

April, 2017 - July 2017 Stats

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Purpose

This document is to summarize the last three months of CFO data, including: Attendance policy, attendance numbers, referrals, JEMS issues, tracking and storing data, and data transformation. A way forward with CFOs will also be presented. While some of the tables maybe be difficult to read, thanks to the magic of PDF formats, any reader should be able to zoom into items of note. If the department wants to explore using R for stat and report generation, future editions of reports will be able to have interactive graphs.

Attendance

Critical to the continued success of the CFO is getting the attendance rate over 50%. Traditional JAC Orientation programming reached a cap of approximately 50%, with attendance numbers typically hovering between 25%-40%.

Attendance Policy

A carry over from traditional JAC programming, young people are being referred to a CFO three times before not being eligible for the program. Where as traditional orientations did not have a referral process, CFOs do have a series of protocols inplace, including:

- Paper referrals that are given to each unit involved in CFO Programming
- Montly lists (generated from JEMS based Excel Spreadsheets) are given to SPOs of each unit
- Personalized form letters mailed between 5-10 days before a CFO
- A copy of this letter is also given to POs
- The letter's verbage reflects the more inclusive tone of the CFO, including "encouraging young people to attend" and their PO's last name as a person to contact if they cannot make the CFO
- Phone calls 12-38 hours before a CFO
- All phone calls are documented in JEMS
- Attendance is recorded on paper and in JEMS
- JEMS notes are typically entered within one week of a CFO
- Excel is not consistently used to indicate attendance
- This is more challenging than expected, but it will be explored further in the JEMS section

Attendance Numbers

Getting these numbers is problematic for a variety of reasons, not the least of which because JEMS does not track or export attendance numbers. To get numbers of this particular report, the following was done:

1. JEMS exported 3 Excel tables
2. A new column, "Attendance" was added.
3. Paper records were consulted for determining attendance
4. Duplicate JEMS ID were removed through an Excel function

What the data indicates

The first ten youth from the new table are as follows

Table 1: First 10 CFO Youth in Alphabetical Order

FNAME	LNAME	Address	APRTNO	CITY	STATE	ZIP	SEX	JEMSID	POFNAME	POLNAME	CFO	Attended
DEMARCUS	ABRAM	13240 S CORLISS	NA	CHICAGO	IL	60827	M	10326791	JOSEPH	NAEGELE	Y	N
ERIC	AGUILAR	10230 S AVENUE G	NA	CHICAGO	IL	60617	M	10321465	LISA	BLOECHEL	Y	Not Yet
JUAN	ALCARAZ	1859 W CULLERTON ST	NA	CHICAGO	IL	60608	M	10316841	NICHOLETTE	VARGAS	N	Not Invited
ARQUIS	ALEXANDER	4827 S PRAIRIE AVE	NA	CHICAGO	IL	60621	M	10352192	RODNEY	PURDY	Y	NA
XAVIER	ALLEN	10727 S CALUMET AVE	1ST FLOOR	CHICAGO	IL	60628	M	10342391	VICTOR	JUNIOUS	Y	N
LATRELL	ALLEN	5616 S ABERDEEN ST	NA	CHICAGO	IL	60621	M	10335541	HANNAH	SIEGEL	Y	Y
CAPRIA	ALLEN	5622 S HONORE ST	HOUSE	CHICAGO	IL	60636	F	10316032	DARRYL	DAWKINS	Y	Y
JULIAN	ALMANZA	2511 N LAWNSDALE AVE	NA	CHICAGO	IL	60647	M	10341183	ANTWAN	JONES	N	Not Invited
JOSE	ALVAREZ	3567 W PALMER STREET	D	CHICAGO	IL	60647	M	10347745	YVONNE	PULIDO	N	Not Invited
JAYLEN	ANDERSON	103 E 58TH ST	NA	CHICAGO	IL	60637	M	10350803	MICHAEL	MUHAMMAD	N	Not Invited

This first table illustrates some of the difficulties with the JEMS Data. Despite being precleaned in Excel, some errors remain. For example, this record

Table 2: First Duplicate Youth

FNAME	LNAME	Address	APRTNO	CITY	STATE	ZIP	SEX	JEMSID	POFNAME	POLNAME	CFO	Attended
XAVIER	ALLEN	10727 S CALUMET AVE	1ST FLOOR	CHICAGO	IL	60628	M	10342391	VICTOR	JUNIOUS	Y	N

is duplicated, which inflates the number of youth counted by Excel.

While the table looks like it has 122 young people who were invited to CFOs, the actual number is 122, a 10% difference in who was invited to attend the program.

A 10% difference can make or break a program; however, there is an even more difficult issue. Given that the bulk of the work on CFO attendance is done in Excel, these duplicate entries are also inflating attendance records. Fixing these duplication errors will be detailed in another section of this report.

Additional Analysis

Earlier this month, the PYD unit was asked to compile a series of stats indicating attendance rates in CFOs. These numbers were painstakingly generated by handcounting rows of printed Excel tables. By loading this data into a different program, more cleaning, counting, and analysis can take place. For example, the attendance records can be broken into three distinct representations an aggregate, disaggregated by zip code, and a bar chart.

Table 3: Attendance of youth (aggregate)

Attended	Attendnace__Number
In Adult Custody	1
In Custody	2
N	64
Not Invited	1
Not Yet	22
Out Of State	1
Saftey Issues	6
Y	24
NA	1

Table 4: Attendance of youth, by Zipcode

ZIP	Attended	attendance_record
60617	N	5
60617	Not Yet	2
60617	Y	5
60619	N	6
60619	Not Invited	1
60619	Not Yet	4
60619	Y	5
60621	In Adult Custody	1
60621	In Custody	1
60621	N	13
60621	Out Of State	1
60621	Saftey Issues	1
60621	Y	4
60621	NA	1
60628	N	8
60628	Not Yet	4
60628	Y	3
60636	In Custody	1
60636	N	8
60636	Not Yet	1
60636	Saftey Issues	4
60636	Y	3
60644	N	6
60644	Not Yet	3
60644	Y	2
60649	N	7
60649	Not Yet	4
60649	Saftey Issues	1
60649	Y	1
60651	N	7
60651	Not Yet	2
60651	Y	1
60827	N	4
60827	Not Yet	2

With a few lines of code, two tables and a graph were drawn to show how many young people have attended CFOs since April, 2017. This analysis also indicates two issues.

1. The attendance catagories of *N*, *Not Yet*, *NA*, *Y*, *Not Invited*, *Saftey Issues*, *Out Of State*, *In Custody*, *In Adult Custody* need clarification. Switching to numbers will improve clarity and analysis.
 2. Some referrals do not have an assigned gender. This is due to human error, as these rerrals appear to be added manaully to the attednace charts.
- JEMS needs to be updated to track non-binary youth.

Exploring the data reveals that it needs to be cleaned further. Even this raw table points out some key trends in CFO attendance. but it does point out some trends. Of the 122 youth invited to attend a CFO since

April, only 27 attended, a ratio of 22.1%. These attendance stats can be broken down further by zipcode.

This data is the same as figure 1, and while tabular nature may make it more understandable for some, the sheer amount of information is overwhelming. The tables can be separated into smaller chunks for easier understanding. For example, we can see which zipcodes have the best historic performance

As well as the worst

Choropleth for Context

Drilling into the numbers by tables and graphs certainly helps paint the picture of who is, and is not, attending the CFOs. What is lacking is why the numbers are so low. Part of the lackluster attendance may have to do with the neighborhoods of Chicago. It is possible to map the young people's addresses on file, with their attendance records. This may shed additional light on the attendance figures. Adding interactive (zoom-able) maps into a PDF is more difficult than initially estimated. But as of this writing, it is possible to plot referral addresses on a map of Chicago.

It is also possible to add layers to the referral map. For example, we can pull crime data from the [City of Chicago](#) and overlay that information on the referrals to see how our young people are affected by violence in their communities.

This map shows the density of crime throughout Chicago. The more lines indicate a higher density of crime. The data does have a total of 31 categories of crime, and could be refined further to showcase violent crimes, property crimes, or drug-related crimes. Geographic information can help further identify some of the difficulties young people have in attending CFO programming. Additional understanding of neighborhood conditions will

Referrals

The statistics indicate that young men from *SPO Alejo's unit* and young women from *TK's unit* have the highest levels of attendance, where as young men from *SPO Moore's* and *SPO Jouras' units* are the lowest. While the factors that play into these numbers differ by unit, some of them appear to be:

- Unit buy-in
- While all POs appear supportive, PO's in *Adrian's* unit remind young people of appointments and have transported young people to the program
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JEMS

Tracking and Storing Data

Data Transformation

Summary

Table 5: Attendance per Zip, by Gender

ZIP	SEX	Attended	Attendance_Count	proportion
60617	F	N	1	8.33%
60617	F	Not Yet	1	8.33%
60617	F	Y	1	8.33%
60617	M	N	4	33.3%
60617	M	Not Yet	1	8.3%
60617	M	Y	4	33.3%
60619	F	Not Yet	1	6.25%
60619	M	N	6	37.5%
60619	M	Not Invited	1	6.2%
60619	M	Not Yet	3	18.8%
60619	M	Y	5	31.2%
60621	F	N	1	4.55%
60621	F	Out Of State	1	4.55%
60621	M	In Adult Custody	1	4.5%
60621	M	In Custody	1	4.5%
60621	M	N	11	50.0%
60621	M	Saftey Issues	1	4.5%
60621	M	Y	4	18.2%
60621	M	NA	1	4.5%
60621	NA	N	1	4.55%
60628	F	N	4	26.7%
60628	F	Not Yet	3	20.0%
60628	F	Y	2	13.3%
60628	M	N	4	26.7%
60628	M	Not Yet	1	6.7%
60628	M	Y	1	6.7%
60636	F	N	2	11.8%
60636	F	Y	2	11.8%
60636	M	In Custody	1	5.9%
60636	M	N	6	35.3%
60636	M	Not Yet	1	5.9%
60636	M	Saftey Issues	4	23.5%
60636	M	Y	1	5.9%
60644	F	Not Yet	1	9.09%
60644	F	Y	1	9.09%

Table 6: Best Attendance per Zip, by Gender

ZIP	SEX	max_percent
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