer to this important question. Six states expressly include laboratories or laboratory personnel in their statutory language defining healthcare providers. In the absence of clear statutes, courts in fifteen states have held that the definition of health care provider encompasses clinical laboratories. And courts in four states have concluded that labs are not health care providers. We detail our findings below.

Labs as Health care Providers	Percentage (#)	States
Yes, by statute	12% (6)	Colorado, Hawaii, Louisiana, Montana, Nevada, North Carolina
Yes, according to caselaw	30% (15)	Alabama, Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Maryland, Massachusetts, Michigan, New York, Ohio, South Carolina, Texas
No, according to caselaw	4 (8%)	Maine, Rhode Island, South Dakota, Virginia
Maybe, not enough information	50% (25)	Arizona, Alaska, Delaware, Idaho, Kentucky, Kansas, Iowa, Mississippi, Minnesota, Missouri, Nebraska, New Mexico, New Jersey, New Hampshire, North Dakota, Pennsylvania, Oregon, Oklahoma, Tennessee, Vermont, Utah, Wyoming, Wisconsin, West Virginia, Washington

Unresolved Status

In twenty-five states (50%), it is unclear if clinical laboratories are health care providers for purposes of medical malpractice claims. This ambiguity exists for two reasons. First, the medical malpractice statutes make no direct reference to clinical laboratories. Next, no available caselaw interprets the statute to apply it to labs.

Take Pennsylvania, for example. A search of the National Institutes of Health's Genetic Testing Registry⁴² reveals nine genetic testing labs located and certified in Pennsylvania. In relevant part, Pennsylvania's Health Care Services Malpractice Act reads:

Health care provider. A primary health care center ... or a person, including a corporation, university or other educational institution licensed or approved by the Commonwealth to provide health care or professional medical services as a physician, a certified nurse midwife, a podiatrist, hospital, nursing home, birth

center, and an officer, employee or agent of any of them acting in the course and scope of employment.⁴³

Pennsylvania's statute does not reference clinical laboratories, nor does it mention genetic testing services. Although, based on the statutory language, one could argue that a clinical laboratory, licensed by the Commonwealth, certified under the federal Clinical Laboratory Improvement Amendments of 1999 ("CLIA"), and providing genetic testing services that aid medical diagnoses, falls within the definition of health care provider. The results of our survey indicated, however, that no court has decided that issue.

Explicitly Included by Statute

Six states (12%) include clinical laboratories or laboratory personnel⁴⁴ in their statutory definitions of health care provider: Colorado,⁴⁵ Hawaii,⁴⁶ Louisiana,⁴⁷ Montana,⁴⁸ Nevada,⁴⁹ and North Carolina.⁵⁰ Colorado's medical malpractice statute indicates that a health care institution includes "a laboratory certified under [CLIA] to perform high complexity testing."⁵¹ A 2010 amendment to the Louisiana Medical Malpractice Act added licensed clinical laboratories to the definition of health care providers, explicitly noting that a health care provider "means a ... licensed clinical laboratory scientist." This amendment resulted from a battle waged between the representatives of the largest provider of physicians' malpractice insurance in Louisiana and the defense bar. The legislature planned to increase medical malpractice damages caps. Adding clinical lab personnel to the definition ensured that they would be subject to the new caps.⁵² Likewise, Hawaii's law includes "clinical laboratory technologist[s] or technician[s]" within the scope of the statute.⁵³ Montana's medical malpractice law governs actions brought for injury or death "against a ... clinical laboratory bioanalyst, clinical laboratory technologist, ... or licensed medical professional corporation."⁵⁴ The Nevada statute's health care provider definition expressly includes a "medical laboratory director or technician."⁵⁵ Lastly, North Carolina medical malpractice law covers any person conducting a "laboratory analysis."⁵⁶

State	Statute	Definition	Statute of Limitations	Statute of Repose	Mandatory Arbitration	Damage Caps
Colorado	COLO. REV. STAT. ANN. § 13-64-202 (West).	"a laboratory certified under [CLIA] to perform high complexity testing"	2 years	3 years	An arbitration agreement shall be a voluntary agreement between a patient and a health care provider	\$1,000,000 umbrella cap, \$350,000 cap on noneconomic damages
Hawaii	HAW. REV. STAT. § 657-7.3 (West).	"clinical laboratory technologist or technician"	2 years	6 years	Must be heard by a screening panel before trial or submit the case to arbitration	\$375,000 cap on pain and suffering damages (applicable to all tort actions)
Louisiana	LA. STAT. ANN. § 40:1231.1.	"means a ... licensed clinical laboratory scientist"	1 year	3 years	Must be heard by a screening panel before trial	\$500,000 actual damages plus future medical expenses

State	Statute	Definition	Statute of Limitations	Statute of Repose	Mandatory Arbitration	Damage Caps
Montana	MONT. CODE ANN. § 27-2-205.	“clinical laboratory bioanalyst, clinical laboratory technologist”	2 years if filed before July 1, 2019 3 years if filed on or after July 1, 2019	5 years	Must be heard by a screening panel before trial	\$250,000 cap on noneconomic damages
Nevada	NEV. REV. STAT. ANN. § 41A.017 (West).	“medical laboratory director or technician”	1 year	3 years	Parties shall attend settlement conference before trial	\$350,000 cap on noneconomic damages
North Carolina	N.C. GEN. STAT. ANN. § 90-21.11 (West).	“laboratory analysis”	1 year	3 years	Parties may agree to submit the dispute to arbitration before or after the action has been filed	\$569,247 cap on noneconomic damages

Included, According to Caselaw

In fifteen states (30%) where malpractice statutes do not explicitly address laboratories, courts have decided that clinical labs are health care providers. Of course, in all cases, whether a lab is a health care provider depends on the facts. For example, clinical laboratories offer many different kinds of services. Although the focus of this paper is on laboratories that perform genetic testing, the caselaw addresses laboratories that performed a diverse set of tests not limited to genetic testing. Hence, in those cases in which genetic testing per se was not at issue, one cannot say definitively that courts would rule similarly in a case involving genetic testing services. In the cases below, courts consider the services the laboratory provided to the patient and the physician in the case. Whether used to analogize or distinguish, available state law serves as the relevant starting point for analyzing how a court might rule in a case involving genetic testing services. We recognize that these cases may ultimately not prove controlling under different facts. They would, however, likely be an authority a court would use for guidance to decide whether a laboratory providing clinical genetic services is a health care provider for purposes of medical malpractice claims.

Two of the decided cases involved plaintiffs being misinformed of genetic risks.⁵⁷ Of the decisions finding labs to be health care providers under state malpractice law, most relied on the labs’ providing services closely linked to a doctor’s diagnosis.⁵⁸ *Williams*, described above, is a prime example. In reaching its decision, the South Carolina Supreme Court noted that a clinical laboratory performs genetic tests at the request of a treating physician⁵⁹ and for the purpose of assisting the treating physician in making a diagnosis.⁶⁰ Diagnostic testing, the court noted, is a core function of hospitals, and hospitals are clearly included in the definition of licensed health care providers.⁶¹ The South Carolina statute provides that “any similar category of licensed health care providers” is subject to liability under the law.⁶² Given the similarity to hospitals, the court held that a genetic testing laboratory clearly fell within that catchall category.⁶³

The Alabama Supreme Court decided the issue similarly, based on the Alabama statute’s inclusion of “other healthcare providers,” defined as “[a]ny professional corporation or

any person employed by physicians, dentists, or hospitals who are directly involved in the delivery of health care services.”⁶⁴ The court emphasized that the physician had employed the lab to analyze his patient’s sample, and that the test was directly linked to the physician’s diagnosis and treatment.⁶⁵

Court decisions in other states relied on similar factors. Some considered whether the actions of the laboratory had caused medical injury.⁶⁶ Others looked to how closely related to human health the laboratory’s services were.⁶⁷ To some courts, the physician’s involvement in directing the lab’s services was important. The physicians decided which tests and services were necessary.⁶⁸ Ultimately, the data reveal that—regardless of the variation among the statutes themselves—the relationship between the laboratory’s services and medical decision-making and consequences was key to establishing liability.

State	Statute	Case	Facts	Holding
Alabama	Alabama Medical Liability Act of 1987, Code 1975, §§ 6–5–542(1), 6–5–481(8)	Anderson v. Alabama Reference Labs., 778 So. 2d 806 (Ala. 2000)	Action brought against medical reference laboratory for negligently, wantonly, or recklessly performing tuberculosis testing. Plaintiff claimed the lab committed “legal fraud” in reporting false test results, thereby causing severe emotional distress, economic losses, and loss of consortium.	Because the testing was directly linked to the doctor’s diagnosis, the laboratory fell within definition of “other health care provider” of Alabama Medical Liability Act of 1987 (AMLA), such that patient’s medical malpractice action was subject to the AMLA.
Arkansas	ARK. CODE ANN. § 16-114-201 (West)	Green v. Nat’l Health Labs. Inc., 316 Ark. 5, 7, 870 S.W.2d 707, 708 (1994)	Laboratory and physician are sued under the state’s malpractice statute for issuing an erroneous positive test result for cancer.	The Supreme Court of Arkansas allows claims to proceed under malpractice statute, considering the actions at issue to fall under “medical injury” as defined by the law.
California	CAL. CIV. PROC. CODE ANN. §§ 3333.2, 425.13 (West)	Johnson v. Superior Court, 101 Cal. App. 4th 869, 879, 124 Cal. Rptr. 2d 650, 658 (2002)	Medical malpractice action against sperm bank and bank’s physicians, arising from hereditary kidney disease the child inherited from sperm donor (misinformed of genetic risk).	Cryobank is a health care provider as that term is used in the statute because it is a licensed clinical laboratory. The court found that the lab’s services were “inextricably identified with the health of humans.” The lab’s services, while not essential to human health, were related to human health, and as such, the lab was a health care provider under the statute. 101 Cal. App. 4th 869, 880, 124 Cal. Rptr. 2d 650, 659 (2002).
Connecticut	CONN. GEN. STAT. ANN. § 52-184b (West)	Pascarella v. Corning Clinical Labs., Inc., 325312, 1997 WL 155381, at *2 (Conn. Super. Ct. Mar. 25, 1997)	Proceeding instituted against Corning Clinical Laboratories, Inc., a blood testing facility. Plaintiff asserted that Corning performed an analysis of his blood and concluded that he was HIV positive. Subsequent tests revealed the test results were in error. A key inquiry was whether a blood testing facility fell under the statute’s definition of a health care provider.	The court found that, under the broad language of the statute, the blood testing facility could reasonably be characterized as a facility licensed by this state to provide professional health services. There were enough similarities between the blood testing facility and a pharmacy and pharmacists, previously held to be health care providers under the law, for the court

State	Statute	Case	Facts	Holding
				to conclude the lab also fell within the statutory definition.
Florida	West's F.S.A. §§ 766	Nehme v. Smithkline Beecham Clinical Labs., Inc., 822 So. 2d 519, 520–21 (Fla. Dist. Ct. App. 2002), approved, 863 So. 2d 201 (Fla. 2003)	Action against clinical laboratory for medical malpractice and wrongful death, arising from misdiagnosis of pap smear, which indicated presence of malignancy.	Court assumes the lab is a medical provider. Actions for medical malpractice and wrongful death brought by personal representative of patient's estate against clinical laboratory were governed by four-year statute of repose for malpractice actions.
Georgia	GA. CODE ANN. § 9-3-70 (West)	Baskette v. Atlanta Ctr. for Reproductive Med., LLC, 285 Ga.App. 876, 648 S.E.2d 100 (2007)	Plaintiffs brought claim against lab for the loss of husband's sperm. The state law's terms stated that an "action for medical malpractice" included any claim for damages resulting from an injury to any person arising out of a medical service rendered by any person acting under the supervision and control of a lawfully authorized person.	The lab's services involved the exercise of professional medical knowledge and judgment. Claims against medical center, technologist, and lab director constituted claims for medical malpractice, rather than for ordinary negligence. The center was a medical facility, technologist and director thawed and used patient's husband's sperm to fertilize patient's eggs, and they performed those tasks within the scope of their employment and under the supervision of physicians.
Illinois	735 ILL. COMP. STAT. ANN. 5/2–622	Palonis v. Jewel Food Stores, Inc., 383 F. Supp. 2d 1072 (N.D. Ill. 2005)	Employee, a truck driver who was terminated after he tested positive for cocaine, brought suit for negligence against laboratory that tested his urine sample.	In collecting, handling, and testing his urine samples for drugs and in reporting results to his employer; laboratory's alleged negligence did not arise from application of "healing art," but rather laboratory acted in context of employer-mandated drug test given for purposes of determining employee's eligibility to continue working, not for purpose of diagnosing or treating him. Had the tests been performed for that reason, however, malpractice would have been applicable.
Indiana	IND. CODE ANN. § 34–18-2-14 (West)	Wood v. Schuen, 760 N.E.2d 651, 653 (Ind. Ct. App. 2001)	Patient filed medical malpractice claim against director of cytopathology at medical laboratory that allegedly misread patient's tests and failed to diagnose cervical cancer.	Because there was no direct nexus between the director's actions and the alleged negligence upon which the claim was based, there was no liability in this case. The court noted, however, that persons whose lab results were misread by a lab are not without remedy. But the court emphasized the need for a "direct nexus between the director's actions and the alleged negligence upon which the claim of <i>medical malpractice</i> is based." 760 N.E.2d 651, 659 (Ind.

State	Statute	Case	Facts	Holding
				Ct. App. 2001) (emphasis added).
Maryland	MD. CODE ANN., CTS. & JUD. PROC. § 3-2A-01 (West)	Young v. Medlatic Labs., 125 Md. App. 299, 725 A.2d 572 (1999)	Patient sued laboratory that had performed pathology tests on her tissue samples, alleging that laboratory was negligent in communicating results to patient's physician.	Claim proceeds as a medical malpractice claim and is not barred by statute of limitations but court doesn't analyze the statute.
Massachusetts	MASS. GEN. LAWS ANN. ch. 231, § 60B (West)	Morgan v. Laboratory Corp. of Am., 65 Mass. App. Ct. 816, 844 N.E.2d 689, 19 A.L.R.6th 923 (2006)	Negligence claims against clinical laboratory that analyzed patient's post-surgery blood tests, alleging in part that laboratory failed to provide prompt notice to surgeon that laboratory's analysis of patient's blood sample had revealed life-threatening change in anticoagulation level of patient's blood.	In this case, an instruction on medical malpractice caps was in error, because the claims brought were ordinary negligence claims. The court held that the evidence was sufficient for the jury to find a clinical laboratory's common-law negligence in failing to promptly notify the doctor. Medical malpractice liability for the lab, however, may have been applicable under different facts.
Michigan	MICH. COMP. LAWS ANN. § 600.2912b (West)	Herrmann v. Pinkus Dermatopathology Labs., P.C., 198380, 1998 WL 2016556, at *1 (Mich. Ct. App. Mar. 20, 1998)	Plaintiffs alleged that defendant lab failed to indicate that the portion of a lesion remaining after a biopsy on decedent's shoulder was potentially dangerous and because of that he failed to demand an immediate, complete excision of that remaining portion.	Court analyzes the facts under the standards for a medical malpractice action.
New York	N.Y. C.P.L.R. 214-a (McKinney)	Annunziata v. Quest Diagnostics, Inc., 127 A.D.3d 630, 631, 8 N.Y.S.3d 168, 169 (N.Y. App. Div. 2015)	Complaint alleged that Quest, a laboratory, was negligent in misreading the tissue sample.	Laboratory services performed at the direction of a physician, are an integral part of the process of providing medical treatment. The court found that a claim stemming from the rendition of such services is a medical malpractice claim.
Ohio	OHIO REV. CODE ANN. § 2305.234 (West)	Loudermilk v. Prof'l Lab. Serv., 75AP-219, 1975 WL 181821, at *2 (Ohio Ct. App. Oct. 7, 1975), adhered to on denial of reconsideration, 75AP-219, 1975 WL 182033 (Ohio Ct. App. Dec. 18, 1975)	In an action brought against a clinical laboratory, the main issue for determination was whether an action for medical malpractice could lie against any person performing testing services for the plaintiff.	In order for a medical malpractice action to be appropriately brought, there must have been a professional medical service rendered or performed. Secondly, for such an action to properly lie, there must be a showing of the physician-patient relationship. The court determined that the services being performed by the lab were professional medical services and determined that a physician-patient relationship existed.
South Carolina	S.C. CODE ANN. §§ 15-79-110(4), 38-71-1920(7), 38-79-410	Williams v. Quest Diagnostics, Inc., 423 S.C. 547, 816 S.E.2d 564 (2018)	Suit for wrongful death against federally licensed genetic testing laboratory and related entities, based on allegation that laboratory staff failed to properly determine, at treating	A genetic testing laboratory that performs testing at the request of a patient's treating physician for the purpose of assisting the treating physician in detecting an existing disease or disorder falls within

State	Statute	Case	Facts	Holding
			physician's request, patient's medical condition.	the statutory definition of "licensed health care providers." Testing was performed at the request of a treating physician for the purpose of diagnosis and treatment, which is a core function of hospitals in diagnosing and treating patients.
Texas	Texas Medical Liability Insurance Improvement Act (MLIIA), TEX. CIV. PRAC. & REM. CODE § 74.351(a) (Vernon 2005)	Brown v. Villegas, 202 S.W.3d 803, 804 (Tex. App.—San Antonio 2006, no pet.)	Patient brought health care liability claim against laboratory and laboratory technician, seeking damages arising out of lab's failure to recognize abnormal cells in patient's pap smear.	Laboratories are not presumptively excluded from the definition of "health care providers" under the statute. But because the record did not contain any evidence establishing that LabCorp was "duly licensed, certified, or registered or chartered by the State of Texas to provide health care," or that LabCorp was an independent contractor of the treating physician, the trial court's order applying malpractice principles was reversed.

Excluded, According to Caselaw

Finally, courts in four different jurisdictions (8%)— South Dakota, Rhode Island, Virginia, and Maine—have explicitly declined to define clinical laboratories as health care providers for purposes of medical malpractice. In three of the four states, the states' highest court rendered the decision. Although these cases held that clinical laboratories were not subject to medical malpractice claims, some left open the possibility that different facts might lead to different outcomes.

The Virginia Supreme Court decided the first case to hold that a clinical laboratory was not a health care provider in 1988. The medical malpractice statute did not explicitly mention labs, and the court declined to construe it to include them.⁶⁹ Further, the court held that the lab—licensed by the federal government and not the Commonwealth—was excluded from the statutory list of health care providers, and was also not acting as the doctor's agent.⁷⁰ A 1992 case affirmed this decision, noting that "[r]ules of liberal construction cannot properly be applied to rewrite a statute in order to alter what it actually says."⁷¹

A 1993 decision by the South Dakota Supreme Court used a slightly different line of reasoning. Directly at issue in the case was whether the lab was a "practitioner of the healing arts," within the meaning of the state's medical malpractice statute.⁷² Because previous caselaw—as well as the plain text of the statute—required a "practitioner" to be a natural person, the court held that the clinical lab did not fall within the statute's ambit.

A federal district court in Maine, interpreting Maine state law, came to a similar conclusion in 1997. Despite the fact that courts had construed the state's medical malpractice statute liberally, the court found that it did not cover the clinical laboratory.⁷³ The defendant

laboratory had no direct contact with patients. The court concluded that evaluating tissue samples and reporting results did not constitute “medical services.” The court, therefore, found that the medical malpractice statute did not apply.

A 2014 case by the Rhode Island Supreme Court arrived at the same conclusion. The court concluded that, because the lab had no direct patient contact and provided only testing services, the lab’s actions did not fall under the medical malpractice statute.⁷⁴

State	Statute	Case	Facts	Holding
Maine	ME. REV. STAT. tit. 24, § 2502	Dupuis v. Cancer Screening Servs., 1997 U.S. Dist. LEXIS 2456 *12 (D.Me. Feb. 13, 1997)	Patient brought a claim against a clinical laboratory for medical malpractice, claiming the laboratory had negligently performed cancer screening tests.	The defendant laboratory had no direct contact with patients; its evaluation of tissue samples and reporting results were not “medical services,” and the court, therefore, found that the medical malpractice statute did not apply. The lower court noted, however, that the reach of the Act has been interpreted liberally with regard to claims brought against health care providers.
Rhode Island	5 R.I. GEN. LAWS ANN. § 5-37-1 (West)	Ho-Rath v. R.I. Hosp., 89 A.3d 806 (R.I. 2014)	Parents brought action against numerous defendants alleging negligence for injuries sustained by their minor daughter, who was born with alpha thalassemia, a genetic blood disorder.	Laboratories, having no direct patient contact and providing only testing services, did not fall under the medical malpractice statute. The court was of the opinion that, in the absence of clear statutory language to the contrary, the legislature did not intend for negligence actions against laboratories to fall under the ambit of medical malpractice.
South Dakota	S.D. CODIFIED LAWS § 21-3-11	Sander v. Geib, Elston, Frost Prof'l Ass'n, 506 N.W.2d 107, 124 (S.D. 1993)	Patient brought medical malpractice action against clinical laboratory for alleged negligence in reading of her pap smear slides. At issue was whether Clinical Lab is a “practitioner of the healing arts” within the meaning of the state’s medical malpractice statute.	The court concluded that the language of the statute and previous caselaw plainly required a “practitioner” to be a natural person. The court held the term “other practitioner of the healing arts” not to include entities such as Clinical Lab, a medical corporation. On occasion, the court had found individuals to be “practitioner[s] of the healing arts” even though they were not licensed under the Medical Practice Act. Unlike a corporation, however, those individuals were capable of becoming licensed under the Medical Practice Act.
Virginia	Virginia Medical Malpractice Act, VA. CODE ANN. § 8.01–581.1 (West)	Nevitt v. Va. Heart Surgery Assocs., P.C., 38 Va. Cir. 505 (1992)	The court considered the holding of a previous case, <i>Richman v. National Health Laboratories</i> , 235 Va. 353 (1988), finding that an unlicensed lab did not fall within the ambit of the statute.	“There is nothing about the nature of hospitals and nursing homes which suggests that clinical laboratories, though not mentioned, should nevertheless be included in the statute. Rules of liberal construction cannot properly be applied to rewrite a statute in order to alter what it actually says.” 38 Va. Cir. 505, 505 (1992).

Conclusion

Genetic testing—given its rapid growth—is likely to be the focus of a good deal of future litigation. These cases may help to clarify whether genetic testing labs in particular fall under the definition of health care provider under malpractice statutes. Whether labs more generally are health care providers is a significant threshold inquiry. States have answered this important question differently, and the answer a state provides may vary, depending on the facts of the particular case. These decisions are the starting point for any practitioner’s

argument for or against a court including a clinical genetics laboratory in the definition of health care provider under malpractice law.

Differences in substantive law could impact the outcomes of lawsuits against clinical laboratories. If the labs are health care providers, they will be subject to a given state's medical malpractice law, including statutes of limitations, statutes of repose, damages caps, and procedural idiosyncrasies. Moreover, in lieu of establishing ordinary negligence, plaintiffs will have to assert that the laboratories breached the applicable standard of care. Perhaps our most significant finding was that half of states have yet to tackle this issue directly. Our other key finding was that, where labs have been subjected to malpractice law, the relationship between the laboratory's services and medical decision-making and consequences was key to establishing liability. Because of the growing importance of this question, we encourage state legislatures to weigh in to provide clarity, in one way or another. In the meantime, health care attorneys must keep careful watch as the law on this issue continues to develop.

Acknowledgments

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References

1. Katsanis Sara H. & Katsanis Nicholas, Molecular Genetic Testing and the Future of Clinical Genomics, 14 *Nature Rev. Genetics* 415, 415, 424 (2013).
2. To be clear, "generating genetic data" means several things, some of which sound in laboratory services and some of which sound in the practice of medicine. Next generation sequencing ("NGS") involves: identifying the nucleotide sequences in a person's genome; processing that information to draw probabilistic inferences about ways the person's genome differs from a human reference genome, with the aim of identifying the person's genetic variants; and then attempting to interpret the clinical significance of those variants, i.e., how the person's health may be affected by the variants that were found. Before NGS, it was a great challenge to characterize the nucleotide sequences and identify the person's variants. NGS has made that easier. But the problem of interpreting what the variants mean is just as challenging now as it was in the days of single-gene testing technologies.
3. In 2015, The American College of Medicine Genetics ("ACMG") and Genomics and the Association for Molecular Pathology issued professional guidelines for the interpretation of sequence data. S. Richards et al., Standards and Guidelines for the Interpretation of Sequence Variants: A Joint Consensus Recommendation of The American College of Medical Genetics and Genomics and The Association for Molecular Pathology, 17 *GENETICS MED* 405 (2015). Today, most labs use the ACMG guidelines to classify variants. *See* Cristi Radford & Michele Gabree, Variants of Unknown Significance—Frequently Asked Questions, *J. HEMATOLOGY, ONCOLOGY, Pharmacy* 11 (July 11, 2018), <http://jhponline.com/ton-issue-archive/2018/july-2018-vol-11-no-3/17516-variants-of-uncertain-significance>. These guidelines are used merely as a framework, recommending that sequence variants be classified into one of five categories along a gradient, ranging pathogenic to benign. *Id.* Along with this framework, labs use their own internal protocols and data. For example, different labs might weigh a piece of evidence differently in their determination of a variant's classification, ultimately resulting in different classifications of the same variant. *Id.*
4. *Cf.* Vetrini Francesco et al. , Reanalysis of Clinical Exome Sequencing, 380 *New Eng. J. Med* 25 (2019).

5. After all, the number of genomes sequenced to date still reflects only a tiny sliver of the human population.
6. See Stevens Yvonne A., Senner Grant D. & Marchant Gary E., Physicians' Duty to Recontact and Update Genetic Advice, 14 *Personalized Med.* 367, 368 (2017).
7. Furthermore, because only approximately 25% of human genes have been associated with diseases, variants in genes not yet associated with human diseases are of uncertain significance and may not be ascribed as disease causing in the course of genomic analyses.
8. For a similar hypothetical, see Stevens Yvonne A., Senner Grant D. & Marchant Gary E., Physicians' Duty to Recontact and Update Genetic Advice, 14 *Personalized Med.* 367, 368 (2017).
9. It is likely that the family would also bring an action against the PCP directly, though the focus of this Article is the action taken against laboratories.
10. See *Williams v. Quest Diagnostics, Inc.*, 353 F. Supp. 3d 432, 437 (D.S.C. 2018).
11. Patients, doctors, and laboratories may all be located in different states. Some labs have physical facilities in multiple states but have headquarters or corporate offices in one state. Many civil procedure issues are implicated by genetic malpractice claims against clinical laboratories. These are beyond the scope of this Article and will be fully considered in a subsequent paper. See Jessica L. Roberts et al., *Issues in the Legal Liability of Clinical Genetics Laboratories* (in progress).
12. See, e.g., CAL. CIV. PROC. CODE ANN. § 3333.2, 425.13 (West) ("health care provider"); CONN. GEN. STAT. ANN. § 52-184b (West) ("health care provider"); LA. STAT. ANN. § 40:1231.1 ("healthcare provider"); ARK. CODE ANN. § 16-114-201 (West) ("medical care provider").
13. See *infra* notes 62–65 and accompanying text.
14. Note that courts in some states have found caps to be unconstitutional. See, e.g., *Moore v. Mobile Infirmary Ass'n*, 592 So.2d 156, 172 (Ala. 1991) (\$400,000 damage cap on medical malpractice actions declared unconstitutional).
15. *Malpractice Caps in All 50 States*, MILLER & ZOIS, LLC (Feb. 2019), <https://www.millerandzois.com/malpractice-damage-caps.html>. In eight states, caps have been declared unconstitutional. *Id.*
16. Mont. Code Ann. § 25-9-411 (West).
17. Neb. Rev. Stat. Ann. § 44-2825 (West).
18. See Sharkey Catherine M., *Unintended Consequences of Medical Malpractice Damage Caps*, 80 N.Y.U. L. Rev 391, 396–97 (2005).
19. For example, recovery for pain and suffering. See Sharkey, *supra* note 18, at 399.
20. See *infra* notes 42–47 and accompanying text.
21. See Marchant Gary E. et al., *Unjust Timing Limitations in Genetic Malpractice Cases*, 83 Alb. L. Rev (forthcoming 2019).
22. See Marchant Gary E. & Lindor Rachel A., *Genomic Malpractice: An Emerging Tide or Gentle Ripple?*, 71 Food & Drug L. J 1, 26 (2018).
23. See *id.*
24. *Id.*
25. *Id.* ("[That genetic] malpractice claims take approximately twice as long as other medical malpractice cases to resolve is likely due to the often cryptic nature of genetic conditions which may not become clear for many years.").
26. *Cf.* *Hauser v. Kaufman*, 972 N.E.2d 927, 930–31 (Ind. Ct. App. 2012) ("We are, of course, fully cognizant that we are permitting a nearly four-decade old claim of malpractice to proceed at this time.") with *Kush v. Lloyd*, 616 So.2d 415 (Fla. 1992) (family's action barred by the statute of repose, although the birth that created the cause of action did not arise until after the statute of repose had expired).
27. Saunders Lauren K., *The Quest for Balance: Public Policy & Due Process in Medical Malpractice Arbitration Agreements*, 23 Harv. J. on Legis 267, 268 (1986).
28. See Shirley Qual, *A Survey of Medical Malpractice Tort Reform*, 12 William Mitchell L. Rev 418, 429 n.52 (1986).
29. See Eisenberg Theodore, *What is the Settlement Rate and Why Should We Care?*, 6 J. Empirical Legal Stud 111, 111 (2009).
30. *Williams v. Quest Diagnostics, Inc.*, 353 F. Supp. 3d 432, 437 (D.S.C. 2018).

31. *Id.*
32. Owned in part by Quest Diagnostics, Inc. *Id.*
33. *Id.* at 436.
34. Complaint at 6–7, *Williams v. Quest Diagnostics, Inc.*, 353 F. Supp. 3d 432, 437 (D.S.C. 2018) (No. 2016-CP-40-01166). Note that we do not mean to imply that a single study makes for a diagnosis. Rather the studies provided some evidence of pathogenicity, arguably making the VUS determination inaccurate, as evidenced by the lab’s later reclassification in Williams’ subsequent report. *See infra* note 38 and accompanying text. The issue here is not whether a variant was actually widely accepted by the medical literature and community as pathogenic, but rather that the lab had—using their specific internal guidelines—reclassified it as such. There are important threshold issues about when a variant is declared pathogenic, which are beyond the scope of this Article.
35. *Id.* at 9.
36. *Id.* at 10–11.
37. *Id.* at 12.
38. *Id.*
39. The plaintiff, Williams, submitted an affidavit signed by Dr. Max Wiznitzer. Wiznitzer is a pediatric neurologist board-certified by the American Board of Pediatrics and by the American Board of Psychiatry and Neurology. He prepared the statement in anticipation of litigation. *Id.* at 11.
40. *See Williams v. Quest Diagnostics, Inc.*, 816 S.E.2d 564, 566 (S.C. 2018).
41. *Id.*
42. This database includes all clinical laboratories providing genetic testing services located and certified in each state. And our search included only CLIA-certified labs. *See Genetic Testing Registry*, NAT’L CTR. BIOTECHNOLOGY INFO., <https://www.ncbi.nlm.nih.gov/gtr/> (last accessed July 10, 2019).
43. Health Care Services Malpractice Act., 40 PA. STAT. ANN. § 1303.503.
44. A clinical lab, as an employer, may be vicariously liable for the torts of its employee under the doctrine of respondeat superior. *See, e.g., Verinakos v. Med. Profiles, Inc.*, 987 S.W.2d 90 (Tex. App.—Houston [14th Dist.] 1998, pet. denied) (discussing respondeat superior but finding no liability under the facts). Respondeat superior principles vary by jurisdiction.
45. Colo. Rev. Stat. Ann. § 13-64-202 (West).
46. Haw. Rev. Stat. § 657–7.3 (West).
47. La. Stat. Ann. § 40:1231.1.
48. Mont. Code Ann. § 27-2-205.
49. Nev. Rev. Stat. Ann. § 41A.017 (West).
50. N.C. Gen. Stat. Ann. § 90–21.11 (West).
51. Colo. Rev. Stat. Ann. § 13-64-202 (West).
52. Beahm Franklin D. et al. , Updates and Handling Potential Problems/Difficulties in Professional Medical Negligence Cases, LA. JUDICIAL COUNCIL (July 2010), <http://www.beahm.com/seminars/2010-July-Updates%20and%20Handling%20Potential%20Problems%20Difficulties%20in%20Professional%20Medical%20Negligence%20Cases.pdf>. It is unclear who was lobbying on behalf of the labs for the change. Though, those opposed to their inclusion noted that there had been no showing made to demonstrate that a crisis existed for labs, which would require a protection by a cap. *Id.*
53. Haw. Rev. Stat. § 657–7.3 (West).
54. Mont. Code Ann. § 27-2-205.
55. Nev. Rev. Stat. Ann. § 41A.017 (West).
56. N.C. Gen. Stat. Ann. § 90–21.11 (West).
57. *See id.*; *see also Johnson v. Superior Court*, 101 Cal. App. 4th 869, 879, 124 Cal. Rptr. 2d 650, 658 (2002).

58. *See, e.g.*, *Loudermilk v. Prof'l Lab. Serv.*, 75AP-219, 1975 WL 181821, at *2 (Ohio Ct. App. Oct. 7, 1975), adhered to on denial of reconsideration, 75AP-219, 1975 WL 182033 (Ohio Ct. App. Dec. 18, 1975); *Anderson v. Alabama Reference Labs.*, 778 So. 2d 806 (Ala. 2000); *Wood v. Schuen*, 760 N.E.2d 651, 653 (Ind. Ct. App. 2001); *Johnson v. Superior Court*, 101 Cal. App. 4th 869, 879, 124 Cal. Rptr. 2d 650, 658 (2002); *Palonis v. Jewel Food Stores, Inc.*, 383 F. Supp. 2d 1072 (N.D. Ill. 2005); *Baskette v. Atlanta Ctr. for Reproductive Med., LLC*, 285 Ga.App. 876, 648 S.E.2d 100 (2007); *Annunziata v. Quest Diagnostics, Inc.*, 127 A.D.3d 630, 631, 8 N.Y.S.3d 168, 169 (N.Y. App. Div. 2015); *Williams v. Quest Diagnostics, Inc.*, 816 S.E.2d 564, 565 (S.C. 2018).
59. *Williams*, 816 S.E.2d at 565.
60. *Id.*
61. But note that all of Athena's tests were "send-outs," a point the court fails to consider at all in the analysis.
62. *Id.* (quoting S.C. Code Ann. § 38-79-410).
63. *Id.* at 566.
64. *Anderson v. Alabama Reference Labs.*, 778 So. 2d 806, 810 (Ala. 2000) (quoting Ala. Code 1975, § 6-5-546).
65. *Id.* at 810–11.
66. *See, e.g.*, *Green v. Nat'l Health Labs., Inc.*, 316 Ark. 5, 7, 870 S.W.2d 707, 708 (1994) (laboratory caused "medical injury"); *Pascarelli v. Corning Clinical Labs., Inc.*, 325312, 1997 WL 155381, at *2 (Conn. Super. Ct. Mar. 25, 1997) (HIV test incorrectly reported as positive by a clinical laboratory).
67. *See, e.g.*, *Johnson v. Superior Court*, 101 Cal. App. 4th 869, 879, 124 Cal. Rptr. 2d 650, 658 (2002) (lab's services were "inextricably identified with the health of humans.>").
68. *See, e.g.*, *Baskette v. Atlanta Ctr. for Reproductive Med., LLC*, 2007, 285 Ga.App. 876, 648 S.E.2d 100 (tests performed under supervision of physicians, exercise of medical knowledge and judgment); *Annunziata v. Quest Diagnostics, Inc.*, 127 A.D.3d 630, 631, 8 N.Y.S.3d 168, 169 (N.Y. App. Div. 2015) (lab's services provided at the direction of a physician).
69. *Richmond v. Nat'l Health Labs*, 235 Va. 353 (1988).
70. *Id.* The text of the Commonwealth's statute indicated that covered institutions had to be licensed by the Commonwealth. The lab, however, was inspected by the Commonwealth and licensed by the federal government. *Id.*
71. *Nevitt v. Va. Heart Surgery Assocs., P.C.*, 38 Va. Cir. 505 (1992).
72. *Sander v. Geib, Elston, Frost Prof'l Ass'n*, 506 N.W.2d 107, 124 (S.D. 1993).
73. *Dupuis v. Cancer Screening Servs.*, 1997 U.S. Dist. LEXIS 2456 *12 (D.Me. Feb. 13, 1997).
74. *Ho-Rath v. R.I. Hosp.*, 89 A.3d 806 (R.I. 2014).