

PAWS Volunteer Engagement Patterns

R-Ladies Philadelphia

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Executive Summary

Problem definition and dataset

Problem definition

The primary problem addressed in this first phase of data analysis was: **What can PAWS do to increase volunteer engagement and retention?** This problem was broken into the following sub-questions:

1. What is the typical engagement timeline for a volunteer, from attending orientation to completing first shift?
2. What is the typical volunteer behavior in the first month? In the first 2 months?
3. What is the typical pattern for volunteer disengagement?
4. What factors contribute to a volunteer returning after shift 1? e.g. time of first shift attended; day/month/season of first shift attended; who else/how many others were there during first shift attended; zip code; initial engagement pattern; sign-up pattern in first month;
5. What factors contribute to a volunteer becoming a regular? e.g. time of first shift attended; day/month/season of first shift attended; who else/how many others were there during first shift attended; zip code; initial engagement pattern; sign-up pattern in first month;

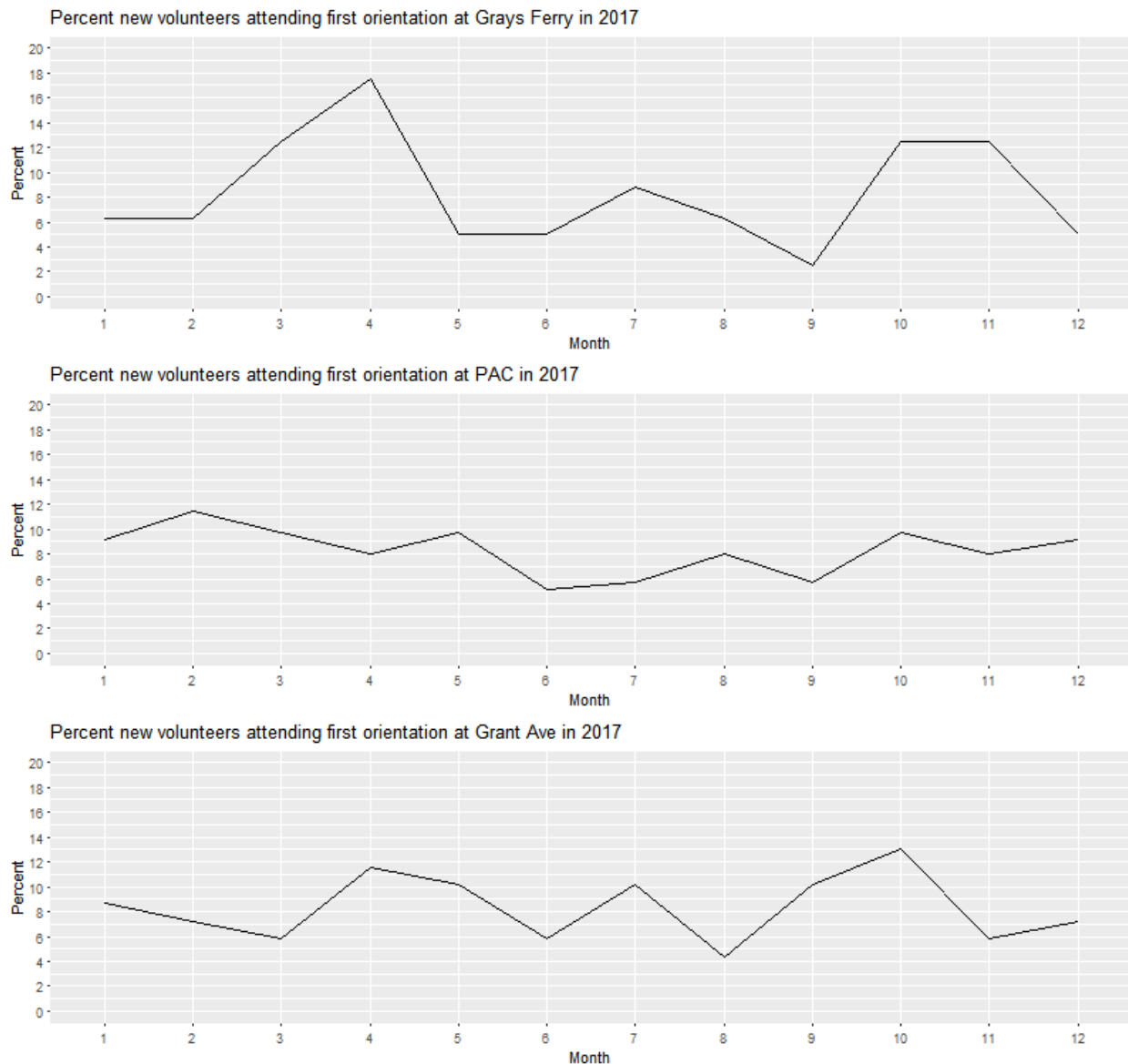
Dataset

The data used for this round of analyses included 3 datasets: * the “master” dataset obtained from Volgistics, with names, addresses, and phone-numbers removed, and anonymized PAWS ID numbers. * the orientation signup sheet (from Google Docs), also de-identified, including orientation records between 1/1/2017 - 3/1/2018 * the “service” data obtained from Volgistics, de-identified.

Results

Typical volunteer engagement timelines

In 2017, new volunteer orientation attendance differed among the 3 PAWS locations. New volunteers who attended their first orientation at Grays Ferry tended to do so mostly in March/April and October/November. At PAC, there appears to be a stable new volunteer orientation attendance, with slower months being June, July and September. In contrast, Grant Ave had new volunteer orientation attendance peaks in April, May, July, September and October.



Once they attended orientation, new volunteers were entered into Volgistics 1 day later at PAC, 3 days later at Grays Ferry, and 10 days later at Grant Ave. Once entered into the system, the majority of new volunteers across all locations signed into Volgistics on the same day.

New volunteers who completed PAC orientation typically began their service 9 days later (dog) and 14 days later (cat). At Grays Ferry, volunteers from both basic and basic + WD orientations typically started their service 17 days later, while at Grant Ave, volunteers began their service 21 days after orientation.

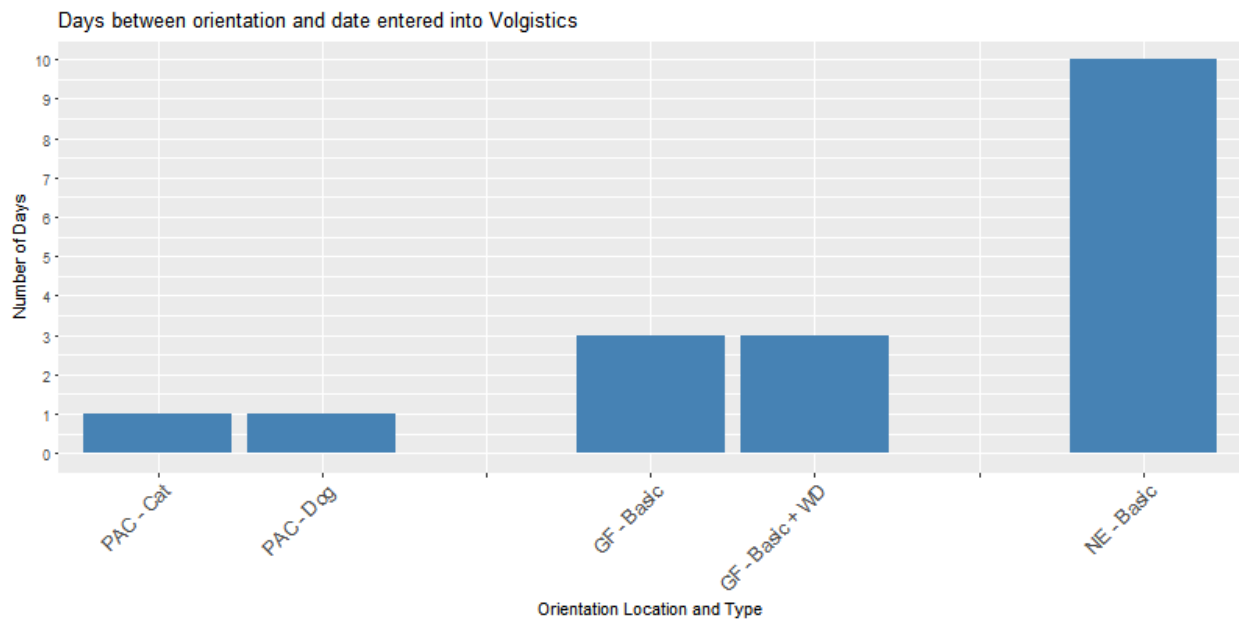


Figure 1: Median number of days between when a volunteer attends orientation and when a volunteer is entered into Volgistics

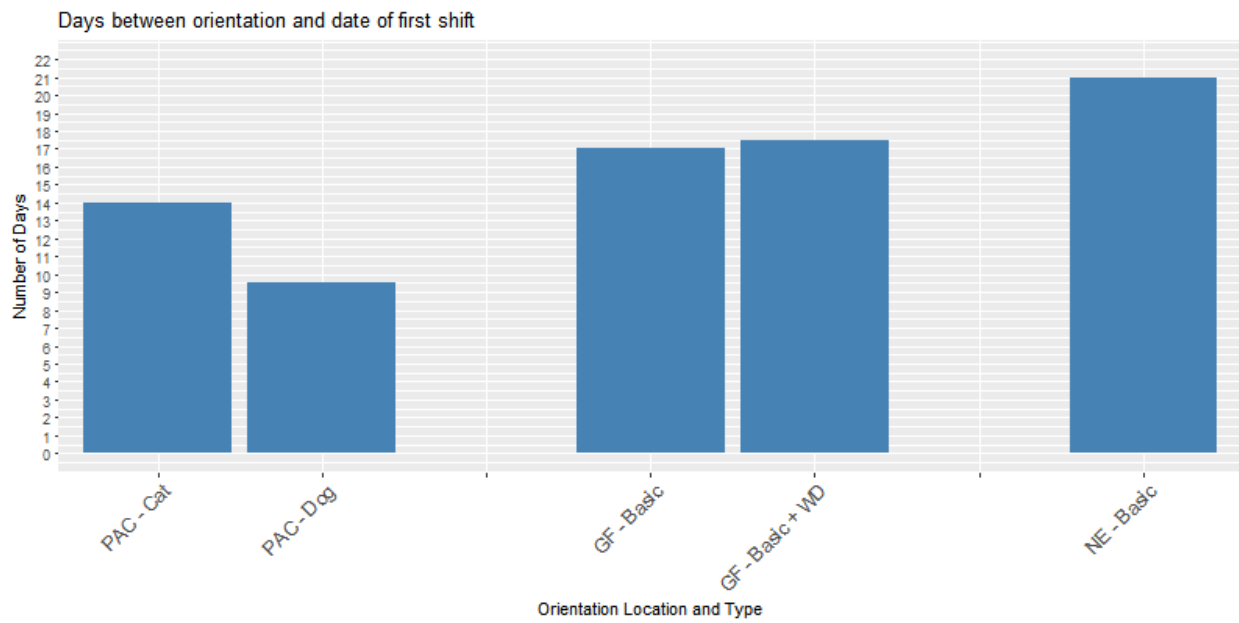


Figure 2:

The typical duration between orientation and shift 1 also depended on first shift type. For new volunteers who started their service doing administrative tasks, the typical time between orientation and shift 1 was 114 days. Similarly, for first shifts that were vet tech shifts, this duration was 137 days from first login to Volgistics. These numbers are disproportionately high compared to other volunteer assignments and are therefore not shown in the graph below.

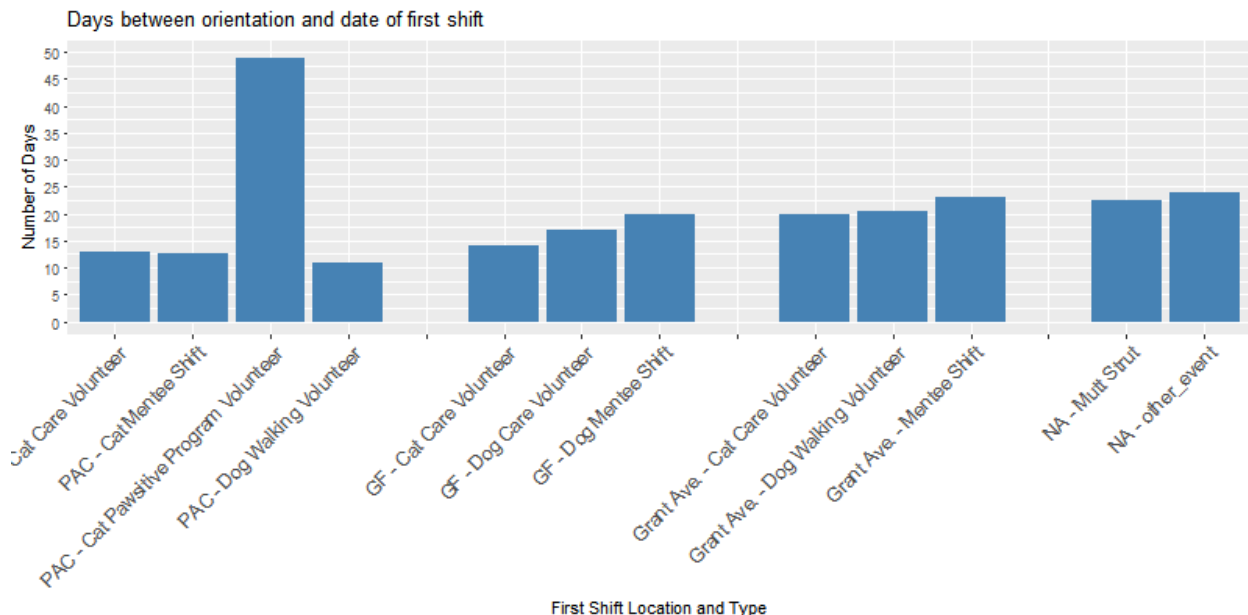


Figure 3: Median number of days between orientation and the date of their first shift

At PAC, time to first shift was longest for volunteers who started their service in the Cat Pawisitive Program (49 days from orientation), while this duration was only 13 days for Cat Care volunteer and Cat Mentee shifts, and 11 days for Dog Walking Volunteer shifts.

At Grays Ferry, new volunteers signed up for dog mentee shifts took longest to begin their service after orientation (20 days), followed by dog care volunteer shifts (17 days) and cat care volunteers (14 days).

At Grant Ave, new volunteers signed up for mentee shifts also took longest to begin their service after orientation (23 days), followed by dog and cat care volunteers (20 days).

Finally, for volunteers who began their service at an event, the time between orientation and beginning of service was typically 22 days (Mutt Strut) and 24 days (other event).

Volunteer disengagement

Definition of 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.

All analysis was performed for volunteers that did orientation between Jan 01 2017 and Sept 01 2017. From this volunteer pool, initial results suggest that approximately 50% of orientation attendees at any location disengage after orientation. Specifically, 55% of orientation attendees at Grays Ferry (71 attendees) have no record of service, while this number stands at 50.5% (46 attendees) at Grant Ave, and 46.8% (94 attendees) at PAC.

Only a small percentage of orientation attendees had only 1 shift recorded (4.7% at Grays Ferry = 6 volunteers; 6.6% at Grant Ave = 6 volunteers; 7.5% at PAC = 15 volunteers). The majority of volunteers served 2 or

more shifts, across all locations.

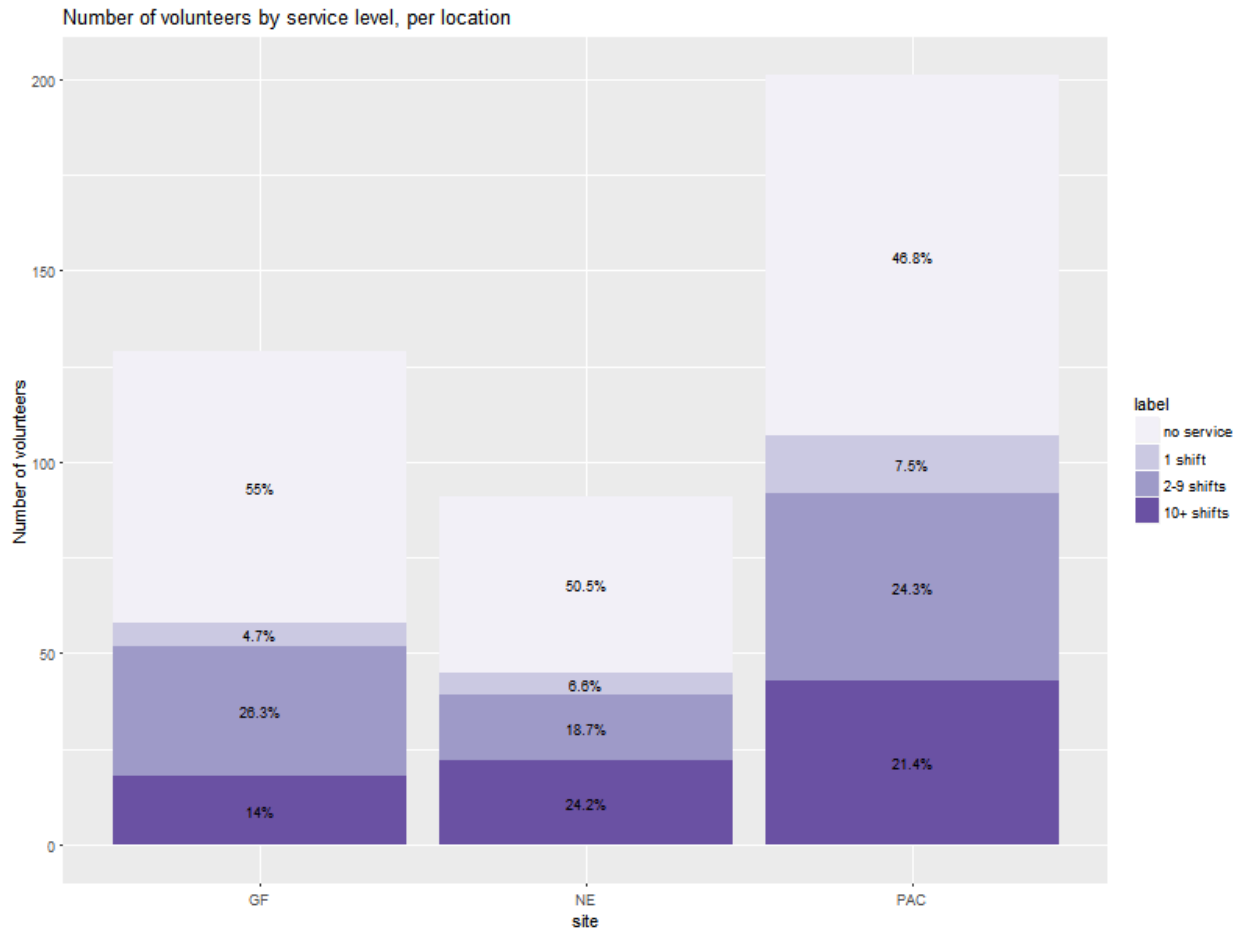


Figure 4: Number of volunteers by service level, per location

Interestingly, taken across all locations, the delay between orientation and shift 1 is not sufficient to estimate when or which volunteers become disengaged. In this dataset, we did not observe a significant relationship between the delay between orientation and volunteering and how long the volunteer continues to volunteer at PAWS. Furthermore, we found that whether a volunteer serves multiple times a week, once every 2 weeks, or more sporadically than every 2 weeks, this pattern is not an indicator for disengagement.

We also examined disengagement patterns between volunteers whose primary assignment is ‘cat care’, ‘dog care’, and ‘dog walking’. The data suggest that dog walking volunteers (PAC or NE) are more likely to serve for a overall duration than cat care (all locations) and dog care (GF) volunteers. Furthermore, the risk of losing dog walking volunteers is highest within the first 60 days, while the risk of losing cat care and dog care volunteers is highest in the first 100 days of service.

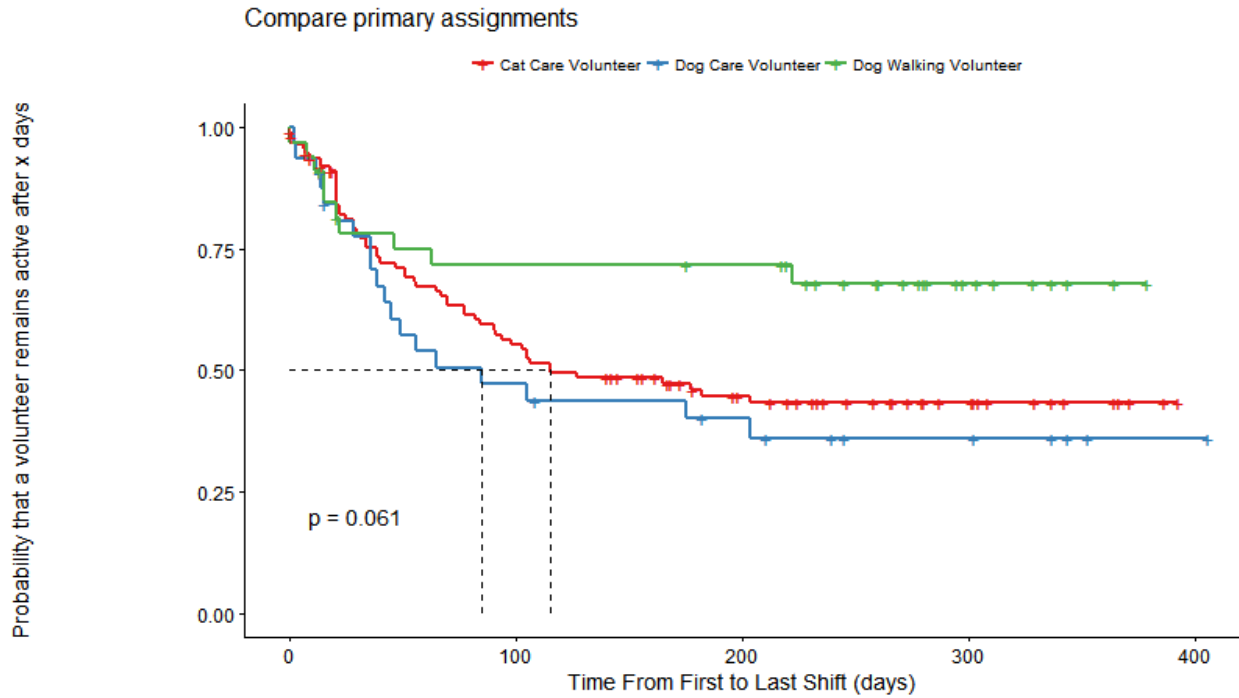


Figure 5: Probability that a volunteer remains active after a given number of days, based on their assignment

Conclusions and Recommendations

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.

Next steps

About R-Ladies Philadelphia



R-Ladies Philadelphia is the Philadelphia chapter of R-Ladies, a worldwide organization to promote gender diversity in the community of statisticians, data miners, and programmers using the R programming language.

Contributors