supplemental

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Data Collection

We analyze individuals for 6 observational periods of 90 days. We call these 90 day subsets quarters, and label them quarter 1, quarter 2, and so forth. Cohort 1 collection ends at 6/1/2019, and our observation for them continues through 10/1/19. The cohort 1 enrollment took in 465 parolees, randomizing 232 into the Pay for Success program. When we say "between groups", which we will refer to often, we mean between individuals in the Pay for Success program and those in the Control group. Due to NCC processes, 23 people were removed and 209 were analyzed from start to finish. The other 23 individuals were analyzed for ___ of the ___ potential quarters before being removed.

Demographics

The demographic variables were supposed to match up between the groups. If they did not, we would have to implement some proportion matching to equate the populations. Table 1 below shows no significant differences between the demographics of Pay for Success Group and the Control group.

```
##           variable         pfs      other   pval
## 1                n         209        233      -
## 2   Age, Mean (SD) 33.9 (10.6) 32.6 (9.7) 0.1872
## 3      Female/Male      41/168     47/186 0.9789
## 4             Race                        0.3729
## 5            White          76         67      -
## 6         Hispanic         117        145      -
## 7            Black          11         13      -
## 8            Other           5          8      -
## 9  ORAS Risk Level                     0.4536
## 10             Low          32         28      -
## 11    Low/Moderate          13         15      -
## 12        Moderate         107        117      -
## 13            High          53         61      -
## 14       Very High           4         10      -
```

The age of parolees enrolled ranged from 20 to 73. Predominantly male and predominantly hispanic. The ORAS score follows a moderately normal distribution and again is not significantly different between groups.

Criminal Justice History

Here is both a table and an accompanying graph of the arrests by population enrollment in both cohorts.

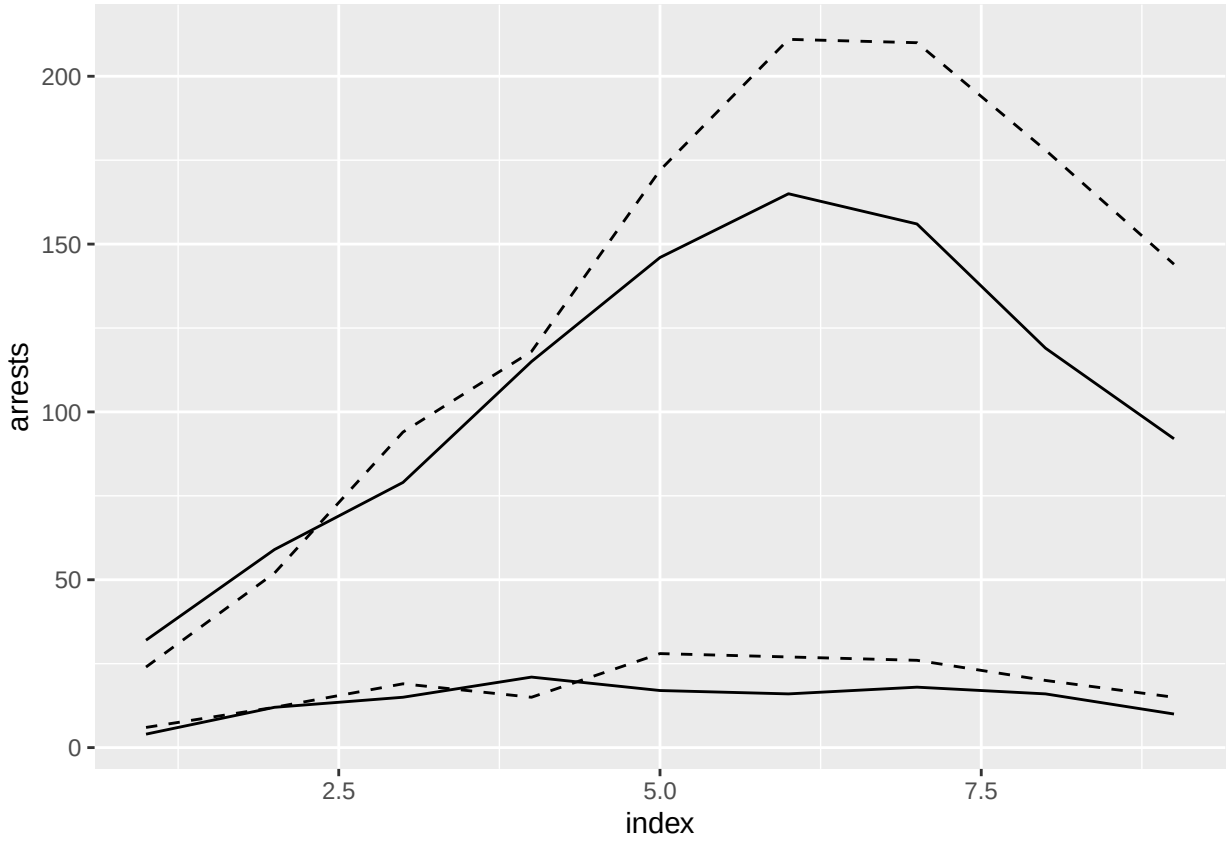
```
##   clean potential group num.arrests people  m  f
## 1    28        32   pfs           9      6  3  6
## 2    47        59   pfs          26     18 21  5
## 3    64        79   pfs          27     21 22  5
## 4    94       115   pfs          20     19 11  8
```

```
## 5   129       146   pfs          26     23 12 14
## 6   149       165   pfs          21     18 14  7
## 7   138       156   pfs          29     23 21  8
## 8   103       119   pfs          31     24 24  7
## 9    82        92   pfs          33     25 24  9
```

```
##   clean potential group num.arrests people  m  f
## 1    18        24 other          15     11 11  4
## 2    40        52 other          22     16 21  1
## 3    75        94 other          24     21 19  5
## 4   103       118 other          30     18 18 12
## 5   144       172 other          32     30 23  9
## 6   184       211 other          35     28 20 15
## 7   184       210 other          42     29 29 13
## 8   158       178 other          28     26 22  5
## 9   129       144 other          41     33 25 15
```

```
##
##  Pearson's Chi-squared test
##
## data:  final$m and final2$m
## X-squared = 54, df = 48, p-value = 0.2559
```

```
##
##  Pearson's Chi-squared test
##
## data:  final$f and final2$f
## X-squared = 33.75, df = 30, p-value = 0.2909
```



Broken down by risk factors

We further analyze the arrest rates between groups by looking at the stratification of arrests by ORAS risk score. We see both the unique number of individuals being rearrested and the total number of arrests between groups is not signficiantly different.

```
##     risk.level pfs other   pval
## 1          Low   7     8 0.6926
## 2 Low/Moderate   5     7      -
## 3     Moderate  51    54      -
## 4         High  33    45      -
## 5    Very High   3     8      -
```

Broken down by race

Ventura county is predominantly a hispanic community.

```
##       race pfs other   pval
## 1 Hispanic  55    77 0.1525
## 2    White  38    31      -
## 3    Black   4    10      -
## 4    Other   2     4      -
```

Broken down by gender

```
##   gender pfs other   pval
## 1 Female  17    23 0.8831
## 2   Male  82    99      -
```

Services Received

The question is, out of those who were randomized to be in our RCT, were there differences between those arrested and those not arrested? People were offered difference certives or cognitive behavioral therapy. These included case management, MRT, triple P, seek safety, job readiness, and other CBT.

```
##
##   0   1
##  45 330
```

Differences within service members between those arrested and not

```
##
##  Pearson's Chi-squared test
##
## data:  rbind(services2$never, services2$ever)
## X-squared = 0.19659, df = 22, p-value = 1
```

```
##                    services      never       ever
## 1           Case Management 1.00000000 1.00000000
## 2                       MRT 0.56880734 0.41414141
## 3                  Triple P 0.05504587 0.03030303
## 4              Seek Safety 0.01834862 0.06060606
## 5            Job Readiness 0.04587156 0.01010101
## 6                Other CBT 0.42201835 0.28282828
## 7                SSMIncome 3.13793103 2.18518519
## 8             SSMEmployment 3.66666667 3.11111111
## 9                SSMHousing 4.54385965 4.00000000
## 10                  SSMFood 4.63157895 4.11111111
## 11              SSMChild_Ed 2.12280702 1.88888889
## 12              SSMAdult_ed 4.03508772 3.74074074
## 13                 SSMLegal 3.36842105 2.88888889
## 14           SSMHealthCare 4.94736842 4.51851852
## 15           SSMLifeSkills 2.73684211 2.22222222
## 16         SSMMentalHealth 3.50877193 3.11111111
## 17       SSMSubstanceAbuse 4.91228070 4.48148148
## 18        SSMFamilyFriends 3.64912281 3.14814815
## 19             SSMMobility 4.42105263 3.77777778
## 20            SSMCommunity 4.57894737 4.11111111
## 21               SSMSafety 5.05263158 4.48148148
## 22       SSMPhysicalHealth 3.94736842 3.81481481
## 23 SSMParentChildRelations 2.78947368 2.37037037
```

We see that of those not arrested, those individuals are using more of the services. It appears that services lessens the possibility of receiving services. Further, in the SSM calculation, each category had a higher mean

Summary

Cohort 2 Preview

P-value explanation

p-value is subjective, at experimental levels it is set at .05. This means long-term we expect these samples to occur this way 5% of the time. We deem a 5% chance for it to happen to be a statistical irregularity. For some particle physics experiments the burden of proof is set at 0.0000001, i.e. one in 100,000,000 times. A key point of p-values which is often glossed over is the event of multiple testing. The idea from multiple testing can be pictured as searching through 100 different rooms for evidence. Odds are by chance you will find a room that is significant, but does that mean that