

## BACKGROUND

### APPE Requirements

Fourth year pharmacy students are required to complete 11 months of APPEs at the University of Florida College of Pharmacy, which includes the following rotation types:

- Adult Medicine – 2 months
- Ambulatory Care – 2 months
- Hospital Practice – 1 month
- Community Practice – 1 month
- Patient Care Electives – minimum of 3 months
- Non-Patient Care Electives – maximum of 2 months

All students must complete a 4-month block of rotations at a single institution. Each block contains at least two months of required APPEs.



PharmAcademic is a web-based pharmacy education software created by McCreadie Group. It is used by schools of pharmacy faculty, staff, preceptors and students to streamline and ease the management of courses, curriculum, experiential education and assessment of students, courses, and faculty. In 2014, UF started utilizing PharmAcademic in the APPE scheduling process.

## OBJECTIVES

To describe the optimization of advanced pharmacy practice experience (APPE) scheduling using the match engine in PharmAcademic.

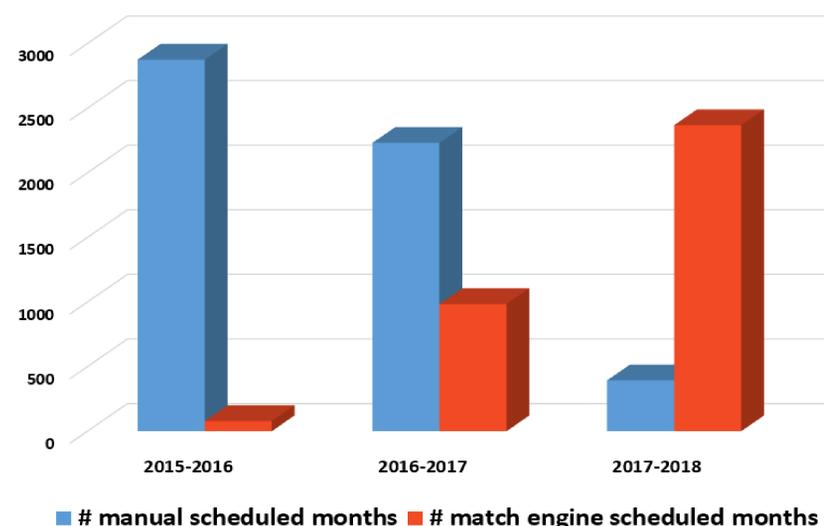
## METHODS

Starting in 2014 the University of Florida implemented a series of progressive changes to PharmAcademic programming and the scheduling process based on feedback from experiential faculty, students, and data from prior years. Each year the percentage of APPEs scheduled via manual and automated processes was calculated, and PharmAcademic metrics were used to determine the percentage of students placed in quality APPEs. For the 2016 - 2017 and 2017 - 2018 scheduling cycles, student satisfaction and perception of fairness with the scheduling process were assessed using a post-scheduling Qualtrics survey, and graduating student survey data. Chi-squared was used to compare categorical variables and descriptive statistics were used to characterize the trends in each data set.

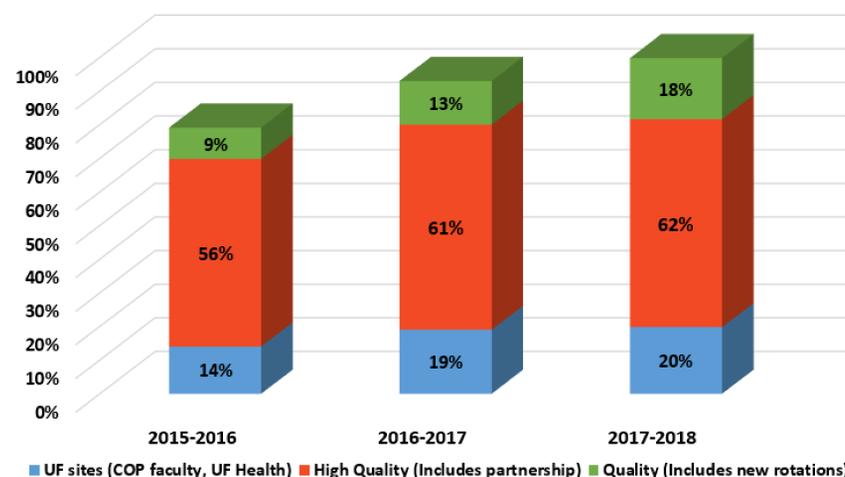
## RESULTS

- The percentage of manually scheduled rotations decreased from 97.3% in 2015 - 2016 to 13.0% in 2017 - 2018 ( $p < 0.01$ ).
- The percentage of quality rotations scheduled increased from 79.1% in 2015 - 2016 to 99.8% in 2017 - 2018 ( $p < 0.01$ ).
- The percentage of students who were satisfied or very satisfied with their schedule increased from 50.8% in 2016 - 2017 ( $n=61$ ) to 81.6% in 2017 - 2018 ( $n=114$ ).

Manual vs. Match Engine Scheduling For APPEs



Percentage of Students Assigned to Quality or High Quality Sites



## DISCUSSION

- Optimization of the PharmAcademic match engine greatly decreased the number of manually scheduled APPEs
- Increased automation of APPE scheduling significantly reduced faculty and staff time allocated to the scheduling process
- Appropriate design of match rules increased the number of students matched with quality and high quality rotations
- Students were more satisfied with their APPE schedules when done by a match engine vs. manual scheduling
- Student surveys indicated that they view match engine scheduling as being less biased and more fair
- Requirement of the 4-month rotation block may limit choices of elective rotations, which can affect satisfaction with the scheduling process

### Lessons Learned

- Addition of an elective match early in the scheduling process can help maximize the number of students receiving a top-ranked elective and enhance student satisfaction
- The match engine can be utilized to schedule block rotations, including those that have a selective application process
- After block scheduling is completed by the match engine, it is important to invite preceptors to open up availability for individual rotations included in the unmatched blocks
- The match engine can be utilized to schedule students with mitigating circumstances; however, manual review of the initial schedule is still warranted

## FUTURE DIRECTIONS

- Track number of rotation exchange requests post-match as another indicator of satisfaction with scheduling process
- Compare percentage of quality sites assigned with sequential multi-step match vs. one overall comprehensive match
- Assess impact of match rules which favor student rotation ranking over quality rating of rotation site
- Share lessons learned from the scheduling optimization process with other institutions to help establish best practices

Acknowledgments: Denise M. Klinker, Pharm.D., MBA

