How A Nobel Economist Ruined The Residency Matching System For Newly Minted M.D.'s


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Match Magic: How One Economist Hurt Physicians and Patients

Becoming a doctor takes time, but those outside of medicine do not always realize how convoluted the process can be. Central to the perversion is the National Resident Matching Program (or “the Match”).

After college and the two years of classroom-based training in medical school, students are ushered into clinical training through predetermined core rotations. In the spring of their third year, students must decide on their career specialty, often without rotating in their chosen specialty yet if it was not a “core” rotation of third year.

During their senior year, students spend the first few months completing from zero to three month-long ‘away rotations’ at potential residencies. In mid-September they apply to all residency programs that interest them, sometimes over a hundred programs, submitting a fee for each.

Starting in October, students interview around the country for three to four months, incurring significant travel costs and missing much of their senior year due. In late February, students and residencies both submit a “rank list” of one another for the NRMP algorithm to optimize.

Results of this optimization are released on Match day in late-March, when medical students around the country find out the residency program at which they “Matched”, bound to the program and bound to a non-negotiable contract shown to them months prior. Many students either do not match at all or do not match at their first choice program; nonetheless their fate is sealed by the ivory tower algorithm of the Match.

This year, 5.6% of US allopathic (MD) seniors did not match, and 22.3% of US osteopathic (DO) seniors did not match. On the whole, 25.0% of applicants in the NRMP Match did not match – with a 25% unemployment rate, how successful is the Match, really?

This system is highly wasteful. It incurs massive costs for hospitals and students through the interview process, precludes contract negotiations that could optimize value for both parties and results in depressed wages for young physicians. Additionally, it incurs significant opportunity cost in trading interviews for educational senior year curricula, causes undue duress for applicants and their families and contributes to decreased quality of care in physicians unsatisfied with results of the Match.

An archaic system for changing times

The Match was established in 1952 when available resident positions vastly exceeded the number of graduating medical students. As a way to secure top students as residents, hospitals were: 1.

Offering positions earlier and earlier, sometimes even prior to a student's clinical years; 2. "Exploding" offers and demanding a acceptance or rejection of an offer within minutes.

The first problem was remedied by an agreement among medical schools to embargo student records until a specified date in fourth year. The latter was remedied by the Match.

Medical education today is nothing like it was 60 years ago. Today, many specialties have more US medical graduates than residency positions, and international medical graduates and physicians reapplying for residency also compete in the match. Medical schools continue to increase, as have the birth of osteopathic schools and Caribbean schools.

Medicare, which funds residencies, is continually threatened. Medical education debt is rising while post-residency earning potential is declining and training time is increasingly extended with required fellowships.

The misbalance between residencies and students is no longer; and resources are tighter than ever, yet the archaic Match system continues to waste time and funds of students and applicants alike in the name of 'tradition'.

$302 million wasted annually

Financially, the Match is devastating. Assume a student applies for 35 programs in one specialty, receives 20 interview offers and accepts 12; these are conservative estimates in competitive specialties, in applicants 'couples-matching' with a spouse and in specialties requiring a separate 'preliminary' internship.

In application fees, this student will spend $465. The 12 interviews, each requiring a $50 motel, a $50 car rental and a $300 flight, cost this student $4,800. All in, this student has spent $5,265 on the Match, against $250,000 in existing student debt. Assuming a Federal Stafford Loan with 6.8% interest paid in 10 years, $5,265 becomes $7,470.76.

With a 15% tax rate, $7,470.76 becomes $8,789.13 in pre-tax income. With 34,270 active applicants in the Match in 2014, $302 million is wasted annually, in the setting of tight graduate medical education funding, increasing student debt and decreasing physician reimbursement.

$35,000 lost in salary

In addition, the Match precludes an applicant from negotiating their salary or contract in any way. Dual degrees (MD/JD, MD/MBA, MD/MPH) are ever-increasing and many applicants will bring additional value to their hospital, yet are unable to be compensated for it. Additionally, it precludes less competitive applicants from accepting lower salary or early offers in exchange for a position.

Jung v. AAMC in 2003 challenged the Match on antitrust grounds, claiming that the collusion of hospitals within the Match artificially depressed wages. In response, Congress passed an explicit exemption for NRMP through the Pension Funding Equity Act of 2004, making legal challenges moot.

Nonetheless, labor statistics are daunting. Per the 2012 US Census, mean earnings for 25-34 year olds with a doctorate or professional degree are $74,626 or $86,440 respectively. The AAMC mean first-year resident salary was $50,765 for 2013-2014.

NRMP dodged the legal attack in *Jung*, but numbers don't lie and a $23,861-$35,675 difference in salary is robbery.

An economist's quantity, not a patient's quality

Assume that the double-binding match *is* the most efficient mechanism for filling the residency labor market (which, notably, was *not* the intent of the Match).

For hundreds of students a year, the Match means a change in career, as students who do not match in their preferred specialty are often forced into an alternate career specialty if they would like to practice as a physician. It also means a change in life circumstance, notably, for those with preferred location given family situations or with spouses unable to find a new job in the short two-three months between Match day and residency start dates in June.

Ultimately, the Match translates into thousands of physicians training in an undesired specialty, in an undesired city and in an undesired situation split from their families. These physicians, lives forced by the Match, cannot be assumed to perform at the same quality as those that matched into their 'dream job'.

Of this population, do they end up leaving the profession prematurely? Are their career trajectories as successful? Are their satisfaction rates the same? What about their suicide rates, addiction rates and wellness?

Time for a change

Legislation exonerated the Match from legal attacks in *Jung v. AAMC*, but that does not prove it is good policy. Economist Dr. Alvin Roth won a Nobel Prize in economics for his theory in a double-binding labor market match underlying the NRMP — but notably, academic economists like Dr. Roth himself acquire their positions on the free market, not through a match.

Few other professions utilize this double-binding match, and in explaining the Match to those unfamiliar with medical training, the closest relatable comparison is sorority rush. However, the stakes are a bit higher than selecting Greek letters, and we are physicians, not teenagers. For the good of our profession, our patients, and our future protégés, it's about time to trash the Match.

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