



New Mexico Children,
Youth & Families Department

CYFD Research Note 10-24-16: Review of Past and Future Methodologies for Determining the Turnover Rates for Protective Services Field and Juvenile Justice YCS Workers

By James Orr, CYFD Data Analyst

Executive Summary:

At a basic level, the “standard” method for determining employee turnover rates is to divide the number of employees who leave employment by the average number of employees working during a given time period.¹

However, prior to FY17 CYFD has used two different methods to calculate PS field and JJS YCS-1 worker turnover rates:

1. Before FY15, CYFD divided the number of turnovers per quarter by the number of authorized FTEs for the respective PS field & JJS YCS-1 workers for each fiscal year.

This methodology produces lower turnover rates than the “standard” methodology since the denominator is authorized FTEs, which (as long as there are vacancies) will always be higher than the number of working employees.

2. Beginning in FY15, CYFD used a methodology that was more similar to the standard turnover definition. Instead of authorized FTEs, the FY15-16 methodology used the *average number of employed* PS Field and JJS YCS-1 workers as the denominator, which (because this number was lower) resulted in higher PS & JJS turnover rates than the pre-FY15 methodology.

However, the FY15-16 methodology used the average number of employed workers from the *previous fiscal year*, so the numerator (number of turnovers per quarter) and denominator (the average number of employed workers in the last fiscal year) were from two different time periods. (For example, the denominator in FY15 was the average number of employed workers in FY14). This wouldn't affect the turnover rate if the number of working employees was stable, however, especially for PS, the number of field workers increased steadily throughout FY15 and FY16 (see **Chart 1 in Appendix B**) and so the previous year's smaller denominator resulted in *higher* reported turnover rates than actually occurred (as illustrated in the **Chart on page 3**). The number of YCS-1 workers employed in JJS has been much more stable and so produced smaller differences (as indicated in the **Chart on page 5**).

¹ <https://www.nbrii.com/employee-survey-white-papers/survey-research-yields-data-on-employee-turnover>

In order to report employee turnover rates more accurately, CYFD proposes to use the following two methodologies in FY17 and beyond for reporting turnover rates (see **Appendix A** for more details):

For the purposes of reporting to LFC, for both PS Field workers and JJS YCS-1 workers, each quarter the number of turnovers during the previous 3 months will be divided by the average number of workers employed during the previous 3 months.²

In addition, in order to reduce high short term (3 month) variance in the rates, CYFD will also use a 12 month rolling average for reporting turnover rates for PS Field workers and JJS YCS-1 workers. With this method, each quarter the number of turnovers during the previous 12 months will be divided by the average number of workers employed during the previous 12 months.

The proposed new methodology (dividing the number of turnovers by the number of employed workers during the same time period), has the following advantages to the previous FY15/16 methodology:

1. The *same time period* for counting the number of turnovers and the average number of employed workers produces more accurate results especially as the number of employed workers changes substantially over time (**see the Chart on page 3** for a historical comparison of the two methods).
2. The second, internal metric utilizes a *rolling 12 month average* for both the number of turnovers and the average number of employed workers. This metric will reduce the *high variability* associated with reporting within a 3 month (quarterly) timeframe (**Chart 2 in Appendix B** illustrates the high variance associated with quarterly reporting). This will allow management to better track turnover rate trends and whether performance measure targets are being met.

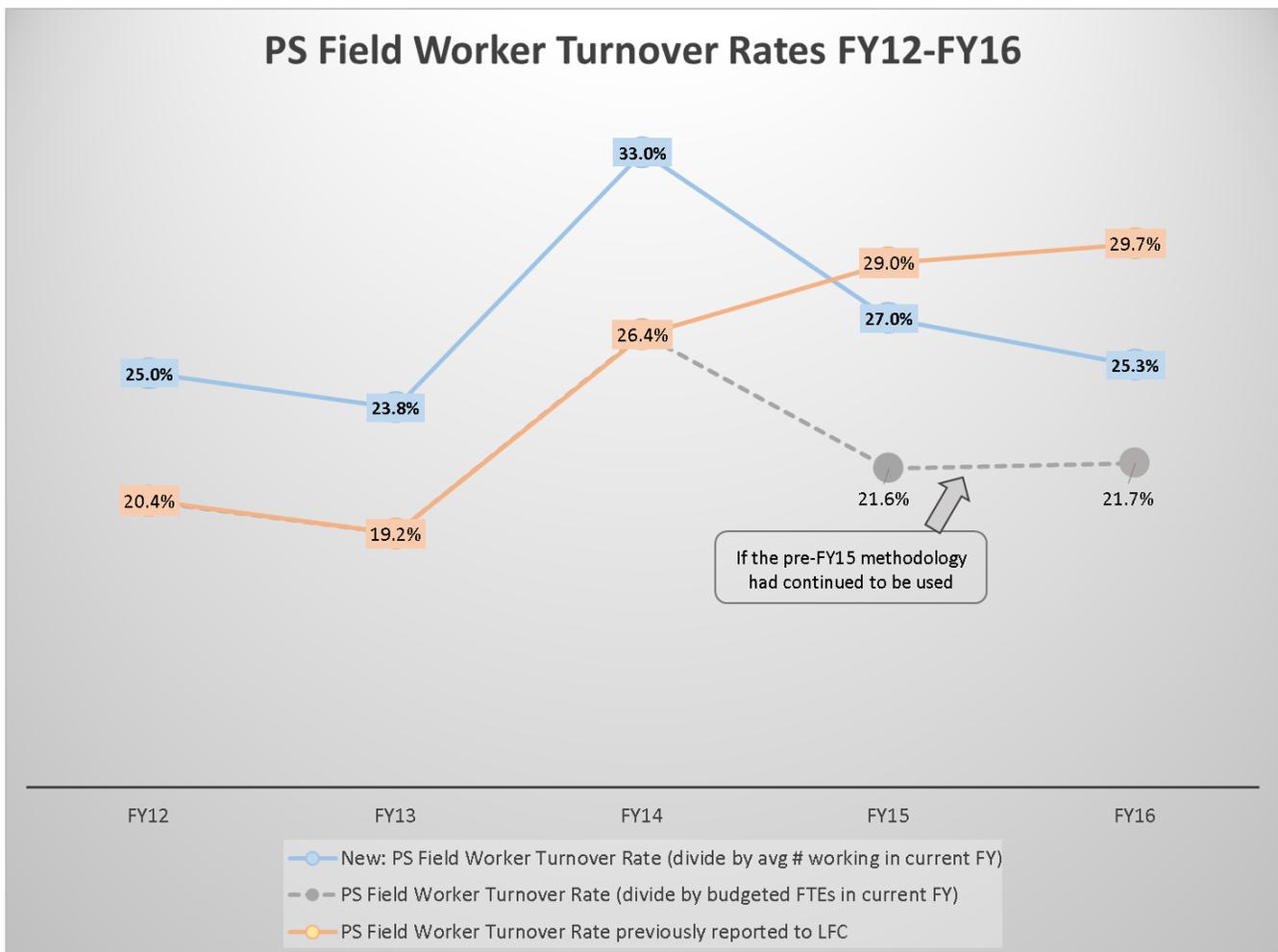
The next section shows previous PS Field & JJS YCS-1 Worker turnover rates resulting from utilizing the two historical and proposed future turnover rate methodologies.

² The average number of workers employed is obtained by subtracting the average number of vacancies during the previous 12 months by the average number of budgeted FTEs during the previous 12 months. The definition of “turnover” and which job titles are included within the worker categories is consistent with previous fiscal years - see Appendix A for more details.

Historical PS Field Worker Turnover Rates:

The chart below shows the results obtained for each fiscal year from FY12 through FY16 for each of the methodologies described in the Executive Summary.

- The yellow line shows the rates previously reported to LFC (as described earlier, these results are the product of two methodologies – pre FY15 and FY15-16).
- The dashed grey line shows the results if the pre-FY15 methodology (denominator = authorized FTEs) had continued to be used in FY15 & FY16.
- The blue line shows the rate resulting from dividing the number of employee turnovers in each fiscal year by the average number of workers employed during the same fiscal year (the methodology to be used in FY17 and beyond).



Note that:

- When a consistent methodology is applied, a similar pattern emerges. Both the blue and yellow -> grey lines show that the turnover rate peaked in FY14 and subsequently declined. (Both of these methodologies used numerators and denominators from the same fiscal year.)

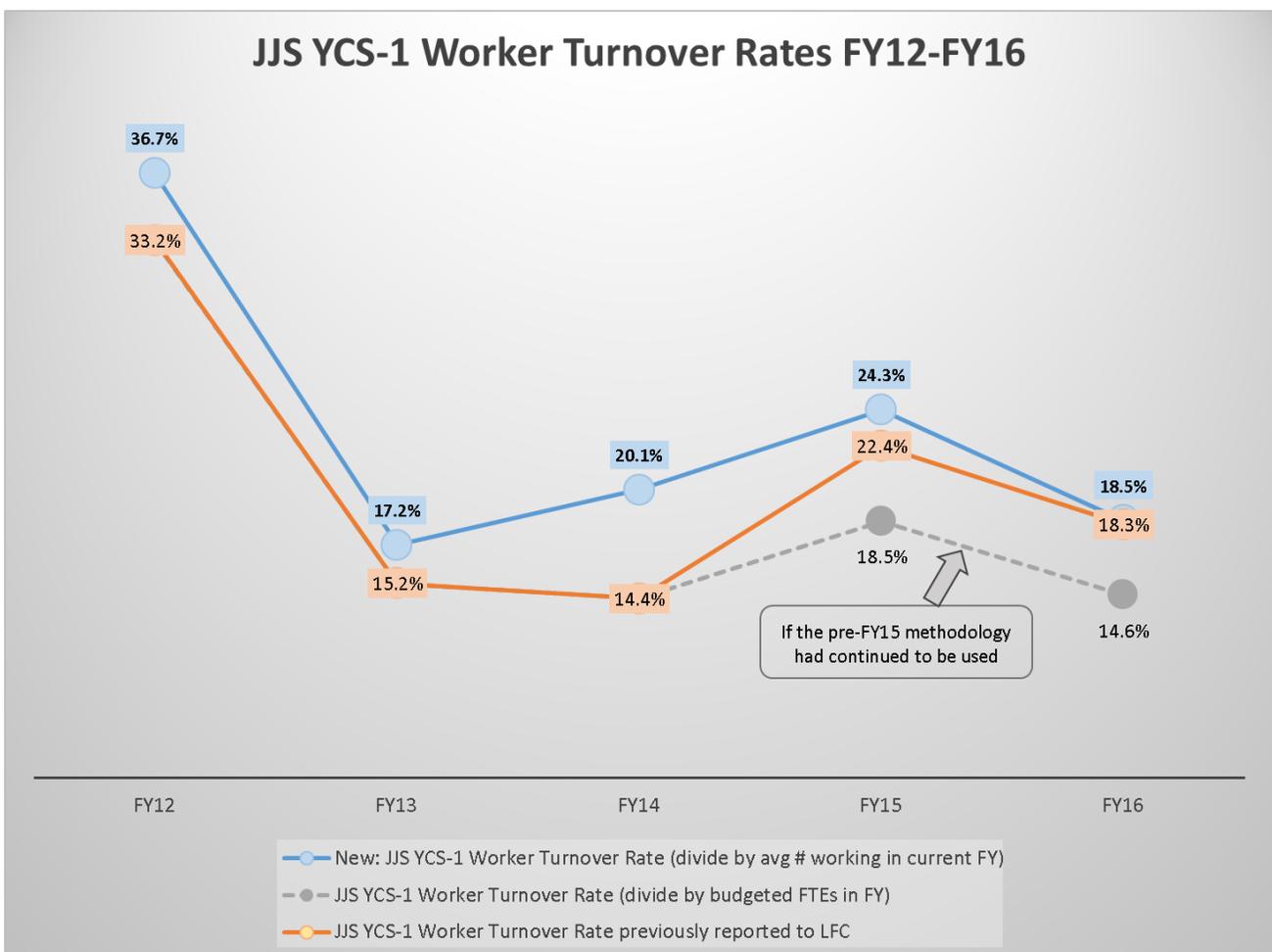
- In FY15 and FY16, the percentages shown in the blue line are lower than those of the yellow line. This is because the number of workers in the field increased steadily during these two years (**see Chart 2 in Appendix B**), and so the methodology represented by the yellow line (which used the previous year's employment numbers) used a smaller denominator, thus resulting in higher rates.
- The 25.3% turnover rate in FY16 does not appear to be especially high compared to averages from other states. A 2003 GAO report cited annual child welfare field worker turnover rates in various states of between 30 and 40%.³

³ The U.S. General Accounting Office. (2003). Child welfare: HHS could play a greater role in helping child welfare agencies recruit and retain staff. Retrieved on August 18, 2009, from: www.gao.gov/new.items/d03357.pdf page 5

Historical JJS YCS-1 Turnover Rates:

The chart below shows the results obtained for each fiscal year from FY12 through FY16 for each of the methodologies described in the Executive Summary.

- The yellow line shows the rates previously reported to LFC (as described earlier, these results are the product of two methodologies – pre FY15 and FY15-16).
- The dashed grey line shows the results if the pre-FY15 methodology (denominator =authorized FTEs) had continued to be used in FY15 & FY16.
- The blue line shows the rate resulting from dividing the number of employee turnovers in each fiscal year by the average number of workers employed during the same fiscal year (the methodology to be used in FY17 and beyond).



As with the PS chart, when a consistent methodology is applied (the blue line and the yellow -> grey line), a similar pattern emerges.

- The small differences between the yellow and blue line in FY15 and FY16 result from using a denominator composed of the average number of workers during the same fiscal year (blue line), as opposed to using the average number of workers in the previous fiscal year (yellow

line). Unlike in PS, the relatively minor differences between the two results is due to the number of employed JJS YCS-1 workers remaining fairly steady during this period.

Therefore, CYFD believes the proposed new methodology (as documented in **Appendix A**) provides the most accurate and reliable means of determining turnover rates for PS field & JJS YCS-1 employees, and we will utilize this methodology in FY17 and beyond.

Appendix A. CYFD Turnover Rate Definitions

Turnover rate Definition: the rate at which CYFD loses employees specifically as it relates to two categories of CYFD workers: **Protective Services Field Workers** and **Juvenile Justice Services Youth Care Specialists**. The only type of **separations** taken into consideration within these two categories of workers are:

- **Transfers out** of CYFD to other state agencies and;
- **Regular separations** that are not attributed to dismissals, retirements, deaths, reduction in force, and misconducts.

In other words, only ***voluntary separations*** are counted.

For reporting to LFC, the turnover rate is calculated by dividing the **total number of voluntary separations** within the previous 3 months (the numerator) by the **average number of workers employed**** within the previous 3 months (the denominator) for the two categories (**PS Field Workers and YCS1 workers**) listed in the table below:

An additional, more stable performance metric that will be used by CYFD management will be calculated by dividing the **total number of voluntary separations** within the previous 12 months * (the numerator) by the **average number of workers employed**** within the previous 12 months (the denominator) for the two categories (**PS Field Workers and YCS1 workers**) listed in the table below:

PROTECTIVE SERVICES Field Workers (50)	MENTAL HEALTH & SUB ABUSE SW-O	G10230
	SCI WORKER	G10240
	SCI SENIOR WORKER	G10241
	CPS INV. CASE WKR	G10243
	CPS INV. SR. CASE WKR	G10244
	CPS PERM WORKER	G10246
	CPS PERM. SR WORKER	G10247
	IHS PRACTITIONER	G10249
	CPS PLACE WORKER	G10251
	CPS PLACE SR. WORKER	G10252
	CPS PLACE SPECIALIST	G10253
	CPS ADOPT CONSULT	G10255
	CPS YOUTH TRANSITION COORD.	G10257

Juvenile Justice Services DEPT 30	YCS-1 (JUVENILE CORRECTION OFFICER I)	G10951
--	---------------------------------------	--------

*A 12 month timeframe reduces the high turnover rate variability associated with 3 month time periods.

**The average number of workers employed within these two worker categories, is obtained by subtracting the average number of vacancies during the previous 3 or 12 months by the average number of budgeted FTEs during the respective past 3 or 12 months.

Appendix B.

Chart 1: Increased PS authorized FTEs, employment levels and declining vacancy rates, FY15 through FY16

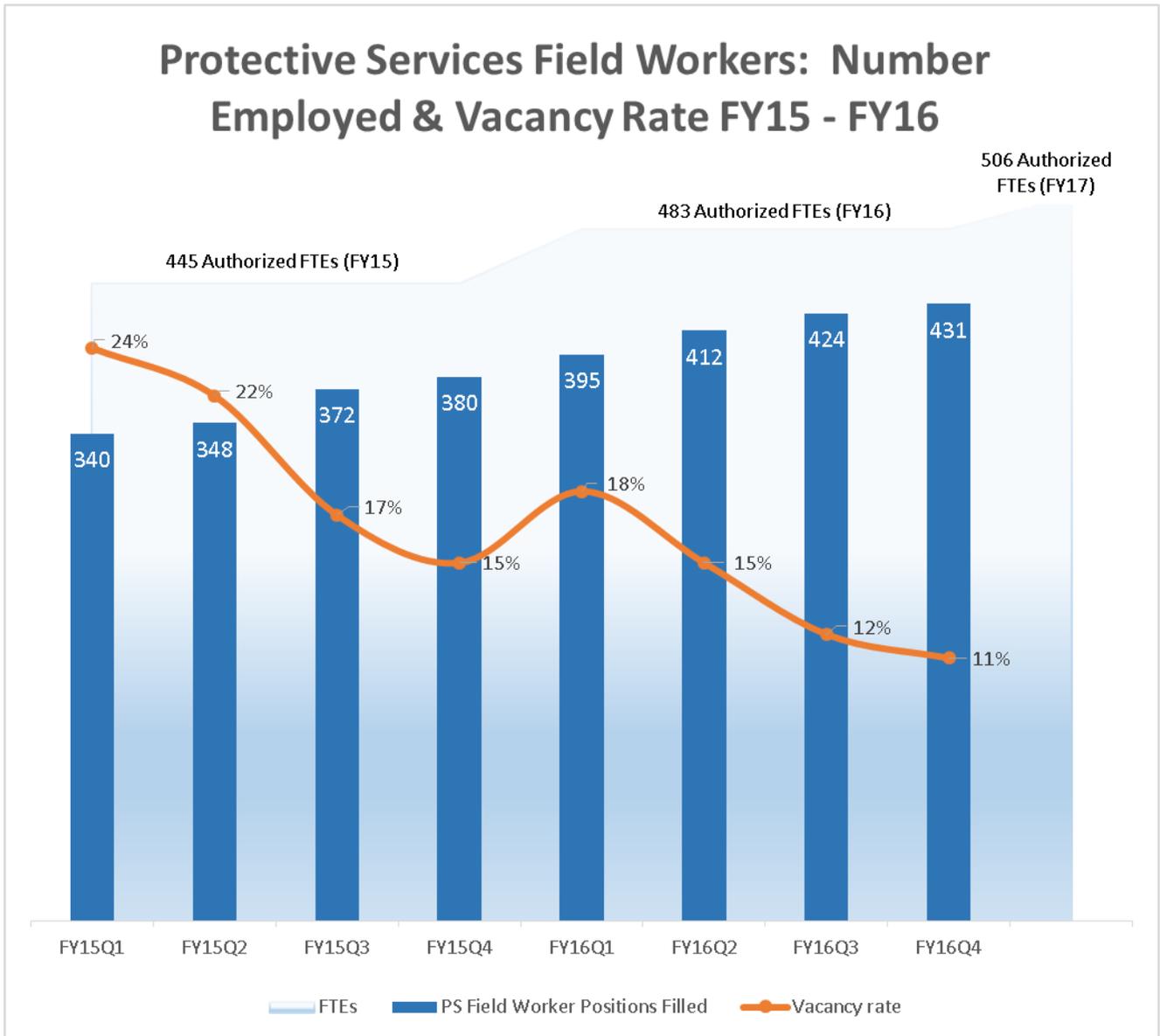


Chart 2: Example of high quarterly variability for FY16 PS Field worker turnover rates when they are calculated on a quarterly basis using the new “standard” methodology

If the numbers for the numerator and denominator are both calculated for a 3 month time frame, high levels of variability occur (as seen below for FY16). This quarterly variability will be even higher than for past CYFD reporting, as both the numerator and denominator will vary from quarter to quarter (only the numerator varied with CYFD’s past methodologies.)

In addition, as with past CYFD turnover rate reporting, quarterly reporting is cumulative throughout the fiscal year, so determining whether the turnover rate actually meets an annual target may not be possible until the fourth quarter of the fiscal year.

However, using 12 month rolling averages for both the numerator and denominator greatly reduces the variance and is a more stable indicator of changes in the actual turnover rate over time and so CYFD will also use this metric for internal reporting.

