

*Justice in Residency Placement:  
Is the Match System an Offense  
to the Values of Medicine?*

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Medical residency—specialty training after the completion of medical school—is an essential component of medical education and is required in order to be a licensed, independent medical practitioner in most jurisdictions. As things currently stand in the United States, the match between medical school graduates and residency programs is governed by a match between rank-order lists prepared by candidates and residencies alike. An applicant picks a number of residency programs and ranks them according to order of interest. The residency program prepares a similar list, ranking the candidates it most wants in its program. A computer program compares the rankings and makes assignments according to a certain algorithm. Using these lists, the match system assigns approximately 24,000 applicants to approximately 21,000 training positions in pediatrics, obstetrics and gynecology, internal medicine, and the rest. These assignments are then announced to all parties on specific days. The system has been in place since 1952 and is overseen by the National Residency Match Program (NRMP), a nonprofit organization. This system has several advantages. First of all, it standardizes the timetable for decisions, and applicants are in no position to tie up offers while waiting to hear from other institutions. Institutions are not held captive, either, in making assignments while waiting to hear from particular parties.

There *are* ethical aspects of the match—both internal and external. One of the most important internal concerns is that some residencies and candidates violate NRMP rules by entering into contractual relationships prior to formal action on rank-order lists.<sup>1</sup> Some candidates and residencies try to renege on their choices after the fact. In fact, some residency directors and applicants directly acknowledge dishonesty on their part.<sup>2</sup> It is also true that some residency directors and candidates believe the system can unfairly reward personal relationships.<sup>3</sup> Some U.S. candidates go unmatched to residencies because graduates of international medical schools displace them. For some, this displacement of domestic medical graduates raises a serious question of equity.<sup>4</sup> By contrast, some of the best foreign medical school graduates may find themselves unranked by the most prestigious residency programs, raising

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questions again about the role of personal relationships and institutional prestige in deciding who gets ranked and who does not. An additional worry is whether all residency candidates are given a fully formed view of prospective working conditions, salaries, and benefits. If not, candidates may make choices relying on poor and incomplete information. It also sometimes happens that residencies manipulate the number of slots they maintain in their program, primarily to ensure the appearance that they are fully functional.<sup>5</sup>

What the foregoing internal concerns have in common is that they all involve the process of the match. External concerns involve the match per se and its broad social features. In early 2002, a lawsuit charged that the match system violated antitrust laws. According to the suit, the match system unfairly controls competition by not allowing candidates to entertain competing offers or to negotiate as individuals about wages, hours, and other terms of employment.<sup>6</sup> The suit also alleged that hospitals share information about salaries as a way of keeping them low. Some commentators believe that the *educational* nature of residencies will protect the match system from having to abide by antitrust laws. Others believe that the laws apply here with the same force they apply to the coal and steel industries. The fate of this suit will, of course, be decided in the courts. Regardless of what happens with this lawsuit, many people see the match as an improvement on the open competition for positions and candidates that existed prior to 1952. Whether the current system should be modified to increase wages and improve working conditions for residents is an undecided question. After all, other mechanisms might be used to increase wages and decrease hours worked without departing from some version of the match system.

Prior to the filing of the antitrust lawsuit, D. Micah Hester raised a different ethical concern about the match system. Hester's chief criticism is that current match program embodies a competitiveness that corrupts core values in medicine.<sup>7</sup> According to Hester, the competition involved in the match encourages values that are antithetical to the medical profession. He says that "so long as competitive practices run rampant in institutionalized activities such as residency matching, medicine simply will never fully meet the concerns of the people who need its help and a society that needs its comfort."<sup>8</sup> In short, medicine is hypercompetitive, the match is part of this syndrome, and we all suffer as a result. If he were right, his would be a powerful critique of a system that has largely escaped the radar of commentators analyzing the moral aspects of medicine and one that would, in fact, be a telling moral indictment of medical training.

As an alternative to the match system, Hester proposes the use of a lottery: the assignment of medical school graduates to residencies within a preferred specialty would occur entirely by chance. This is a drastic proposal and, I think, unwarranted both in terms of damaging effects on residency programs and candidates alike. This is not to say that there are no ethical worries about the match, but it is to say there would have to be a much more convincing indictment of the match program before there would be good reason to abandon residency assignment to chance.

### **Is Professional Football the Right Role Model for Medicine?**

Under Hester's proposal of random assignment, all candidates would stand an equal chance of being selected for each residency opening in a designated

discipline, and each residency would stand an equal chance of having a particular candidate assigned to it. For example, a candidate interested in pediatrics would be assigned at random to one of the available slots in pediatrics residencies around the country. And so on for all other candidates and residency programs. As there would be no rank-order lists, there could be no sly wink-and-nod commitments between candidates and institutions courting one another. Hester's proposal would completely eliminate competition of candidates against one another and competition among residencies. It would also—as he notes—eliminate choice for both candidates and programs alike.

Hester is not persuaded that the loss of choice would be especially worrisome; he says a lottery would open up new resources and energies:

Eliminating the competitive Match system would provide residency programs and candidates with the resources to work on other more pressing issues. More time, energy, and money could go to support such concerns and activities as better salaries and hours for residents, outreach programs, deeper professionalism, and ethics and humanities education—concerns and activities that go to the heart of moral medical care.<sup>9</sup>

Over and above these benefits, there is already precedent for using the luck of the draw for important personal and institutional reasons. Professional athletes—football is one of the examples he uses—have very little say in where they work and/or play. Men pursue their interests in playing football, and a system assigns them without consultation. Hester would like to know why this is acceptable in football but not in something as socially important as medicine. He wonders whether “a lottery-based matching system could be considered the ‘price to pay’ in order to become a physician.”<sup>10</sup>

There are too many moral differences between football and medical residencies to make it worthwhile to pursue this analogy very far. First of all, in football as in other professional sports, team assignment does not occur purely by chance. Prospective football players must meet various criteria to be eligible for a *draft* by a team, which has prepared a *rank-order list* of desirable players. A team's right to select from the pool of eligible candidates is determined by its standing and agreements it may have made with other teams. For example, a team that fares poorly in a year's play is given opportunities to select candidates before teams that finish with better records. However, teams may trade their rights among one another: they may exchange their rights to pick immediately in exchange for the right to select from a pool of recruits later on. A rank ordering is therefore very much at the heart of football assignments—even if it is a one-sided rank ordering.

Because of the draft, professional athletes do have very little say about where they end up, but this is not always the case. Some players function as free agents and may make contractual arrangements entirely apart from the draft system. In these ways, both players and teams jockey to improve their chances of making mutually satisfactory—and not random—arrangements. Some exceptional athletes, for example, want to play for teams they believe have the best chances of winning championships. Not even football, therefore, provides an exact parallel of the kind of random lottery Hester proposes for medicine. If one wanted an exact parallel of the football draft in medicine, then applicants would have the right to be free agents and institutions should be able to swap

their picking rights among themselves. This approach would, of course, keep a core of competition at work in residency assignment and likely be unacceptable to lottery-minded reformers.

Let's assume, though, that the key point of moral interest in making the comparison in the first place is the willingness of football players to work where drafted, a willingness rooted not in anticipation of gridiron fame or financial fortune but in the love of playing football itself. In a sense, playing in the National Football League should be reward enough for any small-town high school hero who dreams of going pro one day, no matter how dismal the record of the team to which he is assigned, no matter his long-term prospects. Hester wonders why this same attitude—it is enough to be in the game at all—should not also prevail in medicine. In other words, the rewards of being in medicine should override any specific concerns about where one wants to train and live.

It is not clear, however, that random assignment would promote selfless values in physicians any more than a one-sided draft does in professional football. Random assignment would disrupt important interests for more than a few residents, and this disruption could easily undermine selfless anticompetitive attitudes. Ending up on a team one dislikes won't do much for the team whether that team is athletic or medical. Moreover, it is certainly not clear that random assignment would make trainees better diagnosticians or better therapists or even help them exhibit more humane behaviors toward patients. Simmering resentment could corrode humane values and foster poor clinical habits just as badly—if not more so—than the competitive aspects of the match. Even professional football players—the best of them, anyway—try to control where they play, especially those concerned with the rewards of league victories, championship rings, and commercial endorsements. I suspect that most professional football players would like some say about their assignments, regardless of their underlying love of the game. I think the same would hold true for physicians facing a lottery as well. Medicine is important, but where one practices medicine is going to be important too, so much so that it can even influence the kind of residency training one pursues.

Over and above this worry about personal satisfaction, would it be true that a sports-style draft in medicine would dampen objectionable competition? Rather than dampen competition, we might see exactly the opposite effect. If there were a residency draft in the way there is a football draft, medical school graduates would likely do anything they could to make themselves more visible to the residencies, which is to say that they would have reason to be more competitive than ever before with their peers. Under a one-sided draft, any act of altruism among medical students—something that would advance the prospects of other candidates—might sabotage one's own chances. Of course, having residency assignment done randomly for both candidates and programs alike would solve this particular problem because altruism would not work against one's own advantage. Yet that prospect does not look promising either.

One way to gauge the value of a competitive residency system is to imagine what a system *without* competition would look like. A lottery system could be expected to undercut motive and effort among medical students. Certain medical school graduates are better than others with regard to their baseline knowledge in diagnostics, their problem-solving skills and therapeutic judg-

ments, and their interpersonal skills. And most of them did not get that way without the expectation of some kind of reward. To put the matter plainly: what incentive would there be to strive toward superior achievement in medical school if residency assignment turned a blind eye toward all accomplishment and occurred only by chance? It might well be true that some students would go the extra mile in medical school—those who do so for personal satisfaction or psychological compulsion—but it seems reasonable to believe that lethargy would set in if extra efforts *could not, could never* help in securing a preferred residency.

There is also something suspect about offering the least accomplished medical students an opportunity to work in the most challenging, demanding—and by extension most prestigious—residencies. There is a joke that circulates about medical students: “What do you call the person with the lowest grades in the worst medical school?” The answer is “Doctor.” It is hard to see that one would be doing the poorest performing students any favor by placing them in the most demanding residencies in the nation, just as it would be doing little favor to burden highly functional residencies with students who have stumbled and limped their way to a diploma. After all, it is not only talent that would be randomly distributed; a lottery would also distribute the opposite of talent—whatever one wants to call that.

When one is thinking about the distribution effects of a lottery, it is also important to consider the ways in which medicine is not football. The first thing to be said in this regard is that football’s one-sided system of assignment works against no important social interest. The point of its draft system is to ensure that talent is not all siphoned off by a few teams, making competition between the teams lopsided. The goal, in other words, is to ensure that the franchises remain interesting to audiences and economically profitable. In the *moral* order of things, it does not matter very much which team ends up with the best overall record, the most individual team member records, or who garners the vaunted Super Bowl trophy and accompanying large-stoned jewelry. Although supporters may be fanatical about the Chicago Bears or the Buffalo Bills, no important social interest is compromised if one team finishes with a better record than the other. Consequently, the existing process of selecting players into teams does not morally impair any important social function even if certain teams end up weaker or stronger than their competitors. The composition of the teams *is* of intense personal, financial, and athletic interest. The standing of the home team *is* a badge of civic pride, but that prominence carries little moral weight by itself.<sup>11</sup> The same cannot be said of the composition and success of medical residencies.

Medical residencies are not equal in terms of what they prepare their residents to do and how well each trains its physicians. Some residencies are much more likely than others to encourage their trainees to engage in clinical research, to assume academic posts, and to go on to leadership roles in the profession. Others are much more likely to channel their trainees into certain kinds of practice—for example, working in institutions providing large amounts of charitable care. Across residences there is a social division of labor that ultimately succeeds if residencies attract the candidates whose personal goals are consonant with residency goals. It *does* matter which students are tracked into residencies because these programs train particular people whose knowledge and skills are fundamental to the design of the healthcare system, produce trainees who are



expert in the management of certain kinds of patients, and develop the skills of particular people who will fill specific roles in the delivery of healthcare. It is reasonable to believe that random assignment of residents would undercut this division of labor and compromise the ability of residencies to achieve their important social goals. Unlike the outcome of a Bears versus Packers contest, residency selection has a social effect that is not morally negligible.

Residencies work to select good matches between themselves and their trainees for a variety of reasons.<sup>12</sup> If a residency were filled entirely by lottery, residencies would have to prepare themselves for *every kind* of medical school graduate, and they would have to deal with all sorts of problems, including, for example, interns with minimal preparation and skill. To be sure, football teams find themselves in this kind of situation all the time. They sometimes don't get the seasoned star lineman from a Big Ten school; they get the second-string lineman from the Ivy League who spent a lot of his last season injured on the sideline. He shows promise, but he remains an unknown quantity. Consequently, the team must design and play a very different kind of football. Is it not asking too much of residencies, however, to reconnoiter each summer to adjust to new residents of unknown skills and temperaments? If candidates for residency programs were all more or less equal in terms of their entering abilities—or abilities to which they could be brought—one could possibly make the case that assignments should be made at random. But the candidates are not interchangeable replicas of one another, and about this there is no real disagreement. Consequently, in view of the goals of the residency programs—to say nothing of the goals of the candidates themselves—serious mismatches could occur if matters were decided by fate.

As to the matter of the residents' happiness, Hester does acknowledge that some of them would be resentful about assignments given to them by chance, but he thinks that this resentment would be offset by the educational value of exposure to trainees from all across the country and by the value of predicted improvements in patient care. He says that residency programs with their supply of trainees chosen at random

would benefit from having fully supplied medical staffs and residents from an array of educational backgrounds, and the diverse residents could learn from each other while providing care for otherwise underserved patients. On the flip side of the equation, if it is in fact the case that some residency programs are better than others, these so-called top programs would have the opportunity to work with a variety of residents from different schools and backgrounds, residents who might not otherwise have had the opportunity to learn from the "best."<sup>13</sup>

As matters stand, a residency is already free to seek diversity among its trainees. How well residencies do secure diversity is another matter, but Hester has not argued the point this way. If diversity—and not competition per se—is really the problem Hester wants to confront, he would have to show that there is at present a systematic problem with the diversity within residencies. Even if one agrees that some residencies look remarkably homogenous, it would still have to be shown that measures less intrusive than a complete lottery could not help matters. For example, aggressive practices in recruitment across geography, race, gender, sexual orientation, and so on could offset any lack of diversity within a given residency program.

It is true that a lottery would give candidates from medical schools that are not at the “top” opportunities to train at places that would not otherwise consider them. But, again, there is nothing in residency selection at present that prevents top schools recruiting among candidates who more than compensate for the lack of lustrous educational pedigrees by force of native intelligence, humane values, and novel career ambitions. Many advisors believe their medical students are worthy of a place among the very best residencies. It is not by itself a moral lapse that these “best” residencies cannot accommodate all applicants. Sometimes it is merely bad luck that intrudes. There would be a moral lapse in the system if certain programs consistently excluded certain candidates for ill-founded, prejudicial reasons. Hester has not, however, argued the point this way.

Hester also believes that a lottery would also free up resources for important, pressing educational needs. It is simply untrue, of course, that once some resources are freed up—say, the time and effort involved in interviewing residency candidates—that these automatically flow where they might be wanted. In fact, physicians involved in overseeing residency recruitment—interviews, answering questions, preparing promotional materials, ranking candidates—might just as easily turn their attention to increasing clinical revenue as to improving humanistic education of residents.

It must also be wondered how random assignment would necessarily improve care for underserved patients. A lottery might help distribute talent more broadly across residencies, but by itself this would not mean that underserved patients would necessarily receive better care. If “the best” medical graduates do not like their placement, lingering resentment could work to sabotage quality of patient care they deliver as residents. Second, it is worth repeating that the opposite of talent would be just as randomly distributed by a lottery as well, which could substantially weaken healthcare for some patients.

One could try to make the argument that there is some virtue of self-effacement achieved by a residency lottery, a self-effacement important to the practice of medicine itself. It is not clear, however, that this process would achieve that selflessness or that it would last for any time beyond the residency. As I mentioned earlier, it is certainly not clear that a residency lottery would make people better diagnosticians or better therapists or even help them exhibit more humane behaviors toward patients.

### Chosen Relationships and Happiness

Hester believes that there is something about a match system based on mutually acceptable choices that is part of an erosion of medical ethics. In fact, however, the preservation of choice is a bedrock moral value in medicine, one that undergirds patient-physician encounters. The American Medical Association Code of Medical Ethics declares that “A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical care.”<sup>14</sup> In other words, *choice* is a core value of medicine because it is important to both patient and provider alike to enter into mutually satisfactory relationships: except for emergency or court-ordered treatment, healthcare relationships should not be *random* or *involuntary*. Of course, some

healthcare relationships are random: people entering emergency rooms do not usually have the luxury of choosing their doctors. The same holds true for patients whose only recourse to healthcare is from charitable or government-sponsored sources. It is hard to understand nevertheless why the principle of choice—so important to healthcare relationships—should not also extend to educational relationships to the extent that it can.

Lotteries are not without their appeal. Part of the appeal of financial lotteries—in which people can win millions of life-transforming dollars—is that they allow people to fantasize what they will do with their money when their ship comes in. In other words, even for the losers, the period of Proust-like anticipation prior to the lottery is entertaining, fun, diverting. For the price of a single dollar, a humble worker, while waiting for the lottery results to come in, can imagine retiring to majestic castles amid fruitful vineyards in France or to South Pacific seascapes caressed by balmy breezes. If one stood an equal chance of entering hundreds of residencies, one would have to work overtime to spin out corresponding expectations about how one's life might go. Will one end up at the major centers of biomedical research in Bethesda, in the hurly-burly cultural life of New York, or amid the suburban quiet of Shaker Heights? Having a chosen and limited number of residency options in front of one is a way of making peace with the outcomes ahead. In other words, an element of stability offers a psychological rudder for navigating the life-affecting results of the match process.

When it comes to the social fate of residents, there are important reasons to avoid complete randomness in residency assignment. For example, many residents are married and have children. Some residents have primary responsibility as caregivers for aging or sickly parents. It would be a fundamental hardship to give these residents no say whatsoever in where they train. A decision to pursue a particular residency is *not only* about where one continues medical education; it also reflects choices about one's familial and financial interests. For some residents it would be a hardship in the extreme to move their families from Florida to Alaska or to relocate them to rural programs far from their families. In another instance, it would be an undue economic hardship to ask some residents to shoulder the unwanted costs of residency in Manhattan when they actually prefer less costly life in smaller cities in the South. These kinds of complications could be multiplied without much difficulty. That some residencies last six or seven years makes it all the more important to recognize that random assignment in residency could create and magnify all kinds of problems for trainees. The value of even the most prestigious educational opportunities can be eroded in the extreme by personal hardship.

### **The Morality of Leaving Things to Chance**

There is at least one well-developed line of argument for taking things out of the hands of human beings and leaving them to the vagaries of fate as a *principled* way to resolve moral problems. In a classic article on justice in the distribution of *scarce* lifesaving resources, bioethicist James Childress once argued that when all other things are equal, chance should decide who gets these treatments: he proposed that those who need them first get them; others who arrive later do not.<sup>15</sup>



According to Childress, the use of chance in the allocation of scarce lifesaving treatments avoids any prejudicial judgments that could creep into mechanisms for deciding who gets life-sustaining medical interventions and who does not. For example, physicians or ethics committees would not be called on to decide whether to save the life of a 54-year-old single man who is a priest over the life of a 32-year-old married woman who is an alcoholic. This kind of concern is not purely speculative. Prior to the 1972 decision of the U.S. federal government to support the cost of hemodialysis, selection committees made decisions about which patients should receive this then scarce and expensive treatment. This selection process was controversial, as its decisions literally meant the difference between life and death.<sup>16</sup> Originally, patients could be included if they were under the age of 45 and had some means to pay for the procedure. However, these criteria yielded far too many patients relative to the hemodialysis services available at the time. To identify a smaller pool of patients, standards of social worth were incorporated into committee decisions: whether the patients were employed, whether they were parents of dependent children, whether they were educated, socially valuable, and so on.<sup>17</sup> Justifiably, there was worry that these standards were invidious and an affront to moral commitments to equity. With his proposal to deploy scarce lifesaving medical treatments on a first-come, first-served basis, Childress was offering a mechanism to bypass fallible and possibly corruptible human judgment in allocation decisions. Where matters are decided by chance alone, there can be no misjudgment about the value of a particular life.

If we follow the logic of Childress's approach, it does not seem evident that the use of chance would be similarly justified in residency placement. First of all, the stakes are not the same. The question of life or death is of a magnitude far above the question of educational options. In other words, no matter how the match system sorts rank-order lists, no candidate is prejudicially treated on a scale that compares to being let to die and no ranking is made on the basis of the perceived value of that candidate's life. This is not to say that fallible and corrupted methods of residency assignment would be acceptable. It is only to say that the effect of assignment is not so baneful that we should avoid using a humanly devised method of selection to avoid any misstep at all. Certainly, there is little evidence that residency programs make their selections on the basis of invidious judgments about the perceived value of candidates' lives.

### **Making a Case for the Lottery**

Because of certain ethical worries, it is understandable that there have been calls for greater study of the effects of the match. What is unclear, however, is that these worries amount to an indictment of the match system per se. In one study of residency applicants, only 4% of the respondents believed that the match should be completely overhauled.<sup>18</sup> Whatever the problems of the match system are, it is not clear that residency assignments made at random will solve them without also causing broad, systemic problems on a large scale.

Leaving residency assignments to chance is a drastic solution to problems that are more asserted than demonstrated in Hester's commentary. Hester does not identify specific damages to diagnostic skill, therapeutic judgment, or

specific humane values traceable to the existing mechanism of residency assignment. In any case, if there are generic problems caused in medicine by competition for residency slots, it is not clear that chance assignments will solve them. The charge that competition is destructive to medicine is certainly overbroad inasmuch as competition is a key instrument of change and improvement, as one commentator has pointed out.<sup>19</sup> Moreover, it is not obvious that the current mechanism of residency assignment departs from a key value at the core of healthcare: voluntary relationships. There are good reasons for protecting chosen *healthcare* relationships between patients and practitioners and seeing them as superior to involuntary relationships. Given the ways in which *educational* relationships also benefit from voluntary associations, it is simply odd to believe that choice should be altogether suspended during residency.

That said, it is possible to outline the circumstances under which residency assignments by lottery *could* be morally justified. To be persuasive, an argument against choice in assignments would have to show that a ranking system is imperfect in a way that compromises fundamental moral interests of medical school graduates, residency training programs, or society itself. For example, the evidence would have to show that people of a certain ethnic or social minority systematically fail to get into residencies. This is the kind of logic that undergirds affirmative action measures. Or the evidence would have to show that residencies systematically fail to attract the candidates necessary to achieve important social goals. This approach would invoke the kind of logic that undergirds national conscription in times of military need. More ultimately, the evidence would have to show that patient care suffered in some important way for a reason traceable to the fact that medical school graduates trained where they preferred to train and residencies trained the candidates they thought most suited to their programs.

But in all these foregoing cases, evidence would also have to suggest that other, less intrusive measures would be *unlikely* to correct these problems. For example, overwrought competitiveness in medicine might be controlled if medical schools worked to admit students who value cooperation more than academic self-promotion. Or, medical schools and residencies could work to reward cooperative values more than they do at present. These innovations could do something in their own way to blunt the worst aspects of competition. In any case, it is worth mentioning that reform in any aspect of the match will be difficult to achieve unless it occurs all across residencies and among all candidates. Unless there is reform acceptable to all, it would be asking a great deal of any single residency or candidate to forgo the advantages of the existing system, to ask them to observe rules that may disadvantage them, and to do so in the name of their better ethical selves.

Medicine is iconic and mythic at once, and it does not fail to be the object of moral and social fantasy. It is one thing to dream of a noncompetitive medicine that is full of ethics, professionalism, and humanities. It is another thing altogether to identify problems of diagnosis, treatment, and humane values in practitioners and to identify specific ways by which to address those problems. There is no reason to think that medicine—in the values espoused by its practitioners—would be better served if a lottery handed out random residency assignments. The problem of residency assignment is not like decisions about lifesaving treatment, the one case where it might be argued that matters should

be governed by chance, the one place we might not want to trust fallible human judgment.

When it comes to residency assignment, we need not fear fallible human judgment so long as we are willing to identify and resolve problems as they occur. D. Micah Hester said that he wanted to open a debate about residency assignment, and he has structured that debate around competitiveness. In fact, however, it appears that the debate would be more profitable if it were framed in terms of quantifiable problems: whether certain kinds of candidates are systematically excluded from some residencies; whether residencies are deprived of the benefits of diversity because of their patterns of selection; or whether slipperiness in the observance of match rules has a corrosive effect on the diagnostic powers, therapeutic judgment, and humane values of practitioners. In any case, it will require a more serious argument—beyond a generalized worry about the effects of competition—to justify further deliberation about replacing the existing match system with random assignment.

## Notes

1. Carek PJ, Anderson K. Residency selection process and the match: does anyone believe anybody? *JAMA* 2001;285(21):2784–5. See also: Mangan KS. Keeping “the match” honest. *Chronicle of Higher Education* 7 Dec 2001, A32–3.
2. Teichman JM, Anderson KD, Dorrough MM, Stein CR, Optenberg SA, Thompson IM. The urology residency matching program in practice. *Journal of Urology* 2000;163:1878–87.
3. See note 1, Carek, Anderson 2001.
4. One recent ethical dispute was resolved when the NRMP shifted their algorithm away from favoring the rankings of the residencies over the rankings of the applicants. In the past, the NRMP had justified this approach by saying that it paralleled “the real-life process in which hospitals make the offers to their potential employees.” For some commentators, however, giving this advantage to residency programs undercuts important interests of the candidates, and the system now tries to match applicants to residencies rather than the other way around. See: Williams KJ. A reexamination of the NRMP matching algorithm. *Academic Medicine* 1995;70:470–6. See also: Williams KJ. Comments on Peranson and Randlett’s “The NRMP matching algorithm revisited: theory versus practice.” *Academic Medicine* 1995;70:485–9; Peranson E, Randlett RR. Comments on Williams’ “A reexamination of the NRMP matching algorithm.” *Academic Medicine* 1995;70:490–4.
5. Pearson E, Randlett RR. The NRMP matching algorithm revisited: theory versus practice. *Academic Medicine* 1995;70:477–84.
6. Liptak A. Medical students sue over residency system. *New York Times* 7 May 2002:A1.
7. Hester DM. Rethinking the residency matching process and questioning the value of competition in medicine. *Academic Medicine* 2001;76:345–7.
8. See note 7, Hester 2001:345.
9. See note 7, Hester 2001:346.
10. See note 7, Hester 2001:346.
11. The one possible exception here might be if teams were racially segregated. This is not a problem in contemporary football, though it might be in other sports.
12. Even though the argument goes against a pure lottery, something might be said for introducing an element of chance into lottery assignments in another way. For example, a residency might categorize applicants in one of two categories: (a) acceptable and (b) unacceptable. The final selection might be made at random from the category of acceptable applicants. I owe this insight to Alan Schwartz, but as it is not the issue under discussion, I will not consider its ethical implications further.
13. See note 7, Hester 2001:346.
14. American Medical Association. Code of medical ethics, Principle VI. Available at: <http://www.ama-assn.org>.

## *Justice in Residency Placement*

15. Childress J. Who shall live when not all can live? *Soundings* 1970;53:333-55.
16. Jonsen AR. *The New Medicine and the Old Ethics*. Cambridge, Mass.: Harvard University Press; 1990.
17. Pence GE. *Classic Cases in Medical Ethics*. New York: McGraw-Hill; 1990:320-9, at 338.
18. Anderson KD, Jacobs DM, Blue AV. Is match ethics an oxymoron? *American Journal of Surgery* 1999;177:237-9.
19. See: Elliott RL. Competition, justice, and the match. *Academic Medicine* 2001;76:1082-3; and also: Blacklow RS, Beran RL. *Academic Medicine* 2001;76:1083 [letters to the editor].