

# Application Caps in Residency Selection: A Preliminary Exploration

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# Current Landscape

- “Application fever”
- Applicant financial burden and stress
- Overreliance on academic metrics in the selection process
- Calls for paradigm shift in residency selection, including application and/or interview caps (UGRC 23, 24)

# Research Questions

1. What do stakeholders see as the pros/cons of application and interview caps?
2. How do stakeholders see caps changing the application and interview process?
3. How do specialty-specific application caps change the estimated probability of entering training in that specialty? Are there differences by applicant type, demographic group, and gender?
4. What are the application caps that optimize:
  - keeping the entry rate about the same
  - eliminate or reduce any existing group differences in entry rates
  - meaningfully reducing the number of applications

## Multiple Methods



Stakeholder interviews



Simulation



Surveys

# Stakeholder Interviews: Method

Data  
collection is  
ongoing

## Sample

- 6 program directors
- 4 medical school advisors
- 2 medical students (target sample of at least 8)

## 30-minute interview with structured questions

- Pros and cons of caps
- Anticipated behavior change, what would you do differently?

# Stakeholder Interviews: **Preliminary** Findings



Fewer applications  
More holistic review  
Reduced cost for applicants

Less diverse applicant pool/Less opportunity for disadvantaged students

Fewer applications to “reach” programs

More cross-application



# Simulation: Method

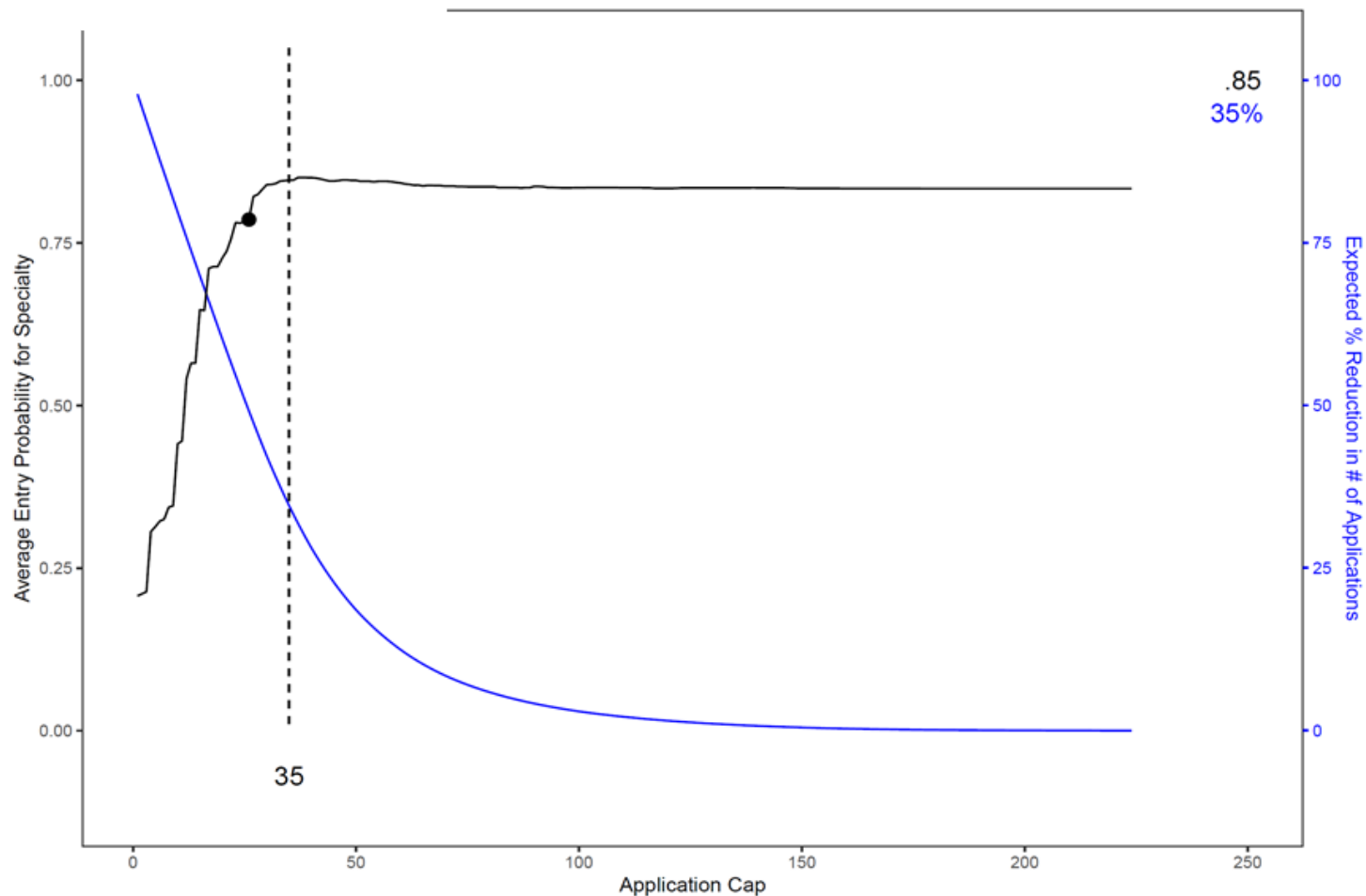
## Sample

- GME Track Data from ERAS 2014-2019 applicants who applied to 1+ program in the target specialties:

## Analyses

- Conducted separately by specialty and applicant type
- Predictors in these models included:
  - # of applications to the target specialty
  - USMLE Step 1 score (COMLEX-USA Level 1 scores for DOs only)
  - Race/ethnicity (for US-MD, DO, US-IMG models only)
  - Gender

# Example result plot with potential cap



- The vertical line in the figure corresponds to a **potential cap that results in a minimal drop in estimated entry rate** (i.e., no more than .02) for sample *Specialty A*.
- The black number in the upper right shows estimated entry rate under the cap, the **blue number** reflects the estimated percentage reduction in # of *Specialty A* applications from US-MDs under the cap
- For *Specialty A*, a cap of 35 for US-MD applicants is expected to result in little/no change in entry rate
  - .85 under cap vs. .83 under no cap
- A cap of 35 for US-MD applicants is expected to result in 35% reduction of applications for *Specialty A*.



# Simulation: **Preliminary** Findings

- It's possible to meaningfully reduce # of applications with little estimated impact on entry rates for US MDs
- Potential caps tend to disadvantage DO and IMG applicants compared to US MDs
- Potential caps do not exacerbate differences by race/ethnicity or gender for the estimated average entry rates of US MD, DO and US-IMG applicants with race/ethnicity data available

# Critical factors when considering application caps

- Change in estimated entry rate relative to no cap
- Effect on different types of applicants
- Effect on demographic subgroups
- Meaningful reduction the number of applications to program(s)
- Programs' ability to fill open slots relative to no cap (*could not examine given the data available for this study*)
- Financial implications for applicants

# Overall Limitations

## QUANTITATIVE

- Models use GME Track Entrance Rate data
  - not 100% complete
  - data was from 2014-2019
- Uncertainty, modeling level of prediction (based on various cross-validity metrics) was not perfect and would be considered “moderate”, resulting in wider confidence bands around predicted values.
- Models don’t capture the match/ranking process

## QUALITATIVE

- Limited number of interviews to draw conclusions from
- Need more varied perspectives in terms of applicant characteristics

## GENERAL RESEARCH

- Models and interviews are based on the current state of selection and decision-making.
- How will applicant and program behavior change in a world with applications caps but without USMLE and COMLEX-USA scores?

# Next Steps

- Expand qualitative work to larger groups, still want to hear more perspectives
- Continue to refine models with all specialties (e.g. examining program competitiveness as a factor)
- Explore partnerships with other organizations to obtain and link interview and/or Match data so that results are more meaningful
- Survey applicants and PDs