UAEM
Universities Allied for Essential Medicines

Clinical Trials Transparency At U.S. Universities

A New Report Measuring Legal Compliance with Clinical Trial Reporting Obligations in 2021

TABLE OF CONTENTS

01

EXECUTIVE SUMMARY

Complete and consistent reporting of clinical trial results during research and development (R&D) for drugs and biologics allows for transparency around research outcomes. Such transparency is crucial for defining the direction of biomedical innovation, and enabling access to safe and effective medicines for people. To illustrate, having transparent information on the outcomes of completed clinical trials allows researchers to fine-tune future studies, identify unmet medical needs among specific populations, and proactively address the risks and benefits of novel health technologies. In addition, increasing transparency around clinical trial results allows researchers, clinicians, and the public to access more accurate information on the safety and efficacy of new drugs, vaccines, and medical devices. This is a particularly important consideration for patients struggling with rare or highly complex illnesses for which there is no established standard of care, who might benefit from experimental therapies in the pipeline. Therefore, clinical trial data is a crucial source of information on the risks, benefits, and viability of new health interventions.

Furthermore, as the COVID-19 pandemic has highlighted, timely reporting of clinical trial results critically informs both regulatory and clinical decision-making during public health crises, and thus should be a priority for the new administration. In fact, during his Vice Presidency in 2016, Joe Biden promised to improve transparency in clinical research, and even threatened to withhold funding from researchers who have not complied with clinical trial results reporting requirements codified in US law. However, principles of transparency continue to be neglected within our current R&D ecosystem, contributing to a myriad of downstream public health failures that disproportionately affect lower-income populations, including high drug prices and a growing gap in the accessibility of health services.

In the realm of clinical trial transparency, one group of stakeholders stands out: universities. Universities receive billions of dollars in public funding for biomedical research each year and sponsor around 1/3 of clinical trials conducted in the US - giving them immense responsibility for disclosing the outcomes of their research appropriately. Yet, universities have historically been much less compliant with clinical trial results reporting requirements compared to private sector stakeholders. Accordingly, UAEM's 2021 Clinical Trial Transparency report holds universities accountable for using public funds for research by demanding that applicable clinical trial results be reported in a timely manner.

In this report, we found that many universities have shown tremendous improvement in clinical trials reporting rates. Notable institutions that have consistently maintained 100% compliance include Duke University, Johns Hopkins University, University of Michigan, UNC Chapel Hill, and Emory University. Likewise, Columbia University and Northwestern University serve as positive examples of growth, improving from respective rates of 16.7% and 30% in 2019 to 100% in 2021. However, there are still several institutions that remain legally noncompliant under the Food and Drug Administration Amendments Act (FDAAA - see page 3). University of Cincinnati, UC Denver, and NYU Langone health are amongst the worst performers with the highest number of unreported clinical trials.

02

KEY FINDINGS

Total number of research institutions legally compliant under FDAAA (100% of clinical trials reported)

increased from
13 to 17

(from March 2019 to February 2021)

Percentage of unreported trials

decreased from
30% to 7%

(from March 2019 to February 2021)

The number of institutions with

rates above 80%
increased from
16 to 36

(from March 2019 to February 2021)

Total number of unreported trials has

decreased from
138 to 101

(from March 2019 to February 2021)

Total number of

registered clinical trials increased from
446 to 1516

(from March 2019 to February 2021)

Of the 10 newly added cancer research centers/medical schools affiliated with our cohort of 40 institutions -

6 institutions have achieved 100% reporting, but 12 trials are still unreported.

03

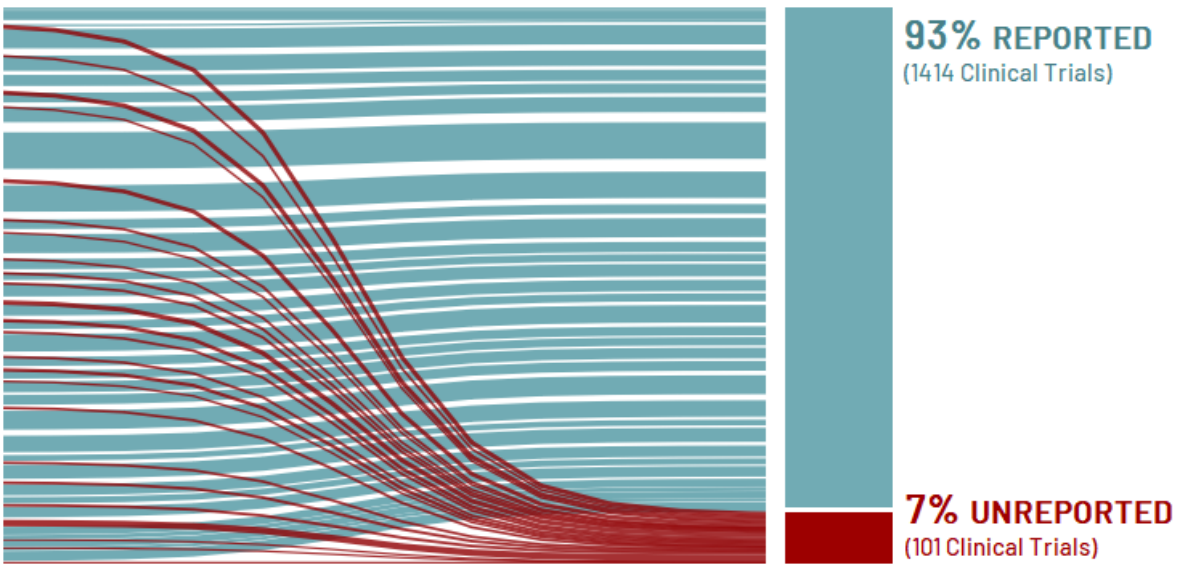
SCOPE OF REPORT

This report serves as a follow-up to the 2019 UAEM & TranspariMED Clinical Trial Transparency Report, comparing US university-level reporting rates and legal compliance with the US Food and Drug Administration Amendments Act of 2007 (FDAAA) to the landscape from two years earlier.

In the first iteration of this report in March 2019, clinical trial results reporting data was collected from the top 40 publicly-funded US research institutions - a mix of public and private universities. These institutions had contributed the largest number of clinical trials subject to the FDAAA as of September 2017, based on data compiled by STAT News. This new iteration of the Clinical Trial Transparency Report has been updated to revisit these same 40 institutions, and additionally includes data from several affiliated cancer research centers and medical schools. In this context, the report also addresses the impact of a recent federal court ruling (see Page 6) that confirmed that the FDAAA's clinical trial results reporting mandate also applies to hundreds of trials completed between 2007 and 2017 which were previously exempted from reporting due to a legal loophole.

The updated iteration of our report thus highlights university efforts towards reporting clinical trial results since our initial 2019 publication. Ultimately, this updated report will celebrate the improvements in university-level clinical trial results reporting from 2019 to 2021, while also underlining areas of improvement and reminding researchers, policymakers, and the public of the importance of clinical trial transparency in the current climate.

Overall reporting rate for all applicable clinical trials sponsored by the universities included in this report



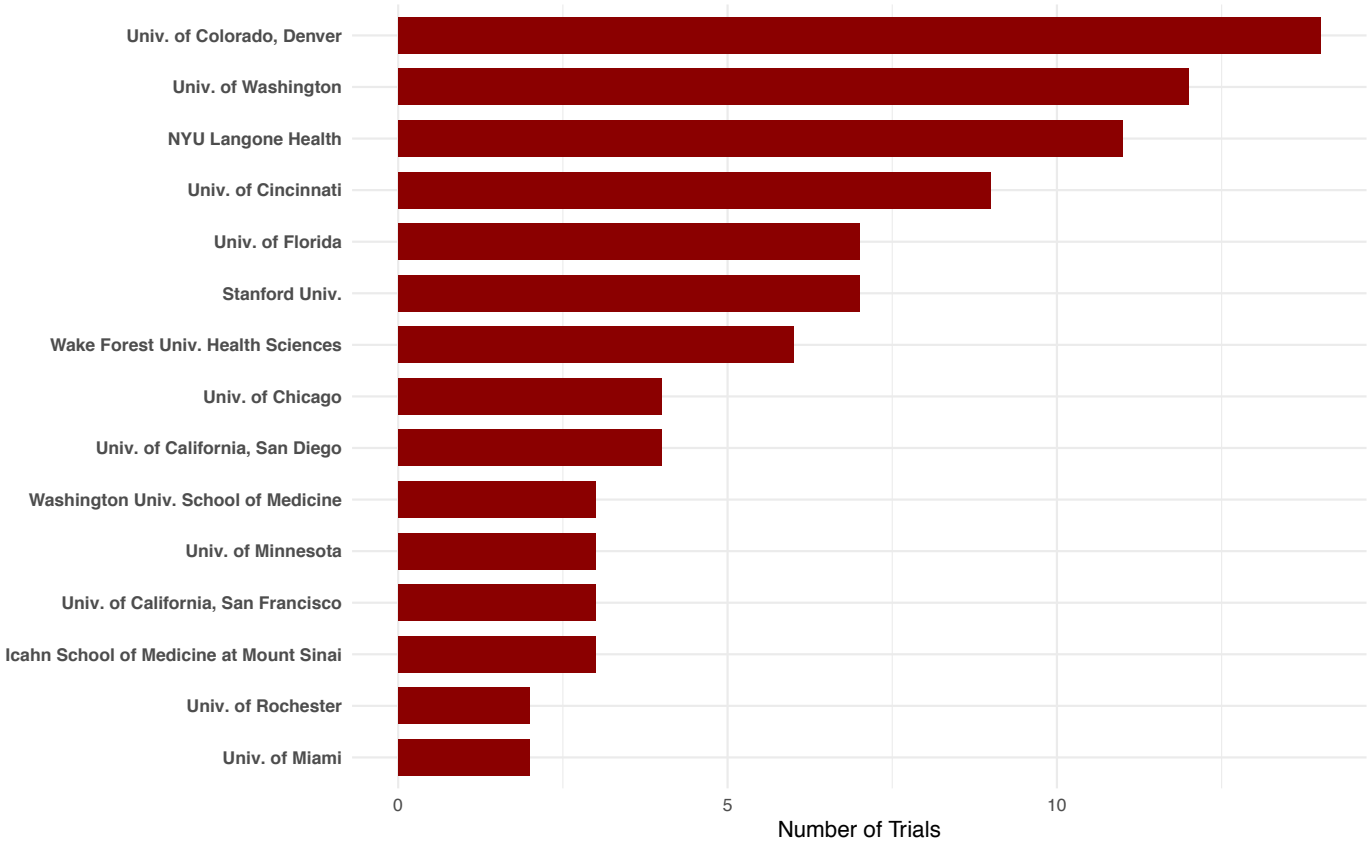
04

RESULTS

WORST OFFENDERS: UNIVERSITIES WITH HIGHEST NUMBER OF UNREPORTED TRIALS SUBJECT TO FDAAA

Across all universities studied, 101 clinical trials that are subject to FDAAA legislation remain unreported to date. Worst offenders include University of Colorado, Denver (14), University of Washington (12), NYU Langone Health (11), University of Cincinnati (9), and University of Florida (7), and Stanford University (7).

Figure 1. Universities with Highest Number of Unreported Trials Subject to FDAAA in 2021.



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REPORTING STATUS OF CLINICAL TRIALS AT UNIVERSITIES BETWEEN 2019 AND 2021

Across these top 40 institutions, the total number of clinical trials due for reporting increased from 446 to 1,516. This significant increase in the number of trials is possibly due to the retrospective reporting of results from 2007 onwards by institutions in response to the recent lawsuit against the Food and Drug Administration (FDA), National Institutes of Health (NIH), and the US Department of Health and Human Services (HHS) (see "Background" for more details), as well as the continued reporting of clinical trials since our last report. The number of institutions legally compliant under FDAAA (100% of clinical trials reported) also increased from 13 in 2019 to 17 in 2021. While there are still many noncompliant institutions, the majority of these have now reached reporting rates above 80%. The number of institutions with rates above 80% increased from 16 in 2019 to 36 in 2021.

Reporting Status of Clinical Trials at Universities Between 2019 and 2021

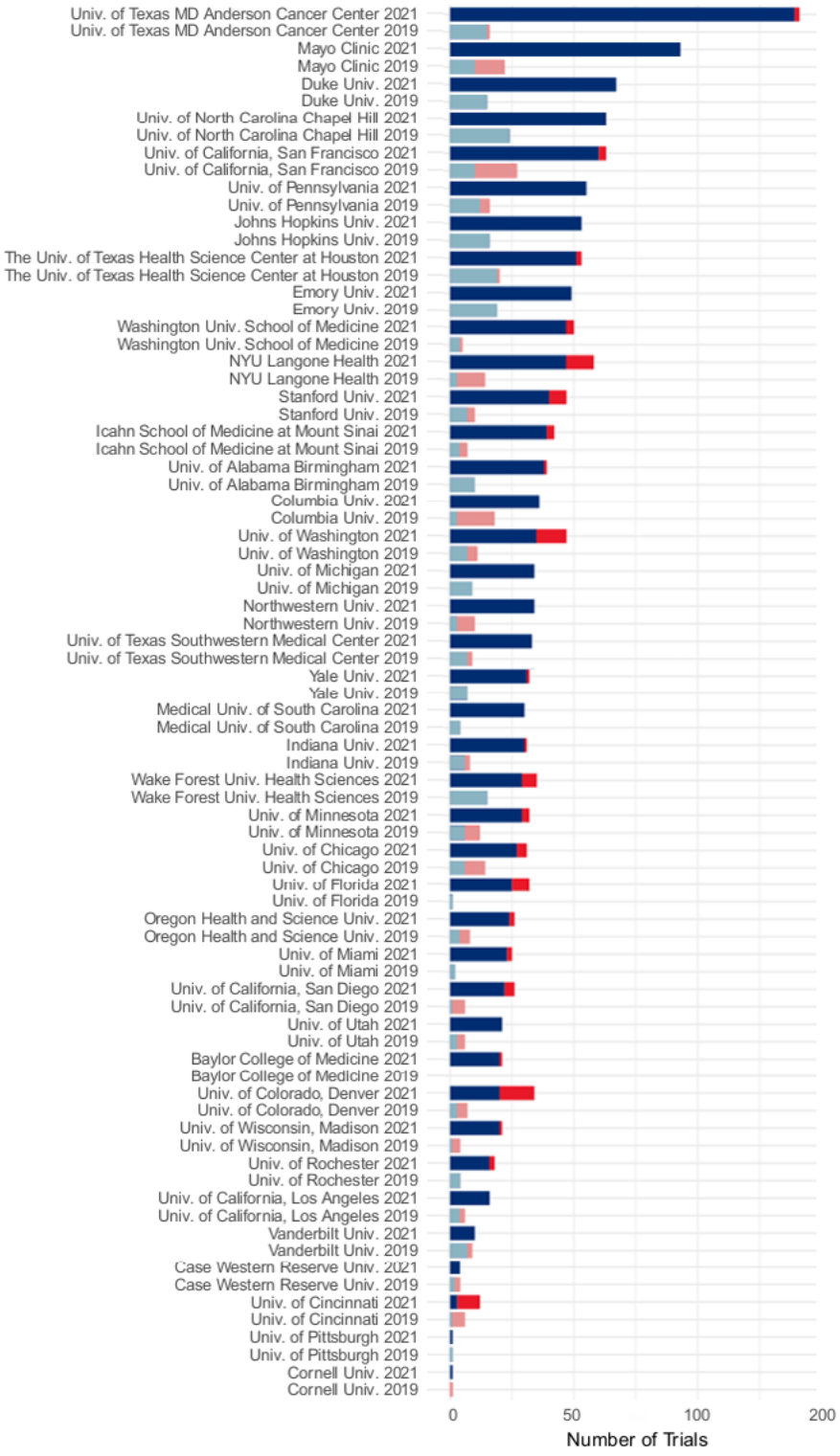


Figure 2. Reporting Status of Clinical Trials at Universities Between 2019 and 2021.

Blue represents reported trials and Red represents trials yet to be reported. Darker shaded bars correspond to reporting rates from 2021, while lighter shaded bars correspond to reporting rates from 2019. Bars are ordered from highest to lowest number of trials due for reporting in 2021. Each bar represents the total number of trials due for reporting at each university in 2019 and 2021. The red sections represent unreported trial results as a proportion of all applicable trials due for reporting at each university.

04

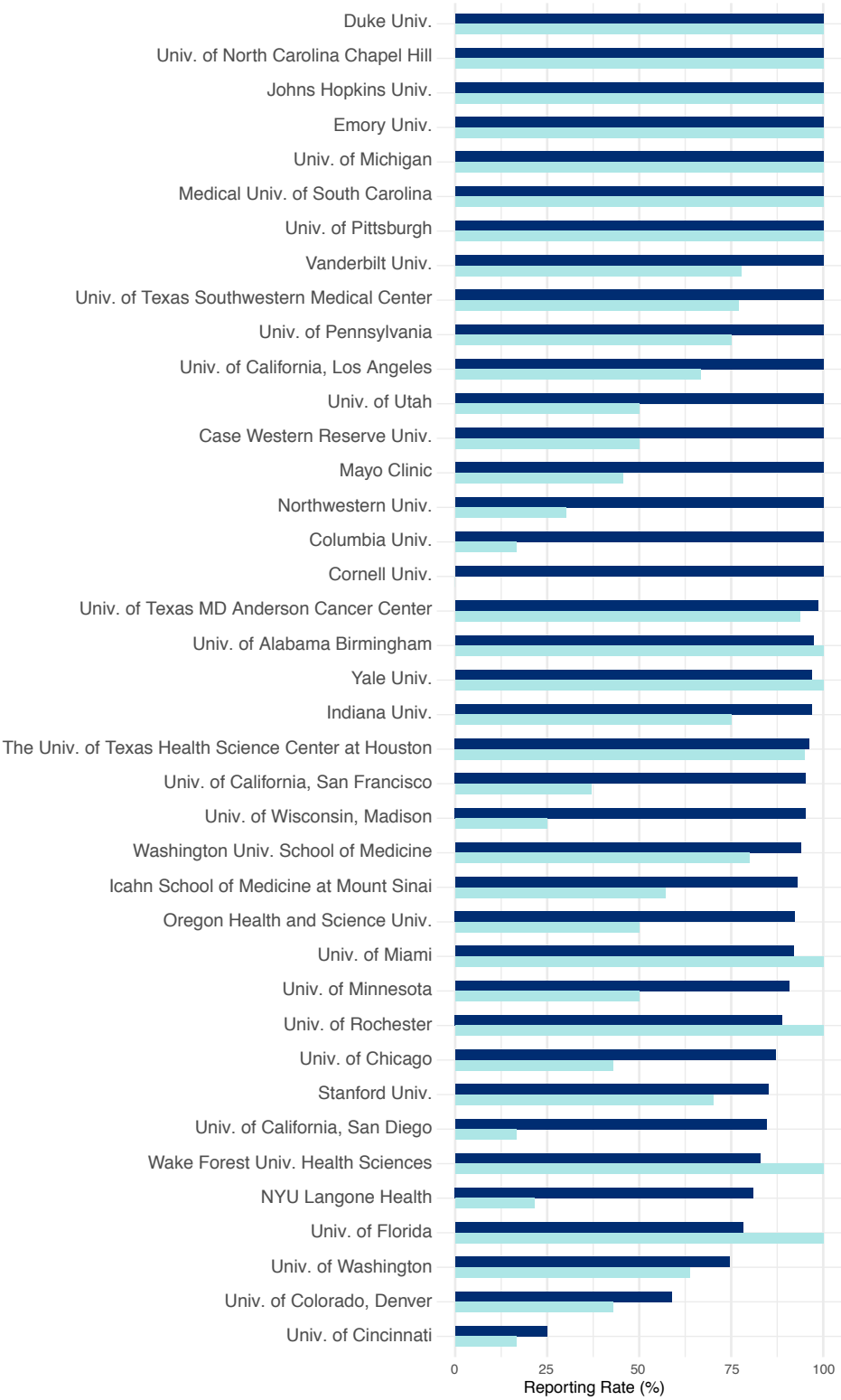
REPORTING RATE OF CLINICAL TRIALS AT UNIVERSITIES IN 2021 AND 2019

Overall, the percentage of unreported trials decreased from 31% in 2019 to 7% in 2021. Universities of Columbia, Northwestern, Case Western Reserve, Utah, and Mayo Clinic are among several institutions that have made a commendable improvement in their reporting rates, which are now at 100%. Wake Forest University Health Sciences and University of Florida are amongst few universities that were previously at 100% in 2019 and have now dropped to rates of 82% and 78%, respectively. University of Cincinnati has consistently performed poorly with rates of 25% and 16.7% in 2021 and 2019.

Figure 3. Reporting Rate of Clinical Trials at Universities in 2021 and 2019.

The bars are ordered from highest to lowest reporting rate percentage in 2021. Dark blue bars represent reporting rates in 2021. Light blue bars represent reporting rates in 2019.

Reporting Rate of Clinical Trials at Universities in 2019 (light blue) and 2021 (dark blue)



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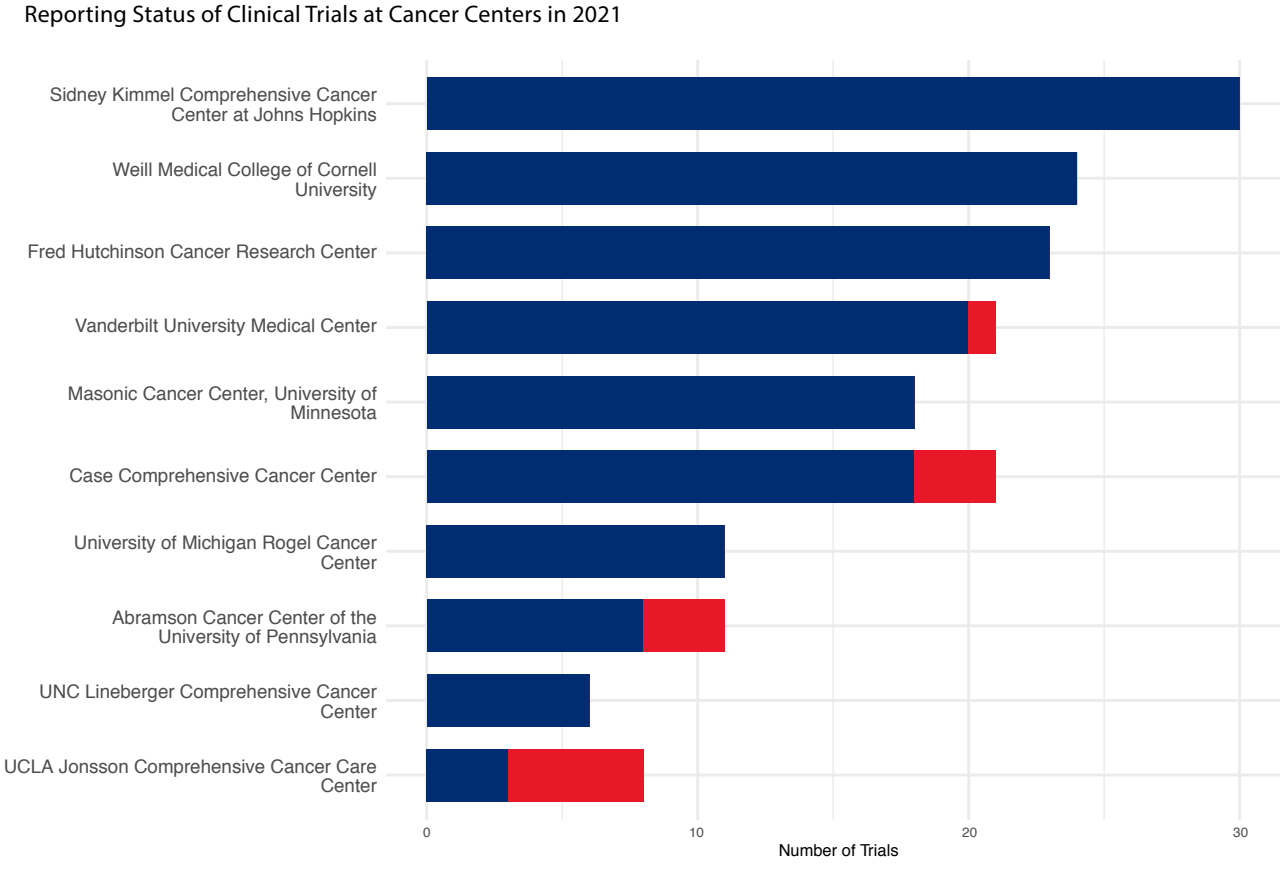
REPORTING STATUS OF CLINICAL TRIALS AT AFFILIATED CANCER CENTERS AND MEDICAL SCHOOLS IN 2021

Amongst cancer centers affiliated with universities studied, UCLA Jonsson Comprehensive Cancer Care Center has 5 unreported trials. Case Comprehensive Cancer Center and Abramson Cancer Center of the University of Pennsylvania each still have 3 unreported trials. Vanderbilt University Medical Center has 1 unreported trial.

Despite being separate entities from the universities included in our report, the reporting results of these affiliated cancer centers and medical schools provide an important perspective. Institutions are mandated to maintain 100% compliance under the FDAAA regardless of the types of research. Here, while University of Pennsylvania and Case Western Reserve University maintain 100% compliance, as noted in our figures above, their affiliated cancer centers are noncompliant. This underscores the necessity to maintain an active effort to clinical trials reporting across all affiliated research centers at these institutions.

Figure 4. Reporting Status of Clinical Trials at Affiliated Cancer Centers and Medical Schools in 2021.

Blue represents reported trials and Red represents trials yet to be reported. Bars are ordered from highest to lowest according to the number of trials subject to reporting in 2021.



05

BACKGROUND

Why make clinical trial results publicly accessible?

Clinical trial data is crucial for informing researchers, regulators, physicians, patients and the public of the safety and efficacy of treatments and other therapies as they are transitioned from research labs into patient care. Of the $41.7 billion invested annually by the NIH, over one third of that funding goes towards clinical research. Notably, publicly-funded research institutions, including universities, cancer centers, and federal agencies, conduct the majority of clinical trials in the US. Much of the research conducted by these institutions start with NIH funds, with every single one of the 210 FDA-approved drugs in 2010-2016 benefiting from NIH grants.

In particular, universities play a critical role in early-stage clinical research in which private companies are often not willing to invest. This research is then continued by private companies and other funders in the later stages of clinical development, and commercialized by such actors if successful. More importantly, these public funds are often used to conduct clinical trials around scientific questions that may not produce commercially lucrative answers. For example, institutions may conduct trials on off-patent compounds or other compounds to treat tropical diseases that disproportionately affect countries in the Global South rather than wealthy countries. These public funds may also be used to conduct head-to-head comparative trials of commercially important products that pharmaceutical companies may otherwise shy away from conducting in the interest of competition.

Therefore, the availability of information pertaining to the outcomes of university-led research critically informs the viability of downstream biomedical innovation. Furthermore, such information can provide insight into whether licensed and approved drugs, vaccines, and medical devices truly work as well as initially predicted, and in which patient groups. These publicly-funded clinical trials are essential to maintaining equitable and transparent research efforts. Accordingly, making the results of clinical trials available on a public registry like ClinicalTrials.gov ensures timely and complete knowledge of key research outcomes, shedding light on the quality and efficacy of new health technologies and promoting patient safety.

The availability of clinical trial data will bridge the gap between the biomedical R&D at research institutions and the ultimate uses of these innovations in patient care. Not only will patients have greater access to accurate information about the medicines or vaccines they are taking, but healthcare providers will also be able to diagnose and treat each patient with more confidence. Here, it is important to note that one of the biggest factors that contribute to healthcare inequity is the inability of some healthcare providers to understand the patient's specific needs, leading to misdiagnosis and mistreatment. Clinical trial transparency will enable providers to better identify which medications would be safe for specific patient populations, thus allowing for more tailored care. This would contribute significantly to reducing disparities in health outcomes and ensuring that patient care is delivered more equitably and safely to all.

05

Furthermore, while some clinical research outcomes may be published in academic journals, the data included in such papers are carefully curated. Moreover, prominent academic journals seldom publish results of studies that have yielded negative results or proved inconclusive. Even when fully published, clinical research results are often hidden behind restrictive memberships and paywalls. Unfortunately, many many doctors and patients may not be able to afford memberships to academic journals, or may not be affiliated with a research institution through which they could access a membership. Not only does this contribute to the growing barriers between higher and lower-income populations, but it also creates a false and deceptive perception that clinical research data is, in fact, being made public. In such a way, barriers prevent patients and providers from accessing data that directly affects them. Moreover, although most reputable journals often require the registration of clinical trials prior to approving manuscripts, they do not mandate that sponsors report results from these trials on public registries prior to publication once the study is concluded.

On the other hand, reporting clinical trial results in a federal registry like ClinicalTrials.gov allows for the study's basic results to be fully accessible to the public - including information about participant' characteristics, the study's outcomes measures, and a summary of recorded adverse events. Ultimately, such reporting allows for better transparency, without the deletion, addition, or manipulation of unfavorable results. Furthermore, while it may take 2-3 years for trial outcomes to be published in academic journals voluntarily, the current regulatory framework for clinical trial results reporting requires that such outcomes be publicized within one year of a study's completion, or within 30 days of FDA approval. As such, the public disclosure of clinical trial results also accelerates medical progress by informing future researchers, preventing repetitive studies, and mitigating further waste in public research funding.

Legal obligation to report clinical trial results

Clinical trial sponsors, including universities, pharmaceutical and medical device companies, and other types of organizations, are required by federal law to report basic results from many interventional clinical trials pursuant to the FDA Amendments Act of 2007 (FDAAA). This legislation mandates that clinical trial sponsors input all such trial results into the ClinicalTrials.gov database, including null and negative results, in order to maintain a public record of clinical research outcomes. The provisions of the FDAAA law came into full effect in January 2017, after the US Department of Health and Human Services (HHS) promulgated a final rule in 2016 clarifying the types of clinical trials for which trial sponsors would be required to report summary results. Yet, although clinical trial results reporting is mandated by US law, the FDA has failed to create a system to check and enforce this mandate to ensure complete reporting of clinical trials results. Research institutions that are not compliant with this law are subject to FDA-issued fines of $10,000 ($12,103 adjusted for inflation) for every day the trial sponsor is late in reporting results. As of May 2021, the FDA has not yet collected any such fines from noncompliant clinical trial sponsors, which now total over $19 billion collectively. The lack of enforcement from the FDA leaves institutions unaccountable, failing to ensure the accuracy and integrity of clinical research. However, in a surprising turn of events, the FDA issued its first ever Notice of Noncompliance to a clinical trial sponsor on 28 April 2021, indicating that the agency might begin enforcing the FDAAA's mandates more fully in the near future as prefaced by their most recent guidance document on the matter published in August 2020.

05

Recent court ruling mandating retrospective reporting from 2007- 2017

The FDAAA was enacted in 2007 to guarantee access to clinical evidence for patients, physicians, and researchers through the website, ClinicalTrials.gov. However, the US Department of Health and Human Services (HHS) promulgated a Final Rule in 2016 which partially circumvented provisions in the original FDAAA by exempting certain clinical trials for FDA-approved products from reporting requirements. Specifically, HHS announced that clinical trials conducted between 2007 and 2017 and completed prior to a product's FDA approval would not be required to report results. Trials completed in this timespan, yet after a product's FDA approval would still be subject to reporting requirements, alongside certain interventional trials with primary completion dates after January 2017. Most importantly, the trials exempted from reporting requirements under the Final Rule were also the ones on which the FDA would rely to issue product approvals. In other words, the Final Rule effectively absolved many trial sponsors, including universities and pharmaceutical corporations, of the responsibility of reporting results from a plethora of so-called "pivotal" clinical trial results that emerged between 2007 and 2017.

In December 2018, the Yale Media Freedom and Information Access Clinic filed a lawsuit against the FDA, NIH, and HHS on behalf of medical researchers Charles Seife and Peter Lurie. The lawsuit was later joined by the NYU Technology Law & Policy Clinic. As a result of this lawsuit, which relied, in part, on UAEM's 2019 report on clinical trials transparency, a federal judge ruled in favor of the public's access to results from earlier clinical trials. The judge held that all results of applicable clinical trials that were completed after FDAAA's enactment in 2007 must report their results to ClinicalTrials.gov, closing the 2007 - 2017 loophole that the Final Rule had created. The court ruled that the "FDAAA unambiguously requires responsible parties [i.e., trial sponsors] to submit, and defendants to include on ClinicalTrials.gov," 10 years of clinical trial results which the Final Rule had exempted sponsors from disclosing, overturning the HHS's interpretation of the FDAAA as unlawful[1].

The FDA, NIH, and HHS will now be required to solicit and make publicly available all applicable clinical trial results from studies since 2007. This will require universities and other research entities to engage in reporting basic results from a decade of previous clinical trials.

However, the federal judge declined to order the FDA and HHS to enforce the FDAAA, concluding that enforcement is up to the agencies' discretion. As such, the judge's decision reaffirms the importance of ensuring that trial sponsors are individually committed to improving clinical trial transparency.

World Health Organization (WHO) best practices best practices maintain that results from all clinical trials should be reported on a public registry. However, the current legislative framework exempts certain types of trials from reporting results in this manner. Specifically, the FDAAA of 2007 and its Final Rule define which types of clinical trials are legally mandated to report results on ClinicalTrials.gov. Under this law, trial sponsors must report results from all interventional clinical trials concerning US FDA-approved drugs and devices, as well as biologics, vaccines, radiation therapies, genetic technologies, combination products, and diagnostic tests. On the other hand, Phase I trials, trials conducted entirely outside the US, and trials concerning products that are not regulated health technologies (e.g., nutritional supplements, foods) are exempt from reporting results under this law. Notably, the Final Rule of the FDAAA mandates that trials of both approved and unapproved products meeting these guidelines must be reported. While there are more clinical trials being conducted at each institution, the trials discussed in this report are limited to those subject to these FDAAA parameters, and that have become due to report results after the promulgation of the Final Rule.

[1]See coverage and analysis of the federal court ruling by STAT News, Yale Law School Today, NYU News, and the Center for Science in the Public Interest

05

Implications amidst COVID-19

The ongoing COVID-19 pandemic has reaffirmed the importance of ensuring transparency in clinical research, highlighting the necessity of accurate and timely reporting of clinical trial results amidst such an unpredictable health crisis. Indeed, the novelty and complexity of the pandemic has illustrated how reliant we are on up-to-date reporting of such information.

The increasing severity of the pandemic since Spring 2020 has promoted an urgent need for coronavirus-related research and funding worldwide. As of May 2021, there are over 2800 clinical trials for COVID-19 health technologies underway across the globe – 656 of which are based in the US. In fact, UAEM recently launched an interactive map tracking public investment in COVID-19 R&D which details hundreds of similar studies undertaken by universities and public research groups worldwide. Notably, universities have undertaken an enormous amount of research and development around COVID-19 treatments and vaccines: 26 institutions featured in this report are actively conducting clinical research, with 9 others leading in preclinical studies. Of the universities mentioned in this report, 17 are amongst the top 20 universities receiving the most COVID-19 research funding. These 17 schools have received over $2 billion in public funding alone.

As a whole, the institutions mentioned in this report received hundreds of billions of dollars to fund coronavirus-related research from 2003 to 2020. Strikingly, the University of Cincinnati has received over $100 million in public funding for COVID-19 related research, yet their reporting rate for clinical trials remains one of the lowest at 25%. Research institutions like this must be accountable for the funding they receive and fulfill their legal responsibility to report clinical trials results completely. These institutions play a critical role in responding to the urgent public health needs of our time by rapidly reporting the outcomes of their research and upholding principles of transparency.

In addition, the COVID-19 pandemic has demonstrated that clinical trial data crucially informs the global community's response to emerging health crises by informing clinical and regulatory decision-making. For instance, the FDA's initial emergency use authorization for remdesivir as a potential COVID-19 treatment in May 2020 was based upon early-stage clinical data which suggested that the therapy could potentially be effective against the virus. Such regulatory decisions exemplify the importance of clinical trial transparency in ensuring public safety and trust during a rapidly evolving landscape for biomedical innovation. Moreover, accurately reported clinical trial results remain the best way for the researchers, policymakers, and the public to see that drug and vaccine development is progressing in a safe and trustworthy manner – a feat that corporate press releases alone simply cannot achieve.

Given the novelty of COVID-19, clinical trial transparency can also influence the way future research is conducted; for instance, by informing critical decisions around study design, patient recruitment, risk assessment, and funding. Furthermore, as our understanding of the virus is rapidly evolving, transparency allows providers to make better-informed decisions about patient care to protect communities that have been disproportionately impacted by the pandemic, such as low-income individuals, the elderly, and people of color.

However, the issue of clinical trial transparency extends beyond COVID-19. As the scientific community continues to develop and test novel treatments and vaccines, it is essential that nobody gets left behind. It is our responsibility to ensure that the global population has equitable access to safe and effective health technologies, and clinical trial transparency is the first step toward achieving this goal.

06

DATA AND METHODOLOGY

Methodology

This clinical trial reporting data was manually extracted from the FDAAA Trials Tracker, and the results are updated as of February 5, 2021. The FDAAA Trials Tracker's methodology is explained in this report. The data from the FDAAA Trials Tracker is dependent upon the information published in the Clinicaltrials.gov database, a registry of clinical trials that is run by the US National Library of Medicine. To note, the FDAAA Trials Tracker only includes clinical trials defined as requiring results reporting under the original Final Rule, and does not include trials completed between 2007 and 2017 subject to the recent court ruling highlighted earlier in this report.

The study cohort comprises the 40 US universities that had sponsored the largest number of clinical trials subject to the FDAAA as of September 2017, based on data compiled by STAT News. This cohort of universities has been kept the same from the original 2019 report. Any medical school or cancer research centers affiliated with these 40 research institutions that were previously excluded have been added to this iteration of the study. These institutions have been included in the dataset as separate entities, given that cancer centers and medical schools are sometimes considered to be independent clinical trial sponsors, and may thus have clinical trial results reporting responsibilities separate from those of their affiliated university, as per the FDAAA Trials Tracker methodology. As such, these additions were made in order to bring light to the importance of transparency in research done at cancer centers and medical schools that are yet another part of the university.

Note: Baylor University did not have any applicable due trials in 2019, but Baylor College of Medicine's trials are included in 2021.

07

FUTURE DIRECTIONS

UAEM will continue to periodically track and publicize universities' performance in reporting results from clinical trials in the coming years. We recommend that all universities update their clinical trials reporting protocol structures to strive for reporting rates of 100%, as legally mandated by the FDAAA. Institutions that have already reported 100% of FDAAA-mandated clinical trial results can look to maintain these rates by further strengthening their reporting protocols, and can offer support to peer institutions. Those who are below 100% can develop practices and incentives to encourage researchers to commit to their legal obligations towards complete clinical trials reporting.

Organizations such as the Clinical Trials Registration and Results Reporting Taskforce have already established networks to facilitate knowledge exchange among research administrators in developing such measures. However, we would also like to reiterate that FDAAA compliance is not the final frontier - it is a first step. The World Health Organization advocates for reporting results from *all* clinical trials on public registries within 12 months of trial completion, and we maintain that this should be our ultimate objective as we work to render clinical research more transparent, effective, and impactful.

Toward these goals, UAEM will also be launching a roadmap of best practices that universities can reference when developing their institutional reporting infrastructures, and collaborating with university leadership to implement them. Challenges we are interested in tackling include staff and budget allocation, navigating clinical trial management systems, creating databases of clinical research staff at universities, and establishing standard operating procedures for transferring clinical research data and reporting responsibilities if a principal investigator leaves the institution. Building on the experience of 100% FDAAA-compliant universities and experts in the Clinical Trials Registration and Results Reporting Taskforce, we intend for this resource to help pave the way for clinical trial transparency across the country.

07

Acknowledgements

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About UAEM

Universities Allied for Essential Medicines (UAEM) is a global movement of students organizing on their campuses and beyond to ensure that publicly funded medicines are accessible and affordable for all, regardless of income. UAEM believes that universities and publicly funded research institutions can and should be part of the solution to the global access to medicines crisis, as these organizations have a role to play in advocating for a research & development (R&D) model that works to create and distribute medicines for all.

Clinical trials transparency is a key step to reforming our existing R&D system. A complete, public record of outcomes data allows us to form unbiased views on the efficacy and value of a drug. This leads to greater data accessibility, and enables more open, efficient science. UAEM has been at the forefront of this issue since the launch of their report in March 2019 on university compliance with trials reporting regulations.

08

APPENDIX

Table 1. The Number and Status of Clinical Trials at Universities in February 2021.

University	Trials Due	Trials Reported	Trials Left to Be Reported	Percent Reported
Duke University	67	67	0	100.0
Emory University	49	49	0	100.0
Johns Hopkins University	53	53	0	100.0
Medical University of South Carolina	30	30	0	100.0
University of Michigan	34	34	0	100.0
University of North Carolina Chapel Hill	63	63	0	100.0
Vanderbilt University	10	10	0	100.0
University of Texas Southwestern Medical Center	33	33	0	100.0
University of Pennsylvania	55	55	0	100.0
University of California, Los Angeles	16	16	0	100.0
Case Western Reserve University	4	4	0	100.0
University of Utah	21	21	0	100.0
Mayo Clinic	93	93	0	100.0
Northwestern University	34	34	0	100.0
Columbia University	36	36	0	100.0
University of Pittsburgh	1	1	0	100.0
Cornell University	1	1	0	100.0
University of Texas MD Anderson Cancer Center	141	139	2	98.6
University of Alabama Birmingham	39	38	1	97.4
Yale University	32	31	1	96.9
Indiana University	31	30	1	96.8
The University of Texas Health Science Center at Houston	53	51	2	96.2
Baylor College of Medicine	21	20	1	95.2
University of California, San Francisco	63	60	3	95.2
University of Wisconsin, Madison	21	20	1	95.2
Washington University School of Medicine	50	47	3	94.0
Icahn School of Medicine at Mount Sinai	42	39	3	92.9
Oregon Health and Science University	26	24	2	92.3
University of Miami	25	23	2	92.0
University of Minnesota	32	29	3	90.6
University of Rochester	18	16	2	88.9
University of Chicago	31	27	4	87.1
Stanford University	47	40	7	85.1
University of California, San Diego	26	22	4	84.6
Wake Forest University Health Sciences	35	29	6	82.9
NYU Langone Health	58	47	11	81.0
University of Florida	32	25	7	78.1
University of Washington	47	35	12	74.5
University of Colorado, Denver	34	20	14	58.8
University of Cincinnati	12	3	9	25.0

08

Table 2. The Number and Status of Clinical Trials at Universities in February 2019.

University	Trials Due	Trials Reported	Trials Left to Be Reported	Percent Reported
Duke University	15	15	0	100.0
Emory University	19	19	0	100.0
Johns Hopkins University	16	16	0	100.0
Medical University of South Carolina	4	4	0	100.0
University of Alabama Birmingham	10	10	0	100.0
University of Michigan	9	9	0	100.0
Yale University	7	7	0	100.0
University of North Carolina Chapel Hill	24	24	0	100.0
University of Florida	1	1	0	100.0
Wake Forest University Health Sciences	15	15	0	100.0
University of Rochester	4	4	0	100.0
University of Miami	2	2	0	100.0
University of Pittsburgh	1	1	0	100.0
The University of Texas Health Science Center at Houston	20	19	1	95.0
University of Texas MD Anderson Cancer Center	16	15	1	93.8
Washington University School of Medicine	5	4	1	80.0
Vanderbilt University	9	7	2	77.8
University of Texas Southwestern Medical Center	9	7	2	77.8
University of Pennsylvania	16	12	4	75.0
Indiana University	8	6	2	75.0
Stanford University	10	7	3	70.0
University of California, Los Angeles	6	4	2	66.7
University of Washington	11	7	4	63.6
Icahn School of Medicine at Mount Sinai	7	4	3	57.1
Case Western Reserve University	4	2	2	50.0
Oregon Health and Science University	8	4	4	50.0
University of Minnesota	12	6	6	50.0
University of Utah	6	3	3	50.0
Mayo Clinic	22	10	12	45.5
University of Colorado, Denver	7	3	4	42.9
University of Chicago	14	6	8	42.9
University of California, San Francisco	27	10	17	37.0
Northwestern University	10	3	7	30.0
University of Wisconsin, Madison	4	1	3	25.0
NYU Langone Health	14	3	11	21.4
Columbia University	18	3	15	16.7
University of California, San Diego	6	1	5	16.7
University of Cincinnati	6	1	5	16.7
Baylor College of Medicine	0	0	0	0.0
Cornell University	1	0	1	0.0

08

Table 3. Number and Status of Clinical Trials at Cancer centers in 2021.

Cancer Center	Trials Due	Trials Reported	Trials Left to Be Reported	Percent Reported
Fred Hutchinson Cancer Research Center	23	23	0	100.0
University of Michigan Rogel Cancer Center	11	11	0	100.0
Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins	30	30	0	100.0
Masonic Cancer Center, University of Minnesota	18	18	0	100.0
UNC Lineberger Comprehensive Cancer Center	6	6	0	100.0
Weill Medical College of Cornell University	24	24	0	100.0
Vanderbilt University Medical Center	21	20	1	95.2
Case Comprehensive Cancer Center	21	18	3	85.7
Abramson Cancer Center of the University of Pennsylvania	11	8	3	72.7
UCLA Jonsson Comprehensive Cancer Care Center	8	3	5	37.5