# PAWS - Volunteer disengagement

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## Question

What is the typical pattern for volunteer disengagement?

First, I summarised the number of volunteers with various characteristics:

- did orientation, but no shifts
- did orientation, had only 1 shift
- did orientation, had 2+ shifts

How do we define a "disengaged" volunteer?

- For the purpose of this analysis, we considered a volunteer was disengaged (i.e., stopped volunteering) if the length of time after their last shift was > 90 days ago.

## Procedure

1. Load in the data that was pre-cleaned and merged
2. Analyze and create plots

All analysis was performed for volunteers that did orientation between Jan 01 2017 and Sept 01 2017.

## Analysis

### Summary of volunteers

- How many did orientation, but no shifts?
- How many did orientation, had only 1 shift?
- How many did orientation, had 2+ shifts?

```
## Warning in strptime(xx, f <- "%Y-%m-%d", tz = "GMT"): unknown timezone
## 'zone/tz/2018c.1.0/zoneinfo/America/New_York'
```

Table 1: Overall Summary

| | |
|---|---|
| total_volunteers | 421 |
| volunteered_ever | 49.9 % |
| volunteered_onlyonce | 6.4 % |
| twoplus | 43.5 % |
| tenplus | 19.7 % |
| ave_shifts | 6.52 |
| ave_missed_shifts | 0.24 |

### Summary of volunteers by site where they did orientation

Table 2: Summary stratified by location

|  | GF | NE | PAC |
|---|---|---|---|
| total_volunteers | 129 | 91 | 201 |
| volunteered_ever | 45 % | 49.5 % | 53.2 % |
| volunteered_onlyonce | 4.7 % | 6.6 % | 7.5 % |
| twoplus | 40.3 % | 42.9 % | 45.8 % |
| tenplus | 14 % | 24.2 % | 21.4 % |
| ave_shifts | 3.97 | 7.29 | 7.80 |
| ave_missed_shifts | 0.02 | 0.03 | 0.47 |

## Summary of volunteer disengagement

For a volunteer that did at least one shift:

The median days since last shift is 117.5 days.

The median time between shifts is 11 days.

Table 3: Summary of time between orientation to the first shift

| first_shift_group | mean_shifts | mean_missed_shifts | freq |
|---|---|---|---|
| <= 14 days | 14.542857 | 0.4571429 | 105 |
| 14 to 60 days | 13.500000 | 0.3548387 | 62 |
| > 60 days | 8.813954 | 0.1860465 | 43 |

Table 4: Summary of time between shifts

| timebw_shift_group | mean_shifts | mean_missed_shifts | freq |
|---|---|---|---|
| <= 7 days | 20.927835 | 0.5154639 | 97 |
| 7 to 14 days | 9.224490 | 0.1836735 | 49 |
| > 14 days | 6.324324 | 0.4324324 | 37 |
| NA | 1.000000 | 0.1111111 | 27 |

## Visualizations

In the below histogram, we see that most the engaged volunteers have volunteered in the last 90 days (vertical black line), while the disengaged volunteers have not volunteered in 100 or more days.
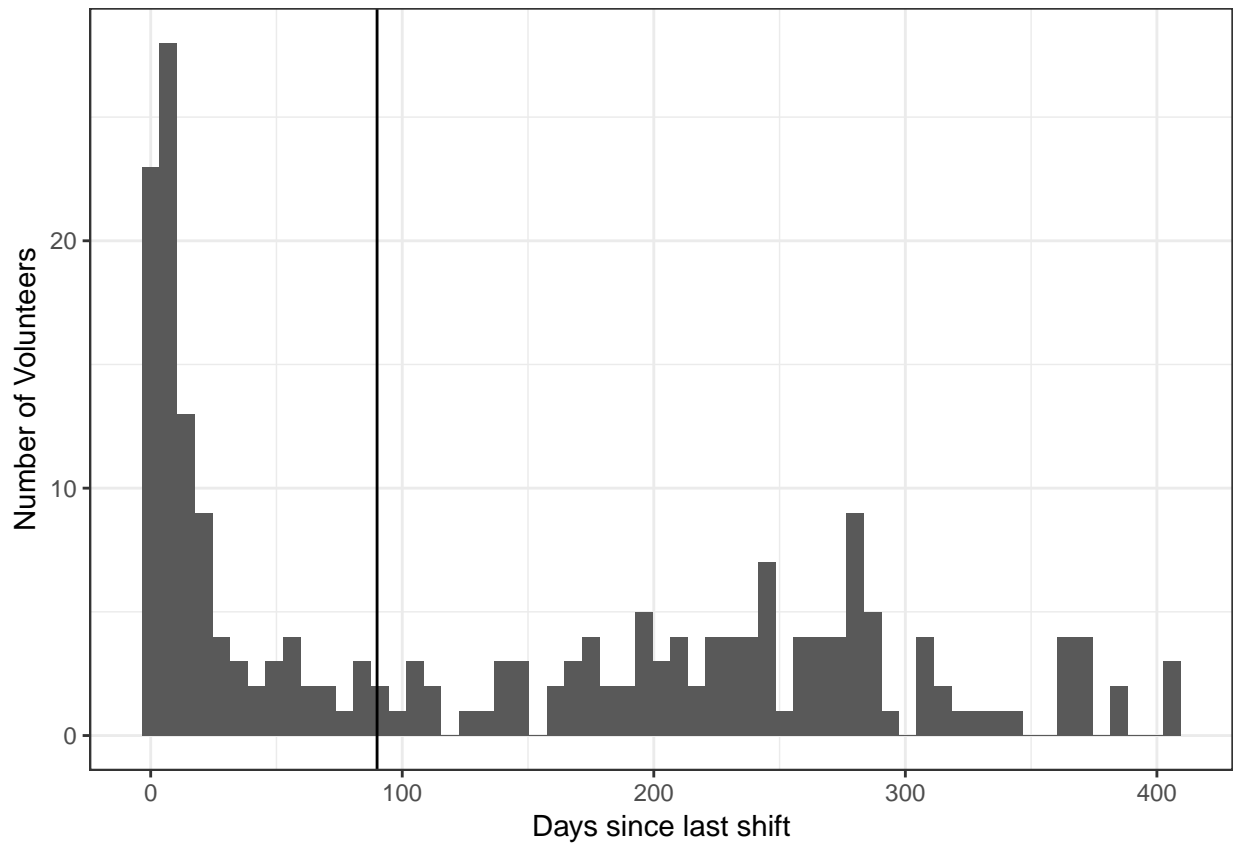
**Plot volunteers time between first shift and disengagement**

```
## Warning in .add_surv_median(p, fit, type = surv.median.line, fun = fun, :
## Median survival not reached.
```
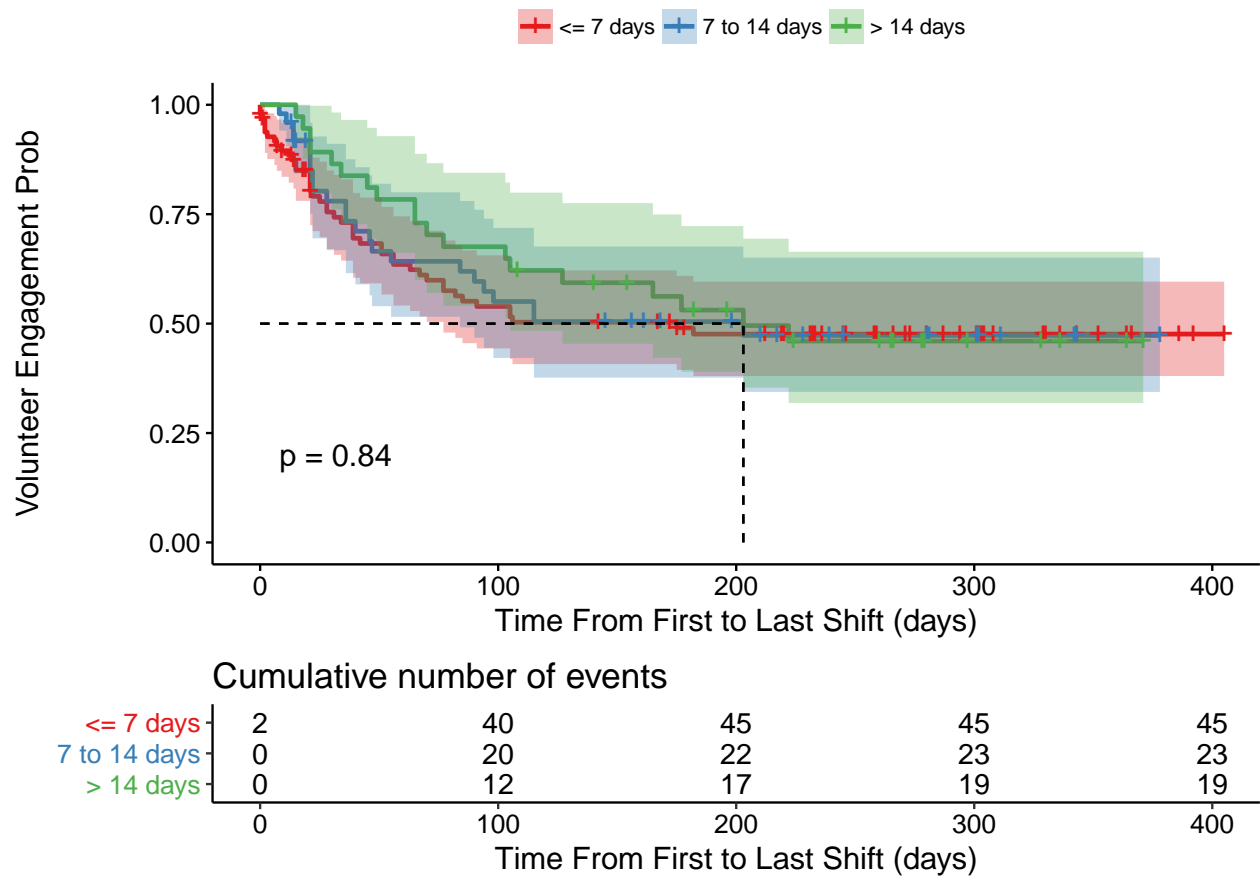
## Compare how soon after orientation volunteered
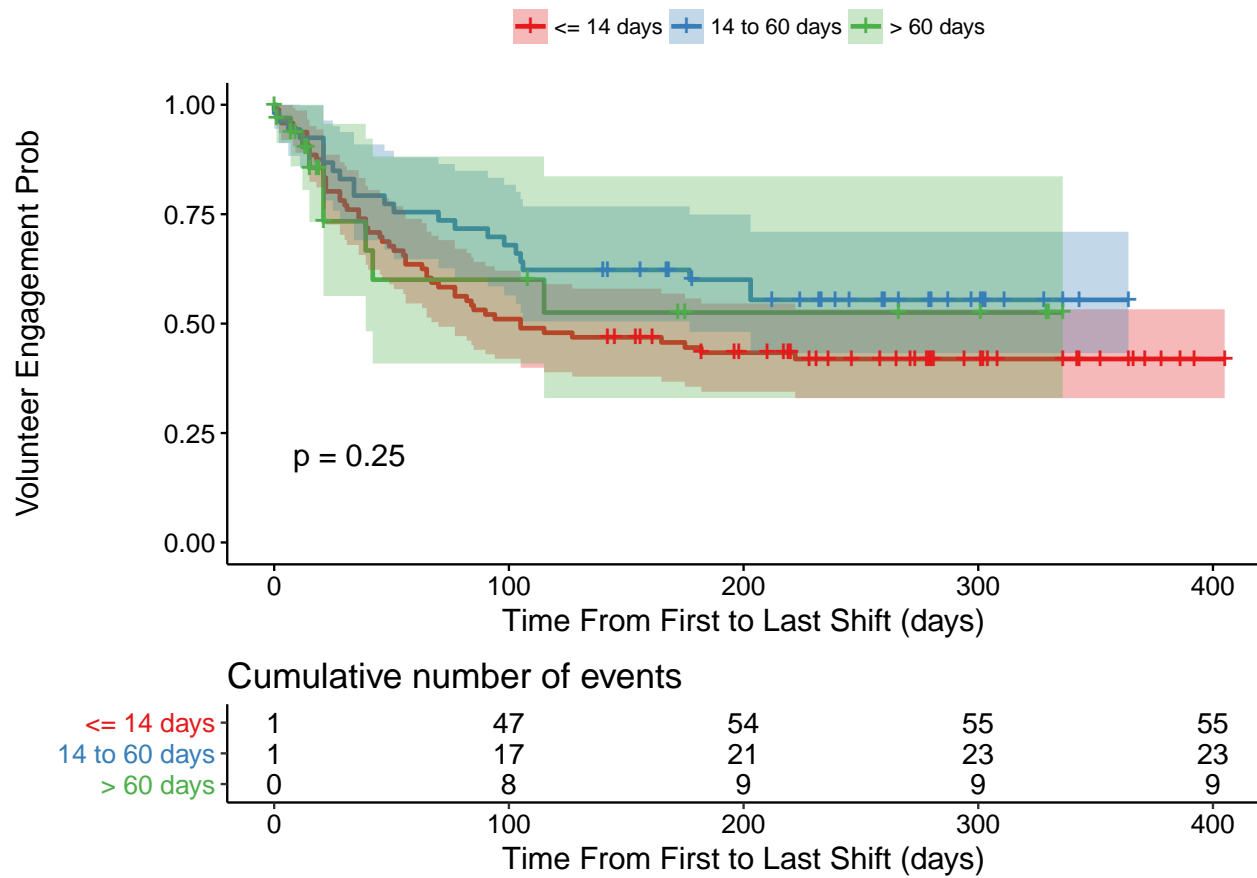


We do not observe a significant relationship between the delay between orientation and volunteering and how long the volunteer continues to volunteer.

The median volunteer engangement time was 105 days for volunteers that did their first shift <= 14 days after orientation.
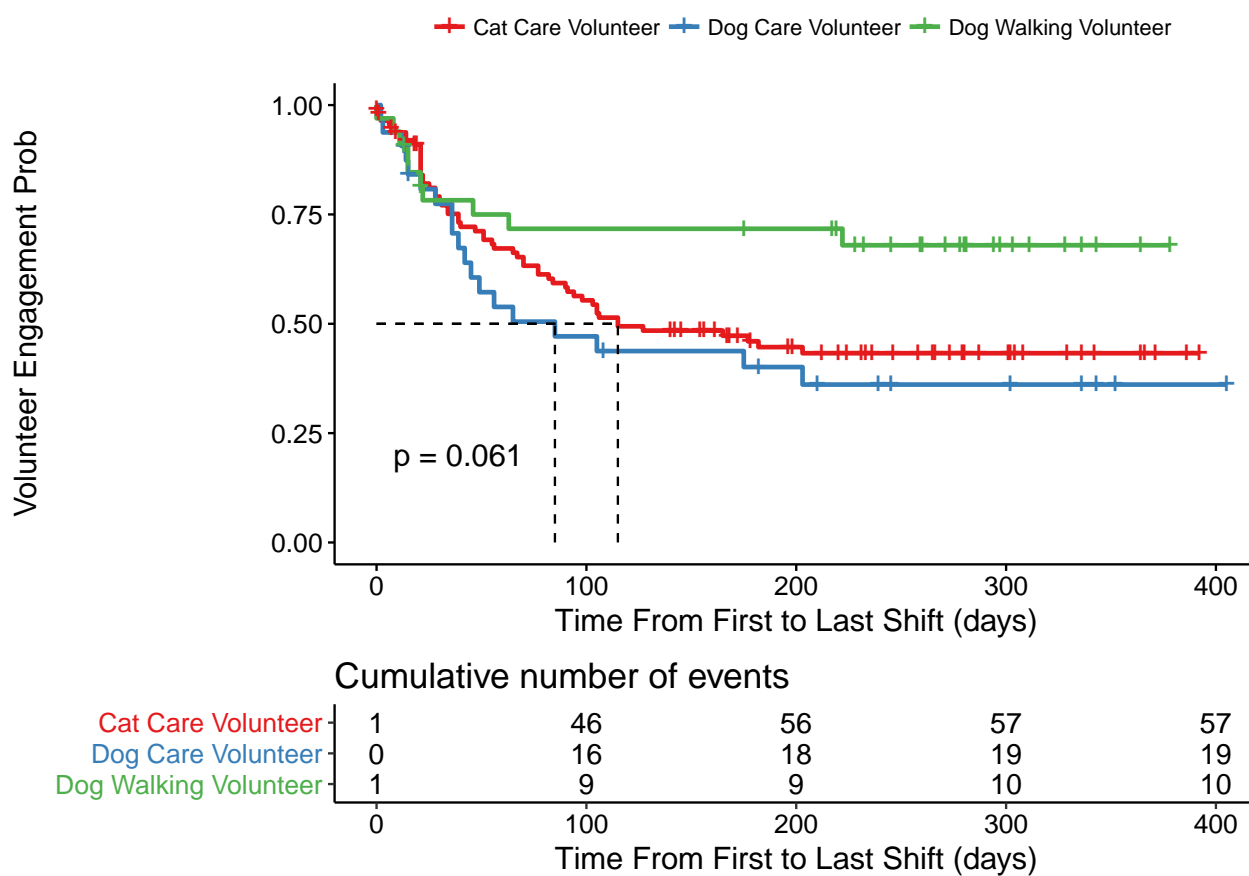
## Compare median time between shifts



We don't see a strong trend that volunteers leave sooner if they tend to volunteer more or less frequently.

The median volunteer engangement time was 175 days, 203 days, 203 days for volunteers with median days between shifts of <= 7 days, 7 to 14 days, and > 14 days, respectively.

## Compare primary assignments



There is a trend that dog walking volunteers keep volunteering longer than cat care or dog care volunteers. Cat care is at all three sites, dog care only at Grays Ferry, and dog walking is either PAC or NE.

The median volunteer engangement time was 115 days and 85 days for cat care volunteers and dog care volunteers, respectively. The median engagement time for dog walking volunteers was not reached.
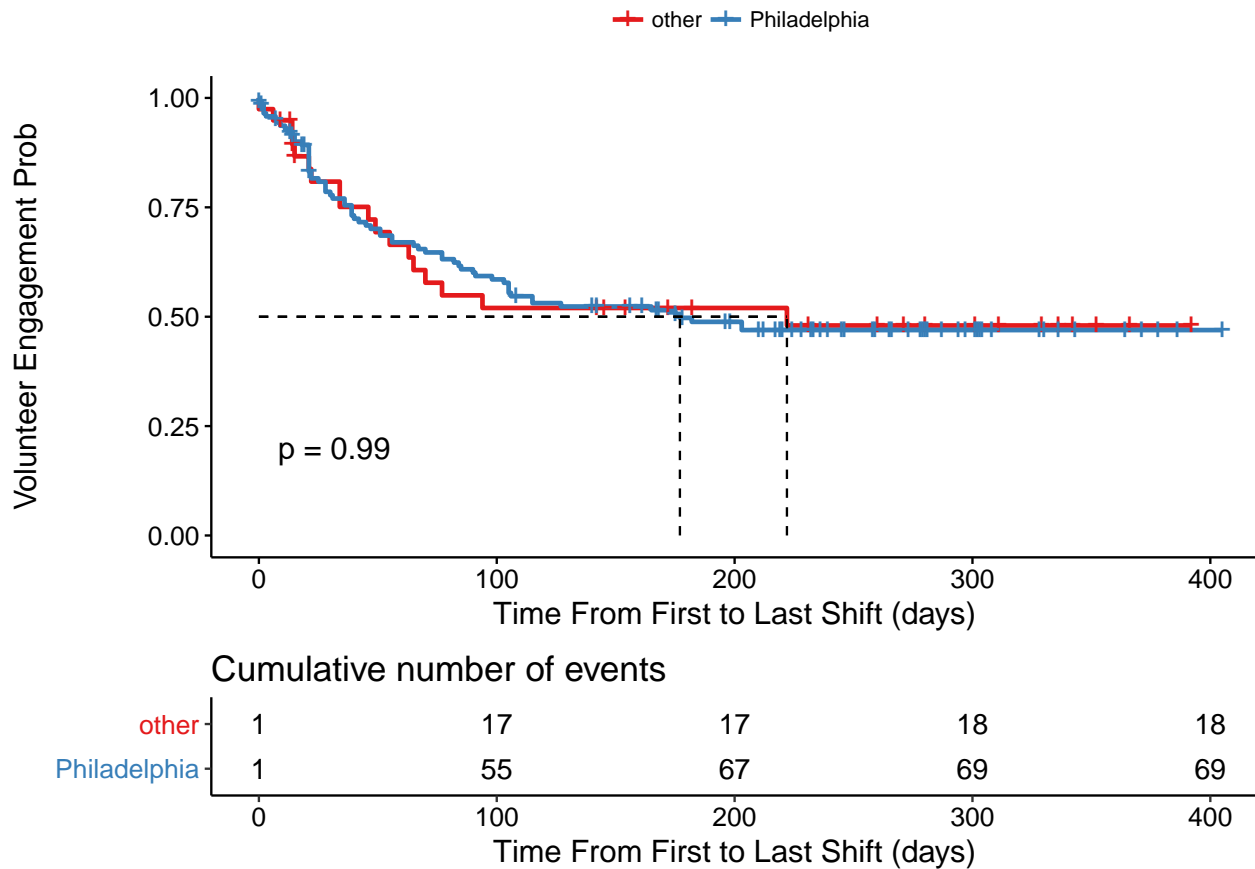
# Compare primary orientation location
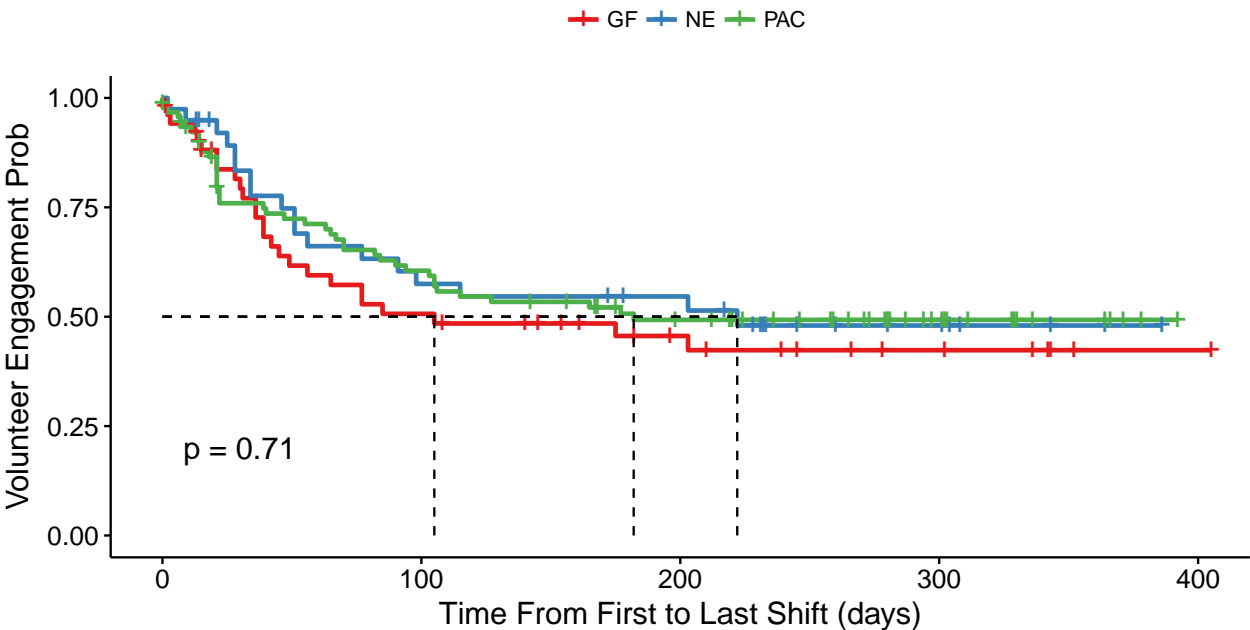


## Cumulative number of events

| | 0 | 100 | 200 | 300 | 400 |
|---|---|---|---|---|---|
| GF | 1 | 23 | 25 | 26 | 26 |
| NE | 0 | 15 | 16 | 18 | 18 |
| PAC | 1 | 34 | 43 | 43 | 43 |

Time From First to Last Shift (days)

## Compare volunteer residence city



There is not a clear trend for orientation location or whether someone lives in philadelphia or outside philadelphia.

# Conclusions from this part

We did not extensively examine all the patterns of volunteer disengagement and factors that led to a volunteer leaving. Overall, the largest drop-out appears to be that volunteers never show up after doing the orientation. If a volunteer does show up, then they tend to volunteer more than once. The Gray's Ferry location is having the hardest time retaining volunteers and their volunteers tend to volunteer less than other locations.