

# Is scheduling resident clinics giving you a headache? Use a computer algorithm to schedule resident family medicine clinics to maximize use of space and decrease costs!

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## Background

13 residents per class (39 total)

+  
13 rotations, each with different clinic schedules

+  
3 clinic sites

=  
>5 billion possible schedule permutations

Obviously impossible to find “best schedule” by hand

Need to avoid inefficient use of clinic space, decreased patient access and potential loss of revenue

## Intervention

Developed a computer algorithm to solve this problem!

```
clear
what_dir = uigetdir;
cd(what_dir);
load awesome.mat; %You need to run this prog

start_year = datetime(2021,06,26,8,0,0);
end_year = datetime(2020,06,25,8,0,0);
blocks = start_year:caldays(14):end_year;

%Getting rid of vacation decimals
for i=1:26
    FPCR1_whole{i} = round(FPCR1{i});
    FPCR2_whole{i} = round(FPCR2{i});
    FPCR3_whole{i} = round(FPCR3{i});
end

R1_MHC_tot = 13; %number of R1s at MHC
R2_MHC_tot = 13; %number of R2s at MHC
R3_MHC_tot = 13; %number of R3s at MHC

g = size(good_r1_MHC_sched); %finding how ma

fIDam = fopen('MHC_clinics_am.txt','w');
fIDpm = fopen('MHC_clinics_pm.txt','w');
formatOut = 'mm/dd/yy';
for bb = 1:26
```

## Results

Precise and reliable way to predict space needed for residents

Predictable resident schedule – building block of “high functioning primary care resident clinics” \*

Improved patient access

Longitudinal MA/resident dyads

Decreased costs

Ability to tailor schedule during specific rotations to optimize medical education

\* From: High-Functioning Primary Care Residency Clinics: Building Blocks for Providing Excellent Care and Training, T. Bodenheimer et al. AAMC, 2016