

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS  
(WORCESTER DIVISION)

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G, a 12-year-old minor suing by a fictitious name	)	)
for privacy reasons, MOTHER, and FATHER,	)	)
suing under fictitious names to protect the	)	)
identity and privacy of G, their minor child,	)	)
	)	)
Plaintiffs,	)	)
	)	Case No. 15-cv-40116-TSH
v.	)	)
	)	)
THE FAY SCHOOL (by and through its	)	<b>HEARING REQUESTED</b>
Board of Trustees) and ROBERT GUSTAVSON, <sup>1</sup>	)	)
	)	)
Defendants.	)	)
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**DEFENDANTS’ MEMORANDUM OF LAW IN SUPPORT OF THEIR  
MOTION IN LIMINE TO EXCLUDE PLAINTIFFS’ EXPERT WITNESSES**

Pursuant to Federal Rules of Evidence 403 and 702, Defendants The Fay School (the “School”) and Robert J. Gustavson, Jr. (“Gustavson,” and collectively with the School, “Defendants” or the “School”) move this Court for an order excluding the reports, opinions, and testimony of five purported expert witnesses disclosed by Plaintiffs pursuant to Fed. R. Civ. Proc. 26(a)(2): David Carpenter, M.D. (“Dr. Carpenter”), Karl Maret, M.D., Ph.D. (“Dr. Maret”), Jeanne Hubbuch, M.D. (“Dr. Hubbuch”), Martha Herbert, M.D. (“Dr. Herbert”), and Robert Bowdoin (“Mr. Bowdoin”). Plaintiffs’ experts’ opinions fail to meet the standards for admissibility, are unreliable, would not assist the trier of fact in understanding any issue in dispute in this case, and must be excluded.

<sup>1</sup> The proper names of Defendants are The Fay School, Inc. and Robert J. Gustavson, Jr.

**I. BACKGROUND**

The central issues in this case concern: (a) Plaintiffs' contention that G suffers from "Electromagnetic Hypersensitivity Syndrome ("EHS"), a disorder that allegedly causes him to experience physical symptoms (such as headaches, dizziness, and fatigue) when he is exposed to low-level electromagnetic fields ("EMF") from the School's wireless network; and (b) Plaintiffs' argument that Defendants have violated Title III of the Americans with Disability Act ("ADA") by failing to provide G with an accommodation that would allow him to be at School without exhibiting symptoms.<sup>2</sup> Plaintiffs, and their experts, assert that the *cause* of G's physical symptoms is the School's wireless internet network. In its simplest form, Plaintiffs allege that G is allergic to the School's Wi-Fi. Plaintiffs' theory, however, is not grounded on reliable scientific principles.

To support their claims, Plaintiffs have identified five purported experts – Dr. Carpenter, Dr. Maret, Dr. Hubbuch, Dr. Herbert, and Mr. Bowdoin. Instead of offering accepted scientific principles or opinions, however, these experts will attempt to offer fringe views that are directly at odds with accepted scientific consensus, are based on inaccurate and unreliable facts and data, unreliable methodologies, or are well outside of the experts' field of expertise. Even more alarming, none of Plaintiffs' experts will offer reliable proof that G's exposure to low-level EMF from the School's wireless internet network has caused G to suffer from any physical symptoms, or that the School failed to provide a reasonable accommodation to G. Absent this essential evidence, Plaintiffs' request that the School further modify or disable its wireless internet

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<sup>2</sup> While Plaintiffs have alleged five claims – Violation of the ADA (Count I), Retaliation in Violation of the ADA (Count II), Breach of Contract (Count III), Misrepresentation (Count IV), and Negligence (Count V) – all of the claims are premised on virtually the same allegations that G allegedly has EHS due to the School's wireless system and the School failed to provide G with an accommodation that would allow him to remain at the School without experiencing symptoms. Thus, the central issues in this case are the same for all of Plaintiffs' claims.

system, as an accommodation to G, is patently unreasonable. As a result, Defendants seek to exclude the testimony of Plaintiffs' experts.

**A. RELEVANT FACTS**

The School is a non-profit, independent day and boarding school for children from pre-kindergarten through the ninth grade. See Second Amended Complaint, filed February 11, 2016 (attached hereto as Exhibit 1), at ¶ 22. Plaintiff G attended the day program at the School starting in September of 2009. See id. at ¶ 28.

In the fall of 2013 (while G was enrolled in the fifth grade at the School), Plaintiffs allege that G began to suffer from an array of physical symptoms (including headaches, nose bleeds, dizziness, chest pains, and nausea). See id. at ¶ 33. Mother claims that she concluded G has EHS and that the School's "Wi-Fi systems were the probable cause of G's symptoms." See id. at ¶ 36. Plaintiffs further allege that they informed the School about G's condition and asked for an accommodation that would reduce G's exposure to the Wi-Fi emissions. See id. at ¶ 5. In response, the School requested additional medical documentation concerning G's alleged condition and need for an accommodation, which Plaintiffs never provided. See Answer to Second Amended Complaint (attached hereto as Exhibit 2) at ¶ 5, Fifth Affirmative Defense.

Nonetheless, in the fall of 2015, the School undertook a series of efforts to reduce G's exposure to Wi-Fi emissions. See id. at ¶ 6, Seventh Affirmative Defense. These measures consisted of a number of adjustments to each of G's nine classrooms, including adding equipment in those classrooms to allow G to access the Internet via an Ethernet cord (instead of the School's wireless network), moving students around in those classrooms, and, in some cases moving entire classrooms of students – all in an effort to reduce G's exposure to Wi-Fi emissions. See id. While these adjustments reduced G's exposure to Wi-Fi emissions at the

School, Plaintiffs' claimed that G's symptoms (which by 2015, consisted mainly of headaches) continued and demanded that the School continue to make additional changes until G's headaches stopped. As additional steps, Plaintiffs demanded that the School remove the Wi-Fi from all of G's classrooms and instead provide wired connections to all students in those classrooms. As these requests would have greatly affected many of the teachers and other students at the School and would have fundamentally altered the nature of the School's educational services, activities, environment, and facilities, the School declined Plaintiffs' unreasonable requests. See id. at ¶ 6, Eighth Affirmative Defense. As a result, Plaintiffs withdrew G from the School and enrolled him at the Waldorf School of Lexington ("Waldorf"), which unlike the School (that has a computer and technology based curriculum), does not use any computers in its classrooms and utilizes a computer-free curriculum.<sup>3</sup>

Through the instant litigation, Plaintiffs seek an order that the School provide G with a Wi-Fi-free learning environment (by removing the Wi-Fi from G's classrooms and providing wired internet connections instead). In order to obtain such an order, however, Plaintiffs must prove that G has EHS that is caused by the School's wireless network and that the requested accommodation is reasonable. In an effort to meet these burdens, Plaintiffs have offered the opinions of their five purported experts. The opinions of these experts, however, fall well short of the admissibility standards promulgated by the federal rules of evidence and Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993).

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<sup>3</sup> Although technology is not used in its classrooms, Waldorf has a wireless network in its school that is used mainly by administrators.

## II. ARGUMENT

### A. STANDARD FOR ADMISSIBILITY

The admission of expert testimony is governed under Rule 702 of the Federal Rules of Evidence, which provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) The expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) The testimony is based on sufficient facts or data;
- (c) The testimony is the product of reliable principles and methods; and
- (d) The expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702; see also Samaan v. St. Joseph Hosp., 670 F. 3d 21, 31 (1st Cir. 2012); Bacchi v. Mass. Mut. Life. Ins., No. 12-CV-11280-DJC, 2016 WL 1170958, at \*2 (D. Mass., Mar. 23, 2016).

The trial court, as the gatekeeper, must determine that the testimony is “sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute.” Daubert, 509 U.S. at 591 (1993) (quoting United States v. Downing, 753 F.2d 1224, 1242 (3d Cir. 1985)). The trial court must also “make certain that an expert . . . employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999). Plaintiffs bear the burden of demonstrating that each of their proffered experts is qualified to render an expert opinion, that the opinion is reliable, and that the opinion would assist the trier of fact in resolving a disputed issue of material fact. See McGovern ex rel. McGovern, v. Brigham & Women's Hosp., 584 F. Supp. 2d

418, 422 (D. Mass. 2008) (stating proponent of expert testimony has initial burden of production and ultimate burden of persuading court that expert testimony satisfies Rule 702).

**B. THE EXPERT REPORT AND TESTIMONY OF DR. CARPENTER SHOULD BE EXCLUDED**

Dr. Carpenter's expert report and opinions should be excluded. (A copy of Dr. Carpenter's report is attached hereto as Exhibit 3. Defendants additionally attach the expert reports of Kenneth R. Foster, Ph.D, P.E. ("Dr. Foster") (attached as Exhibit 4) and Stacy Eltiti, Ph.D. ("Dr. Eltiti") (attached as Exhibit 5), which detail the many deficiencies in Dr. Carpenter's report and opinions). First, Dr. Carpenter's opinions on the alleged dangers of low-level electromagnetic fields ("EMF") are unreliable, nothing more than inadmissible advocacy, and have repeatedly been rejected by other tribunals. Second, Dr. Carpenter's opinions are not based on reliable methods of assessing scientific evidence and are outside the consensus of the relevant scientific community. Dr. Carpenter fails to rely on any reliable study that demonstrates a causal connection between low-level exposure to Wi-Fi, such as that found in the School, and physical effects in individuals, but instead cherry-picks less rigorous and unreliable studies. Third, Dr. Carpenter's opinion that there is effectively no safe level of exposure to EMF cannot be verified or validated, and therefore is an unreliable basis for him to provide an expert opinion. Any of these reasons is sufficient for a determination that Dr. Carpenter's expert report and testimony should be excluded.

In his report, Dr. Carpenter provides the following opinions:

- Exposure to EMFs, such as those associated with Wi-Fi, do in some people cause a constellation of symptoms known as EHS;
- Despite never having met or examined G, "the reports of the symptoms that [G] experiences when exposed to Wi-Fi at The Fay School are consistent with the conclusion that 'G' suffers from EHS that is triggered by the Wi-Fi exposure at The Fay School;" and

- “[G]iven the known biological effects of EMF at the intensity levels involved, it is biologically plausible that the symptoms described can be caused by such EMF.”

See Exhibit 3. While some of the opinions in Dr. Carpenter’s Report seem to be alluding to specific causation (as to G’s symptoms), Plaintiffs’ counsel stipulated (several times), that Dr. Carpenter is not providing an opinion as to whether or not G individually suffers from EHS, nor is he providing an opinion as to the specific cause of G’s physical symptoms. (See Dr. Carpenter’s deposition transcript (relevant portions of which are attached hereto as Exhibit 6) at 68 (“I’ll stipulate, we’re not going to have him give an opinion on whether G... has EHS.”); id. at 136 (“I’ve told you, he’s not going to testify about G... having EHS.”)). Instead, Plaintiffs’ counsel stipulated that Dr. Carpenter is only going to testify “that EHS is a recognized syndrome in certain individuals when they are exposed to Wi-Fi radiation and other types of radiation” and that “it is medically plausible that, as a general proposition, EHS in some people can be caused by exposure to EMF.” See id. at 68. Thus, Dr. Carpenter’s “expertise” in this matter is limited exclusively to the issue of *general* causation -- that it is possible for some theoretical individual to suffer from some theoretical physical effects as a result of some theoretical exposure to EMF.

To support his opinions, Dr. Carpenter provided a cherry-picked review of certain studies and literature that he claims support his position that Wi-Fi can cause EHS. See Exhibits 3-5. In doing so, however, Dr. Carpenter reached opinions that lack any indicia of reliability and fall well short of the standard for admissibility of expert testimony, and should be excluded.

**1. Dr. Carpenter’s Opinions on the Alleged Dangers of Low-Level EMFs Are Unreliable, Nothing More than Inadmissible Advocacy, And Have Repeatedly Been Rejected By Other Tribunals**

Despite lacking the qualifications to diagnose anyone with EHS and his lack of personal research on EMFs,<sup>4</sup> Dr. Carpenter has become a staunch advocate for those claiming to have

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<sup>4</sup> According to his deposition testimony, Dr. Carpenter: (a) has never been licensed to practice medicine in any

EHS and those who believe EMF (well below international safety standards) can cause physical symptoms. In doing so, however, Dr. Carpenter has shed all vestiges of objectivity in favor of advancing his agenda. As a result, Dr. Carpenter's testimony on the alleged dangers of EMFs have repeatedly been rejected or given very little weight by tribunals in a number of legal and administrative venues, including the following<sup>5</sup>:

- The Supreme Court of Washington, which affirmed the exclusion of Dr. Carpenter as an expert, where (just as he did in the instant matter), Dr. Carpenter based his opinions on the alleged danger of EMF on his review of some studies, while ignoring numerous other studies showing no EMF-disease link. In upholding the exclusion of Dr. Carpenter's testimony, the Court stated as follows:

Carpenter failed to follow proper methodology, rendering his conclusions unreliable and therefore inadmissible. Carpenter did not consider all relevant data as basic epidemiology required. Carpenter discounted entire epidemiological and toxicological studies, especially the newer epidemiological studies. Carpenter failed to consider the later, better studies about the links between EMF and health harms, seriously tainting his conclusions because epidemiology is an iterative science relying on later studies to refine earlier studies in order to reach better and more accurate conclusions. Carpenter refused to account for the data from the toxicological studies, which epidemiological methodology requires unless the evidence for the link between exposure and disease is unequivocal and strong, which is not the case here. Carpenter also selectively sampled data within one of the studies he used, taking data indicating an EMF-illness link and ignoring the larger pool of data within the study that showed no such link. Carpenter's treatment of this data created an improper false impression about what the study actually showed.

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jurisdiction; (b) never completed a medical residency or intern program; (c) is not licensed to diagnose or treat patients; (d) cannot prescribe medicines, diagnostic tests, or other treatments to patients; (e) is not board certified in any medical field; and (f) is not an engineer nor does he have any engineering background. See Exhibit 6 at 12-14. In his professional career, Dr. Carpenter has primarily held only administrative and laboratory positions, and his own "personal research has not been directed at study of electromagnetic fields." See Exhibit 3 at 7; Exhibit 6 at 14-17.

<sup>5</sup> Dr. Carpenter has also been excluded as an expert in cases that did not involve EMF. See Allgood v. Gen. Motors Corp., No. 12-CV-10077, 2006 WL 2669337, at \*27 (S.D. Ind. Sept. 18, 2006) ("Dr. Carpenter's opinions are not sufficiently reliable and therefore are inadmissible in this case."); Clopton v. Monsanto Co., No. 03-CV-3369, 2007 WL 7604386, at \*1 (N.D. Ala. Mar. 8, 2007) (granting motion to exclude Dr. Carpenter's testimony relating to medical monitoring).



See Lakey v. Puget Sound Energy, Inc., 176 Wash.2d 909, 920-21 (2013) (attached hereto at Exhibit 7).

- Kentucky’s Public Service Commission, which in rejecting Dr. Carpenter’s opinion concerning the alleged dangers of low-level EMFs, stated as follows:

Complainants’ expert witness, Dr. Carpenter, testified to his belief that EMF levels far below those at Complainants’ property are more than likely carcinogenic and otherwise harmful. However, Dr. Carpenter’s testimony has been roundly criticized and rejected by many other tribunals in which he has appeared as a witness. Dr. Carpenter has never personal[ly]conducted any studies regarding EMF exposure. Tribunals including the Pennsylvania and Minnesota Commissions, Washington Supreme Court and U.S. District Court for the Southern District of Indiana have found that his testimony is more akin to advocacy.

See Barker v. East Kentucky Power Cooperative, Inc., Case No. 2013-00291, at \*13-14 (Kt. Public Service Commission Jul. 6, 2015) (Relevant portions of decision are attached at Exhibit 8).

- The Pennsylvania Public Utility Commission, which stated, “Dr. Carpenter’s opinions were flawed and were not based on a reliable and objective review of the scientific research.” See *Application of PPL Electric Utilities Corp. Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Penn. Portion of The Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Counties, Pennsylvania*, Case No. A-2009-2082652, at \*210, n.57 (Pa. P.U.C., Feb. 12, 2010) (Relevant portions of decision are attached at Exhibit 9).
- Minnesota Public Utilities Commission, which found that the studies relied upon by Dr. Carpenter did not establish a causal relationship between EMF and any disease. See *In the Matter of Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Case No. ET-2/TL-08-1474, at \*42 (Sept 14, 2010) (Relevant portions of decision are attached at Exhibit 10).
- The British Columbia Utilities Commission, which found that Dr. Carpenter “summarizes the references he cites in a manner consistent with his own beliefs, rather than accurately reporting their findings.... In his attempt to summarize the references, Dr. Carpenter adopted a less than objective and fully informed approach.” As a result, the panel gave “little weight” to Dr. Carpenter’s testimony. See *In the Matter of FortisBC Inc.*, Decision on Certificate of Public Convenience and Necessity for the Advanced Metering Infrastructure Project, at \*22 (British Columbia Utilities Commission, July 23, 2013) (Relevant portions of decision are attached at Exhibit 11).

- The State of Maine Public Utilities Commission, which was not persuaded by Dr. Carpenter's report as the Commission found there was not sufficient scientific evidence to show human health impacts from EMFs associated with smart meters, and therefore allowed the installation of smart meters. See *In Re Ed Friedman, et al., Request for Commission Investigation into Smart Meters and Smart Meter Opt-Out*, Docket No. 2011-00262, at \*64-67 (Me. Public Utilities Comm. Mar. 25, 2014) (Relevant portions of decision attached at Exhibit 12).

In fact, when asked at his deposition to identify any proceeding in which his testimony about EMFs has been accepted as persuasive, Dr. Carpenter could not list a single example. See Exhibit 6 at 192.

Similarly, in this case, Dr. Carpenter's opinions are a further attempt to advance his advocacy at the expense of providing an objective opinion. Instead, Dr. Carpenter promotes the highly-criticized *BioInitiative Report: A Rational for a Biologically-based Public Exposure Standards for Electromagnetic Fields* (the "BioInitiative Report"), which he co-edits. The BioInitiative Report pushes for a huge reduction in the international exposure standards for EMFs to a level that would effectively render Wi-Fi useless (10,000 to 100,000 times lower than the present internationally accepted standards). Just as Dr. Carpenter's opinions in other matters have been widely criticized, the *BioInitiative Report* has been continually criticized and dismissed as unreliable advocacy. Some of those criticisms include:

- New Zealand's Ministry of Health found that the BioInitiative Report ignored many studies that did not support the Report's arguments, and noted a "range of weaknesses which undermine its credibility." These weaknesses included:
  - The use of publications to support a particular point of view, rather than systematically reviewing publications, assessing them for strengths and weaknesses, and forming conclusions after review;
  - The selective use of data, with little or no mention of reports that do not support the conclusions; and
  - Providing no rationale for very low EMF exposure limits.

See Interagency Committee on the Health Effects of Non-ionising Fields: Report to Ministers 2015, ISBN: 978-0-478-44811-5, at \*45 (New Zealand Ministry of Health, April 2015) (Relevant portions of decision are attached at Exhibit 13).

- The Health Council of the Netherlands, which stated as follows:

This multidisciplinary weight-of-evidence method leads to a scientifically sound judgment that is as objective as possible. The BioInitiative report did not follow this procedure.

...

In view of the way the BioInitiative report was compiled, the selective use of scientific data and the other shortcomings mentioned above, the Committee concludes that the BioInitiative report is not an objective and balanced reflection of the current state of scientific knowledge. Therefore, the report does not provide any grounds for revising the current views as to the risks of exposure to electromagnetic fields.

See The Health Council of the Netherland's Report to the Minister of Housing, Spatial Planning and the Environment, at \*2, 4 (Sept. 2, 2008) (Relevant portions of decision are attached at Exhibit 14).

- The Institute of Electrical and Electronics Engineers (“IEEE”), which concluded that the weight of scientific evidence in the EMF bioeffects does not support the safety limits recommended by the BioInitiative group. See Committee on Man and Radiation (COMAR) Technical Information Statement: Expert Reviews on Potential Health Effects of Radiofrequency Electromagnetic Fields and Comments on the BioInitiative report, at \*353 (May 11, 2009) (attached at Exhibit 15).

As detailed below, Dr. Carpenter’s reliability in this case suffers from the same failure to consider objective evidence. Given that his testimony is not objective and nothing more than advocacy, Dr. Carpenter’s testimony should be excluded. See Kirk v. Raymark Indus., 61 F.3d 147, 164 (3d Cir. 1995) (stating “despite the fact that one party retained and paid for the services of an expert witness, expert witnesses are supposed to testify impartially in the sphere of their expertise.”); Bowers v. Norfolk S. Corp., 537 F. Supp. 2d 1343, 1357 (M.D. Ga. 2007), aff’d, 300 F. App’x 700 (11th Cir. 2008) (finding expert’s testimony inadmissible because “conduct [was] consistent with that of a hired gun expert” in that he “failed to exercise the same care as he would in his work outside his paid litigation consulting.”); In re Trasylol Prod. Liab. Litig., 709

F. Supp. 2d 1323, 1351 (S.D. Fla. 2010) (excluding expert because expert “is an advocate, presented with the trappings of an expert but with no expectation or intention of abiding by the opinion constraints of Rule 702.”); City of Springfield v. Rexnord Corp., 111 F. Supp. 2d 71, 74 n. 2 (D. Mass. 2000) (noting “experts are not advocates in the litigation but sources of information and opinions.”); Selvidge v. United States, 160 F.R.D. 153, 156 (D. Kan. 1995) (“An expert witness should never become one party’s expert advocate.”); Tokio Marine & Fire Ins. Co. v. Grove Mfg. Co., 762 F. Supp. 1016, 1018 (D.P.R. 1991) (stating “[a]n expert witness should never become solely one party’s expert advocate nor a ‘gun for hire.’”)

**2. Dr. Carpenter’s Expert Opinions Should be Excluded as Unreliable Because They Are Not Based on Reliable Methods of Assessing Scientific Evidence and Are Outside The Consensus of the Relevant Scientific Community**

Dr. Carpenter’s opinion that exposure to low-level EMF, such as that from Wi-Fi, can cause physical effects in children is not based on reliable methods of assessing scientific evidence and has been rejected by the relevant scientific community.

The Federal Communications Commission (“FCC”), along with other standard-making bodies (including the Institute of Electrical and Electronics Engineers (“IEEE”) and the International Commission of Non-Ionizing Radiation Protection (“ICNIRP”)), have established limits to regulate safe levels of human exposure to EMF. See Exhibit 4 at 17-24. These limits were established based on the consensus within the scientific community and are consistent with over thirty (30) expert reviews that have found that no health risks have been demonstrated from exposure to EMF levels at or below the FCC, IEEE, and ICNIRP safety limits (hereinafter the “Safety Limits”). See id. In rendering his opinion, Dr. Carpenter completely ignores these findings and places no weight on the School’s compliance with the Safety Limits. When Dr. Carpenter was asked about a series of studies conducted by national and international health and

regulatory organizations that find no connection between low-level exposure to EMF and adverse health effects, *he rejected each and every one*. See Exhibit 6 at 77-79 (Environmental Protection Agency); id. at 81-82 (Health Canada); id. at 83-85 (National Cancer Institute); id. at 85-87 (American Cancer Society); id. at 87-88 (FCC); id. at 88-89 (U.S. Food and Drug Administration); id. at 90-95, 98-99 (World Health Organization (“WHO”)); id. at 99-101 (ICNIRP); id. at 101-104 (IEEE); id. at 105 (Health Council of the Netherlands); id. at 111-113 (Ministry of Health of New Zealand). Dr. Carpenter fails to offer any analysis as to why these studies should be ignored in favor of his own research. He does not challenge their reliability, methodology, or the basis for their conclusions. Instead, he merely rejects them out-of-hand. His failure to consider the weight of the evidence that disagrees with his opinions is a hallmark of unreliability.

The few studies Dr. Carpenter cherry-picks to support his advocacy efforts are themselves of dubious reliability, and contrary to the overwhelming body of studies that disagree with him. See Exhibit 4 at 8-17. His failure to incorporate the many studies rejecting any objective connection between low-level EMF and EHS or the numerous reviews of scientific literature done by health agencies, all of which have found no health effects from EMF exposure below the Safety Limits, is the same unreliable methodology that Dr. Carpenter has employed in other cases in which he tried to testify *and was excluded*. See Lakey, 176 Wash.2d at 920-21 (excluding Dr. Carpenter’s causation opinion because Dr. Carpenter ignored entire epidemiological and toxicological studies that did not support his conclusions including studies that were more recent than those on which he relied).<sup>6</sup> This unreliable methodology is also the same reason that at least one other court excluded experts who attempted to testify as to exact

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<sup>6</sup> This is the same reason the BioInitiative Report is widely criticized. See Exhibit 13. Despite these past criticisms, Dr. Carpenter made no effort here to employ a more reliable methodology in reaching his opinions.

issues as Dr. Carpenter seeks to testify about in this case. See Firstenberg v. Monribot, 350 P.3d 1205, 1214-15 (Ct. of Appeals of N.M. 2015) (upholding decision to exclude experts where comprehensive review of studies failed to provide clear support for a causal relationship between EMF and EHS) (Copies of this cited N.M. Court of Appeals decision, along with the original Order on Motion to Exclude Expert Testimony, are attached hereto as Exhibit 16).

Dr. Carpenter concedes that his beliefs are not “consistent with the majority of the scientific community” and stated: “I think the majority of the scientific community is uninformed on this issue. I think my beliefs are consistent with those individuals that are informed and that are health professionals.” Exhibit 6 at 76. Dr. Carpenter testified:

Q: We just talked a few moments ago about the fact that you disagree with the statement that low level exposure to RF from WiFi equipment is not dangerous to the public, correct?

A: Correct.

Q: You do disagree with that statement, right?

A: I disagree with that statement.

Q: You do think there are some dangers?

A: I do think there are some dangers.

Q: And so your opinion with respect to those dangers differs from that of Health Canada?

A: Yes.

Q: And is it fair to say that your opinion with respect to the dangers of WiFi also differs with respect to international bodies and regulators?

A: Yes, including the FCC.

Exhibit 6 at 82-83. Dr. Carpenter further concedes that his opinions are out of step with the mainstream scientific community:

Q: In your opinion, is there any increase risk of cancer with respect to wireless networks at schools?

A: Yes.

Q: And is your belief consistent with the mainstream scientific community's belief?

A: I don't think that the mainstream scientific community goes so far as to be excessively concerned about WiFi . . . the studies have not been done with WiFi, nor would it be very easy to document individual's 10 year exposure to elevated WiFi.

Exhibit 6 at 75-76.

Moreover, in addition to his unreliable methodology, a comprehensive review of rigorous, peer-reviewed studies demonstrate that exposure to low-level radiation, such as that associated with the Wi-Fi at the School, does not, in fact, cause physical effects in individuals. See Exhibit 4 at 11-17; Exhibit 5 at 13-18, 21-25. Every replicable study of the biological effects of EMF exposure finds *no link* between exposure to EMFs and physical symptoms. See Exhibit 5 at 6-14. Thus, Dr. Carpenter's expert opinions are an outlier of fringe science, nothing more than his own personal beliefs, are unsupported by rigorous and peer reviewed studies, and should be excluded. See E.E.O.C. v. Bloomberg L.P., No. 07-CV-8383-LAP, 2010 WL 3466370 at \*12 (S.D.N.Y. Aug. 31, 2010) (excluding testimony that is "unsupported by any professional literature or other source that would suggest expert's methodology is recognized" by other experts in the field); see also Kropp v. Maine Sch. Admin. Union No. 44, 471 F.Supp.2d. 175, 180-81 (D. Me. 2007) (holding "phenol sensitivity" is subspecies of multiple chemical sensitivity diagnosis and is too speculative to meet the requirement of scientific knowledge); Coffin v. Orkin Exterminating Co., Inc., 20 F. Supp. 2d 107,111 (D. Me. 1998) (finding testimony of medical doctor who treated patient claiming to suffer from multiple chemical sensitivity was inadmissible because "individually and as a whole, [the literature submitted by the purported expert] do not support [her] argument that MCS's etiology has progressed from the plausible to scientific knowledge capable of assisting a fact-finder").

**3. Dr. Carpenter’s Expert Opinion Should be Excluded as Unreliable Because His “No-Safe Threshold” Argument Cannot be Validated**

Dr. Carpenter additionally argues that since higher levels of exposure to EMF (e.g. from cell phones) can cause physical effects, then lower levels of EMF (e.g., from wireless internet networks) can also cause physical effects. See Exhibit 3 at 2-4; see also Exhibit 6 at 143. Based on this (unsupported) belief, Dr. Carpenter concludes that the only safe exposure level is a limit so low that it would effectively render wireless networks unusable, and is at least 10,000 times below the Safety Limits. See Exhibit 6 at 115-116, 143-144; see also Exhibit 4 at 17-24. In other words, allowing Dr. Carpenter’s expert opinion is tantamount to accepting the notion that there is *no* “safe” threshold of exposure to EMF by using what amounts to a “linear non-threshold model.”<sup>7</sup> Such methodology is unreliable, and Dr. Carpenter’s opinion should be excluded. See Whiting v. Boston Edison Co., 891 F. Supp. 12, 25 (D. Mass. 1995) (the “linear non-threshold model cannot be falsified, nor can it be validated. To the extent that it has been subject to peer review and publication, it has been rejected by the overwhelming majority of the scientific community. It has no known or potential rate of error. It is merely a hypothesis.”); Sutera v. Perrier Group of America, Inc., 986 F. Supp. 655, 666 (D. Mass. 1997) (“[A]lthough there is evidence that one camp of scientists . . . believes that a non-linear model is an appropriate basis for predicting the risks of low-level exposures to benzene, there is no scientific evidence that the linear no-safe threshold analysis is an acceptable scientific technique used by experts in determining causation . . .”).

Dr. Carpenter clearly argues in favor of a linear non-threshold model to reach the conclusion that the only safe exposure level is 10,000 times below the safe exposure level determined by the FCC. Specifically, Dr. Carpenter testifies that “Wi-Fi radiation is very, very

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<sup>7</sup> A “linear non-threshold model” is a model used to quantify radiation exposure and set regulatory limits. It assumes that biological damage caused by radiation is directly proportional to the dose.



similar, differs somewhat in frequency, to that from cell phones, and it is very clear to people that understand the difference that, yes, there's going to be increased risk of cancer from Wi-Fi . . . ." See Exhibit 6 at 75. Dr. Carpenter concedes that studies have not been conducted that assess the potential dangers of Wi-Fi: "[t]he brain cancer studies really only show elevations in brain cancer in adults if they've been using cell phones intensively for 10 years or more. So, the studies have not been done with WiFi, nor would it be very easy to document individual's 10 year exposure to elevated WiFi." See id. at 75-76. Dr. Carpenter was then asked:

Q: So what do you base your statement on that there's this increase risk of cancer associated with WiFi?

A: The fact that the radio frequency radiation is identical to that – or nearly identical to that from cell phones.

Q: So you're basing it on the cell phone studies?

A: That's correct.

See id. at 76. Dr. Carpenter uses the information learned from cell phone studies and extrapolates from them dangers associated with Wi-Fi exposure, while conceding that there have been no Wi-Fi studies that could either confirm or deny his otherwise unsupported hypothesis. Instead, Dr. Carpenter jumps to the conclusion that there is no safe exposure level to Wi-Fi:

Q: And do you have a particular intensity level that you designate as safe versus non-safe?

A: Well, I would only have to go back to that precautionary level from the BioInitiative Report. I think the short answer to your question, though, is no . . . ."

See Exhibit 6 at 143; see also id. at 49 (stating precautionary level is "below which there should be no measurable adverse health effects").

Q: So with respect to your opinion that exposure to EMFs can cause EHS, can you tell me what level of exposure to EMF has been shown to cause EHS?

A: Well, I can't give you a microwatt per centimeter squared number.

See id. at 127.

Q: Can you give me a general range as to what the studies have found?

A: No, I can't even do that.

See id. at 129.

Thus, Dr. Carpenter's opinion is merely his own personal hypothesis, unsupported by any peer reviewed literature and contrary to the overwhelming consensus of the relevant scientific community. His opinions lack any credibility, let alone reliability, and must be excluded.

**C. THE EXPERT REPORT AND TESTIMONY OF DR. MARET SHOULD BE EXCLUDED**

Dr. Maret is being offered to provide an opinion concerning the use of a personal dosimeter that measures EMF levels and to provide an opinion as to EMF readings supposedly taken at the School using a dosimeter that G carried in his jacket pocket. (A copy of Dr. Maret's report is attached hereto as Exhibit 17). Plaintiffs' counsel has stipulated (repeatedly) that Dr. Maret was not being offered to provide any testimony regarding EHS or causation in this matter. See Dr. Maret's deposition transcript (relevant portions of which are attached hereto as Exhibit 18) at 97-98 ("[W]e are not offering Dr. Maret to give any opinion with respect to EHS;" id. at 99 ("He is not going to be testifying about whether or not G... has EHS;" id. at 155 ("He's not giving any testimony ... of causation because he hasn't done a physical exam, he's not a doctor."); id. at 273 (Dr. Maret clarifies that he is not opining on causation in this matter because "that's not my expertise in this case.")). Therefore, Dr. Maret is being offered solely to (a) describe how the dosimeter operates and (b) to state the level of the EMF readings.

Dr. Maret's report and opinions fail to meet the standard for admissibility and should be excluded. See Exhibit 4 at 38-46. First, Dr. Maret does not provide any expert, technical, or scientific opinions that would help the jury to understand any of the issues in dispute in this case. Defendants do not dispute that a dosimeter can measure EMF, nor do they dispute that G was

exposed to EMF while at the School. Dr. Maret does not offer any additional information or analysis other than that which is not in dispute. Second, Dr. Maret's report and opinions are based on insufficient facts and data. Dr. Maret did not take or supervise the taking of any EMF readings at the School. See Exhibit 18 at 267-73. As a result, Dr. Maret is unable to verify that the readings were actually taken at the School, or to explain any significance of the readings. See id. Fatally, Dr. Maret bases his opinions solely on information that was received and interpreted by Mother, a party to this litigation. See id. at 275. Dr. Maret's opinions fall well-short of accepted standards of reliability and must be excluded.

**1. The Expert Opinions Proffered by Dr. Maret Are Not Helpful To Resolve Any Issue in Dispute in This Matter**

Expert testimony that is not helpful in resolving a factual dispute should be excluded from evidence. See Cipollone v. Yale Indus. Prods., Inc., 202 F.3d 376, 380 (1st Cir. 2000) (“The ultimate purpose of the *Daubert* inquiry is to determine whether the testimony of the expert would be helpful to the jury in resolving a fact in issue.”); see also Downing, 753 F.2d at 1242. “The function of an expert witness is not simply to draw conclusions, but rather to help the trier of fact understand the evidence and to determine issues of fact by imparting to the trier of fact the benefit of the expert's specialized knowledge.” Konikov v. Orange Cnty. FL, 290 F. Supp. 2d 1315, 1317 (M.D. Fla. 2003).

Here, Dr. Maret is being offered to explain how a dosimeter (in general) operates and to state the EMF levels recorded by the dosimeter allegedly used by G in this case. See Exhibit 17. These issues, however, are not in dispute and have no bearing on this case. Further, Dr. Maret and Plaintiffs' counsel have stipulated that Dr. Maret is not being offered to testify as to the main issues in dispute – whether EHS can be caused by Wi-Fi or whether the levels of EMF at the School have caused G's symptoms. See Exhibit 18 at 98, 99, 155.

Thus, Dr. Maret's testimony will not be helpful in resolving a factual dispute and therefore should be excluded. See United States v. Arce-Lopez, 979 F. Supp. 2d 228, 230-31 (D.P.R. 2013) (excluding expert testimony that would not be helpful to jury) (citing United States v. Salimonu, 182 F.3d 63, 74 (1st Cir. 1999) (affirming district court's exclusion of expert linguist testimony on ground that it would not "assist the trier of fact"))).

**2. The Expert Opinions Proffered by Dr. Maret Should be Excluded Because They are Based on Insufficient Facts and Data**

In order to be admissible, Dr. Maret's opinion must be based on relevant facts or data. See Fed. R. Evid. 702(b). Here, however, Dr. Maret's opinions are based solely on information that was provided to him by Plaintiffs -- a hallmark of unreliability.

Specifically, while Dr. Maret is being offered to explain how a dosimeter operates, he did not operate the dosimeter that is relevant to this case, or provide any instruction on its use. See Exhibit 18 at 40-41, 77, 81, 90, 156-57. Instead, Mother and/or G operated the dosimeter, without any supervision or direction from Dr. Maret. See id. The dosimeter was supposedly carried by G in his jacket pocket at School (without the School's permission) on selective days. See Exhibit 18 at 72, 76, 81, 90. Mother then downloaded that data from the dosimeter and later sent it to Dr. Maret, who put that information into graphs -- a purely clerical and non-expert task. See Exhibit 18 at 115-121. Although Dr. Maret seeks to testify as to the use of the dosimeter, Dr. Maret testified that he has no actual knowledge (other than what Mother told him) of how the dosimeter (supposedly carried by G) was actually used, how it was calibrated, where and when it was worn by G, how it was operated by G, or where the data was collected (at the School or someplace else). See Exhibit 18 at 267-73.

In addition, while he plans to state the level of the EMF shown by the dosimeter, he has never taken any measurements at the School, has no idea how the School is laid out, has little or

incomplete information regarding the location of the wireless network access points at the School, and did not instruct nor direct G in how to take readings with the dosimeter. See Exhibit 18 at 57, 267-68. At his deposition, Dr. Maret could not even confirm that the EMF readings taken by the dosimeter were taken at the School or came from a device carried by G at the School. See id. at 268, 271.

Furthermore, Dr. Maret's opinion relies on four graphs of the EMF readings, but his own expert report states that "arrows and other textual annotations [on the graphs] have been added by the person [Mother] who downloaded the data from the dosimeter." See Exhibit 17 at 2; see also Exhibit 18 at 115-121. While these textual annotations supposedly show where G was at certain times of the day and G's alleged symptoms at certain times of the day, Dr. Maret did not add that information to the graphs and did nothing to confirm their accuracy. See Exhibit 18 at 115-121. In other words, aside from reading numbers off of a graph, Dr. Maret is unable to provide any context or analysis for what those numbers mean, or how they should be interpreted.

In light of the Dr. Maret's own report and testimony in this case, it is clear that Dr. Maret's opinions consist of nothing more than a recapitulation of information that was collected by Plaintiffs, and provided by Plaintiffs (mainly by Mother) to Dr. Maret. Dr. Maret did not perform any tasks or offer any expertise in the collection or interpretation of the dosimeter data, and did not make any conclusions that would require expertise. As such, Dr. Maret's purported expert testimony is unnecessary and highly unreliable. See Polidore v. McBride, No. 07-CV-0433-ML, 2010 WL 3666971, at \*6-7 (D.R.I. Sept. 13, 2010) (stating where expert based his conclusions entirely on interpretations of facts and statements provided by plaintiffs and "did not take any measurements or photographs for his assignment[,] physically survey the scene . . . [or] interview any . . . witnesses . . .," expert's findings "lack the reliability required by *Daubert* and

would provide no assistance to a reasonable jury in assessing the presented evidence, as required by Rule 702.”); see also Bowers., 537 F. Supp. 2d at 135 (holding expert’s testimony inadmissible because “conduct [was] consistent with that of a hire gun expert” in that he “failed to exercise the same care as he would in his work outside his paid litigation consulting.”); In re Trasylol Prod. Liab. Litig., 709 F. Supp. 2d at 1351 (excluding expert for “assuming the role of Plaintiffs’ advocate.”).

**D. THE EXPERT REPORT AND OPINIONS OF DR. HUBBUCH AND DR. HERBERT SHOULD BE EXCLUDED**

Dr. Hubbuch and Dr. Herbert have been retained by Plaintiffs to provide an opinion that the EMF emitted from the School’s Wi-Fi network is the specific (and therefore only) cause of G’s physical symptoms. See Dr. Hubbuch’s report (attached at Exhibit 19) at 1 (“G is adversely affected by the prolonged exposure he has had to the Wi-Fi radio waves emitted from The Fay School Wi-Fi.”); Dr. Herbert’s report (attached at Exhibit 20) at 1 (“... the diagnosis of Electromagnetic Hypersensitivity Syndrome is appropriate for ‘G.’”). The reports and opinions offered by Dr. Hubbuch and Dr. Herbert, however, fall well short of the standards for admissibility of expert testimony and should be excluded. See the report of Defendants’ medical expert, Edward W. Boyer, M.D., Ph.D. (“Dr. Boyer”), attached hereto as Exhibit 21.

First, as a threshold matter and despite their training as medical doctors, Dr. Hubbuch and Dr. Herbert lack the requisite qualifications to make a causal connection between G’s purported physical symptoms and exposure to EMF. Second, Dr. Hubbuch’s and Dr. Herbert’s use of a “differential diagnosis” analysis to establish specific causation is highly unreliable in this case and has been rejected by courts assessing the use of a differential diagnosis to determine causation of a disease with an unknown etiology. Third, the actual methodology by which Dr. Hubbuch and Dr. Herbert arrived at their diagnosis of EHS was highly unreliable. Fourth, Dr.

Hubbuch and Dr. Herbert should additionally be excluded because they fail to base their opinions on sufficient and reliable facts and data, and are overshadowed by their inappropriate advocacy on behalf of Plaintiffs. And fifth, Dr. Herbert should additionally be excluded because her testimony is unnecessarily cumulative.

**1. Dr. Hubbuch and Dr. Herbert Are Not Qualified to Diagnose G with EHS**

Although both Dr. Hubbuch and Dr. Herbert have medical degrees, that alone does not qualify them to diagnose G with EHS. See Sutera, 986 F. Supp. at 667 (excluding testimony from an oncologist as to the causal connection between benzene and leukemia). In Sutera, the Court excluded the expert testimony of the plaintiff's medical expert on the grounds that he was unqualified to provide an opinion as to whether there was a causal link between plaintiff's exposure to low doses of benzene from drinking bottled water and his leukemia (which is cancer of the blood). See id. at 656-60, 667. Despite the fact that the plaintiff's expert was an oncologist (cancer doctor) and hematologist (specializing in blood disorders), and was qualified to testify as to medical issues in his field, he had "no expertise in epidemiology, toxicology, biostatistics or risk-assessment," all of which are critical to the determination of causation for leukemia (cancer of the blood). See id. at 667.

Similarly, Dr. Hubbuch and Dr. Herbert lack the specific expertise that would allow them to provide an epidemiological and toxicological opinion that exposure to the School's Wi-Fi was the cause of G's physical symptoms. Dr. Herbert is a pediatric neurologist and neuroscientist at the Massachusetts General Hospital, and assistant Professor in the Department of Neurology of Harvard Medical School. See Dr. Herbert's deposition transcript (relevant portions of which are attached hereto as Exhibit 22) at 8-9. While Defendants do not dispute that Dr. Herbert has extensive experience in the treatment and research of neurodevelopmental disorders, and that she

is part of research teams that study brain and systemic pathophysiology associated with neurodevelopmental disorders, the *entirety* of Dr. Herbert's academic interest in the effect of EMF on the brain is related to research concerning Autism Spectrum Disorders.<sup>8</sup> See Exhibit 20 at Part (4); Exhibit 22 at 9, 19, 23-24. Critically, Dr. Herbert has zero experience researching the physical effects of EMF, and has no background, training, experience, or qualification, in assessing and diagnosing physical symptoms (such as those experienced by G) as being caused by exposure to EMF, and admitted she is not an expert in EHS and that G was the first patient who she ever diagnosed with EHS. See Exhibit 22 at 78-79, 93-96, 99. Moreover, Dr. Herbert is not an epidemiologist, nor is she a toxicologist. See Exhibit 20 at part (4). Although her research focuses on correlations that she finds interesting, none of her research has involved EHS, nor has it established any causal connection between Wi-Fi emissions and headaches. See id.; see also Exhibit 22 at 69, 75-76. Simply put, Dr. Herbert is unqualified to provide an expert opinion as to causation. In a futile effort to bolster her credentials, Dr. Herbert cites her contributions to a chapter of the BioInitiative Report as evidence of her qualifications. However, among the many physiological reactions that she claims are caused by exposure to EMF, *none* of those reactions include the physical symptoms experienced by G. See Exhibit 21 at 17-18.

Dr. Hubbuch is similarly unqualified to provide an opinion as to the cause of G's physical symptoms. Plaintiffs assert that Dr. Hubbuch is qualified to provide her opinions because she is Board Certified in Environmental Medicine. See Dr. Hubbuch's deposition transcript (relevant portions of which are attached hereto as Exhibit 23) at 14. Dr. Hubbuch also claims to have taken courses taught by, and is a certified fellow of, the American Academy of Environmental Medicine (AAEM), and she purports to have attended a two to three day course in 2006 on the

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<sup>8</sup> Even in her research regarding whether there is a connection between EMF and autism, Dr. Herbert concluded that there was not "enough evidence one way or the other to make a clear statement about the relevance of EHS to autism. . . ." See Exhibit 22 at 72-73.



“effects of radio frequencies on cells, animals . . . .” See id. at 14-15. Despite these purported credentials, Dr. Hubbuch has very limited experience studying the effects of EMFs on children, and has a cursory (at best) understanding of the difference between EMFs and low level radio frequencies. See id. at 17-18. She has never done any research regarding EMFs and she has never written any papers on EMF exposure. See id. at 17. While Defendants do not challenge that Dr. Hubbuch and Dr. Herbert are competent medical professionals, there can be no doubt that they lack the requisite experience necessary to diagnosis G with EHS. See United States v. Brown, 415 F. 3d 1257, 1269 (11th Cir. 2005) (excluding unqualified expert because, despite chemistry experience, his “academic work and professional experience related more to plant pathology and botany than to chemistry.”); Wilson v. Woods, 163 F. 3d 935, 937 (5th Cir. 1999) (excluding expert due to lack of “training,” “experience,” and “qualifications,” despite teaching college level classes on causes and origins of fire, because he never taught accident reconstruction courses nor received a degree or certification in accident reconstruction); Desai v. Farmer, No. 12-CV-0495, 2014 WL 5473564, at \*4 (M.D. Fla. Oct. 28, 2014) (quoting Berry v. City of Detroit, 25 F. 3d 1342, 1351 (6th Cir. 1994), “[t]he issue with regard to expert testimony is not the qualifications of a witness in the abstract, but whether those qualifications provide a foundation for a witness to answer a specific question.”)).

## **2. The Methodology Used By Dr. Hubbuch and Dr. Herbert to Diagnose G is Unreliable in This Case**

Both Dr. Hubbuch and Dr. Herbert used a “differential diagnosis” analysis to determine that G had EHS. More specifically, both doctors concluded that because certain tests performed on G were negative (thereby ruling out certain diseases that could have caused G’s symptoms), G must have EHS. This use, however, of a “differential diagnosis” analysis to determine causation is highly unreliable in this case.

A differential diagnosis is essentially a process of elimination whereby a physician evaluates a set of symptoms that could be caused by any number of *known* afflictions. See Exhibit 21 at 16-20. By systematically ruling out potential diseases that share a common set of symptoms, it makes it more likely that the remaining diagnosis is the correct one. See id. at 16-17. However, where the patient is experiencing symptoms that could be from both *known* and *unknown* causes, a differential diagnosis has little value. See Polaino v. Bayer Corp., 122 F. Supp. 2d 63, 71 n. 7 (D. Mass. 2000) (excluding physician expert who claimed plaintiff had workplace reactive airways dysfunction syndrome and stating “while differential diagnosis is a useful means of distinguishing one disease from another with similar symptoms, it is not a technique typically used to investigate the *cause* of an illness.”) (emphasis added).

In Milward v. Acuity Specialty Products Grp., Inc., 969 F. Supp. 2d 101, 109 (D. Mass. 2013), this Court found that when the cause of an affliction is idiopathic in nature, a differential diagnosis analysis is of little value:

When a disease has a discrete set of causes, eliminating some number of them significantly raises the probability that the remaining option or options were the cause-in-fact of the disease. *Restatement (Third) of Torts: Phys. & Emot. Harm* § 28, cmt. c(4) (2010) (“The underlying premise [of differential etiology] is that each of the[ ] known causes is independently responsible for some proportion of the disease in a given population. Eliminating one or more of these as a possible cause for a specific plaintiff’s disease increases the probability that the agent in question was responsible for that plaintiff’s disease.”). The same cannot be said when eliminating a few possible causes leaves not only fewer possible causes but also a high probability that a cause cannot be identified. *Id.* (“When the causes of a disease are largely unknown . . . differential etiology is of little assistance.”).

Similarly, here, G’s main symptom was a headache, which is a symptom that many times is attributed to an *unknown* (or idiopathic) cause. See Exhibit 21 at 17. Thus, just because Dr.

Hubbuch and Dr. Herbert may have ruled out some known causes of headaches, they cannot reliably leap to the conclusion that G's headaches were caused by exposure to EMF. As Dr. Boyer explained during his deposition, eliminating other potential diseases which cause headaches does not make it more likely that exposure to EMF is the cause of such symptoms.

Q. Now, you also stated when you were talking to Mr. Markham that Doctor Hubbuch and Doctor Herbert failed to consider other causes; is that correct?

A. That is correct.

Q. And in your opinion what causes did Doctor Hubbuch and Doctor Herbert not consider?

A. It's difficult to actually say because there are clinical decision-making that's not widely described, but they came up with some tests to assess for the presence or to assess for a possible cause of headaches. They already had a negative MRI.

When tests were negative, and the MRI was negative, they ignored all the unknown causes of headache and, instead, focused on the isolated diagnosis of EHS and that's important because it doesn't make EHS more likely. It just means that the things that cause unknown headaches, idiopathic headaches, are more likely, not that that specific diagnosis is.

Q. So are you saying that the tests Doctor Hubbuch and Doctor Herbert performed didn't actually make EHS more likely?

A. It does not make – it does not make the putative diagnosis of EHS more likely, no.

Q. And why not?

A. Because most headaches have – do not have a defined pathophysiologic basis leading to them. In my practice hardly anybody has a defined physiologic process contributing to headache. It simply means that the condition is idiopathic meaning that the cause is unknown.

See Dr. Boyer's deposition transcript (relevant portions of which are attached hereto as Exhibit 24) at 98-99.

Simply put, Dr. Hubbuch and Dr. Herbert's use of a differential diagnosis analysis to arrive at a diagnosis of EHS is highly unreliable. See Milward, 969 F. Supp. at 109 (excluding expert who used differential diagnosis analysis where 70-80% of diagnoses such as plaintiff's

had no known cause, so eliminating a few possible other causes left higher probability that real cause cannot be identified); Kilpatrick v. Breg, Inc., 613 F.3d 1329, 1342-43 (11th Cir. 2010) (upholding exclusion of expert who in using differential diagnosis technique ruled out only certain causes of symptoms and did not rule out “potentially unknown, or idiopathic alternative causes”); see also Payton v. Abbot Labs, 780 F. 2d 147, 156 (1st Cir. 1985) (finding expert’s “opinion that a defendant’s conduct is only a ‘possible cause’ is insufficient to establish causation” in Massachusetts); In re Neurontin Marketing, Sales, Practices & Prod. Liab. Lit., MDL No. 1629, 2009 WL 3756328, at \*7 (D. Mass. 2009) (stating in cases where disease may develop from different causes, “the role of other causes must be adequately considered” in an expert’s opinion.”). Accordingly, Dr. Hubbuch and Dr. Herbert’s opinions – based on performing an differential diagnosis analysis – should be excluded.

### **3. Dr. Hubbuch and Dr. Herbert Applied Their Differential Diagnosis Methodology in an Unreliable Manner**

The manner in which Dr. Hubbuch and Dr. Herbert applied differential diagnosis technique to the facts of this case is highly unreliable. Throughout their purported differential diagnoses, Dr. Herbert and Dr. Hubbuch make a series of errors that renders their methodology highly unreliable, and their diagnosis of EHS questionable. As a result, the testimony of Dr. Herbert and Dr. Hubbuch is based solely on their subjective beliefs, which amounts to no more than unreliable *ipse dixit* of the experts. See Ortiz-Sempritt v. Coleman Co., Inc., 301 F. Supp.2d 116, 121 (D.P.R. 2004) (“Nothing requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert.”) (internal citation omitted); Milward, 969 F. Supp. 2d at 114-115 (excluding expert’s causation opinion because his “clinical assessment” and “qualitative approach” does nothing more than connect the exposure to the plaintiff’s illness by the *ipse dixit* of the expert.)

- a. The manner in which Dr. Hubbuch employed a differential diagnosis is unreliable.

The purported “differential diagnosis” of EHS provided by Dr. Hubbuch was the product of a deeply flawed process that failed to follow basic diagnostic principles. See Exhibit 21 at 19-20. Dr. Hubbuch made her initial diagnosis that G was “being adversely affected by prolonged exposure to WIFI at school” in August of 2014 based solely on discussions with Mother. See id. at 7. In doing so, Dr. Hubbuch failed to even perform a physical examination of G or rule out *any other causes* before making her initial diagnosis, and instead based her entire opinion on unverified information provided by Mother. See id. at 19. This was a highly questionable decision given that Dr. Hubbuch had never met G and was restricted by Mother from examining G prior to giving her initial diagnosis, and no other tests had been performed on G to rule out other causes. See id. While Dr. Hubbuch did finally examine G (in February 2015, six months after diagnosing G), Dr. Hubbuch’s subsequent diagnosis of EHS clearly suffers from the cognitive error of “premature diagnostic closure.” See id. at 19. Dr. Hubbuch, having already provided an unsupported diagnosis of EHS at Mother’s request, approached her differential diagnosis from the perspective of confirming EHS as the cause of G’s symptoms. See Exhibit 21 at 19. Dr. Hubbuch failed to consider other, more likely causes, such as a sledding accident in which G struck his head on a tree, or headaches of idiopathic nature. See Exhibit 23 at 160-163. Moreover, Dr. Hubbuch questioned her own diagnosis in her February 2015 notes by writing “if something in school was the cause, I’d expect it to persist [the] entire day at school and it does not,” followed by “headache arthralgia neck symptoms could be minor injury football or wrestling.” See Exhibit 21 at 8; Exhibit 23 at 123, 127. Despite these doubts, Dr. Hubbuch ignored other possible causes and wrongly focused solely on her prior-made

diagnosis of EHS. See McGovern, 584 F. Supp. 2d at 426 (excluding expert opinion that “failed to eliminate other possible causes for [plaintiff’s] stroke.”).

In addition, the litany of tests ordered by Dr. Hubbuch are useless in performing a differential diagnosis in this case because they are for afflictions that do not even share a common set of symptoms. See Exhibit 21 at 20. Fatally, Dr. Hubbuch *admits* the unreliability of her own methodology. She states that “[m]any of the conditions described and for which G was tested do not, when present, cause intermittent symptoms such as the kind G experiences.” See Exhibit 19 at 3. These tests provide no epidemiological or toxicological value to a diagnostician, and cannot be used as a reliable basis for making a differential diagnosis. See Exhibit 21 at 20.

- b. The manner in which Dr. Herbert employs a differential diagnosis is unreliable.

Dr. Herbert also failed to follow scientifically accepted and reliable methodologies in the performance of a differential diagnosis. See Exhibit 21 at 17. Dr. Herbert examined G in September 2015 and reviewed the tests previously performed (by Dr. Hubbuch and others) to rule out other potential causes of G’s headaches, other than EHS. See Exhibit 20 at 2. However, the test results that she claims to have reviewed are for afflictions that bear no relation to G’s physical symptoms, nor share a common set of known symptoms, and they were ordered without performing a sufficient evaluation of G’s personal and family medical history. Dr. Alyssa Lebel (“Dr. Lebel”), the Director of the Boston Children’s Hospital Headache Clinic,<sup>9</sup> criticized this approach:

Q: . . . So do you think it would be appropriate to test for, for example, various types of anemia in the blood?

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<sup>9</sup> Dr. Lebel examined G on the same day as Dr. Herbert and did not diagnose G with EHS. Instead, she concluded the G had tension-type headaches and recommended a preventative medication and a course of treatment, which Plaintiffs never followed through with.

A: If you, you know, most of the time, we do not send out laboratory testing of all possibilities, because we need the history. There's nothing more important in the evaluation than the history. . . .

Q: But it is appropriate in certain circumstances to test for anemia if you're trying to find out what could cause a headache?

A: Only if you have other features of anemia.

Q: How about blood tests for various inflammatory conditions?

A: So again, for inflammation and for infection, there should be other clues that would allow us to ask for a laboratory test that would make sense for us to ask for a laboratory test. *You don't test in the dark.*

See Dr. Lebel's deposition transcript (relevant portions of which are attached hereto as Exhibit 25) at 94-95 (emphasis added). A differential diagnosis cannot be performed to differentiate between diseases that do not share a common set of symptoms. Otherwise, Dr. Herbert was just diagnosing in the dark, and her unreliable opinions should be excluded.

In addition, Dr. Herbert commits a classic logically fallacy by confusing causation for correlation, and thereby engages in a *post hoc ergo propter hoc* error. See Exhibit 21 at 18. "The *post hoc ergo propter hoc* fallacy assumes causality from temporal sequence. It literally means 'after this, because of this.' It is called a fallacy because it makes an assumption based on the false inference that a temporal relationship proves a causal relationship." McClain v. Metabolife Int'l, Inc., 401 F.3d 1233, 1243 (11th Cir. 2005) (internal citation omitted). For example, Dr. Herbert associates an increase in "oxidative stress" with exposure to Wi-Fi, which alone is not objectionable. See Exhibit 21 at 18. But then she makes the critical error of assuming that because G experienced an increase in oxidative stress after Mother attributed G's symptoms to the School's Wi-Fi, then the School's Wi-Fi caused the symptoms. See id. She does not offer any support for this association, and her conclusion is contradicted by the fact that G's oxidative stress level remained elevated weeks after he stopped experiencing physical

symptoms. See id. at 18-19. Dr. Herbert’s *post hoc ergo propter hoc* error is the paragon of unreliability and her opinions must be excluded.<sup>10</sup> See McClain, 401 F.3d at 1243 (excluding expert who committed *post hoc ergo propter hoc* fallacy in finding causation); Rolen v. Hansen Beverage Co., 193 F. App’x 468, 473 (6th Cir. 2006) (“Expert opinions based upon nothing more than the logical fallacy of *post hoc ergo propter hoc* typically do not pass muster under *Daubert*.”)

**4. Dr. Hubbuch and Dr. Herbert Should Additionally Be Excluded For Failure to Base Their Opinions on Sufficient Facts and Data**

The expert reports and testimony of Dr. Hubbuch and Dr. Herbert are unreliable, and therefore should be excluded, because they fail to rely on sufficient facts and data and instead bases their opinions solely on the biased information provided to them by Plaintiffs. See Polidore, 2010 WL 3666971 at \*6-7 (holding where expert based his conclusions entirely on the interpretations of facts and statements provided by plaintiffs and “did not take any measurements or photographs for his assignment[,] physically survey the scene . . . [or] interview any . . . witnesses . . .,” the findings “lack the reliability required by *Daubert* and would provide no assistance to a reasonable jury in assessing the presented evidence, as required by Rule 702.”).

Prior to providing her diagnosis of EHS, Dr. Hubbuch never examined, interviewed, or even spoke to G. See Exhibit 23 at 27-28. Instead, Dr. Hubbuch relied solely on Mother’s representations and took Mother’s word at blind faith. See Exhibit 23 at 27-30, 49-50 (Mother writes to Dr. Hubbuch, prior to any examination of G that she “will need a diagnosis of [EHS] for school to accommodate” G). While Dr. Hubbuch did later examine G, she again relied on

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<sup>10</sup> Similarly, Dr. Hubbuch admitted at her deposition she engaged in the *post hoc ergo propter hoc* – she found that because G’s symptoms began after a change in the School’s Wi-Fi system, the symptoms must have been caused by the School’s Wi-Fi. (See Exhibit 23 at 102:14-17 (“I know that something changed in terms of their WiFi system and that his symptomatology progressed after that, so that’s what led me to believe that there is a causative connection.”)).



Mother's representations and did nothing to confirm Mother's representations as to G's symptoms. In restating (after her examination of G) her earlier diagnosis of EHS, Dr. Hubbuch ignored the curious timing of G's symptomology. When Mother first approached Dr. Hubbuch in the summer of 2014, she reported that G experienced *intermittent* symptoms that she "connected . . . to the blanket Wi-Fi in school." See Exhibit 23 at 25, 27. In response, Dr. Hubbuch informed Mother that G should be experiencing symptoms every time he is exposed to Wi-Fi (which G was not). See Exhibit 23 at 30. After her examination of G on February 3, 2015, Dr. Hubboch also noted that "if something in school was cause, I'd expect it to persist entire day at school and it does not." See Exhibit 21 at 8. Only after expressing these doubts about EHS to Mother, did Mother start reporting that G was experiencing symptoms at School more frequently. See Exhibit 21 at 9 (noting Mother indicated on February 25, 2015 that "G was now coming home daily complaining of bad headaches...."); see also Exhibit 23 at 30-31 (Dr. Hubbuch testified that "was not the case early on," but "became much more consistently the case later in the course of events with [G]."). Despite this curious timing and supposed change in symptoms of G, Dr. Hubbuch did not reevaluate G or call for any further tests – instead, she simply concluded that G must have EHS.

Similarly, when Dr. Herbert made her diagnosis of EHS, she relied on Mother's representations and did nothing to confirm her statements. While Dr. Herbert had access to all of Dr. Hubbuch's medical records, she too did not question the curious timing of the escalation of G's symptoms and simply concluded that G had EHS.

Not only did Dr. Hubbuch and Dr. Herbert rely too heavily on Mother's biased representations, both failed to consider other relevant information. Most notably, both doctors did absolutely nothing to confirm whether or not G was experiencing symptoms when exposed to

Wi-Fi in any of the other locations that he frequently visited – such as during appointments with doctors at his pediatrician’s office and Boston Children’s Hospital (which both have Wi-Fi), during his MRI (which uses strong magnetic fields to take images), at his new school, Waldorf, or at the countless other locations in society where G was exposed to Wi-Fi. See Exhibit 22 at 122-126; 125-126; Exhibit 23 at 33, 34, 44-48. They also ignored other possible causes at the School, such as “fluorescent light fixtures, glare, poor ergonomics, poor indoor air quality . . . school refusal syndrome, and/or stress in the school or home environment.”<sup>11</sup> See Exhibit 21 at 10. In doing so, Dr. Hubbuch and Dr. Herbert rejected relevant information because it was contrary to their desired opinions, which renders their opinion inadmissible. See Microstrategy, Inc. v. Bus. Objects, S.A., 429 F. 3d 1344, 1355 (Fed. Cir. 2005) (“[T]he expert . . . must consider enough factors to make his or her opinion sufficiently reliable in the eyes of the court.”); In re Trasylol Prod. Liab. Litig., MDL-1928, 2013 WL 1192300, at \*14 (S.D. Fla. Mar. 22, 2013) (“[A] court is [not] bound to accept an expert’s opinion based on incomplete and selective evidence.”); Concord Boat Corp. v. Brunswick Corp., 207 F. 3d 1039, 1056 (8th Cir. 2000) (excluding economic expert because use model to “construct a hypothetical market which was not grounded in the economic reality of the [existing] market, for it ignored inconvenient evidence.”).

##### **5. Dr. Herbert’s Expert Opinion Should Be Excluded Because It is Cumulative**

Dr. Herbert’s expert opinion is not helpful to the trier of fact because it is nothing more than a recapitulation of information that is presented by Dr. Hubbuch, does not offer any additional or different insight or analysis, and is therefore unnecessarily cumulative. See

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<sup>11</sup> These other possible causes were noted by Alan Woolf, M.D. (“Dr. Woolf”) at the Pediatric Environmental Health Center at Boston Children’s Hospital, after Dr. Woolf performed an independent evaluation of G on June 29, 2015, and found no “credible, rigorous and controlled, validated scientific data to support any relationship between electromagnetic radiation and [G’s] myriad reported symptoms.” See Exhibit 21 at 9-10.

Laplace-Bayard v. Battie, 295 F. 3d 157, 163-164 (1st Cir. 2002) (excluding expert testimony of Plaintiff's second medical expert on the grounds that it was cumulative).

Dr. Hebert's opinion is based solely on the tests and evaluations performed by others, and her opinion offers nothing more than the opinion already being offered by Dr. Hubbuch. For example, Dr. Herbert states in her report that her opinion is premised on the "extensive battery of tests and assessments [that have] been performed" on G, including an assessment for intracranial mass lesions, Lyme disease, autoimmune conditions, toxicant exposure, metabolic dysregulation, immune and inflammatory conditions, problems with his eyes and vision, and a check of his home environment. See Exhibit 20 at 2. But Dr. Herbert did not perform *any* of these evaluations. See Exhibit 22 at 79, 203.<sup>12</sup> She relies exclusively on the tests and evaluations performed by others, namely, Dr. Hubbuch. See Exhibit 19 at 2-3; see also Exhibit 22 at 79, 203. Further, Dr. Herbert is being offered to testify that the Wi-Fi in the School is the cause of G's physical symptoms – the exact same opinion that Dr. Hubbuch was retained to give. Because Dr. Herbert offers nothing more than Plaintiffs' other experts (namely, Dr. Hubbuch), she should be excluded as unnecessarily cumulative.

**E. THE EXPERT REPORT AND OPINIONS OF MR. BOWDOIN SHOULD BE EXCLUDED**

Mr. Bowdoin is an electrician being offered to provide an expert opinion that the classrooms at the School are capable of being hardwired for internet access, which is the only evidence Plaintiffs have put forth to support their argument as to what accommodation the School should make for G (that is, remove the Wi-Fi and hardwire the rooms for internet access). (A copy of Mr. Bowdoin's Report is attached hereto as Exhibit 26, along with the report of Defendants' expert, David P. Maxson, WCP ("Mr. Maxson") (attached as Exhibit 27), which

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<sup>12</sup> The only evaluation that Dr. Hebert performed on G was a neurological exam, that came back "normal" and therefore could not be used as the basis for a diagnosis of EHS. See Exhibit 21 at 60.

details many deficiencies of Mr. Bowdoin's opinions). Mr. Bowdoin's report and opinions should be excluded for several reasons. First, his report and opinions have no bearing on any issue in dispute in this case, and would therefore not be helpful to a trier of fact to understand the evidence or to determine a fact in issue in this matter. Second, Mr. Bowdoin lacks the education and experience to provide the trier of fact with expert testimony regarding the reasonableness of Plaintiffs' accommodation request or the impact it will have on the School's educational environment. Third, Mr. Bowdoin fails to support his opinions by reasonable facts and data, and instead makes several assumptions about hardwiring the School that fail to account for the manner in which the School uses technology in the classroom. Accordingly, Mr. Bowdoin should be excluded as an expert witness and his report and opinions excluded from admission.

**1. Mr. Bowdoin's Report Would Not Be Helpful to the Trier of Fact**

Mr. Bowdoin's purported "expert" testimony is nothing more than an estimate from an electrician for converting the School's wireless internet network to a hardwired network. In other words, Mr. Bowdoin's opinion is limited to whether or not a wire can be run through a wall at the School. However, the issue of whether or not the School's Wi-Fi can physically be converted to a hardwired network is not in dispute in this case. See Fed. R. Evid. 702(a); Konikov v. Orange Cnty. FL, 290 F. Supp. 2d at 1317 ("The function of an expert witness is not simply to draw conclusions, but rather to help the trier of fact understand the evidence and to determine issues of fact by imparting to the trier of fact the benefit of the expert's specialized knowledge). There is no need for expert testimony on this fact, as any lay person can understand that buildings are capable of being hardwired. See Fed. R. Evid. 702(a) (a qualified witness can only provide an expert opinion if "the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue.").

In this case, the issues in dispute concern whether or not it is *reasonable* to hardwire the School classrooms, and how such hardwiring would fundamentally alter the educational environment. Mr. Bowdoin's report does not provide any guidance as to those issues, would not be helpful to the trier of fact, and should be excluded. See Arce-Lopez, 979 F. Supp. 2d at 230 (excluding expert testimony that would not be helpful to jury).

**2. Mr. Bowdoin Lacks the Qualifications Necessary to Provide Expert Testimony**

To the extent Mr. Bowdoin purports to provide expert testimony that goes beyond the basic, non-technical, opinion contained in his report, he lacks the qualifications to provide such testimony. See Desai, 2014 WL 5473564, at \*4 (“[t]he issue with regard to expert testimony is not the qualifications of a witness in the abstract, but whether those qualifications provide a foundation for a witness to answer a specific question.”)(internal citation omitted). Specifically, Mr. Bowdoin purports to provide an opinion suggesting that hardwiring the School classrooms would not impact the manner in which the School uses technology in those classrooms. Mr. Bowdoin, however, is not qualified - *in any way* - to provide such an opinion. For example, he states in his report that:

- the classrooms at the School “can be configured in such a way that [internet access is] available for use at each of the desks involved without disrupting the flow or vision in the room.” See Exhibit 26 at 1;
- “I find that there is almost always an acceptable solution if the room is examined and its uses are understood so that a plan can be devised that does not disrupt those uses.” See id. at 1-2;
- “There are many ways [to wire the classrooms] consistent with the preference of the [S]chool as to how the classrooms can be configured.” See id. at 2.

But Mr. Bowdoin's qualifications and expertise are limited to his experience as an electrician. See id. at 2. Bowdoin has absolutely no qualifications or expertise that would allow

him to testify generally about the use of technology in the classroom. Mr. Bowdoin does not have any education or training in teaching. He does not have a bachelor's degree, or any advanced degree in any discipline related to education or the use of technology in the classroom. He has never taught at an elementary, middle or secondary school, and he has not offered any information concerning how wireless internet networks work or how they can be adjusted. In short, to the extent Mr. Bowdoin seeks to provide an opinion about anything other than whether or not a wire can be run through the walls at the School, he lacks the qualifications for such an opinion and his testimony should be excluded.

### **3. Mr. Bowdoin's Opinion is Not Based on Sufficient Facts or Data**

Mr. Bowdoin's expert opinion additionally fails because it is not based on sufficient facts and data. First, the "Proposal to hardwire classrooms at Fay School" was provided on August 17, 2015 – before he ever set foot at the School. It defies credulity that an electrician could provide such a detailed cost estimate without reviewing the work space. Second, the "visual examples of classrooms with data poles, wired desks, and wall plates" is of absolutely no value in this case because it does not depict *any* classroom that actually exists at the School. See Exhibit 27 at 20. Instead, Mr. Bowdoin includes a picture of a random classroom from some other source and then manually inserts into the picture representations of what wiring the classroom could look like. See id. at n. 19. Mr. Bowdoin fails to base his opinion off of an actual classroom, and offers absolutely no consideration for how the School uses and arranges its classrooms. He fails to consider that inserting the telepoles as he suggests would obstruct students' views of the white boards, projectors, the teachers, and the other students – all critical components of the educational environment. See id. at 20. His "visual example" is misleading, unreliable, and must be excluded.

Mr. Bowdoin's opinion is also flawed in several other respects. Mr. Bowdoin has no knowledge or understanding of the curriculum at the School, or how the School uses or intends to use technology in the classroom as a pedagogical tool. He makes no account for the use of projectors, video displays, tablets or laptops, and how the students and teachers interact with these devices. See id. at 19. He fails to consider that hardwiring desks would limit the School's ability to easily and quickly reconfigure a classroom, would severely restrict the usable space in the classroom. See id. He additionally fails to consider the safety hazards presented by hardwiring the classrooms. See id. at 21. Maintaining the mobility required by the School's use of technology in the classroom would require students to be connected by long Ethernet cables stretching across the classroom floor, which poses an obvious tripping hazard, not to mention the attractive nuisance that dangling wires would pose to middle school students. Id.

Finally, Mr. Bowdoin makes the erroneous assumption – unsupported by any facts or data – that hardwiring the School classrooms would allow the School to completely turn off its Wi-Fi. See id. at 21. In fact, the wireless access points in the School service multiple classrooms. Turning an access point off would deny internet access to multiple classrooms (not just G's classroom), and slow down the entire network. See id. Mr. Bowdoin failed to account for this fact, and failed to consider how his proposal would severely and fundamentally alter the educational environment. Accordingly, Mr. Bowdoin's opinion that hardwiring the School's classrooms is "feasible" falls well below the standard for admissibility and should be excluded.

### **III. CONCLUSION**

For the foregoing reasons, the expert reports and testimony of Plaintiffs' experts (Dr. Carpenter, Dr. Maret, Dr. Hubbuch, Dr. Herbert, and Mr. Bowdoin) should be excluded for failing to meet the standards for admissibility.

Respectfully submitted by,

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Dated: July 1, 2016

**CERTIFICATE OF SERVICE**

I, Jaimie A. McKean, hereby certify that on the 1<sup>st</sup> day of July, 2016, the foregoing document was filed through the ECF system and will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

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