No. _____

IN THE
Supreme Court of the United States

NICHOLAS S. BAAS,

CORPORAL,

UNITED STATES MARINE CORPS,

Petitioner,

v.

UNITED STATES OF AMERICA,

Respondent.

On Petition for a Writ of Certiorari to the
United States Court of Appeals for the Armed Forces

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

1. In light of this Court's decision in *Ramos v. Louisiana*,[1] does it violate a military servicemember's Sixth Amendment and due process rights to allow for a conviction for non-capital offenses by a general court-martial with a less-than unanimous guilty verdict from a panel of court-martial members?

2. Where the Government's efforts result in a privately-owned laboratory creating scientific test results and the Government seeks to admit those results against the defendant, does the Confrontation Clause of the Sixth Amendment to the Constitution require testimony before the factfinder by a person involved with scientific testing at the privately-owned laboratory?

3. Whether scientific evidence must meet a minimum reliability standard of being more likely than chance to prove, in a particular case, what it is offered to prove, in order to be admissible under this Court's decisions in *Daubert v. Merrell Dow Pharmaceuticals*,[2] *General Electric v. Joiner*,[3] and *Kumho Tire Co. v. Charmichael*?[4]

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[1] 140 S. Ct. 1390 (2020).

[2] 509 U.S. 579 (1993).

[3] 522 U.S. 136 (1997).

[4] 526 U.S. 137 (1999).

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PETITION FOR A WRIT OF CERTIORARI

Corporal Nicholas S. Baas, United States Marine Corps, respectfully petitions this Court for a writ of certiorari to review the decision of the Court of Appeals for the Armed Forces (CAAF).

OPINIONS BELOW

The CAAF's decision is reprinted at page 1a of the appendix to the petition and published in the Military Justice Reporter at 80 M.J. 114. The decision of the Navy-Marine Corps Court of Criminal Appeals is not reported. It is reprinted at page 41a of the appendix and is available at 2019 CCA LEXIS 173.

JURISDICTION

The CAAF issued its opinion deciding this case on May 29, 2020. This Court's jurisdiction is invoked under 28 U.S.C. § 1259(3).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Article 1, Section 8 of the Constitution provides that: "The Congress shall have Power . . . . To make Rules for the Government and Regulation of the land and naval Forces . . . ."

The Fifth Amendment provides:

> No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service, in time of War or

> public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law . . . .
>
> The Sixth Amendment provides:
>
> In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law; and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him . . . .

The version of Article 52(a), Uniform Code of Military Justice (UCMJ), 10 U.S.C. § 852(a), in effect at the time of the alleged offenses and at trial, provides:

> (1) No person may be convicted of an offense for which the death penalty is made mandatory by law, except by the concurrence of all the members of the court-martial present at the time the vote is taken.
>
> (2) No person may be convicted of any other offense, except as provided in section 845(b) . . . or by the concurrence

of two-thirds of the members present at the time the vote is taken.

INTRODUCTION

The Government accused Corporal Baas of molesting his then-approximately one-year-old son G.B. By the Government's admission,[5] a significant part of its case was an unconfirmed positive test for gonorrhea on a rectal swab from G.B. Diatherix Laboratories (Diatherix) conducted the test.

But this evidence was unreliable to prove that G.B. actually had gonorrhea. Neither Diatherix nor the Government had approved the use of Diatherix's nucleic acid amplification test (NAAT) for gonorrhea on rectal swabs from prepubescent children. And due to the low prevalence of gonorrhea in minors, Diatherix's claim the swab was positive for gonorrhea was as likely to be a false positive as it was to be true—making the claim less accurate than a coin flip.

This predictive value may have been good enough for its NAAT's intended application—deciding if an adult needs antibiotics. But the military judge admitted Diatherix's NAAT result as proof that G.B.'s rectal swab was positive for gonorrhea, over Corporal Baas' objections under MILITARY RULE OF EVIDENCE (M.R.E.) 702, *Daubert v. Merrell Dow Pharmaceuticals*, and the Confrontation Clause. He did so even though the Government failed to call any witness from Diatherix who conducted or reviewed the particular test of G.B.'s swab to testify at trial.

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[5] R. at 51 (agreeing that the Government would rely "fairly significantly" on the test result in proving its case at trial).

Corporal Baas did not receive a fair trial with the Diatherix NAAT in evidence. A majority of the CAAF erred in finding the Government met its burden to show that admitting the test result was harmless error under the non-constitutional error standard.[6] Corporal Baas was charged with, inter alia, committing sexual acts upon G.B. (and producing and distributing child pornography) on three occasions. The members of the court-martial heard that Corporal Baas had gonorrhea; that intercourse is required to spread gonorrhea; and, that G.B.'s rectal swab was positive for gonorrhea. They heard neither testimony from witnesses to, nor videos or images of, sexual acts or child pornography. Besides the Diatherix test, the primary evidence before the members was transcripts of Skype internet chats in which "Hailey Burtnett" described Corporal Baas performing sexual acts, and Corporal Baas' law enforcement interview in which he explained that he performed the acts on a teddy bear belonging to G.B. As the concurrence stated, "the Government could [not] meet its burden of showing that the error did not have a substantial influence on the findings or the sentence . . . . The laboratory test was the only physical evidence to corroborate the Government's" charges of penile-anal penetration.[7]

Diatherix's NAAT result was not scientifically valid evidence on which to base Corporal Baas' convictions and fifteen-year sentence. And the Government introduced it in violation of his right to Confrontation—a right this Court has found important to ensuring reliability of scientific testing.

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[6] 80 M.J. 114, 122 (C.A.A.F. 2020); *see* 10 U.S.C. § 859(a).

[7] 80 M.J. at 126 (Maggs, J., concurring in part and in judgment).

Also, only six of eight court-martial members had to vote for conviction to find Corporal Baas guilty on this evidence. The military should not be an outlier jurisdiction where those who volunteer to serve, lose the right to conviction only upon a unanimous verdict.

STATEMENT OF THE CASE

A. The Government suspected Corporal Baas had sexually abused G.B., and learned Corporal Baas had gonorrhea.

Corporal Baas was stationed at Camp Lejeune, North Carolina. He and G.B.'s mother separated in October 2015.[8] She "never witnessed" any "behaviors by [G.B.] that were concerning" for sexual abuse.[9] He received primary custody of G.B., and took a roommate at his house.[10] In June 2016, Corporal Baas' girlfriend took his cell phone and opened Skype. Seeing messages between Corporal Baas and "Hailey Burtnett,"[11] she gave the phone to the roommate—who interpreted them as "this Hailey person asking" him "to do things to" G.B.[12] The roommate took the phone to Corporal Baas' command, which called the Naval Criminal Investigative Service (NCIS).[13]

NCIS Special Agent (SA) Morgan interviewed Corporal Baas, who denied inappropriately touching

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[8] R. at 606-07.

[9] R. at 621.

[10] R. at 550, 613.

[11] *See, e.g.*, Prosecution Ex. 5 at 1-27 (records of some of the messages provided by Microsoft, which owns Skype).

[12] R. at 553-54. The screenname "Haileyclearfl" was saved in the phone as "Hailey Burtnett." Prosecution Ex. 9 at 194.

[13] R. at 568-71, 599.

G.B.[14] Corporal Baas explained Hailey Burtnett is "weird, kinky, and she liked to talk" fantasies.[15] Corporal Baas explained he took G.B.'s bear Scout, "dress[ed] him up, put a diaper on it"—then Hailey asked him "to remove [Scout's] clothing" and "do weird stuff" while calling the bear G.B.[16] Corporal Baas said he had recently tested positive for chlamydia and gonorrhea, and told SA Morgan that "[i]f you were to do a physical exam on my son, then you would find that nothing that you all are accusing me of is true."[17]

B. North Carolina law enforcement learned from NCIS Special Agent Morgan that Corporal Baas had gonorrhea, and sent G.B. to be examined by Dr. Kafer.

On June 17, 2016, Ms. Pfannenstiel, an agent from the Craven County Child Protective Services (CPS), was assigned to the case.[18] CPS is part of the North Carolina Department of Social Services (DSS), a "law-enforcement" agency.[19] Ms. Pfannenstiel met with G.B.'s mother and SA Morgan.[20] SA Morgan admitted that at some point he told "DSS" Corporal Baas "tested positive for gonorrhea."[21] Per CPS notes,

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[14] Appellate Ex. LXXV at 3 (transcript of interview recording).

[15] *Id.* He met Hailey in high school but "never had her phone number," and they only messaged by Skype. *Id.* at 6-7, 12-14.

[16] *Id.* at 3-4, 25-26, 32-38. Laboratory tests of the bear for semen were negative, but it was never tested for "touch DNA." R. at 672-73, 677, 683.

[17] Appellate Ex. LXXV at 9-11; Prosecution Ex. 3 at 2.

[18] Appellate Ex. XVII at 142.

[19] R. at 137 (SA Morgan stating "[w]e're both law-enforcement").

[20] Appellate Ex. XVII at 148-49 (noting she "gave [the] mother [a] pamphlet" and "NCIS agents arrived," including SA "Morgan").

[21] R. at 148 (also claiming "I do not recall who I told").

G.B.'s mother "agreed to have [G.B.] evaluated by Dr. Kafer for sex abuse"[22] at the Coastal Children's Clinic.

C. Dr. Kafer heard Corporal Baas sexually abused G.B., and decided to test for sexually transmitted diseases (STDs). She noted a positive test would prove sexual abuse even though G.B.'s physical exam showed no evidence of such abuse.

Dr. Kafer examined G.B. on June 17, 2016. She testified G.B.'s mother was "told to bring [G.B.] to our office for further evaluation and testing."[23] Though Dr. Kafer had examined G.B. once before,[24] in the past year, G.B. had only been seen by other doctors when he visited this clinic.[25] Dr. Kafer wrote that the reason for the exam was a "[c]omplaint" that the "father of child . . . molested [G.B.]."[26]

Though G.B.'s physical exam was normal,[27] Dr. Kafer tested G.B. for gonorrhea and chlamydia—noting "[i]f either test were positive, it would be highly indicative of child abuse."[28]

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[22] Appellate Ex. XVII at 145.

[23] R. at 620.

[24] R. at 625 ("I saw [G.B.] once around six months of age for a routine [visit] . . . .").

[25] Prosecution Ex. 4 at 8-10 (medical records of G.B. naming four other doctors who saw him in the past year).

[26] *Id.* at 4. She later claimed to have "conducted the medical exam . . . for health reasons, and not for the purpose of any criminal investigation or prosecution." Appellate Ex. XVII at 217.

[27] R. at 621 (testifying diaper rash was "not indicative of abuse").

[28] Appellate Ex. XII at 35. Dr. Kafer later testified that she would typically do these tests as a screening for sexual abuse. R. at 621.

D. Dr. Kafer collected one rectal swab from G.B. and sent it to Diatherix, which claimed it was positive for gonorrhea and then destroyed it.

Dr. Kafer collected one swab from G.B.'s rectum. She sent it to Diatherix for testing because it marketed to her clinic.[29] Diatherix's nucleic acid amplification tests ("NAAT") use "molecular amplification" to identify DNA of bacteria like gonorrhea (Neisseria gonorrhoeae) in a medium (e.g., a swab).[30] Dr. Stalons, Diatherix's director, testified in motions that "[w]e don't perform forensic testing, per se," and agreed its tests had never been used in any court, or for a forensic purpose.[31] Diatherix ran its "CT+NG+T" (chlamydia, gonorrhea, & trichomonas) NAAT on G.B.'s rectal swab on June 18, 2016, and claimed it was positive for gonorrhea. Diatherix destroyed the swab seven days later.[32] Neither Dr. Kafer nor the Government (DSS or NCIS) asked it to save the rectal swab for retesting.[33]

E. NCIS relied on this STD test instead of ordering a new examination or testing.

NCIS never ordered its own examination or STD test. Instead it asked Ms. Pfannenstiel on June 20, 2016, for "the results of the [gonorrhea] test."[34]

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[29] R. at 621, 631.

[30] R. at 225, 229.

[31] R. at 255.

[32] Appellate Ex. XVII at 218.

[33] R. at 605, 631, 662.

[34] Appellate Ex. XVII at 153.

F. Diatherix violated its own policies in using its NAAT to test G.B.'s rectal swab sample for gonorrhea—knowing that this swab was from a one-year old.

Diatherix's Client Services Manual "include[d] a disclaimer that the test" in this case "is not recommended for evaluation of suspected sexual abuse."[35] Though Dr. Kafer did not say the test related to a criminal matter, Diatherix's records show it knew the rectal swab to be tested for gonorrhea—an STD "on a scale of ten is a ten for indicating some kind of sexual activity"[36]—was from the one-year old G.B.[37]

Dr. Hobbs, the Government's only expert witness to testify at trial (and who was not from Diatherix), noted that the "manual . . . mention[ed] that their test is not designed and . . . should not be used for suspected child abuse cases" or "on children" at all.[38] She concluded Diatherix's NAAT "should not have been used" on a rectal swab, which "violated . . . policies of its own lab."[39]

G. Diatherix's NAAT was not Food and Drug Administration (FDA) approved, peer reviewed, or clinically tested.

Diatherix's NAAT was *not* FDA approved.[40] Centers for Disease Control (CDC) guidance is that

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[35] Appellate Ex. L at 5-8.

[36] R. at 41.

[37] Prosecution Ex. 4 at 7 (noting under "Patient" information area "Age: 1" along with G.B.'s name, gender, and date of birth).

[38] R. at 839-40.

[39] R. at 283, 840.

[40] R. at 253.

"FDA clearance is important for widespread use of a test," particularly for NAATs.[41] Diatherix's NAAT was neither peer reviewed, nor clinically tested.[42]

H. A different laboratory could have performed a "culture" test on the swab, which could determine with 100% accuracy if gonorrhea was present.

Instead of sending G.B.'s rectal swab to Diatherix, Dr. Kafer could have ordered a "culture" test for gonorrhea that places the swab "into a media that will facilitate the growth of the organism."[43] Dr. Hobbs explained companies like Diatherix dislike culture tests because they are slow and expensive: culture tests "require[] samples to be immediately transported to the laboratory."[44] But unlike a NAAT, a culture test's results are "100 percent certain."[45]

I. Centers for Disease Control (CDC) guidelines recommend culture tests, *not* NAATs, to test prepubescent rectal samples for gonorrhea.

CDC guidelines state that laboratories should not use NAATs to test for gonorrhea "in cases of [alleged] child sexual assault involving boys and rectal . . . infections in prepubescent girls."[46] "Because of the legal implications of a diagnosis of . . . gonorrhea in a child, if culture for the isolation

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[41] Appellate Ex. XVII at 386.

[42] R. at 253-55.

[43] R. at 775; *see also* R. at 295.

[44] R. at 269.

[45] R. at 836, 841; *see also* R. at 269.

[46] Appellate Ex. XXXVI at 326.

of Neisseria gonorrhea is done, *only* standard culture procedures should be performed."[47]

J. A positive NAAT is likely to falsely claim a prepubescent child has gonorrhea even if it is accurate, because the extremely low prevalence of gonorrhea in children makes the NAAT's positive predictive value (PPV) extremely low.

Government expert Dr. Hobbs claimed that the accuracy of Diatherix's NAAT was 94.6 percent.[48] But accuracy in laboratory conditions, which is a product of the test's sensitivity (its "ability to pick up gonorrhea if it was there")[49] and specificity (its ability "to differentiate [gonorrhea] from other organisms"),[50] does not tell you the true odds that a particular real-world test result is correct. This measure, "the probability that when you get a positive result it is a real positive result"—also known as the positive predictive value ("PPV")—depends on the prevalence of the disease in the population being tested.[51]

For instance, in some sexually active adult populations the prevalence of gonorrhea (the percentage of the population that truly has the disease) is about eight percent.[52] The PPV of a NAAT on a rectal swab from one of these adults is about

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[47] Appellate Ex. XXXVI at 165.

[48] Appellate Ex. L at 6.

[49] R. at 833.

[50] Appellate Ex. LXV at 4 n.6.

[51] R. at 790; *see also* R. at 38.

[52] Appellate Ex. XXXVI at 294 (discussing a population in Australia).

seventy-three percent.[53] Dr. Hammerschlag, a clinician with 250 publications on STDs in children, testified as a Defense expert in motions and at trial.[54] She noted that this level of risk of a false positive (about 25 percent of the time) for an *adult* is acceptable because a positive test will only result in a shot of antibiotics for the adult and "isn't going to send anybody to jail."[55]

But the prevalence of gonorrhea in prepubescent children, particularly in boys, is *much* lower than eight percent. Government expert Dr. Hobbs agreed the prevalence of gonorrhea in children like G.B. is as low as 0.1 percent (one in a thousand).[56] And she agreed the PPV of a test for a condition with a prevalence of just 0.1 percent was "very low."[57]

Dr. Hammerschlag estimated the PPV of the Diatherix NAAT was only thirty percent on the rectal swab from the prepubescent G.B.—meaning there was "a 30 percent chance that the test is really positive and 70 percent that it isn't"—making it less predictive than a coin toss.[58] She concluded "the test was useless" in showing if G.B. actually had gonorrhea.[59] Another Defense consultant found even assuming a higher prevalence of gonorrhea in children

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[53] Appellate Ex. XXXVI at 294 (giving a true positive about three-fourths of the time, and a false positive one-fourth of the time).

[54] R. at 35, 434-35.

[55] R. at 798; *see also* R. at 41, 306.

[56] R. at 281, 826, 834 (agreeing that in the only CDC study of prepubescent boys, none were positive for gonorrhea).

[57] R. at 836.

[58] R. at 306, 315. Dr. Hammerschlag also said that the PPV "c[ould] be 50% or lower." R. at 38.

[59] R. at 306.

(e.g., that 0.5 percent had gonorrhea), the PPV of Diatherix's NAAT was still below fifty percent.[60] Dr. Hobbs acknowledged that the risk of a false positive "is why [CDC] guidelines recommend confirmatory testing" for gonorrhea, by the "preferred method" of culture testing "in cases of child abuse."[61]

K. There was never any confirmatory culture testing to assess whether G.B.'s NAAT result was a false or true positive.

Dr. Kafer did order that the Diatherix NAAT "be followed up with a culture test" by another clinic.[62] But the clinic ran the wrong test, and gave G.B. an antibiotic to treat any gonorrhea.[63] This prevented any further culture testing to confirm whether the Diatherix result was a false positive or a true positive.

L. The military judge denied the Defense's motions to exclude the results of Diatherix's gonorrhea NAAT under *Daubert* and the Confrontation Clause.

In response to the Defense's *Daubert* and M.R.E. 702 objection to the Diatherix test result,[64] the military judge issued written findings. He found the accuracy of Diatherix's test was 94.6%, and concluded *inter alia* that "the Diatherix test is a reliable test" not substantially outweighed by unfair prejudice.[65]

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[60] Appellate Ex. LXVIX at 10 (calculating a PPV of 16 percent).

[61] R. at 280, 826.

[62] R. at 622-23.

[63] Appellate Ex. XVII at 188; R. at 623.

[64] Appellate Ex. XXXVI at 1-40.

[65] *Id.* at 4, 8-11.

The only evidence introduced from Diatherix at trial was a page from G.B.'s medical record claiming the rectal swab was positive for gonorrhea.[66] Regarding the Confrontation objection to admission of the test result without any witness from Diatherix testifying at trial,[67] the military judge ruled:

> A statement is testimonial if it is made under circumstances which would lead an objective witness reasonably to believe the statement would be available for use at a later trial. A testimonial statement must have a primary purpose of establishing and proving past events potentially relevant to a later criminal prosecution.
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> . . . .
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> Additionally, G[.]B[.]'s [Diatherix gonorrhea] test was . . . not made with an eye toward litigation. Upon learning that the accused had an ST[D] and allegedly performed sexual acts upon her son, G[.]B[.]'s mother took him, not to the police, but to her primary pediatrician, Doctor . . . Kafer. [She] then sent the sample to a *civilian lab*. Further evidence of the sample and test were not made with an eye toward litigation is the fact that Diatherix did not retain the sample and the sample was not processed via a forensic protocol.[68]

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[66] Prosecution Ex. 4 at 7.

[67] R. at 388-90.

[68] R. at 400 (emphasis added).

The Government did not offer the raw, machine generated data given by Diatherix from the testing of G.B.'s rectal swab sample into evidence.[69] Nor did any witness at trial attempt to establish that the swab was tested properly, based on documentation of the laboratory handling of G.B.'s sample.[70]

At trial, Dr. Kafer agreed the page in G.B.'s medical record "accurately reflect[s] the result of the . . . test."[71] But she testified "I am not aware of the testing the [sic] happens at Diatherix . . . . [H]ow that is done at their lab I am not aware."[72] SA Morgan testified G.B. tested positive for gonorrhea, but he "d[id not] know anything about the lab" procedures, nor did he even recall the name of Diatherix.[73]

Dr. Hobbs reviewed documents from Diatherix "relate[d] to the test at issue," but admitted she "didn't actually evaluate the Diatherix test itself"—she "just looked at the data [it] gave."[74] Dr. Hobbs testified the NAAT was "*generally* acceptable as a diagnostic tool."[75] But besides conceding that Diatherix did not follow its manual in deciding to process G.B.'s sample,[76] Dr. Hobbs could not and did not discuss the particular test of G.B.'s rectal swab on June 18, 2016.

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[69] *See* Appellate Ex. XVI at 30-31.

[70] *See id.* at 26-29.

[71] R. at 621-22.

[72] R. at 632.

[73] R. at 584, 596-97.

[74] R. at 825-29 (agreeing with defense counsel).

[75] R. at 827 (emphasis added).

[76] R. at 839.

M. The military judge instructed the eight general court-martial members that only six had to find Corporal Baas guilty of any offense to convict him of an offense.

Corporal Baas elected to be tried by members at this general court-martial.[77] They were instructed:

> Since we have eight members, that means six members must concur in any finding of guilty. . . . If you have six votes of guilty with regard to an offense, then that will result in a finding of guilty for that offense. If fewer than six members vote for finding of guilty, then your ballot resulted in a finding of not guilty.[78]

The members found Corporal Baas guilty of seven of ten offenses ("[S]pecifications") charged in violation of four articles of the UCMJ.[79] Because military law prohibits polling members about their "deliberations and voting" absent extraordinary circumstances,[80] there is no evidence as to whether any of Corporal Baas' convictions were unanimous.

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[77] R. at 403.

[78] R. at 885.

[79] R. at 891.

[80] MANUAL FOR COURTS-MARTIAL, UNITED STATES, RULE FOR COURTS-MARTIAL 922(e) (2016) ("*Polling prohibited*. Except as provided in [MILITARY RULE OF EVIDENCE (M.R.E.)] 606, members may not be questioned about their deliberations and voting"). M.R.E. 606(2) limits any testimony to whether: "(A) extraneous prejudicial information was improperly brought to the members' attention; (B) unlawful command influence or any other outside influence was improperly brought to bear on any

REASONS TO GRANT THE PETITION

I. This Court should grant review to clarify whether laws allowing convictions of servicemembers for non-capital offenses at general courts-martial by less-than unanimous guilty verdicts are valid.

In *Ramos v. Louisiana*, this Court held on April 20, 2020 that the Sixth Amendment requires guilty verdicts for "serious crimes" be rendered by unanimous jury.[81] This Court found the Framers would have understood "trial by an impartial jury" in the Sixth Amendment to mean one which could only convict upon "reach[ing] a unanimous verdict," and applied this rule to the states because of the Fourteenth Amendment's Due Process Clause.[82]

In *Ortiz v. United States*, this Court also recently noted the "procedural protections afforded to a service member" at court-martial "are 'virtually the same' as those given a civilian criminal proceeding, whether state or federal."[83] This Court should review whether laws allowing for general court-martial convictions by non-unanimous guilty verdicts—laws enacted prior to *Ramos*—remain viable. Corporal Baas raises this issue on direct review[84] because this

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member; or (C) a mistake was made in entering the finding or sentence on the finding or sentence forms.").

[81] 140 S. Ct. at 1394-97.

[82] *Id.*

[83] 138 S. Ct. 2165, 2174 (2018).

[84] *Ramos* cited Oregon's estimate of its "cases remaining on direct appeal and affected by today's decision." 140 S. Ct. at 1406 n.68, 1407; *see also id.* at 1419 (Kavanaugh, J, concurring) ("Except for the effects on that limited class of directreview [sic] cases, it will

Court decided *Ramos* after he had briefed and argued other issues at the lower court.[85] This Court has at least acknowledged in past cases whether military law can depart from general rules for the federal and state systems.[86] And it should now assess whether servicemembers who volunteered to serve this country should be the only Americans able to suffer the lengthy confinement,[87] and lifetime criminal consequences associated with convictions for serious crimes,[88] on a less-than unanimous verdict.

1. This Court should find that the unanimous verdict facet of the Sixth Amendment applies to servicemembers convicted at general courts-martial.

In *Ex parte Milligan*, this Court in dicta limited "the Sixth Amendment right of trial by jury" to "the *same* constitutional breadth as the grand jury right," citing the exclusion of "cases arising in the land and naval forces" from the grand jury requirement of the

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be relatively easy going forward for Louisiana and Oregon to transition to the unanimous jury rule that the other 48 States and the federal courts use.").

[85] 80 M.J. at 114 (noting oral argument on March 17, 2020).

[86] *E.g.*, *Kennedy v. Louisiana*, 554 U.S. 945, 947 (2008) (order denying reh'g) (suggesting this Court's federal and state "consensus against the death penalty" for rape was not undermined by military law allowing the death penalty for rape).

[87] General courts-martial may adjudge any punishment not specifically forbidden for an offense, 10 U.S.C. § 818, and Corporal Baas received 15 years' confinement. R. at 945.

[88] *E.g.*, 18 U.S.C. § 922(g) (prohibiting firearm possession by one "convicted in any court of a crime punishable by imprisonment for a term exceeding one year" or for "domestic violence"); 34 U.S.C. §§ 20911-13, 20931 (requiring sex offender registration for those "military offense[s] specified by the Secretary of Defense").

Fifth Amendment.[89] Though reiterated in later cases, these neither directly addressed the issue of jury unanimity, nor specifically explained why no Sixth Amendment jury rights can apply to courts-martial.[90]

Milligan has since been superseded outside the military by later cases of this Court decoupling the Fifth Amendment from the Sixth Amendment.[91] But this Court also required states to respect the Sixth Amendment's jury trial guarantees.[92] Since *Milligan*, Congress has also dramatically changed the military justice system from one with limited jurisdiction that dispensed "a rough form of justice emphasizing summary procedures, speedy convictions and stern penalties,"[93] to one that is essentially "judicial" in character and exercises comprehensive jurisdiction over servicemembers wherever they are and whatever their alleged crimes.[94] This Court should find courts-martial are "criminal prosecutions" under the purview of the Sixth Amendment's unanimous verdict rule.

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[89] 71 U.S. 2, 123 (1866).

[90] *E.g.*, *Solorio v. United* States, 483 U.S. 435, 436 (1987) (overruling the "service connection" requirement for court-martial jurisdiction); *Reid v. Covert*, 354 U.S. 1, 21, 37 n.68 (1957) (plurality opinion) (rejecting military jurisdiction over crimes committed by military dependents); *Welchel v. McDonald*, 340 U.S. 122, 126-27 (1950) (upholding all-officer composition of the members' panel against a Sixth Amendment challenge); *Ex parte Quirin*, 317 U.S. 1, 39-45 (1942) (finding jurisdiction of commissions to try enemy combatants for law of war violations).

[91] *E.g.*, *Hurtado v. California*, 110 U.S. 516, 538 (1884).

[92] *E.g.*, *Taylor v. Louisiana*, 419 U.S. 522, 528-30 (1975).

[93] *Reid*, 354 U.S. at 21, 35 ("[T]he jurisdiction of military tribunals is a very limited and extraordinary jurisdiction . . . intended to be only a narrow exception . . . .").

[94] *See Ortiz*, 138 S. Ct. at 2174.

2. This Court should find that due process requires a unanimous verdict here.

Though entitled to deference, Congress is subject to the "Due Process Clause when legislating in the area of military affairs, and that Clause provides some measure of protection to defendants in military proceedings:" rights to a "fair trial in a fair tribunal."[95]

Congress changed Article 52(a), UCMJ, in late 2016 to require the "concurrence of at least three-fourths of the members" for a court-martial conviction instead of only two-thirds.[96] This was after the Military Justice Review Group ("MJRG") "submitted to Congress in December 2015" a report containing "a detailed review of the UCMJ."[97] One "[l]egislative [p]roposal" was this change adopted by Congress.[98] The MJRG report cited non-unanimous verdict schemes now unconstitutional after *Ramos*,[99] and the House and the Senate adopted the MJRG's proposal without substantive comment.[100] Because the current non-unanimous verdict system was justified in part on civilian practices found unconstitutional in *Ramos*, this Court should grant review to assess whether this

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[95] *Weiss v. United States*, 510 U.S. 163, 176-78 (1994).

[96] Nat'l Def. Authorization Act for FY 2017, Pub. L. No. 114-328, 130 Stat. 2000, 2916 (2016). This took effect on January 1, 2019. Exec. Order No. 13,825, 83 Fed. Reg. 9889, 9889 (Mar. 1, 2018).

[97] MIL. JUSTICE REVIEW GROUP, https://ogc.osd.mil/mjrg.html.

[98] REPORT OF THE MILITARY JUSTICE REVIEW GROUP 2015, 457-62, *available at* https://ogc.osd.mil/images/report_part1.pdf.

[99] *Id.* at 459 (citing OR. REV. STAT. § 136.450 (2013); LA. CODE CRIM. PROC. ANN. art. 782 (2013)).

[100] *Compare id.* at 460-61 *with* H.R. REP. No. 114-840, at 919, 1521 (Conf. Rep.) *and* S. REP. 114-255, at 604 (Conf. Rep.).

law affords servicemembers adequate due process.

II. This Court should review the lower court's decision because it wrongly makes private laboratory results presumptively immune from the right to Confrontation, regardless of prior acts by Government officials that ultimately elicited the test.

In upholding the military judge's ruling that admission of the purportedly positive gonorrhea test by Diatherix at Corporal Baas' trial did not require testimony by anyone from Diatherix, the lower court noted "the [Diatherix] test was ordered from a *private lab* by a private physician who, upon receiving the results, prescribed a confirmatory test and treatment by another private facility."[101] The military judge also emphasized Diatherix was a "civilian" lab.[102] This Court should grant review because the lower court's tacit presumption that test results from a private laboratory declarant are nontestimonial is contrary to this Court's presumption in *Williams v. Illinois*,[103] as well as principles this Court cited in *Melendez-Diaz v. Massachusetts*,[104] and *Bullcoming v. New Mexico*.[105]

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[101] 80 M.J. at 121 (emphasis added). The lower court also claimed the test "result itself lacks any indicia of the formality or solemnity characteristic of testimonial statements." *Id.* at 122. But as "[f]ormality is not the sole touchstone of [the] primary purpose inquiry," *Michigan v. Bryant*, 557 U.S. 305, 366 (2009), the lower court's presumption on private laboratories is relevant to whether it properly conducted the primary purpose test.

[102] R. at 400.

[103] 567 U.S. 50 (2012) (plurality op.).

[104] 557 U.S. 305 (2009).

[105] 564 U.S. 647 (2011).

1. Though this Court in *Williams v. Illinois*, did not presume that test results from a private laboratory were nontestimonial, the lower court here (like other courts also have) presumed otherwise.

In *Williams*, this Court considered whether testimony by a Government expert "that a DNA profile" from a private, "outside laboratory, Cellmark, matched a profile produced by the state police lab using a sample of [Williams'] blood," violated the Confrontation Clause as interpreted in *Crawford* [*v. Washington*]."[106] In *Crawford*, this Court held that "testimonial statements—those "made under circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial"—are admissible under the Sixth Amendment "only where the declarant is unavailable" and the opponent "had a prior opportunity to cross-examine" the declarant.[107]

Prior to *Williams*, some courts treated a testing laboratory's private status as a fact significant to its finding that reports produced by these laboratories that were later introduced into evidence were not testimonial hearsay.[108] Other courts did not afford the private status of a testing laboratory any special consideration, and some have found statements of

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[106] 567 U.S. at 56-57 (citing *Crawford v. Washington*, 541 U.S. 36 (2004)).

[107] 541 U.S. at 52, 59.

[108] *E.g.*, *State v. Weaver*, 528, 898 N.E.2d 1023, 1041 (Ohio Ct. App. 2008) ("The fact that the report was prepared by a private laboratory strengthens the nontestimonial argument, not weakens it.").

private laboratory declarants to be testimonial.[109]

In *Williams*, the state police lab sent vaginal swabs from a sexual assault examination kit to a private laboratory (Cellmark Diagnostics) for testing. "Cellmark sent back a report containing a male DNA profile produced from semen taken from those swabs."[110] At trial, the expert "referred to the DNA profile provided by Cellmark as having been produced from semen found on the victim's vaginal swabs."[111]

The Court sharply disagreed over whether this evidence from Cellmark was testimonial.[112] But Justice Kagan—writing the dissenting opinion also

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[109] *E.g.*, *People v. Dendel*, 797 N.W.2d 645, 648, 657-60 (Mich. Ct. App. 2010) (finding that a claim by AIT Laboratories that the victim's blood "glucose level was zero at the time of death" was testimonial hearsay, where a medical examiner ordered the lab's forensic toxicology test "to investigate the possibility of criminal activity" after "the police advised the medical examiner that [Dendel] was suspected of injecting" the victim with insulin, even though the lab's results were unsworn, the testing was "without preconceived notions," and "the statement concerning a glucose level of zero ha[d] no independently incriminating effect").

[110] 567 U.S. at 59 (Alito, J., Roberts, CJ., Kennedy and Breyer, JJ.).

[111] *Id.* at 57.

[112] The plurality found that "even if the report produced by Cellmark had been admitted into evidence, there would have been no Confrontation Clause violation" in part since the report "was not prepared for the primary purpose of accusing a targeted individual"—"no one at Cellmark could have possibly known that the profile that it produced would turn out to inculpate Williams . . . whose DNA profile was in a law enforcement database." *Id.* at 58, 84. Justice Breyer excluded all such reports from the Confrontation Clause. *Id.* at 99 (Breyer, J., concurring). Justice Thomas found Cellmark's statements admissible because they lacked formalities. *Id.* at 104 (Thomas, J., concurring).

signed by three other Justices who found the Cellmark evidence was testimonial[113]—noted there was an area of agreement. She wrote that even though "Cellmark [w]as a private laboratory under contract with the State . . . no one [on the Court] thinks [this is] relevant" as to whether the Confrontation Clause requires testimony by a laboratory declarant.[114]

The lower court did not cite *Williams* in its decision here, even though this case involved similar facts: introduction of a statement by the private Diatherix laboratory without testimony from anyone familiar with the actual testing of G.B.'s rectal swab. The Government prosecuted Corporal Baas for, *inter alia*, committing sexual acts on G.B.—based in part on this evidence that G.B. (and Corporal Baas) had tested positive for gonorrhea. The lower court's disregard of *Williams* even in light of these similarities is unsurprising, given that in an earlier opinion it stated that "the lack of majority support in *Williams* for any point but the result means that *Williams* does not alter [our] Confrontation Clause jurisprudence."[115]

But regardless of other disagreements, this Court did agree (as Justice Kagan stated) that the private character of a laboratory does not automatically make its statements nontestimonial. To clarify this point for courts that have been confused

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[113] 567 U.S. at 138 (Kagan, Scalia, Ginsburg, and Sotomayor, JJ, dissenting) ("Under our Confrontation Clause precedents, this is an open-and-shut case. The State of Illinois prosecuted Sandy Williams for rape based in part on a DNA profile created in Cellmark's laboratory. Yet the State did not give Williams a chance to question the analyst who produced that evidence.").

[114] *Id.* at 138.

[115] *United States v. Katso*, 74 M.J. 273, 282 (C.A.A.F. 2015).

over this issue both before and after *Williams*, this Court ought to grant review here and clearly establish in a majority opinion that the private character of a laboratory creates no presumption that its test results are not testimonial hearsay.

2. Concerns over scientific accuracy and proper laboratory procedures—which this Court cited when expressly extending the Confrontation Clause to test results in *Melendez-Diaz* and *Bullcoming*—remain where a private laboratory created the test results admitted into evidence.

This Court should also grant review to clarify that a laboratory declarant's private status does not presumptively except its results from the Confrontation Clause because regardless of the declarant-laboratory's status, the same concerns over accuracy and proper laboratory procedures this Court identified in *Melendez-Diaz* and *Bullcoming* remain.

In *Melendez-Diaz*, the police found bags "containing a substance resembling cocaine" near the defendant.[116] The trial judge admitted over the defendant's objection three "certificates of analysis" as "prima facie evidence of the composition, quality, and the net weight of the narcotic."[117] These certificates "stated that the bags [h]a[ve] been examined with the following results: The substance was found to contain: Cocaine."[118] This Court held that the Government could not introduce certificates "made under

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[116] 557 U.S. at 308.

[117] *Id.* at 308-09 (quotation omitted).

[118] *Id.* at 308 (quotation omitted, alterations in original).

circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial," without "showing that the analysts were unavailable to testify."[119]

This Court noted in *Melendez-Diaz* that "confrontation is one means of ensuring accurate forensic analysis"—to "weed out not only the fraudulent analyst, but the incompetent one as well."[120] Citing a study finding "invalid forensic testimony contributed to the convictions in 60%" of wrongful convictions, this Court noted "an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination."[121] Because "[a]t least some of [the testing] methodology require[d] the exercise of judgment,"[122] this Court found the judge erred in not making the certifying analysts to testify.

This Court in *Bullcoming* cited similar concerns in rejecting the use of "surrogate testimony" to present lab results through witnesses—noting that their unfamiliarity with "the particular test and testing process" precluded "expos[ing] any lapses or lies on the certifying analyst's part."[123] It clarified an "accused's right is to be confronted with the analyst who made the certification, unless that analyst is unavailable . . . and the accused had an opportunity, pretrial, to cross-examine that particular scientist."[124]

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[119] 557 U.S. at 311 (quotation omitted).

[120] *Id.* at 318-20 (quotation omitted, alterations in original).

[121] *Id.* (citation omitted).

[122] *Id.* at 320.

[123] 564 U.S. at 661-62.

[124] *Id.* at 652.

The dissenting justices in *Williams* emphasized these concerns over reliability in the context of private laboratories—providing an example of a private laboratory analyst who, "after undergoing cross-examination" in another case, retracted a test result implicating a defendant due to analyst error.[125] They noted the Government witness testifying Cellmark's DNA profile matched DNA from Williams' blood "had no knowledge at all of Cellmark's operations. Indeed, for all the record discloses, she may never have set foot in Cellmark's laboratory."[126] And Williams "could not ask questions about that [Cellmark] analyst's proficiency, the care he took in performing his work, and his veracity. He could not probe whether the analyst had tested the wrong vial, inverted the labels on the samples, committed some more technical error, or simply made up the results."[127]

Courts and commenters have ignored these concerns and given unwarranted deference to private laboratory results. For instance, one author recently argued that "to minimize possible biases, make crime labs more efficient, and clear backlogs, crime labs should be independent of law enforcement agencies and privatized."[128] Corporal Baas' case—where Diatherix ran a gonorrhea test not approved for use on child rectal swabs on a rectal swab from the prepubescent minor G.B., then allegedly detected

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[125] 567 U.S. at 118-19 (Kagan, Scalia, Ginsburg, and Sotomayor, JJ, dissenting).

[126] *Id.* at 124.

[127] *Id.* at 124-25.

[128] Pamela Newell, *Crime Labs Should be Privatized*, GLOBAL JOURNAL OF FORENSIC SCIENCE & MEDICINE, Jul. 9, 2019, https://irispublishers.com/gjfsm/pdf/GJFSM.MS.ID.000523.pdf

gonorrhea—shows the right to Confrontation remains necessary to fully expose errors in testing at these private laboratories. This Court should review to confirm there is no presumption against requiring cross-examination for private laboratory test results.

3. Participation of Government agents with a law enforcement purpose in the process leading to a private laboratory's test is relevant under *Williams* as to whether the test result is testimonial—even if other private actors also participated.

This Court should grant review to clarify that Government involvement with a law enforcement purpose in the process leading to a private laboratory' test result, is always relevant to whether the result is testimonial. Contrary to the lower court's implicit presumption, the use of private actors to create a statement after such Government involvement does not automatically make a statement nontestimonial.

The lower court acknowledged courts "may consider the purpose non-declarants had in facilitating a statement," but it limited this to "when the declarant knows of that purpose."[129] The lower court then claimed that even though "[t]here is some dispute as to whether G[.]B[.]'s mother brought him to Dr. Kafer at social services' direction," that "[e]ven if social services had directed G[.]B[.]'s mother to take him to Dr. Kafer . . . whatever interest may have motivated social services" was irrelevant.[130]

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[129] 80 M.J. at 121 n.6.

[130] *Id.* at n.7.

But in *Williams*, the plurality noted that when *the Government* "sent the [vaginal swab] sample to Cellmark" for DNA analysis, "*its* primary purpose was to catch a dangerous rapist who was still at large, not to obtain evidence for use against [Williams], who was neither in custody nor under suspicion at that time."[131] The plurality *also* noted Cellmark did not know the test would have an evidentiary purpose.[132] But the plurality's separate note that the Government had a non-evidentiary purpose in requesting this test, suggests that a private laboratory's ignorance of the evidentiary significance of test results is necessary, but not *sufficient* for a result to be nontestimonial.[133]

The Kentucky Supreme Court's decision in *Manery v. Commonwealth*, which cites *Williams*,[134] supports this reading of *Williams*. "Law enforcement" there had ordered a penile swab of Manery, which the "jail's medical doctor" then sent to a private laboratory (Quest Diagnostics) for testing.[135] The *Manery* Court found Quest's claim that there were "organisms

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[131] 567 U.S. at 84 (emphasis added).

[132] *Id.* at 85 ("[N]o one at Cellmark could have possibly known that the profile that it produced would turn out to inculpate petitioner—or for that matter, anyone else whose DNA profile was in a law enforcement database.").

[133] *Id.* at 84-85 (noting, at the end of the paragraph which listed *both* the Government's purpose in sending the sample, *and* Cellmark's knowledge, that "[u]nder *these* circumstances, there was no "prospect of fabrication" and no incentive to produce anything other than a scientifically sound and reliable profile").

[134] 492 S.W.3d 140, 145 n.22 (Ky. 2016) (quoting *Williams*, 567 U.S. at 85) ("Introduction of lab reports does not run afoul of the Confrontation Clause in such situations where the test was not primarily conducted to inculpate the defendant, who, at the time was 'neither in custody nor under suspicion.'").

[135] *Id.* at 143. The alleged rape victim had gonorrhea. *Id.* at 142.

consistent with gonorrhea" in the swab—a claim the Government "introduced through the medical-records hearsay exception" without testimony from Quest—was testimonial hearsay.[136] Even though the *Manery* Court cited no evidence that the declarant at Quest had any knowledge of the fact that law enforcement had an evidentiary purpose in collecting the swab Quest had ultimately tested, it still found that the results from Quest were testimonial hearsay.[137]

This Court should grant review to clarify that in light of the plurality's reasoning in *Williams*, the lower court here wrongly disregarded the purpose of law enforcement agents in sending G.B. to Dr. Kafer (who ordered the Diatherix test) in assessing whether the test results were testimonial. Even though the lower court suggested Dr. Kafer was a private actor with medical reasons to order the test,[138] this Court's case law does not support the lower court's implicit presumption that all statements between private actors are nontestimonial. Though this Court found in *Ohio v. Clark* that statements to private parties are "much less likely to be testimonial than statements to law enforcement officers," it "decline[d] to adopt a categorical rule excluding them from the Sixth Amendment's reach"—since "at least some statements

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[136] 492 S.W.3d at 146.

[137] *Id.* at 143, 146 (noting "[w]hen the analyst at Quest conducted the test, any positive results for gonorrhea would doubtlessly inculpate Manery with the crimes alleged . . . and there was no broader purpose beyond identifying the perpetrator of these sex crimes"—even though "after receiving the results from Ques," the "jail's medical doctor" treated Manery by "eradicating the organisms consistent with gonorrhea in [his] system.").

[138] 80 M.J. at 121 (finding Dr. Kafer "was acting as a medical provider, not as an arm of law enforcement").

to individuals who are not law enforcement officers could conceivably raise confrontation concerns."[139]

Evidence that law enforcement agents used a private actor to elicit a statement for a law enforcement purpose should fall under this exception identified in *Clark*. Such actions should not preclude consideration of whether law enforcement's behavior made a private declarant's statement testimonial. To do otherwise in the context of laboratory evidence will encourage the use of subterfuge to disguise law enforcement's interest in the results of private laboratory testing. This not only makes it difficult to assess the Government's motive under the *Williams* plurality's test, but creates a perverse incentive to use laboratories that follow less-rigorous, non-forensic procedures. As the other significant factor in whether a statement is testimonial is its "[f]ormality,"[140] law enforcement thus has an incentive to use private laboratories with informal and unreliable processes.

Evidence suggests law enforcement engaged in precisely this subterfuge in Corporal Baas' case. After NCIS learned he had gonorrhea, NCIS met with Social Services and G.B.'s mother. The same day, Social Services sent G.B. to Dr. Kafer, who ordered an informal gonorrhea test from Diatherix. Then NCIS just happened to promptly contact Social Services for the test results. Because the lower court failed to consider the earlier actions of law enforcement in assessing whether the later Diatherix test result was testimonial, this Court should grant review.

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[139] 576 U.S. 237, 246 (2015).

[140] *Bryant*, 557 U.S. at 366.

III. This Court should grant review to clarify that scientific evidence must meet a minimum reliability standard of being more likely than chance to prove, in the case at issue, what it is offered to prove.

This Court warned in *Daubert* that "[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it," and promulgated several factors for trial judges to use to review this evidence for admissibility.[141] Though it described the *Daubert* inquiry as "flexible," this Court noted that under the Rules of Evidence "the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant but *reliable*."[142]

Corporal Baas challenged the admissibility of Diatherix's positive NAAT test on the prepubescent minor's rectal swab sample under "[M.R.E.] 702 and the *Daubert* framework."[143] The military judge acknowledged testimony by the Defense's expert witness Dr. Hammerschlag that the "positive predictive value" (PPV)—defined as the "confidence factor for the results of a [NAAT test of a] particular sample from a particular population"—was "either 50% or lower, or 30%" for this rectal swab sample from a prepubescent minor.[144] He also noted that the Government's expert witness Dr. Hobbs had agreed "test results in the pediatric population are considered less reliable" because so few prepubescent minors

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[141] 509 U.S. at 593-95 (citation omitted, listing factors).

[142] *Joiner*, 522 U.S. at 142 (emphasis added).

[143] Appellate Ex. XXXVI at 2.

[144] Appellate Ex. LXV at 5, 10.

have gonorrhea.[145]

The military judge rejected the *Daubert* challenge because he believed that "the likelihood of a false positive associated with the testing population does not undermine the scientific principles upon which the test is based."[146] In finding "the error rate for the [NAAT] is acceptable," he cited Diatherix's claimed "100% accuracy rate in testing for gonorrhea," and Dr. Hobbs' calculated test accuracy of "94.6%."[147]

But in relying on the general characteristics of Diatherix's test rather than its specific applicability (or lack thereof) to a rectal swab from a prepubescent minor, the military judge failed to follow the *Daubert* framework as informed by this Court's later opinion in *Kumho Tire*. In *Kumho Tire*, this Court clarified that the proponent of scientific evidence must prove not only that an expert's general technique is reliable, but that it reliably applies to a case's particular facts.

In *Kumho Tire* the plaintiffs sought to admit testimony by an "expert in tire failure analysis'" that a particular tire had failed due to "a defect in its manufacture or design," and not due to improper use ("overdeflection").[148] This Court found that *Daubert* applied, and excluded the expert's testimony under *Daubert*. It noted that "[t]he relevant issue was whether the expert could reliably determine the cause of *this* tire's separation"—*not* whether it was "reasonable[] *in general*" for an expert to decide by

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[145] Appellate Ex. LXV at 10.

[146] Appellate Ex. LXV at 10.

[147] Appellate Ex. LXV at 4, 9.

[148] 526 U.S. at 143-45.

inspection if overdeflection had occurred in a tire.[149] In finding that the expert's conclusion as to the cause of the failure of the particular tire in the case was unreliable, this Court noted several defects in the "tire at issue" which suggested that overdeflection (and not the expert's theory of defective manufacture) had actually caused the particular tire at issue to fail.[150]

Here the military judge found the Diatherix NAAT admissible under *Daubert* because of its general characteristics, notwithstanding evidence that it was unreliable as applied to the specific question at issue in this case (whether the swab of a *prepubescent minor* had gonorrhea). In spite of this fundamental error, four of the lower court judges were "agnostic" as to whether the military judge properly admitted the test result from G.B.'s swab under *Daubert*.[151] This Court should grant review to clarify that in light of *Kumho Tire*, trial courts must find that a testing methodology is (at least) more likely than not to produce a correct result in the *particular case at issue* in order for it to be admissible under *Daubert*.

1. This Court should clarify that the "rate of error" and "probative value" *Daubert* factors require a test's conclusion to be more likely true than not to be admissible.

In *Daubert*, this Court noted courts "ordinarily should consider" a type of data—"the known or

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[149] 526 U.S. at 153-54 (emphasis in original).

[150] *Id.*

[151] 80 M.J. at 124 n.8. These judges claimed that admission of the test was harmless error, *id.* at 122, while Judge Maggs held that it "was properly admitted under *Daubert*." *Id.* at 126 (Maggs, J., concurring in part and in judgment).

potential rate of error" of a "scientific technique"—in determining its admissibility.[152] It also stated trial judges must "exercise[] *more control* over experts than over lay witnesses" in determining whether the evidence's "probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury."[153]

This Court later warned in *Joiner* that in some cases there is "too great an analytical gap between" the data presented "and the opinion proffered."[154] Courts have thus used the "rate of error" *Daubert* factor to exclude a technique where its rate of error calculated based on use in the laboratory, is inapplicable to the "real world" use of the technique on the facts at trial.[155] Courts have also excluded techniques under the "probative value" *Daubert* factor where the positive predictive value of the technique is under fifty percent.[156]

Here the military judge's focus on the abstract accuracy figure for the use of Diatherix's test on samples in general led him to disregard "the likelihood

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[152] 509 U.S. at 594.

[153] *Id.* at 595 (emphasis added).

[154] 522 U.S. at 146.

[155] *E.g.*, *United States v. Semrau*, 693 F.3d 510, 521 (6th Cir. 2012) (upholding exclusion of lie detector evidence under the "rate of error" *Daubert* factor where testimony showed the "error rates . . . proposed [we]re based on almost no data" and created "under circumstances [that] do not apply to the real world").

[156] *E.g.*, *State v. Porter*, 698 A.2d 739, 767-69 (Conn. 1997) (citing the "highly questionable predictive value" of polygraphs, which "may be greater than that of a coin toss" but "not significantly greater," in finding "any limited evidentiary value" the "evidence does have is substantially outweighed by its prejudicial effects").

of a false positive associated with the testing population" (i.e., risk from the use of the Diatherix test on a rectal swab from a prepubescent minor).[157] Testimony from the Defense's expert witness established even a positive result from the Diatherix test would have a positive predictive value of no more than fifty percent—a coin flip—making the clamed positive test for G.B.'s sample as likely to be in error. This Court should grant review here to clarify that the rate of error and probative value factors promulgated in *Daubert* require trial judges to admit only scientific evidence able to prove, at least more likely than not in the case at issue, what it is offered to prove.

CONCLUSION

For these reasons, Corporal Baas respectfully requests this Court grant his petition for a writ of certiorari and reverse the lower court's decision here.

Respectfully submitted,

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[157] Appellate Ex. LXV at 10.