NEW YORK REGIONAL SOCIETY OF PLASTIC SURGEONS

2018 RESIDENTS' NIGHT ABSTRACT

Abstract Submission: F1 (Group 3)

Title: *The Plastic Surgery Prisoner's Dilemma: The Relationship Between Applications and Match Rate*

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PURPOSE: Plastic surgery is one of the most competitive residency matches. The mean number of applications per applicant is correspondingly high, creating significant financial strains. In this study we examine whether an increased number of applications confers a benefit to applicants.

METHODS: The authors analyzed annual data from the National Resident Matching Program (NRMP) and Electronic Residency Application System (ERAS) for integrated plastic surgery programs since 2010 to assess the association between mean number of submitted applications and the match rate for that year, adjusted for the number of available positions

RESULTS: The number of integrated Plastic Surgery programs has increased from 31 in 2010 to 73 in 2017. In 2010 the average number of applications was 22.75, or 73% of programs. The average number of applications in 2017 was 58.36, or 80% of programs. Two programs went unfilled in 2017, one in 2016 and three in 2015.

Overall, since 2010, there is a statistically significant correlation (p=0.005) between the mean number of applications and the match rate each year. However, if the match rate is adjusted for the increased number of positions available each year, there is no statistically significant relationship between percentage of programs applied to and match rate (p=0.78).

CONCLUSIONS: Although past studies have observed that individual applicants who matched into Plastic Surgery applied to more programs, our results suggest an increase in applications does not improve the chances of successfully matching. These results may be explained by the Prisoner's Dilemma of game theory. Game theory is used to model different economic settings. The Prisoner's Dilemma describes how all parties are worse off when individuals act in their own self-interest. In this example, a student may increase their own chances by applying to as many programs as possible, but if each student applies to many program, all students have a reduced chance of matching. While ERAS discourages this practice by increasing the cost per application in a stepwise fashion, this increase in cost may only serve to deter the applicants with fewer financial resources.