A few minutes ago, on the last day on which comments would be accepted, I submitted the comments below to the Department of Health and Human Services in connection with its Notice of Proposed Rulemaking to amend its regulations under the National Organ Transplant Act. That amendment would, in effect, reverse the Ninth Circuit’s decision that hematopoietic stem cells removed from a donor’s blood through apheresis were not “bone marrow” or any other organ covered by the Act, and its criminalization of any compensation for the organ or tissue donor. I oppose the regulatory change, as should not surprise anyone who read my earlier post after the Ninth Circuit decision, here (along with Professor Alex Capron’s different view, here, and my response to him).

My comments follow.

* * * *

My name is Henry T. Greely. I am the Deane F. and Kate Edelman Johnson Professor of Law; Professor, by courtesy, of Genetics; and Director of the Center for Law and the Biosciences at Stanford University. My work focuses on ethical, legal, and social issues arising from new developments in the biosciences. I am submitting these comments on my own behalf; they do not necessarily reflect the views of my employer or anyone else.

On October 28, 2013, one of my Stanford colleagues, Nalini Ambady died. The 54-year-old Stanford psychology professor had acute myelogenous leukemia and
needed a bone marrow or hematopoietic stem cell transplant. No transplant was available for her; a few possible donors were identified but were unable or unwilling to provide tissue.


The Notice of Proposed Rulemaking published in the Federal Register on October 2, 2013, would, in effect, reverse the court’s decision in *Flynn v. Holder* by amending the definition of “human organ” in the regulations found at 42 C.F.R. §121.13 so that it expressly includes human hematopoietic stem cells. Specifically, it will add to the words “bone marrow” the words “and other hematopoietic stem/progenitor cells without regard to the method of their collection.”

I oppose this revision for two reasons. First, and most important, it makes impossible a useful and relatively risk-free way to experiment with new methods for procuring organs or tissues. Second, it creates uncertainty about the eventual clinical use of hematopoietic stem cells derived through human embryonic stem cells, human induced pluripotent stem cells, or other novel stem cell technologies.

**Policy Experiments**

*Flynn v. Holder* provides the opportunity for real world experiments. Since the beginning of organ transplantation, the number of organs for transplants has been insufficient. And almost since the beginning of organ transplantation, debates have raged about various methods of increasing the supply of organs. Various proposals have been floated by academics and others from many fields and many countries, ranging from free markets in organs to carefully controlled and limited incentives. As a result of the National Organ Transplant Act and its criminalization of compensation for organ donors, many of those experiments could not be tried in the United States. As a result we do not know which, if any, of those plans would work, and with what, if any, costs
We do know one thing, however. About 130,000 Americans are currently on waiting lists for solid organs or bone marrow. Many thousands of them will die every year because of a shortage of transplantable organs. The potential that incentives for donating hematopoietic stem cells through apheresis will increase donations seems high. Its risks, discussed more below, are lower than those of aspiration, as are its costs in discomfort. Given the low disincentives to donors – much lower than those involved in, for example, kidney or liver lobe transplantation – even small incentives might have big effects.

So why not try it?

One strong reason for limiting compensation to donors is to avoid living donors being unduly induced to put their own health at risk. The relative safety of the apheresis technique for withdrawing human hematopoietic stem cells cannot be seriously questioned. It is, of course, possible that some patients may experience side effects from cell stimulating drugs or from the placement of the lines necessary for the removal and return of the circulating blood, but the Notice of Proposed Rulemaking itself admits that this method is safer for the donor than aspiration. The risks to donors of using this method are both small and smaller than the alternative method.

The Notice also invokes the Congressional intent in passing the National Organ Transplant Act of 1984 as a reason. The Ninth Circuit did not find the Congressional intent so clear or powerful. If the Department wished to disagree with the Ninth Circuit panel’s reading of Congressional intent, it could (and should) have sought a hearing from the Supreme Court. For the Department to base, at least in part, this amendment on its disagreement with a judicial interpretation of what can be concluded about the 1984 Congressional intent seems questionable. (And, of course, if the current Congress agrees with the Department, it can put this regulatory language into the statute.)

The Department also argues for this amendment, in one very long sentence, on the grounds that compensation for donation by apheresis might 1) lead to exploitation of those in medical need, 2) discourage altruistic donations, and 3) increase the likelihood of transmission of disease through the collection and use of infected blood. The Notice provides absolutely no evidence that any of those results will happen. It states them as fiat.

Yet human blood is not covered by the National Organ Transplant Act, neither are various other tissues that are routinely donated between people. Those areas do not provide any obvious examples of these harms, except possibly a decline in altruistic gamete donation in light of paid gamete donation. The systems, formal and informal, that limit exploitation and disease transmission for those tissues would presumably apply to these tissues.

As to a decline in altruistic donations of human hematopoietic stem cells, even if that were to happen, it is not a relevant consideration in itself. Altruism may be a
virtue to be encouraged – though query whether the federal government should be in the business of implementing an Aristotelian “virtue ethics” – but it is mainly justified as a step toward an end, of providing tissues that are safe for the recipients and safely taken from the donors. It should not be fetishized as an appropriate governmental goal. Nor does the possible increase in costs from some compensation be viewed as necessarily significant, given that it would likely be a small addition to the existing costs of transplantation.

Finally, although it is not a major part of my argument, I do want to point out those often ignored costs. Today, living donor or the families of deceased donors are nearly the only people involved in organ transplantation who are prohibited from receiving some compensation for their donation. Many parts of the health care system receive substantial compensation from organ transplantation, albeit couched as reimbursement for expenses or from the provision of professional services. The hospitals, institutions, and medical personnel who procure tissues for donation, those who test and process them, and those who transplant them, probably receive more than $1 billion dollars annually for their services. That compensation may well be appropriate, but it seems odd, and possibly hypocritical, that the people whose tissues are being used – without whom none of this system and the vast number of potentially life-saving organ and tissue donations provided to patients – should be the only ones in the chain not to receive any compensation.

The natural experiment provided by Flynn should be allowed to take place. It should be monitored carefully and should, of course, be subject to all other laws and regulations governing tissue donation and transplantation. The Notice points out that the Ninth Circuit decision does not mandate the particular scheme proposed by the plaintiffs in Flynn. That is true, but it is not a sufficient argument. Rather than just banning all such efforts, it seems possible that the Department might issue regulations that did provide for certain limited experiments with compensation for this kind of donation, upon Department approval. Or, better yet, require registration, reporting, and monitoring to see what kinds of programs were used and – crucially – what their results. I do not know whether the Department's regulatory authority under the Act, or other statutes, would stretch so far, but it seems at least plausible. In any event, that option should be discussed before moving to a ban. And even if the Department did not take any steps to limit how the apheresis exception were used, in light of the low risks, it could well make sense to let the exception play out, under observation, for, say, five years before using the evidence provided by such a trial period to consider again this regulatory amendment.

The Department has been given a golden opportunity to add data to the debate about how we procure organs and to do so in a context that minimizes the risks to the donors. One thing we know, with certainty, is that our organ procurement system is not saving as many lives as it could. The experiments that Flynn allows could tell us ways that it might be improved – or, just as importantly, prove that some of those ways are not worth implementing. Just slamming the door on those experiments is, I submit, not a good response.
The New Technologies

New technologies are opening up the possibilities of creating human hematopoietic stem cells without resorting to either aspiration or apheresis and, indeed, possibly to any living human donor at all. Although not yet ready for clinical trials, efforts are under way to make hematopoietic stem cells from human embryonic stem cells, from human induced pluripotent stem cells, and from differentiated human cells through transduction, making them hematopoietic cells without taking them back to a pluripotent stage.

I do not know whether, or when, these developments will lead to clinical applications. I would be surprised if they were not successful within the next few decades – but biology is endlessly surprising. More importantly for this proposed regulation, I do not know how this regulation might affect them. They would seem to be included as “other hematopoietic stem/progenitor cells without regard to the method of their collection.” Should they be? Would the constraints of the National Organ Transplant Act fit well with, conflict with, or be totally irrelevant to a world with clinical use of manufactured blood forming stem cells? I do not know – and I suspect neither does the Department. At the very least, those issues must receive some consideration, including discussion in the relevant regulatory documents, before this amendment is adopted.

Conclusion

The current regime under the National Organ Transplant Act of 1984 has been substantially in place for 30 years. It largely has been successful in preventing, or at least greatly limiting, abuses of organ and tissue donors and their families, and of organ and tissue recipients. Flynn v. Holder has created, or recognized, a new exception to that regime. This regulation would reinstate the status quo from before Flynn v. Holder, but, before adopting it, it is essential to recognize that the current regime has failed in at least one vital way. It has failed miserably to provide enough organs to meet the clear medical need. As a result, people who might live are dying.

It is possible that the current system is optimal, that any changes to increase the number of organs will either fail or will incur such large ethical or other costs as to be counterproductive. But it may not be. We do not know – and without some experiments, we cannot know. Flynn v. Holder provides a chance to explore new and better ways to increase organ supply in acceptable ways.

Under the status quo, thousands die annually. I did not know Nalini Ambady but she was one of them. Would an ethically acceptable incentive scheme for apheresis-based hematopoietic stem cell donation have saved her life, or the lives of others? We can only know if we try; rejecting those options in favor of a blind return to a failed status quo would be wrong.

Henry T. Greely