IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

JAMES L. SHERLEY, *et al.*,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	Case No. 1:09-cv-01575-RCL
	)	
KATHLEEN SEBELIUS, in her official capacity as Secretary of the Department of Health and Human Services, *et al.*,	)	
	)	
Defendants.	)	

DEFENDANTS' EMERGENCY MOTION TO STAY PRELIMINARY INJUNCTION PENDING APPEAL AND FOR EXPEDITED BRIEFING AND CONSIDERATION

Defendants respectfully move the Court for a stay of its August 23, 2010 Order (Dkt. 45) pending appeal to the U.S. Court of Appeals for the D.C. Circuit.[1] On August 27, 2010, Defendants filed a Notice of Appeal (Dkt. 46) from that Order, which granted Plaintiffs' Motion for Preliminary Injunction and enjoined defendants and their officers, employees, and agents from "implementing, applying, or taking any action whatsoever pursuant to the National Institutes of Health Guidelines for Human Stem Cell Research ("Guidelines"), 74 Fed. Reg. 32,170 (July 7, 2009), or otherwise funding research involving human embryonic stem cells as contemplated in the Guidelines." The basis for defendants' motion for stay pending appeal is set

[1] Pursuant to Local Rule 7(m), defendants' counsel has conferred with plaintiffs' counsel both on defendants' Emergency Motion to Stay Preliminary Injunction Pending Appeal ("stay motion") and defendants' request for expedited briefing and consideration of the stay motion. With respect to defendants' stay motion, plaintiffs' counsel has stated that plaintiffs oppose this motion. With respect to defendants' request for expedited briefing and consideration of the stay motion, plaintiffs' counsel indicated that he needed to confer with plaintiffs regarding this request, but as of the time of this filing, had not informed defendants' counsel of plaintiffs' position on the request.

forth in the attached Memorandum and accompanying Declaration of Francis Collins, M.D., Ph.D, Director of the National Institutes of Health. A proposed order is also included. Because of the magnitude of harms occurring each day that the preliminary injunction remains in effect, defendants respectfully request expedited briefing and consideration of their motion for stay. Defendants request that plaintiffs' opposition to the motion be due by Friday, September 3, 2010, and that the Court rule by September 7, 2010. If the Court has not ruled on defendants' motion by that date, they intend to present their stay request to the Court of Appeals the following day.

Dated: August 31, 2010

Respectfully submitted,

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MEMORANDUM IN SUPPORT OF DEFENDANTS' EMERGENCY MOTION TO STAY PRELIMINARY INJUNCTION PENDING APPEAL AND FOR EXPEDITED BRIEFING AND CONSIDERATION

Defendants ask this Court to stay, pending appeal, its preliminary injunction in this case in order to avoid terminating research projects midstream, invalidating results in process, and impeding or negating years of scientific progress toward finding new treatments for devastating illnesses such as diabetes, Parkinson's disease, and blindness, as well as crippling spinal cord injuries, through research involving human embryonic stem cells ("hESC"). Defendants have appealed (Dkt. No. 46) the Court's August 23, 2010 Order (Dkt. Nos. 44, 45), granting plaintiffs' Motion for Preliminary Injunction. The Court's Order is sweeping, enjoining "defendants and their officers, employees, and agents . . . from implementing, applying, or taking any action whatsoever pursuant to the National Institutes of Health Guidelines for Human Stem Cell Research ("Guidelines"), 74 Fed. Reg. 32,170 (July 7, 2009), or otherwise funding research involving human embryonic stem cells as contemplated in the Guidelines." (Dkt. No. 45). The Guidelines cover research that has been ongoing for years, including under the policies of the prior Administration.

Read literally, therefore, and in the absence of any further *sua sponte* clarification by this Court of its Order, the prohibition on funding "research involving human embryonic stem cells as contemplated in the Guidelines" effectively bars funding for *any* hESC research. The Order upsets the *status quo* in other ways too, causing irrevocable harm to the millions of extremely sick or injured people who stand to benefit from continuing hESC research, as well as to the defendants, the scientific community, and the taxpayers who have already spent hundreds of millions of dollars on such research through public funding of projects which will now be forced to shut down and, in many cases, scrapped altogether.

As discussed below, defendants' appeal will raise substantial arguments in support of NIH's authority, consistent with the Dickey-Wicker Amendment, to continue funding research involving hESC as they have over the past year in accordance with Executive Order 13505, as well as hESC research under the previous Administration's policies. As this Court noted in its Memorandum Opinion, such research was permitted in accordance with NIH's long-standing interpretation of the language of the Dickey-Wicker Amendment, language that defendants have "maintained . . . since 1999" without any action by Congress "in response" to that interpretation. Mem. Op. at 5. Indeed, Congress has done more than acquiesce in NIH's interpretation: it has expressly endorsed the view that hESC research is not barred by the Dickey-Wicker Amendment. In light of the endorsement by Congress of that rational, long-standing interpretation – an endorsement that was magnified by Congress's approval of the interpretation in the recent passage of the 2010 appropriations for NIH – defendants respectfully assert that their interpretation is consistent with the language of the statute and congressional intent. At a

minimum, this active endorsement demonstrates that the Court's view that the Dickey-Wicker Amendment unambiguously prohibits hESC research is subject to serious debate.

The issuance of a stay is necessary to prevent the irreparable harm that is certain to occur if, during the pendency of its appeal, NIH is forced to cease all activities pertaining to hESC research that is subject to government funding. The Order, in requiring NIH to stop funding hESC research, not only prevents new hESC research from getting under way, but also will have a devastating impact on the viability of research currently in progress. Numerous ongoing projects will likely not survive even a temporary gap in funds, jeopardizing both the potential benefit of the research and the hundreds of millions of dollars of taxpayer funds already invested in it. This devastating impact on hESC research is an injury to NIH's mission, the larger biomedical community, the public at large, and, most critically, the millions of people who are hoping to benefit from life-saving therapies made possible by hESC research. There is great potential for significant breakthroughs, but not if research is halted for the time between the present and when the appeal is decided.

When these injuries are weighed against the injuries purportedly suffered by plaintiffs, the balance of hardships tips decidedly in favor of a stay. While plaintiffs were free, even under the Guidelines, to continue submitting applications for adult stem cell research funding and to compete for funding on a merit basis, the Court's injunction now makes it impossible for hESC researchers to do the same. It is highly doubtful that plaintiffs' economic or professional interests will be affected in any way if the preliminary injunction is stayed – applications for research involving adult stem cells, iPSC, and hESC are not in direct competition with each other. NIH estimates that it will award significantly more for non-embryonic stem cell research

this year. Indeed, NIH has awarded more for non-embryonic stem cell research than it has provided for all hESC research to date, and ongoing hESC research and applications for funding have posed no barrier for either plaintiff, one of whom has apparently never even applied for any NIH research grants. More importantly, plaintiffs' remote economic self-interests do not outweigh the harm the injunction will cause NIH, the hundreds of affected hESC researchers, and the millions of individuals who hold out hope that hESC research will lead to the cure for, or treatment of, their currently incurable illnesses. Defendants respectfully assert that the balance of harms, coupled with the substantial legal questions presented in defendants' appeal, necessitate the issuance of a stay pending appeal.

In light of the immediacy and magnitude of the injury to defendants and the public in the absence of a stay, defendants further request expedited briefing and consideration of their motion. As shown more fully below, each day the preliminary injunction remains in place increases the harm to the critical research that NIH supports, and thus the harms to NIH's mission and to the public at large. Among other irreparable harms already accruing as a result of the Order, hESC intramural research, which is conducted internally by NIH, has started to disassemble. This has disastrous consequences for NIH's existing intramural research projects, and indeed threatens not only ongoing research but the very existence of some stem cell lines. Also, there are 24 ongoing extramural research projects that are up for renewal of funding between this date and the end of the September. Without continued federal funding, the benefits of all prior work on these projects could be lost. On the basis of these and other present and increasing harms detailed below and in the accompanying Declaration of Dr. Francis Collins, Director of NIH, defendants request that plaintiffs' opposition to their motion for stay be due by

Friday, September 3, 2010, and that the Court rule by September 7, 2010. If the Court has not ruled on defendants' motion, they intend to present their stay request to the Court of Appeals the following day.

BACKGROUND

In this action, plaintiffs seek to permanently enjoin the Guidelines, which established policy and procedures for the funding of hESC research – both new and ongoing – and implemented President Obama's Executive Order removing barriers to funding of categories of promising hESC research that had been previously ineligible for federal funds. Plaintiffs moved to preliminarily enjoin the implementation and application of the Guidelines (Dkt. No. 3), and defendants opposed that motion and moved, in the alternative, to dismiss plaintiffs' claims for lack of jurisdiction. (Dkt. Nos. 22, 23). On October 27, 2009, the Court granted defendants' motion to dismiss for lack of standing. Plaintiffs appealed, and on June 25, 2010, the Court of Appeals reversed the Court's ruling with respect to the standing of Drs. James Sherley and Theresa Deisher. *Sherley v. Sebelius*, 610 F.3d 69 (D.C. Cir. 2010). Because the Guidelines could be expected to increase the number of grant applications for hESC research, the Court of Appeals reasoned that they would "intensif[y] the competition for a share in a fixed amount of money." *Id.* at 74. Plaintiffs, as scientists who conduct research on adult stem cells and have received or have stated their intent to seek research grants from NIH, were therefore found by the Circuit to have made a basic showing of "competitor standing" sufficient to establish jurisdiction. *Id.* The Court of Appeals declined to reach the merits of plaintiffs' claims, remanding to this Court for further proceedings on plaintiffs' motion for preliminary injunction. *Id.* at 75.

On the same day that the mandate was entered on the docket of the district court and without further briefing from the parties, the Court granted plaintiffs' motion for preliminary injunction. The Court enjoined defendants and their officers, employees, and agents from "implementing, applying, or taking any action whatsoever pursuant to the National Institutes of Health Guidelines for Human Stem Cell Research, 74 Fed. Reg. 32,170 (July 7, 2009), or otherwise funding research involving human embryonic stem cells as contemplated in the Guidelines." (Dkt. No. 45). By its terms, the Order forecloses NIH from awarding any additional funds for extramural research (i.e., research conducted by researchers outside NIH) involving hESC, including not only new grants but also continuing funding for research projects that are already underway – some for many years – whose funding will soon be up for renewal. Read literally, it also bars ongoing research initiated in compliance with the prior Administration's hESC policy; NIH's own intramural hESC research (which is not funded by grants for which plaintiffs could be eligible); and other activities, including NIH's peer review process for grant applications and continuing maintenance of the Human Embryonic Stem Cell Registry on which much of the biomedical community relies.

Defendants seek a stay of the Order in its entirety, based on the above understanding of the Order's scope, to which defendants are seeking to conform. The ban on funding extramural research, standing alone, will inflict irreparable harm pending appeal, and a stay is essential. And even if the Court's Order was not intended to prohibit intramural research or research commenced under the prior Administration's policies, defendants must attempt to comply with the Order as written, and thereby will suffer additional forms of irreparable harm absent a stay (and absent immediate *sua sponte* clarification from the Court).

With respect to funds already awarded for hESC extramural research and made available to the grantees prior to the Court's Order, defendants do not construe the Order to require them to take affirmative steps to prevent grantees from drawing down previously issued awards, which grantees are entitled to use under their agreement with HHS and on which the grantees are relying to pay for expenses, some of which have already been incurred, and HHS has so advised grantees.[1] If, contrary to defendants' understanding, the Court were to declare that the Order extends to funds that have already been awarded to grantees, the harm would increase by such an order of magnitude that, in the event the Court does not stay the Order in its entirety, defendants request a stay insofar as, in the Court's view, the Order would prohibit the grantees from withdrawing funds from their pre-existing accounts.

ARGUMENT

In light of defendants' decision to appeal the Court's August 23, 2010 Order, the weighty issues presented in this case that must be resolved on appeal, and the irreparable injury that defendants and the public would suffer if that Order remains in place pending resolution of their appeal, defendants respectfully seek a stay. Courts consider four factors in assessing the propriety of granting a motion for stay pending appeal: (1) the movant's likelihood of prevailing on the merits of the appeal, (2) whether the movant will suffer irreparable damage absent a stay, (3) the harm that other parties will suffer if a stay is granted, and (4) the public interest. *See Hilton v. Braunskill*, 481 U.S. 770, 776 (1987); *Cuomo v. U.S. Nuclear Regulatory Comm'n*, 772 F.2d 972, 974 (D.C. Cir. 1985) (internal citations omitted) .

[1] When funds are awarded, they are placed in a federal account in the name of the grantee (typically an academic institution). All grants awarded to a single grantee are placed into the same account. Grantees may transfer money from their federal account to their own bank account at their discretion by directing a funds transfer through an HHS online payment system, which automatically authorizes a funds transfer to the grantee's private bank account. There are guidelines for expenditures and grantees are required to prepare quarterly reports on their progress and expenses, *see* http://grants.nih.gov/grants/managing_awards.htm, but grantees do not need HHS's permission to draw down their accounts.

These familiar equitable factors cannot be reduced to a "set of rigid rules," but rather necessitate "individualized judgments in each case." *Hilton*, 481 U.S. at 777. For instance, the district court, having already ruled against the movant on the underlying legal questions, need not be convinced that the movant has "an absolute certainty of success" on appeal. Instead, "[i]t will ordinarily be enough that the [movant] has raised serious legal questions going to the merits, so serious, substantial, difficult as to make them a fair ground of litigation . . ." *Population Inst. v. McPherson*, 797 F.2d 1062, 1078 (D.C. Cir. 1986) (quoting *Wash. Metro. Area Transit Comm'n v. Holiday Tours, Inc.*, 559 F.2d 841, 844 (D.C. Cir. 1977)), a requirement that may be satisfied if the legal question is one of first impression, *Pan Am Flight 73 Liaison Group v. Dave*, No. 10-mc-0077, 2010 U.S. Dist. LEXIS 68245, at *12 (D.D.C. July 9, 2010); *see also Peck v. Upshur Cnty. Bd. of Educ.*, 941 F. Supp. 1478, 1481 (N.D. W. Va. 1996) ("To find that plaintiffs have a strong likelihood of success on appeal, the Court need not harbor serious doubts concerning the correctness of its decision. Otherwise, relief under rule 62(c) would rarely be granted. What is fairly contemplated is that tribunals may properly stay their own orders when they have ruled on an admittedly difficult legal question and when the equities of the case suggest that the status quo should be maintained."). The substantiality of defendants' arguments on appeal, together with the balance of hardships, weigh heavily in favor of granting a stay pending appellate review.

I. DEFENDANTS' APPEAL RAISES SERIOUS LEGAL QUESTIONS WARRANTING A STAY

Defendants respectfully assert that there is a substantial likelihood that they will ultimately prevail on appeal. Even if the Court reaches a different assessment, defendants' appeal plainly raises serious questions concerning the appropriate interpretation of the Dickey-

Wicker Amendment, which the Court construed in a manner contrary to the interpretation long held by defendants and repeatedly endorsed by Congress.

A. There is a Serious Question Whether This Court's Reading of the Dickey-Wicker Amendment is Correct.

The Court held that the Dickey-Wicker Amendment's prohibition on the use of federal funds for "research in which a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death greater than that allowed for research on fetuses in utero under" applicable federal regulations was "unambiguous." Mem. Op. at 10. According to the Opinion, "the term 'research' as used in the Dickey-Wicker Amendment has only one meaning, i.e., 'a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.'" *Id.* Following this definition, the Court rejected NIH's long-standing interpretation of the language in the Dickey-Wicker Amendment as prohibiting federal funding for the "derivation of stem cells from an embryo that results in the embryo's destruction," but permitting federal funding for "research involving hESCs that does not involve an embryo nor result in an embryo's destruction." *Id.* at 8. The Court held that such a conclusion best fulfilled "the unambiguous intent of Congress to enact a broad prohibition of funding research in which a human embryo is destroyed." *Id.* at 10.

Defendants respectfully assert that the Court's conclusions about the statutory language of the Dickey-Wicker Amendment and the intent of Congress in reauthorizing the Amendment raise serious issues of law to be decided on appeal. As to the statutory language itself, even if one were to reject, as the Court did, the alternative dictionary definitions of the term "research," which do not read the term as broadly as the plaintiffs have asserted, *see*, *e.g.*, RANDOM HOUSE DICT. (2009) (defining "research" as "a particular instance or piece of research"), the

result still does not command rejection of defendants' long-standing interpretation of the statute. The Court accepted plaintiffs' definition of research as a "systematic investigation." But as defendants noted in their Opposition to the Motion for Preliminary Injunction, the word "systematic" is not commensurate with the term "unending" or "undivided"; it refers instead to "having, showing, or involving a system, method, or plan." RANDOM HOUSE DICT. (2009). A particular research project involving stem cells can therefore be "systematic" or "methodical" without needing to include within its scope all steps by other, completely independent parties, that made the research possible. *See* 42 C.F.R. § 52.2 (defining the term "research" in the context of research grants to mean "a systematic investigation, *study* or *experiment* designed to contribute to general knowledge relating broadly to public health") (emphases added).

In any event, this debate is mainly a theoretical one, as it divorces the term "research" from its context in the statute. As defendants described in their Opposition to plaintiffs' Motion for Preliminary Injunction, the term "research" in the Dickey-Wicker Amendment does not stand alone; it is followed and informed by the phrase "in which . . . embryos are destroyed." Thus, the research for which federal funding is prohibited is, as a threshold matter, only that "in which" embryos "are" used. The term "in which" typically has a limiting connotation when used as a prepositional phrase, *see* RANDOM HOUSE DICT. (2009) (defining "in," as a preposition, to be "used to indicate limitation or qualification, as of situation, condition, relation, manner, action, etc."), and the phrase's use of the present tense demonstrates that it was not intended to encompass any and all past or future uses or destructions of embryos, *see Sutton v. United Air Lines*, 527 U.S. 471, 482 (1999). Thus, in defendants' view, the particular "research" that is prohibited must be that "in which" an embryo "is" actually involved. A scientist who obtains

hESC from a third party for use in a research project has not thereby engaged in the "research" the third party previously undertook to derive the hESC, any more than a researcher whose work builds on a prior scientific breakthrough could be credited with making the breakthrough itself.[2] Although the Court rejected that view and found the statutory language in the Dickey-Wicker Amendment unambiguous, there is room for serious debate on this point.

The Court interpreted the language to clearly prohibit all federal funding for research projects involving hESC (because the hESC used in that research are produced by self-renewing cell lines established from cells extracted at one time, even years earlier, from an embryo that was destroyed in the process), but there is serious doubt whether Congress intended such a broad interpretation of the Dickey-Wicker Amendment. Although the Court concluded that such intent was "unambiguous," the Court nevertheless recognized in its Opinion that NIH first stated its interpretation in 1999 (and has actually funded hESC research since 2002). Yet Congress has continued to include the Dickey-Wicker Amendment in annual appropriations to NIH without adjusting the language of the Amendment, Mem. Op. at 5, and Congress repeatedly and expressly acquiesced to the use of federal funds for hESC research under former President Bush. *See*, *e.g.*, H.R. Rep. No. 107-229 at 180 (Oct. 9, 2001) ("The Committee continues a provision to prohibit the use of funds in the Act concerning research involving human embryos. However, this language should not be construed to limit federal support for research involving human embryonic stem cells and carried out in accordance with policy outlined by the President."); S. Rep. No. 107-84 at 18 (Oct. 11, 2001) ("The Committee urges the NIH to move quickly to

[2] Indeed, the scientist who performed the stem cell extraction is likely to be different than the scientist who purchases the cells which he then will use for research for which he seeks or receives NIH funding. Even if the cell extraction process were considered to be research, NIH funding would not have been used for that extraction process. Even when the same scientist performs the extraction and conducts the NIH funded research, NIH funds are still not being used in the extraction process.

support all types of stem cell research, including embryonic, adult, and cord blood . . . ."); *see also, e.g.*, H.R. Rep. No. 110-231 (July 13, 2007); H.R. Rep. No. 108-636 (Sept. 7, 2004); H.R. Rep. No. 108-188 (July 8, 2003). In fact, following the issuance of the final Guidelines by NIH and while this case was on appeal to the D.C. Circuit, Congress again included the Dickey-Wicker Amendment in the 2010 appropriations to NIH without substantive change. *See* Pub. L. No. 111-117, Title V, § 509 (2010). In so doing, Congress again reaffirmed that the Amendment's "language should not be construed to limit Federal support for research involving human embryonic stem cells carried out in accordance with policy outlined by the President." H.R. Rep. No. 111-220 at 223 (July 22, 2009); S. Rep. No. 111-66 at 121 (Aug. 4, 2009) ("The Committee is pleased that stem cell research was included as a special emphasis area in the NIH Challenge Grant program . . . . The Committee also welcomes the recent release of guidelines for the use of human embryonic stem cells [hESC] with NIH funds . . . ."); *see also* H.R. Rep. No. 111-366 at 982 (Dec. 8, 2009) ("In implementing this conference agreement, the Departments and agencies should be guided by the language and instructions set forth in House Report 111-220 and Senate Report 111-66 accompanying the bill, H.R. 3293.").

Congress's repeated endorsement of federal funding for research on stem cells derived from human embryos is difficult to square with the conclusion that Congress unambiguously intends in its annual reenactment of the Dickey-Wicker Amendment to prohibit federal funding for any and all hESC research. *See, e.g., FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 156 (2000) ("[I]t is hardly conceivable that Congress—and in this setting, any Member of Congress—was not abundantly aware of what was going on."); *FDIC v. Philadelphia Gear Corp.*, 476 U.S. 426, 437 (1986) ("At no point did Congress criticize the FDIC's longstanding

interpretation . . . ."). In light of this clear history, there is, at a minimum, a serious question whether Congress could have intended the interpretation proffered by plaintiffs and adopted by this Court.

B. The Legal Questions on Appeal Are Particularly Serious Given the Apparent Scope of the Court's Injunction.

On its face, the Court's injunction Order has sweeping, and potentially catastrophic, consequences for one of NIH's core research missions. The Order forecloses NIH from awarding additional funds for extramural research (i.e., research conducted by researchers outside NIH) involving hESC, including providing any new or supplemental funds, even if the researchers who receive the grant do not themselves destroy, discard, or otherwise deal with embryos in any way. The Order's prohibition extends to research projects that are already underway – some for many years – whose funding will soon be up for renewal, as well as grants for new projects that were about to be approved for funding. But the terms of the Order go even further and impose the following additional consequences:

- The terms of the Order appear to reach NIH's intramural research, even though such research does not involve grants that plaintiffs could receive and plaintiffs face no competition from intramural research. The research is, however, to be conducted in a manner consistent with the Guidelines, as stated in the Guidelines themselves. 74 Fed. Reg. at 32,170. Thus NIH, in paying for it, arguably is "funding research involving human embryonic stem cells as contemplated in the Guidelines."

- By enjoining defendants from "taking any action whatsoever pursuant to" the Guidelines, the Order requires the cessation of NIH's peer review process for hESC applications, of continuing maintenance of the Human Embryonic Stem Cell Registry on which much of the biomedical community relies, and of NIH's administrative and regulatory activities in connection with the Guidelines.

- Because ongoing research initiated in compliance with the prior Administration's hESC policy is encompassed within the current Guidelines and because research approved under that prior policy, like any research involving hESC, uses stem cells derived from embryos that were, at some point, destroyed or discarded, the Court's Order as phrased prohibits that research as well.

Defendants seek a stay of the Order in its entirety, based on the above understanding of the Order's scope, to which defendants are seeking to conform. Of course, as defendants will show, the Order would inflict serious irreparable harm warranting a stay even if it was intended only to prohibit funding for new, post-Guidelines extramural hESC research. But, by its terms, the Order also bans intramural research, research commenced under the prior Administration's policies, and other NIH functions such as continuing maintenance of the Human Embryonic Stem Cell Registry; accordingly, defendants must attempt to comply with the Order as written, unless and until the Court issues the stay defendants seek (or *sua sponte* clarifies that such effects were not intended).

II. DEFENDANTS WILL SUFFER IRREPARABLE INJURY ABSENT A STAY

Implementation of the Court's Order, even during the pendency of defendants' appeal, will deal a serious blow to NIH and to the hESC research that it funds. NIH's mission is to promote the advancement of fundamental knowledge about the nature and behavior of living organisms and the application of that knowledge to the causes, diagnosis, prevention, and cure of human diseases, conditions, and injuries. *See* Declaration of Francis Collins, M.D., Ph.D, Director of the National Institutes of Health ("Dr. Collins Decl.") ¶ 3, attached hereto as Exhibit A. Stem cell research, and specifically hESC research, holds great promise for the development of treatments for a wide range of serious and life-threatening diseases and conditions. *Id.* ¶ 5. To date, therapeutic drugs involving differentiated cells derived from hESC are under development for a number of diseases, including amyotrophic lateral sclerosis ("ALS" or "Lou Gehrig's Disease"), and the FDA recently approved the enrollment of spinal cord injury patients in the first ever clinical trial of a hESC-derived therapy. *Id.* ¶ 6. By enjoining funding for hESC

research "as contemplated by the Guidelines," the Court's Order not only compromises NIH's ability to support the most promising and meritorious research – a key aspect of the Institutes' mission – but it also prevents NIH (as well as the larger scientific community and the millions of people suffering from devastating illness or injury) from realizing the benefits of hESC research in which the federal government has already invested significant resources.

Implementation of this Order will have particularly harsh effects on the NIH intramural research program. In 2009 there were 8 intramural hESC research projects staffed by approximately 45 scientists and other personnel, with a total combined budget of approximately $9.5 million. *Id.* ¶ 17. By its terms, the Order covers these projects as well as hESC intramural projects initiated in 2010, even though Plaintiffs do not in any sense compete for these funds.[3] The scope of these projects is broad, covering research areas such as cancer, neurological diseases, cardiovascular disease, human development, and eye diseases. *Id.* NIH has already initiated intramural research project termination activities in response to this Court's Order. *Id.* The longer that NIH is prevented from carrying out intramural research, the more likely it is that unique biological materials that have taken years to develop and that require ongoing maintenance and attention will be lost. *Id.* ¶ 12. The intramural program also houses a Human Stem Cell Unit, which characterizes the properties of hESC lines, trains intramural investigators to use hESC in experiments, and collaborates with them on specific projects. *Id.* ¶ 17. At the time of the Order, NIH was in the process of recruiting a new Director for an intramural induced pluripotent stem cell ("iPSC") center within the Center for Regenerative Medicine. One of the goals of this iPSC center is to compare iPSC with hESC. The inability to use hESC for such

[3] By its terms, the Order enjoins defendants from funding hESC research "as contemplated in the Guidelines." (Dkt. 45). Although the Guidelines were issued to implement Executive Order No. 13505 as it pertains to extramural hESC research, on their face they provide that intramural research must also be conducted in a manner "consistent with" the Guidelines. 74 Fed. Reg. at 32,170.

comparison studies will likely affect this recruitment and the scope and value of the research planned for this regenerative medicine center. *Id.*

The Order also jeopardizes NIH-funded extramural research, including research that is already under way. For instance, the Order prevents NIH from providing additional funding to 24 hESC projects that have already received some funding from NIH but which depend on supplemental funds for their survival. *Id.* ¶ 10. Absent the Court's Order, supplemental funds would have been distributed to these projects by the end of September. *Id.* As a result of a suspension of funds, even for the period of appellate review, it is highly likely that many of these research projects will be terminated before the fruits of their research can be obtained. *Id.* Valuable and unique research assets will be lost, and with them, the potential promise of life-saving therapies and advancement in our understanding of some of the world's most debilitating diseases. *Id.* ¶¶ 6, 12. The premature termination of these 24 research projects will also waste the approximately $64 million in funds that the NIH had already invested in this research. *Id.* ¶ 10.

The Order will disrupt not only research initiated after issuance of the challenged Guidelines, but also research initiated well before the Guidelines were issued. *Id.* ¶ 11. Although the challenged Guidelines were issued in July 2009 in response to President Obama's Executive Order directing NIH to remove existing obstacles to funding hESC research, hESC research was eligible for and received federal funding for 7 years prior to the Guidelines' issuance. To date, NIH has invested hundreds of millions of dollars in total for hESC research; this includes funding for projects initiated as early as 2002. *Id.* ¶¶ 8, 11, 21. In the period between now and final judgment in this litigation, many of these long-standing hESC research

projects would be eligible for renewals of funding, which they have received consistently before the Court's preliminary injunction. *Id.* ¶ 11. However, by its terms, this Court's Order prohibits NIH from providing any additional funds to support this research. *Id.* Consequently, many hESC research projects that have been ongoing since the Bush Administration will be forced to shut down due to lack of funding, undermining almost a decade's worth of research. *Id.*

Even though defendants do not construe the Order to encompass funds that have already been awarded to grantees, projects that have already received funds for the year are nevertheless still threatened by the Order.[4] *Id.* ¶ 14. Grants typically have 3-5 year project periods but receive funding only on an annual basis, consistent with NIH appropriations. *Id.* ¶ 9. If the Order remains in place during the appeal and funds must be withheld from these projects in future fiscal years, the viability of these projects would be in jeopardy, as discussed above. *Id.* ¶ 14.

In addition to potentially destroying years of research conducted within and outside the NIH community, the Order also substantially impedes NIH's administrative and regulatory activities in connection with the Guidelines to a degree not susceptible to easy remediation. *Id.* ¶ 18-21. *Cf. Ledbetter v. Baldwin*, 479 U.S. 1309, 1310 (Powell, Circuit Justice 1986) (finding irreparable harm where government "will bear the administrative costs of changing its system to comply with the District Court's order" and will be forced to make payments that will be irrecoverable). For example, NIH has ceased all peer review activities of all future hESC

[4] Were the Court to declare that its Order forecloses grantees' access to previously-awarded funds, the results would be all the more catastrophic, forcing the premature termination of additional projects in midstream and threatening researchers' ability to meet payrolls, maintain the integrity of biological materials, and even care for laboratory animals. *Id.* ¶¶ 12, 14. Indeed, adverse effects would be felt across NIH's entire extramural program, if researchers are now given reason to believe that they cannot count on funds already awarded to them or incur costs in reliance on those funds.

research applications and estimates that, if it is forced to defer peer review during the pendency of appeal, it will take as much as 6 to 8 months for the process to begin again with new applications for research involving hESCs. Dr. Collins Decl. ¶ 18. In addition, the process for determining eligibility of hESC lines that can be used in research for NIH funding and inclusion on the NIH Human Embryonic Stem Cell Registry will be halted. *Id.* ¶ 19

Even if defendants ultimately prevail on appeal, there would be no way to recover the losses in taxpayer dollars, unique research resources, and medical advancement engendered by the suspension of funds in compliance with the Order. *Id.* ¶¶ 8, 12, 14. These losses – both economic and intangible – are irreparable. Once the suspension of hESC funding forces projects to shut down, they cannot simply be restarted at the conclusion of a successful appeal. *Id.* ¶¶ 12, 14. Experiments require ongoing care and monitoring, without which critical and unique biological materials may be irretrievably lost. *Id.* ¶ 12. A stay of the Court's Order is the only means to avoid serious and irreparable damage to NIH's mission and to the potentially life-saving research that it funds.

III. THE PUBLIC INTEREST WILL BE SERVED BY A STAY

While the Order will cause devastating and lasting harm to NIH, that harm is by no means limited to defendants. Immediate suspension of the Guidelines and of all funding for hESC research will have an extraordinarily harmful effect on scientific progress, the biomedical research community, and, most importantly, the prospects for delivering new therapies to patients suffering from numerous life-threatening or debilitating disorders. *Id.* ¶ 8. Accordingly, the public interest counsels strongly in favor of granting a stay.

The Court's decision on the preliminary injunction focuses on the alleged harm to plaintiffs from the potential denial of their research applications, but it ignores the fact that such harm is now certain to be suffered by hundreds of hESC researchers who are now barred from additional federal funding and may be unable to complete their work. As set forth in detail in the Declaration of Dr. Collins, the Order jeopardizes the research of Drs. Church, Fox, Spence, and Parsons and numerous other scientists who are in the midst of ongoing investigations of treatments for such debilitating conditions as liver failure and Parkinson's. *Id.* ¶ 10. Unlike the plaintiffs, who even in the absence of an injunction would still have the ability to apply for federal funds on equal terms with all other researchers (including hESC researchers), the hESC scientists affected by the issuance of the injunction are now foreclosed from federal funds entirely, compromising their ability to continue their lives' work. *Id.* ¶ 10.

The effect of the injunction is not limited to the hESC researchers' self-interest, of course. It also threatens to delay progress toward finding life-saving treatments that could be developed from such research. Although the Court indicated in its Opinion that such treatments are merely "speculative," the scientific community has readily recognized the promising research and studies conducted with hESC. *Id.* ¶¶ 5, 6, 10. Indeed, due to the limitations with adult stem cells that "fifty years of research have not been able to overcome," *id.* ¶ 7, the need to explore research into hESC cannot be overstated. Such research, despite its relatively recent inception and the political limitations that have heretofore been placed on it, has already yielded promising results. *See id.* ¶ 6 (explaining that "differentiated cells derived from hESC are already successfully being used to develop new therapeutic drugs for a number of diseases including amyotrophic lateral sclerosis ("Lou Gehrig's disease") and spinal muscular atrophy, to name just

a few"). The Court's Order stops this research in its tracks, undermining years of promising work before potentially life-saving results could be obtained. For these reasons, the Order's most devastating effects likely fall on the millions of Americans suffering from illnesses currently under study with hESC, including Parkinson's disease, spinal cord injury, liver disease, diabetes, cardiovascular disease, and Alzheimer's disease, and for those who might in the future have received transplants of cells and tissues created from hESC because donated organs are not available. *Id.* ¶ 14. Even if, as the Court noted, it is not certain that each of the research projects will ultimately cure or ameliorate all these conditions, what is certain is that the Court's Order disrupts progress toward that goal and deprives millions of patients of hope.

Because the public interest squarely favors allowing this important research to continue, a stay is warranted. *Cf. Winter v. NRDC*, 129 S.Ct. 365, 376-77 (2008) ("In exercising their sound discretion, courts of equity should pay particular regard for the public consequences in employing the extraordinary remedy of injunction.") (citation and quotation omitted).

IV. THERE IS NO EVIDENCE THAT PLAINTIFFS WILL BE HARMED BY THE ISSUANCE OF A STAY

In contrast to the serious and irreparable harm that the Court's Order will cause to defendants, hESC researchers, the scientific community, and the public at large, plaintiffs do not stand to be harmed in any concrete way if a stay is granted. While the Court agreed with plaintiffs that they may be irreparably harmed absent a preliminary injunction, *see* Mem. Op. at 14, defendants respectfully assert that this ostensible harm is both conjectural and insignificant, especially when weighed against the immensity of the harm certain to be caused by the Order. Although the Court of Appeals held that plaintiff researchers had alleged an injury sufficient to establish Article III standing, nowhere did the Circuit suggest that plaintiffs' alleged injury was

so imminent, irreparable, and severe as to warrant injunctive relief. The only "actual, here-and-now injury" identified by the Court of Appeals was plaintiffs' supposed need to "invest more time and resources to craft a successful grant application," in response to the increased competition from hESC researchers eligible for funding under the Guidelines. *Sherley*, 610 F.3d at 74. This ostensible injury is most decidedly not of the sort that would warrant a preliminary injunction or justify the denial of a stay. *See Jayaraj v. Scappini*, 66 F.3d 36, 39 (2d Cir. 1995) (inconveniences do not amount to irreparable harm).

Plaintiffs' allegation that they will be denied funds as a result of the Guidelines is conjectural, at best. There was no evidence before the Court that either remaining plaintiff stood to suffer the denial of a research application as a result of the award of funds to a hESC researcher, let alone suffer such a loss during the pendency of an appeal. Indeed, the evidence before the Court was that the Guidelines have posed no barrier to either remaining plaintiff. Dr. Sherley received NIH funding following the issuance of the Guidelines and thus notwithstanding the alleged increase in competition.[5] Dr. Collins Decl. ¶ 23. Because applications for research using adult stem cells, iPSC, and hESC are not in direct competition with each other for funds, there is no reason to believe that Dr. Sherley would be affected by the funding of hESCs for the duration of appellate review. *Id.* ¶ 22. The likelihood of harm to Dr. Deisher as a result of the stay approaches the vanishing point. As far as NIH is aware, Dr. Deisher has never made a single application for the funding for which she claims increased competition. *Id.* ¶ 24. That plaintiffs never sought an injunction pending their appeal of the Court's prior dismissal of their

[5] Although Dr. Sherley has also submitted five grant applications that were not awarded (in addition to those grant applications that were awarded), this denial of funds was in no way attributable to the Guidelines or competition from hESC researchers. Rather, it was the result of the failure of his projects to clear peer review on the basis of scientific merit, a prerequisite to eligibility for funding. Dr. Collins Decl. ¶ 23.

claims belies any suggestion they may make that they will face serious harm during the pendency of defendants' appeal.

Notwithstanding this Court's finding with respect to the potential harm to plaintiffs' careers, *see* Mem. Op. at 14, if any researchers' livelihoods are at stake in the Court's decision of whether to grant a stay, it is the livelihoods of hESC researchers, who are certainly and suddenly deprived of financial support as a result of the Court's order, not the livelihoods of plaintiffs, whose research would remain eligible for funds for the duration of defendants' appeal. A stay should not be denied for the benefit of two scientists whose only alleged harm is increased competition from other meritorious research projects that may ultimately save lives.

CONCLUSION

For all the foregoing reasons, defendants respectfully request that the Court stay its preliminary injunction pending appeal. In light of the immediacy and magnitude of the injury to defendants and the public in the absence of a stay, defendants further request expedited briefing and consideration of their motion.

Dated: August 31, 2010

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

DR. JAMES L. SHERLEY, et al. Plaintiffs, v. KATHLEEN SEBELIUS, et al. Defendants.	Civil Action No. 1:09-cv-01575 (RCL)

DECLARATION OF FRANCIS S. COLLINS

I, Francis S. Collins, M.D., Ph.D., pursuant to 28 U.S.C. § 1746, declare under penalty of perjury as follows:

1. I am the Director of the National Institutes of Health ("NIH"). I am responsible for setting policy for NIH and for planning, managing, and coordinating the programs and activities of all the NIH components. I am informed about program priorities and accomplishments through Office of the Director staff, Institute and Center staff, as well as through the extramural scientific community, patient advocacy and voluntary health groups, and Congress. Prior to assuming the role of NIH Director in August 2009, I served as the Director of the National Human Genome Research Institute from 1993-2008. I have also worked part-time as a senior investigator of an NIH intramural research laboratory where I conduct experimental research and lead a team of biomedical research scientists.

2. In these positions, I am familiar with the process used by NIH to review applications for research grants as well as the day to day operations at NIH by intramural scientists, and I make this declaration based upon information within my personal knowledge or provided to me in my official capacity.

3. NIH funds grants, cooperative agreements, and contracts that support biomedical and behavioral research leading to the advancement of fundamental knowledge about the nature and behavior of living organisms and the application of that knowledge to the causes, diagnosis, prevention, treatment, and cure of human diseases, conditions, and injuries.

4. NIH supports research both within and outside the NIH community. Funds for research conducted by academic and other institutions not affiliated with NIH, referred to as extramural research, are provided through a competitive, peer review process operated by NIH. Extramural research accounts for approximately 84 percent of the NIH's budget. NIH also employs scientists who conduct research in government laboratories on the NIH campus and elsewhere. Research conducted directly by NIH through its scientist employees is referred to as intramural research, and accounts for approximately 10 percent of the NIH budget. Funds for intramural and extramural research are specifically budgeted each fiscal year and are not readily interchangeable. NIH supports all of its research through Institutes and Centers (ICs) that award grants and conduct intramural research, as well as the Office of the Director. See List of Institutes, Centers and Offices, at http://www.nih.gov/icd/. NIH supports both intramural and extramural human embryonic stem cell research.

The Importance of Human Embryonic Stem Cell Research

5. Human embryonic stem cells ("hESC") were first isolated in 1998 by Dr. James Thomson at the University of Wisconsin. On August 9, 2001, President George W. Bush determined that NIH funds could be used to support hESC research if the following criteria were met: (i) the derivation process (which begins with destruction of the embryo) was initiated prior to 9 pm EDT on August 9, 2001, (ii) the stem cells had to be derived from an embryo that was created for reproductive purposes and no longer needed, (iii) informed consent must have been obtained for the donation of the embryo, and (iv) there could be no financial inducements for the donation. NIH ultimately determined that 21 hESC satisfied President Bush's criteria and therefore were eligible for use in NIH funded research. Investigators have embraced this opportunity to realize the remarkable potential of hESC to pursue critical questions about how the different cells of the human body develop, how they are affected by disease, and how hESC can contribute to the development of therapeutics through cell replacement and/or drug screening.

One of the first awards for hESC research was made to Dr. George Daley at Children's Hospital in Boston in 2002 to dissect the molecular mechanisms responsible for turning hESC into blood cells and their precursors. He is currently funded to compare the ability of hESC and induced pluripotent stem cells (described in ¶ 7) to produce blood cells. Including that initial award and his present funding, NIH has provided more than $2.7 million dollars to his laboratory

alone, and as a result, Dr. Daley has produced a detailed procedure for the generation of blood cells from hESC. Based on his progress in directing hESCs to develop into blood cells, it is possible in the future that they could be used to address virtually all genetic and malignant blood diseases that are currently treated by gene therapy or bone marrow transplant. These include sickle cell anemia, Fanconi's and other congenital anemias, Hodgkin's lymphoma, chronic lymphocytic and myelogenous leukemias and myelomas, among others.

Since those first awards in 2002, NIH has a total aggregated investment of $546 million in intramural and extramural hESC research. As a result of these investments, NIH funded animal studies, often referred to as preclinical studies, are underway to test whether cells or tissues derived from embryonic stem cells, human and/or mouse, are of benefit for retinal degeneration, stroke, liver failure, muscular dystrophy, myelin deficiencies, motor neuron diseases, and Huntington's disease.

Stem cell research holds great promise for the development of treatments for a wide range of serious and life-threatening diseases and conditions. Some of those opportunities for basic and applied research are described in a document from the National Academies of Science, Understanding Stem Cells: An Overview of the Science and the Issues (2009). Research into the unique properties of stem cells may lead to major medical breakthroughs that would offer hope to people suffering from cancer, diabetes, cardiovascular disease, spinal-cord injuries, neurodegenerative conditions, and many other disorders. Both adult stem cell and hESC research show further promise to develop our understanding of and treatments for many diseases, conditions, and injuries, such as blood disorders, heart disease, autoimmune disorders like multiple sclerosis, lysosomal disorders, as well as joint and bone disease.

6. Indeed, remarkable progress has already been made in realizing the possible benefits of hESC research. Even though hESC were not even isolated until 1998, the first clinical trial of a hESC-derived therapy has received FDA approval to begin enrolling spinal cord injury patients. This trial will test the safety of using hESC-derived precursors for the cells that insulate nerves in the spinal cord to restore spinal cord function. This is a remarkable achievement and heralds what should be the beginning of a new era in cell-based therapy. Equally important, differentiated cells derived from hESC are already successfully being used to develop new therapeutic drugs for a number of diseases including amyotrophic lateral sclerosis ("Lou Gehrig's disease") and spinal muscular atrophy, to name just a few. Without dependable and consistent

support from NIH, hESC research and development of new therapies will be dealt a critical blow that will have dire ramifications for those suffering from the many diseases and disorders may be treatable with hESC-based therapies or drugs developed using hESC testing.

7. Opponents of hESC research posit that adult or non-embryonic stem cells have the same potential for therapeutic benefit as hESC. In considering the relative benefits of adult and embryonic stem cell research, it is critical to remember that adult stem cells were identified over a half century ago and have been the subject of robust research for decades. This research has produced FDA-approved treatments that reconstitute the immune system after leukemia, lymphoma, and various blood or autoimmune disorders have been treated with chemotherapy.

NIH believes that it is important to continue to support research using adult stem cells since there may be additional clinical applications for which they will be useful. However, adult stem cells also have serious limitations that fifty years of research have not been able to overcome. First, they are currently available in quantity only from blood forming tissues and cord blood and once collected, they do not divide indefinitely and therefore produce a finite number of cells. Second, despite many years of work, it has not been possible to differentiate adult stem cells into cell types that are very different from their tissue of origin. A bone marrow stem cell, for instance, cannot be differentiated into a neuron. In contrast, hESC can be expanded in cell culture to essentially limitless numbers. They are also "pluripotent": with appropriate protocols, it appears that they can be turned into any of the different cells of the human body. These expanded cell populations can be used to elucidate disease pathogenesis and screen new drugs, as well as to develop cell-based therapies. This is particularly important in the case of human brain cells, which are not readily available from other sources as brain biopsies are only justified for diagnostic purposes and brain autopsies do not yield viable nerve cells. Thus, hESC may offer significantly more scientific and clinical potential than do adult stem cells.

Very recently, scientists discovered that it is possible to instruct adult skin cells to return to a very early developmental stage. This can be accomplished using viruses carrying molecular signals that turn back the developmental clock so that they possess hESC-like properties: they continue to divide indefinitely and are pluripotent, with the potential to give rise to all the cells of the human body. These induced pluripotent stem cells ("iPSC") represent a new, third category of stem cells and were discovered as a direct result of the knowledge gained from studying hESC. They are of great interest to scientists. However, they are not well understood yet, and a

growing body of research suggests that there are significant biological differences between iPSC and hESC. In addition, there are significant safety issues because viruses and a cancer gene are used to induce pluripotency in most of the protocols used to generate iPSC. Most scientists believe that it is essential to continue research on hESC as we explore the potential of iPSC.

In FY 2009, NIH funded over 1,000 extramural projects and subprojects involving non-embryonic human stem cells (including adult stem cells and iPSC), totaling $397 million. During FY 2010, NIH has provided an estimated $380 million in non-embryonic human stem cell research funding.

The Impact of the Court's Order on hESC Research

8. The preliminary injunction issued in this case will have extraordinary adverse effects not only on the prospects of delivering new therapies to patients suffering from numerous diseases and disorders but also on scientific progress from the wider biomedical research community. It will result in immeasurable loss of valuable and one-of-a-kind research resources. Unique modifications and applications of hESC, underway in laboratories with federally-funded research as far back as 2002, could be lost irretrievably or could take years to recreate. Experiments that may have been months or years in development will be halted prematurely, before any promising results can be obtained. Investigators who have devoted their careers to this exciting area of research may have to close their laboratories or move to another country. Government resources already expended on hESC research to date, including over $546 million dollars of public funds, will have been wasted and the mission and operations of NIH will be severely hampered as a result of this Court's Order.

Disruption to Extramural Research

9. As a result of the Court's Order, NIH is prohibited from awarding funds to extramural research projects involving hESC, thereby jeopardizing grants for research projects that are in varying stages of funding. These grants include research projects that have the potential to advance the use of hESC in therapies for heart disease, sickle cell disease, liver failure, muscular dystrophy, and other critical diseases and conditions. Grants typically have 3-5 year project periods but receive funding only on an annual basis, consistent with NIH appropriations. At this time, three categories of grants are affected: (1) grants already awarded that are up for their next year of continuation funds by September 30, 2010, (2) applications for grants that have successfully completed the first level of peer review and are scheduled to

receive final approval by Institute Advisory Councils, after which NIH expected to provide the first year of funding by September 30, 2010, and (3) applications for grants that are currently in the peer review process.

10. With respect to research projects already under way, the Court's Order prevents NIH from providing $54 million in funds to 24 hESC research projects that were expecting to receive continuation funds by September 30, 2010. These 24 projects have already received a combined $64 million in funding from NIH over the previous years of their project periods. Taxpayer money already invested in these research projects will be irretrievably lost due to this Order. In addition, these institutions depend on NIH for continued financial support. Prior to this Court's Order, these projects would have been eligible to receive their next year of continued support, contingent upon the completion of an annual progress report. The grants include projects that study basic aspects of stem cell biology, advance stem cell technology, and work towards applying hESC to therapies for a variety of diseases and disorders. Examples of these projects include the following and all use lines that were eligible before the NIH Guidelines for Human Stem Cell Research ("Guidelines") were issued on July 7, 2009 (described in ¶ 5 above):

- Dr. Church and his research team from Children's Hospital in Boston, Massachusetts, and Harvard Medical School are conducting a comprehensive comparison of hESC and induced pluripotent stem cells ("iPSC"). It is absolutely essential that we learn whether or not there are significant functional differences between hESC and iPSC. A growing body of evidence suggests that the two classes of pluripotent cells are not identical and therefore iPSC cannot be universally substituted for hESC. This research is expected to provide invaluable information on the use of hESC as compared to iPSC for many applications, including development of life-saving therapeutic strategies.
- Dr. Fox at the University of Pittsburgh is exploring hESC as a potential replacement source of liver cells for transplantation. At present the only treatment for liver failure is liver transplantation. There are not enough donor livers available and the surgery is technically difficult and risky. One way to overcome these problems would be to use liver cells derived from hESC. Dr. Fox is making excellent progress and has shown that he can generate 100,000 to 200,000 pure liver cells and transplant them successfully into an animal model of liver failure. The next steps would be to develop methods to significantly increase the number of liver cells produced in preparation for exploring non-human primate models.

- Dr. Spence at the Children's Hospital Medical Center in Cincinnati, Ohio is working on methods to direct hESC more efficiently into therapeutically important tissues including the lung, liver, pancreas, and intestine. He has identified two chemical signals that determine whether the hESC will become liver or pancreas. This grant is a two-year fellowship to support his training before he looks for a position as an independent scientist. Absent a stay of this Court's Order, the funding for the second year would be suspended, likely terminating his training and quite possibly jeopardizing his future career.
- Dr. Parsons from the University of California Riverside is studying how to manipulate hESC differentiation into brain cells, both neurons and supporting cells. Death of nerve cells has devastating consequences since they do not regenerate and there is no source for replacement. As noted earlier, it is extremely difficult to obtain brain cells from children and adults for studies of possible therapeutic agents. The development of recipes for directing hESC reliably to form nerve cells would have extraordinary implications for cell replacement in neurodegenerative diseases like Parkinson's disease and amyotrophic lateral sclerosis ("Lou Gehrig's Disease"). Such derived nerve cells can also be extraordinarily useful for identifying new drugs that may protect the brain and prevent conditions like Alzheimer's disease. Dr. Parsons, who is early in his career as an independent scientist, is making remarkable strides toward this goal. If his funding lapses as a result of this Court's prohibition on funding hESC research, progress will cease and he may not be able to continue as an investigator.

11. The preliminary injunction affects not only NIH's ability to fund projects that have been initiated after Executive Order 13505 issued on March 9, 2009, and the Guidelines that the Plaintiffs challenge, but also its ability to fund projects that were already in progress during the previous Administration. Of the 24 hESC grants discussed above, almost all of them were in progress prior to July 7, 2009, when the Guidelines were issued. The preliminary injunction would therefore not return NIH and the research community to the position that they were in before the Guidelines issued, but would impede research that has been ongoing since 2002. Long-existing projects up for renewal in the period between now and final judgment will be shut down by lack of NIH funding and the scientific community and taxpaying public now stand to lose much of the benefits of many years of research in which NIH has thus far invested.

12. Even a temporary suspension of funds would jeopardize ongoing research projects. When a laboratory experiment is prematurely interrupted, it cannot be easily restarted. Such experiments involve biological materials such as cell lines growing in lab incubators that must be managed daily to encourage growth and prevent contamination. Valuable laboratory animals serving as models of spinal cord injury, Parkinson's disease, or diabetes that were being used to test new therapies under grants using hESC may be lost, many of them forced into euthanasia. Once critical research tools and reagents – including unique materials that have taken years to develop – have been lost due to the termination of research for lack of funding, it may take months or years to recreate them, if recreation is even possible. In addition, laboratory personnel whose jobs depend on grant funds may be let go and the best investigators, including promising young investigators, may abandon this line of research or move to other countries that support hESC studies. In fact, during the period when only 21 hESC lines were available for investigators to use with NIH funds, one prominent United States stem cell scientist moved to England to pursue hESC research.

13. Prior to this Court's Order, NIH had already provided funding to 199 grants for research on hESC in FY 2010 in the amount of $131 million. We do not interpret the intent of this Court's Order to require NIH to deobligate the funds already awarded to these projects. NIH payments on grant awards are managed through an electronic payment system. Each of the institutional grantees has its own account. These accounts hold funds for all the grants the institution has received from both NIH and other HHS operating divisions; thus, the funds in the grantees' accounts are from multiple grant awards addressing a variety of research topics. After the grant award, authorized grantee representatives access their accounts and draw down funds as needed at their discretion through the electronic payment system, with no involvement of agency officials.

14. Discontinuing support for all hESC grants in future Fiscal Years will have drastic economic and scientific consequences. Economically, it is estimated that each NIH grant directly supports six jobs at the local institution. See McGarvey, WE, Morris, P, Li, X, Li, J, Probus, M, Cissel, M, Haak, LL (2008) How Many Scientists Do the NIH Support? Improving Estimates of the Workforce. NIH Analysis Report 20081219, 1-23, http://report.nih.gov/FileLink.aspx?rid=530. Thus, discontinuing financial support for the 223 research projects (mentioned above as 199 grants given FY 2010 funds and 24 continuing grants

awaiting FY 2010 funds prior to this Order) would result in the loss of over 1,300 full or part-time jobs, as well as the potential loss of top U.S. scientific talent as lead scientists may be forced to move to other countries to pursue their cutting-edge hESC research. In addition, since these projects are being discontinued mid-stream, all the funds that have been put in accounts or already drawn down until this point ($270 million over the two to five year life of these grants, including what has been provided FY 2010) will have been wasted as investigators and labs can neither finish their current projects nor pursue what has been learned. The momentum that has finally been established in the hESC research field will be lost. Young scientists may turn away from this field due to the instability of stopping, then starting and now stopping again. More senior investigators may look to other countries such as Singapore, China, and the United Kingdom to pursue their work. The greatest loss, however, will be for the millions of Americans suffering from illnesses currently under study with hESC, including liver diseases, cardiovascular diseases, eye diseases, and neurodegenerative diseases like Alzheimer's and for those who might in the future have received transplants of cells and tissues created from hESC because donated organs are not available.

15. This Order also will prevent about 20 new hESC applications from being awarded for $24 million dollars. These 20 applications have not been previously supported by NIH, were approved in a rigorous peer review process as scientifically meritorious, and were expected to be approved by the Institute Advisory Councils in September 2010 to receive funding prior to this Order. As science is always changing, supporting new, cutting-edge science is critical to spur innovation and prevent stagnation of scientific progress.

16. In addition, this Order will prevent 211 grant applications, which have been submitted and are at varying stages of the peer review process, from completing the peer review process. It is not known how many of these applications would have been deemed sufficiently meritorious in peer review to be funded.

Disruption to Intramural Research

17. Implementation of this Order will have particularly harsh effects on the NIH intramural program. Currently there are 8 intramural hESC research projects staffed by approximately 45 scientists and other personnel, with a total combined budget of about $9.5 million (FY 2009 data). The scope of these projects is broad, covering research areas such as cancer, neurological diseases, cardiovascular disease, human development, and eye diseases.

NIH has already initiated research project termination activities in response to this Court's Order. In addition to the specific research projects, the intramural program also has a Human Stem Cell Unit which supports intramural hESC researchers. The members of the Unit characterize the properties of hESC lines, train intramural investigators to use hESC in experiments, and collaborate with them on specific projects. This unit has an annual operating budget of $800,000 and employs four people. NIH is also in the process of recruiting a new Director for the Center for Regenerative Medicine, one of my highest scientific priorities for the intramural program. The goals of this Center are to move pluripotent stem cells into clinical trials. The inability to use hESC for such comparison studies will likely affect this recruitment severely; recruiting a top notch scientist to take on this role under such circumstances is highly unlikely, and so the scope and value of the research planned for this regenerative medicine center will be lost.

Disruption to Agency Administration and Mission

18. Implementation of this Order has severely disrupted NIH from completely fulfilling its mission. For example, peer review, a cyclical rolling process involving approximately 15,000 reviewers reviewing approximately 80,000 applications on an annual basis, has been halted for hESC applications. If disruption to the cycle continues for a significant length of time and then the process is reinstated, it could take up to 6-8 months for the hESC applications that are currently in the system and being deferred to undergo consideration by peer review, causing significant delay to additional hESC research projects.

19. In addition, the process for determining eligibility of hESC lines for NIH funding and inclusion on the NIH Human Embryonic Stem Cell Registry will be halted, causing major disruption to the NIH and the biomedical community. Owners of cell lines who wish to receive a designation of eligibility for their lines from NIH must submit detailed documentation of the consent process and other factors related to compliance with the Guidelines. Review of this detailed documentation is performed by outside expert reviewers. NIH has already had to cancel a meeting of the reviewers overseeing these applications that had been scheduled for August 24, 2010, and the future of that group is in jeopardy.

20. Finally, the proposed change to the NIH Guidelines (per February 23, 2010 Federal Register notice) has been suspended. This change, as proposed, would have expanded the definition of "human embryonic stem cells" to include those derived from embryos that did not reach the blastocyst stage and allowed for additional lines to be considered by NIH.

21. Although difficult to quantify exactly, the financial loss to NIH and to the taxpaying public which has funded the research to date, including the hundreds of millions already spent on funding interrupted extramural research projects, the millions lost on intramural research, and the administrative costs of shutting down and restarting the NIH regulatory regime for hESC research, would be enormous. Though not all of the indirect consequences can be easily quantified, NIH has directly invested over $546 million of taxpayers' money in intramural and extramural hESC research since 2002.

Effect On Plaintiffs Sherley and Deisher

22. The plaintiffs argued that NIH support for hESC research harmed their ability to obtain funding for their own work on adult stem cells. But applications for research using adult stem cells, iPSC, and hESC are not in direct competition with each other for funds. As cited above, NIH estimates it will support $380 million in human non-embryonic stem cell research in FY 2010. That total is significantly more than the $131 million provided for all hESC research to-date in FY 2010. But it is highly unlikely that Plaintiffs would benefit from any additional available funds that would have gone to existing or approved hESC projects. Only a very small part, if any, of the money made available to the NIH's $26 billion extramural research program is likely to go to stem cell research because stem cell research proposals must compete with *all* other extramural research applications according to the ordinary NIH grant review process, which takes into account the research priorities of each NIH institute as well as the scientific merit of each proposal.

23. Plaintiff Dr. James Sherley has been a successful principal investigator ("PI") on prior research grants from NIH. In 2006, the Massachusetts Institute of Technology, with Dr. Sherley as PI, received the first year of a five year grant totaling $2.5 million in direct costs under the NIH Director's Pioneer Award (NDPA) Program that is expected to continue through 2011. In 2007, the NDPA was transferred to Dr. Sherley's current employer, the Boston Biomedical Research Institute. A grant supplement was also made on July 20, 2009, under the American Recovery and Reinvestment Act ("ARRA") of 2009. In 2010, despite the lifting of certain prior restrictions on hESC research funding and the allowance of a broader range of hESC research consistent with the Guidelines, Boston Biomedical Research Institute with Dr. Sherley as a PI received a $425,500 Shared Equipment Grant under the NIH ARRA program. Ongoing hESC research and applications for funding for new hESC projects have thus not posed

a barrier for Dr. Sherley. Prior to the promulgation of the Guidelines, between 2007 and 2009, Dr. Sherley has submitted five additional applications to NIH that were not awarded based on the results of peer review. The limited merits of the applications that Dr. Sherley submitted were the reasons for the declination of his applications, not competition from hESC applications. In addition Dr. Sherley's success rate equals or betters the NIH wide average of 20% since he received three grants out of eight applications.

24. While plaintiff Dr. Theresa Deisher received training support from NIH in the early 1990s, she has to my knowledge neither applied for nor received any NIH research grants either individually or as a PI for her organizations.

I declare under penalty of perjury that the foregoing is true and correct. Executed at Tecumseh, Michigan, this 31st of August, 2010.

Francis S. Collins

FRANCIS S. COLLINS, M.D., PH.D.
Director
National Institutes of Health

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

JAMES L. SHERLEY, *et al.*,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	Case No. 1:09-cv-01575-RCL
	)	
KATHLEEN SEBELIUS, in her official capacity as Secretary of the Department of	)	
	)	
Health and Human Services, *et al.*,	)	
	)	
Defendants.	)	

[PROPOSED] ORDER

Upon consideration of Defendants' Emergency Motion to Stay Preliminary Injunction Pending Appeal, any memoranda filed in support thereof or opposition thereto, and the entire record herein, it is hereby,

ORDERED that Defendants' Motion is GRANTED, and it is

FURTHER ORDERED that the Court's August 23, 2010 Order in this case is stayed in its entirety pending Defendants' appeal.

SO ORDERED this _____ day of _____, 2010.

_____
THE HONORABLE ROYCE C. LAMBERTH

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

JAMES L. SHERLEY, *et al.*,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	Case No. 1:09-cv-01575-RCL
	)	
KATHLEEN SEBELIUS, in her official capacity as Secretary of the Department of	)	
	)	
Health and Human Services, *et al.*,	)	
	)	
Defendants.	)	

[PROPOSED] ORDER

Upon consideration of Defendants' Motion for Expedited Briefing and Consideration of their Emergency Motion to Stay the Injunction Pending Appeal, it is hereby

ORDERED that Defendants' Motion is GRANTED, and it is

FURTHER ORDERED that Plaintiffs shall file any opposition to Defendants' Motion to Stay Injunction Pending Appeal by September 3, 2010.

SO ORDERED this _____ day of _____, 2010.

_____
THE HONORABLE ROYCE C. LAMBERTH