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 2018 and May 01 2018.

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/2018e.1.0/zoneinfo/America/New_York'
```

Table 1: Overall Summary

total_volunteers	204
no service	23 %
only 1 shift	14.7 %
2-9 shifts	62.3 %
10+ shifts	14.7 %
ave_shifts	5.05
ave_missed_shifts	0.1

Summary of volunteers by site where they did orientation

Table 2: Summary stratified by location

	GF	NE	PAC
total_volunteers	71	46	87
no service	16	10	21
1 shift	10	8	12
2-9 shifts	45	28	54
10+ shifts	9	8	13

```
## pdf
##   2
```

Summary of volunteer disengagement

For a volunteer that did at least one shift:

The median days since last shift is 66 days.

The median time between shifts is 10.9090909 days.

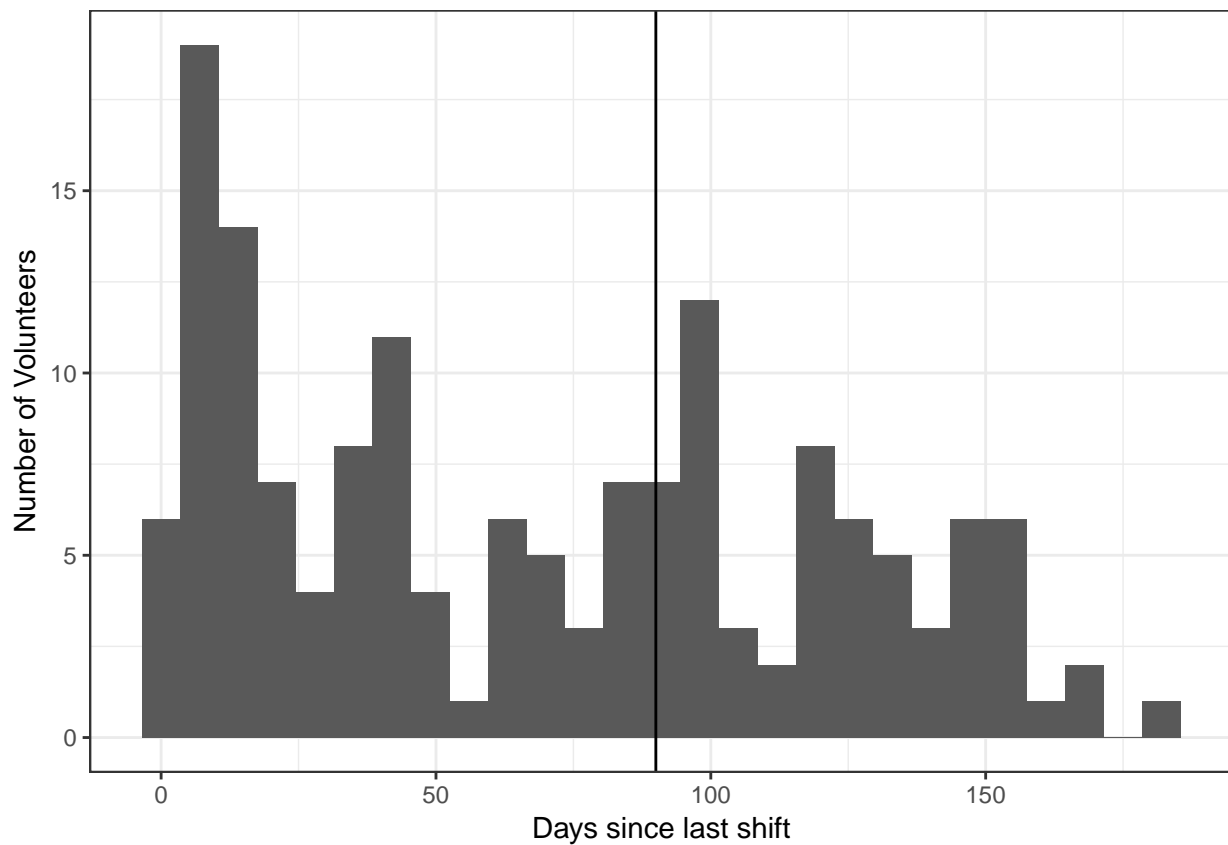Table 3: Summary of time between orientation to the first shift

first_shift_group	mean_shifts	mean_missed_shifts	freq
<= 14 days	7.757143	0.1142857	70
14 to 60 days	6.118421	0.1447368	76
> 60 days	2.090909	0.1818182	11

Table 4: Summary of time between shifts

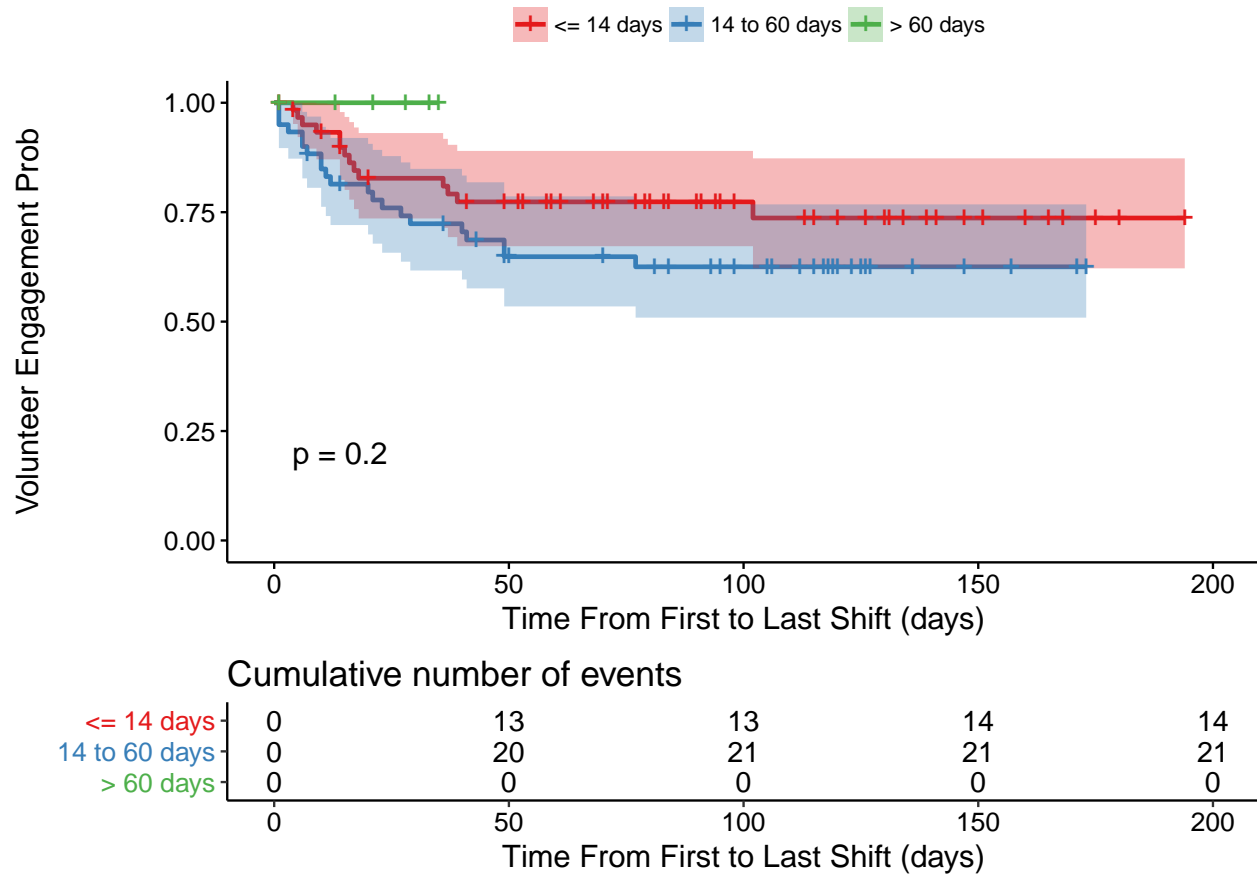| timebw_shift_group	mean_shifts	mean_missed_shifts	freq
<= 7 days	10.657143	0.1571429	70
7 to 14 days	5.080000	0.1200000	25
> 14 days	3.742857	0.1714286	35
NA	1.000000	0.0370370	27

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.
```

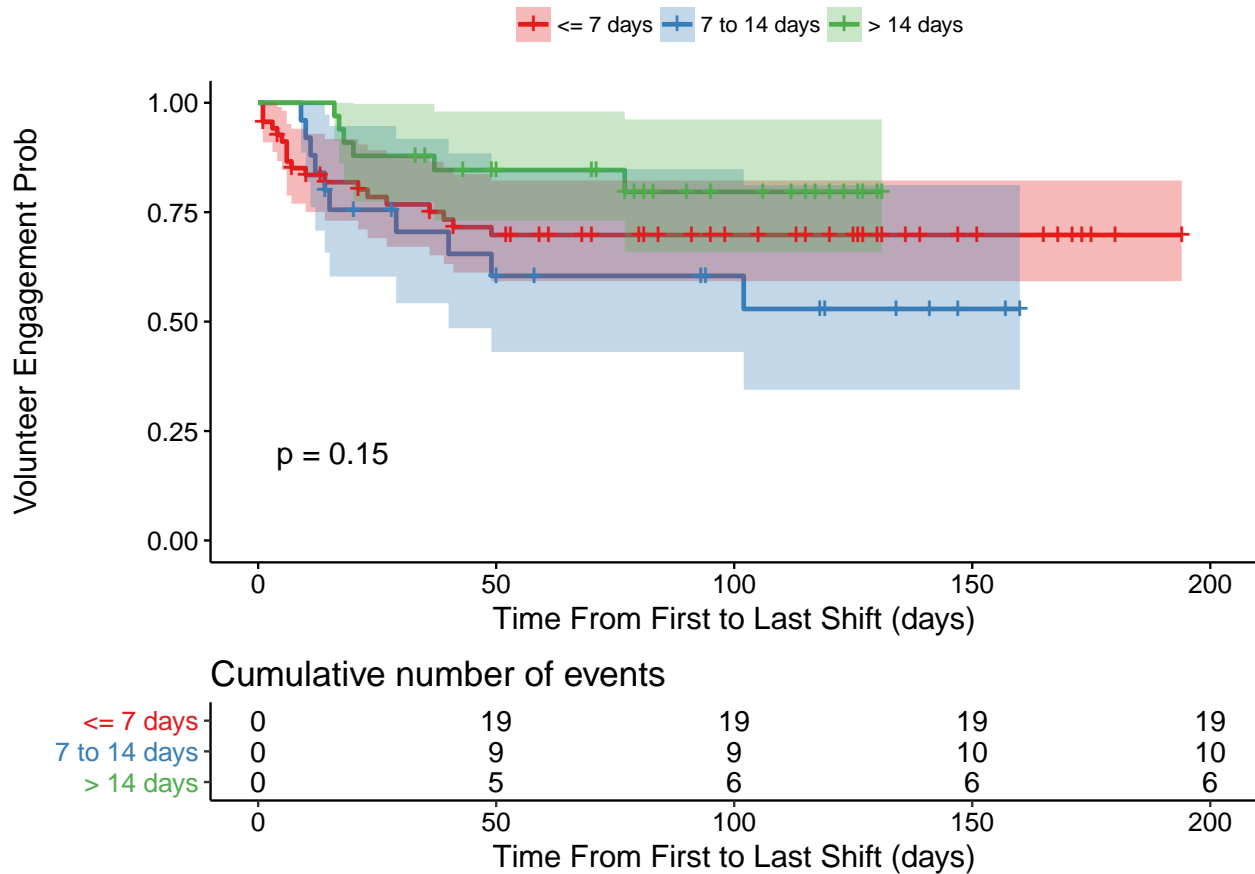# Compare how soon after orientation volunteered

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 not yet reached.

```
## Warning in .add_surv_median(p, fit, type = surv.median.line, fun = fun, :
## Median survival not reached.
```

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 not yet reached.

```
## Warning in .add_surv_median(p, fit, type = surv.median.line, fun = fun, :
## Median survival not reached.
```
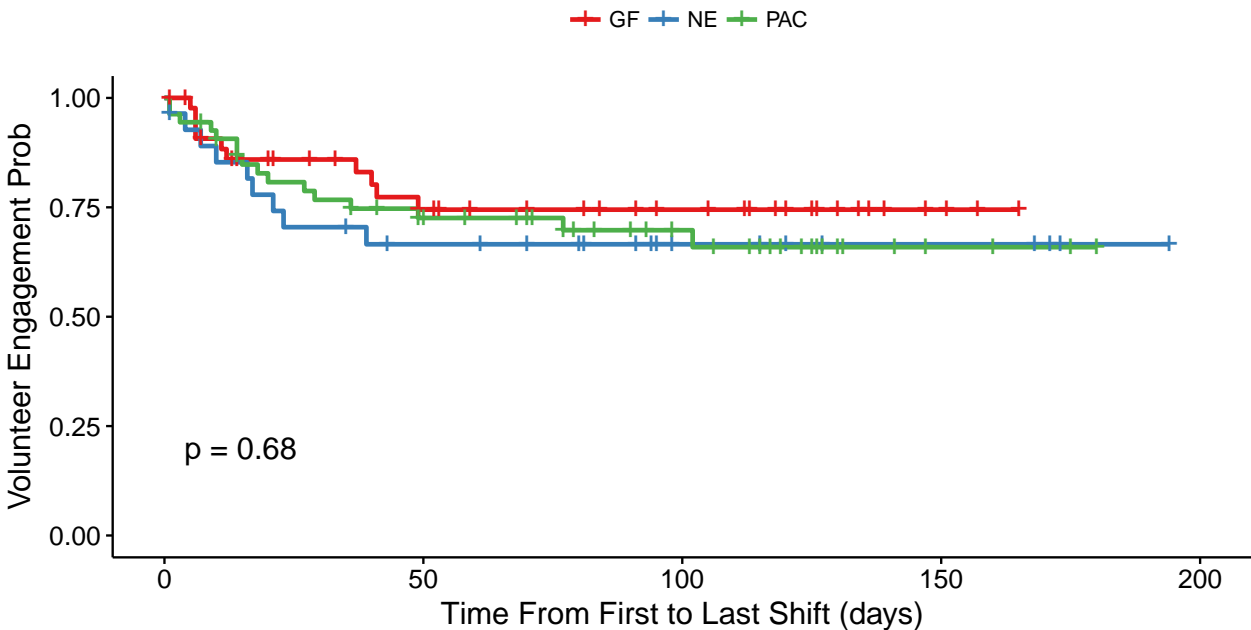
```
## pdf
##    2
```

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 not reached.

```
## Warning in .add_surv_median(p, fit, type = surv.median.line, fun = fun, :
## Median survival not reached.
```
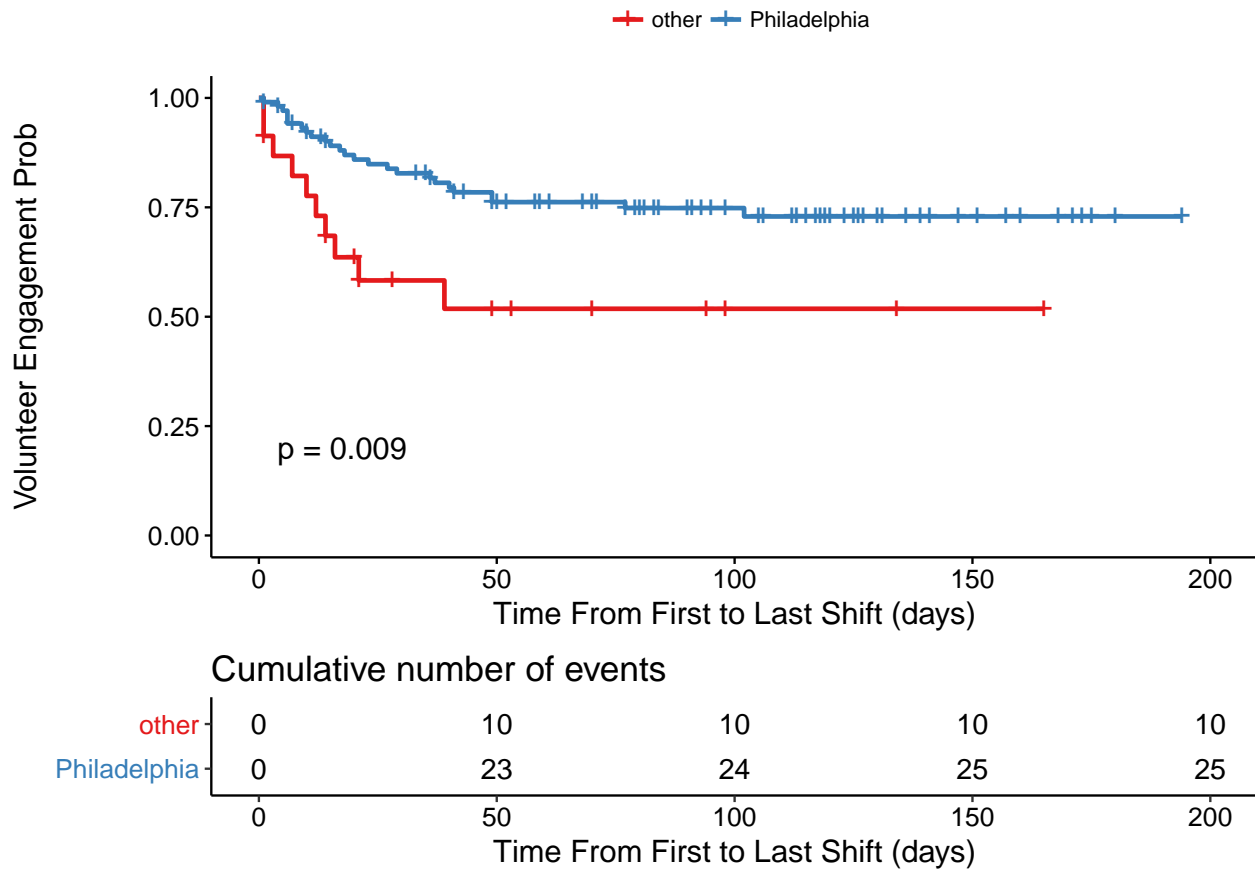
Compare primary orientation location

Cumulative number of events

GF	0	10	10	10	10
NE	0	9	9	9	9
PAC	0	14	15	16	16
	0	50	100	150	200

Time From First to Last Shift (days)

```
## Warning in .add_surv_median(p, fit, type = surv.median.line, fun = fun, :
## Median survival not reached.
```

Compare volunteer residence city

— other — Philadelphia

Volunteer Engagement Prob

1.00

0.75

0.50

0.25

0.00

p = 0.009

0   50   100   150   200

Time From First to Last Shift (days)

Cumulative number of events

	0	50	100	150	200
other	0	10	10	10	10
Philadelphia	0	23	24	25	25

Time From First to Last Shift (days)

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.