

Exploring Optimal Call Scheduling in a Large National Survey

FedCASIC
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IMPAQ

- Woman-owned, headquartered in Columbia, MD
- Offices in Washington, DC; Bethesda, MD; Oakland, Ca; Boston, MA; Seattle, WA
- Specializing in rigorous social science research and evaluation services
- In-house Survey Center with 55+ CATI stations

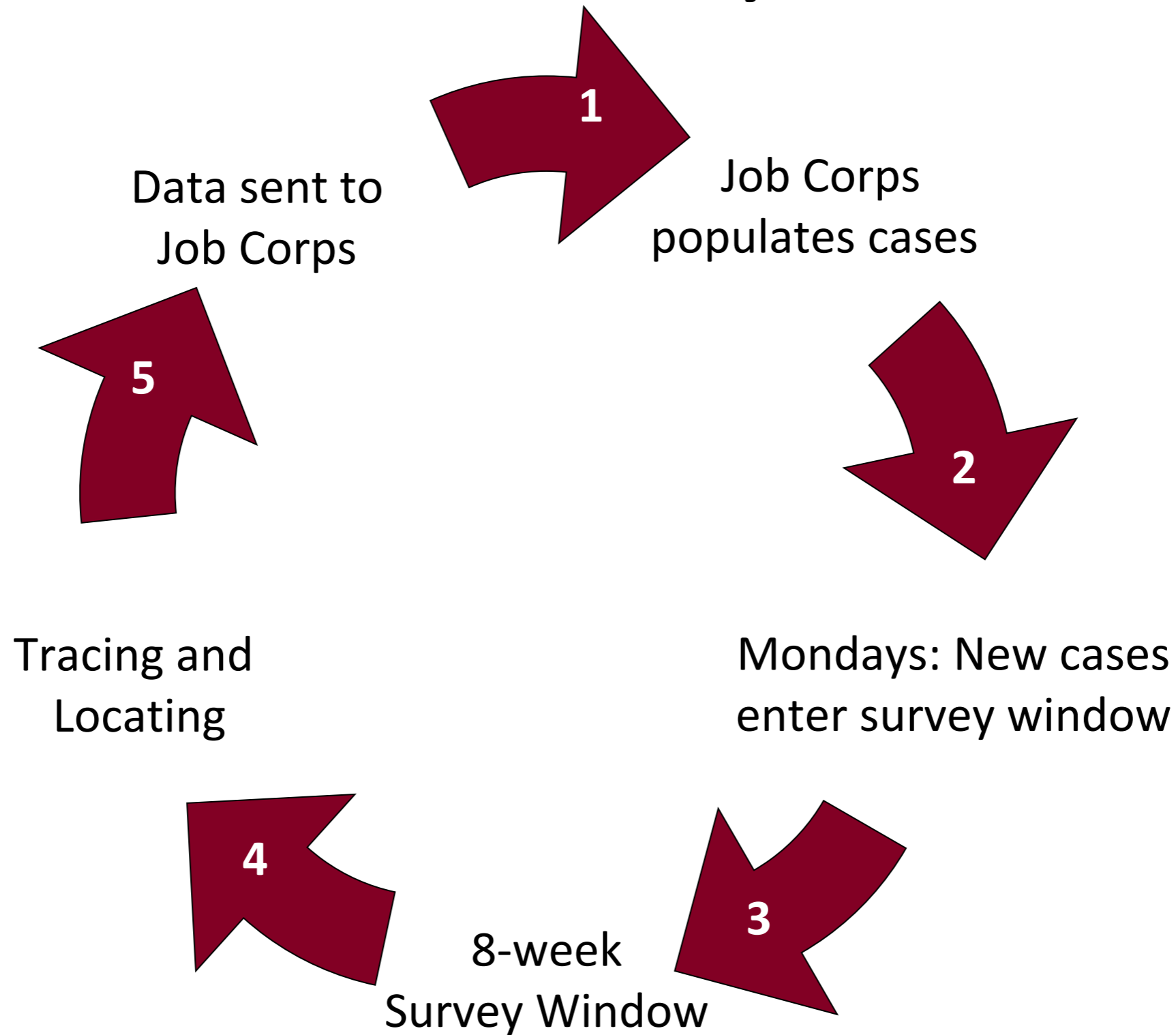
Background

- Job Corps Program
 - Funded by U.S. Department of Labor
 - Residential education and training program
 - At risk youth, 16-24 year olds
 - Services provided include career technical, social skills, career counseling, academic, etc

Background

- Job Corps National Survey
 - Part of performance management system
 - National telephone survey with ~60,000 former participants
 - 13 weeks, 6 months, 12 months after placement in employment or school
 - Rolling entrance and exit → Continuous data collection
 - Surveys conducted by IMPAQ since 2006

Historical Survey Process



Motivation for the Experiment

- Historically, ~1,000 new cases are loaded and available to interviewers on Monday morning
- Interviewers complete a first-pass through these cases by Monday afternoon
- After that, interviewers proceed to call older cases (8-week survey window)

Motivation for the Experiment

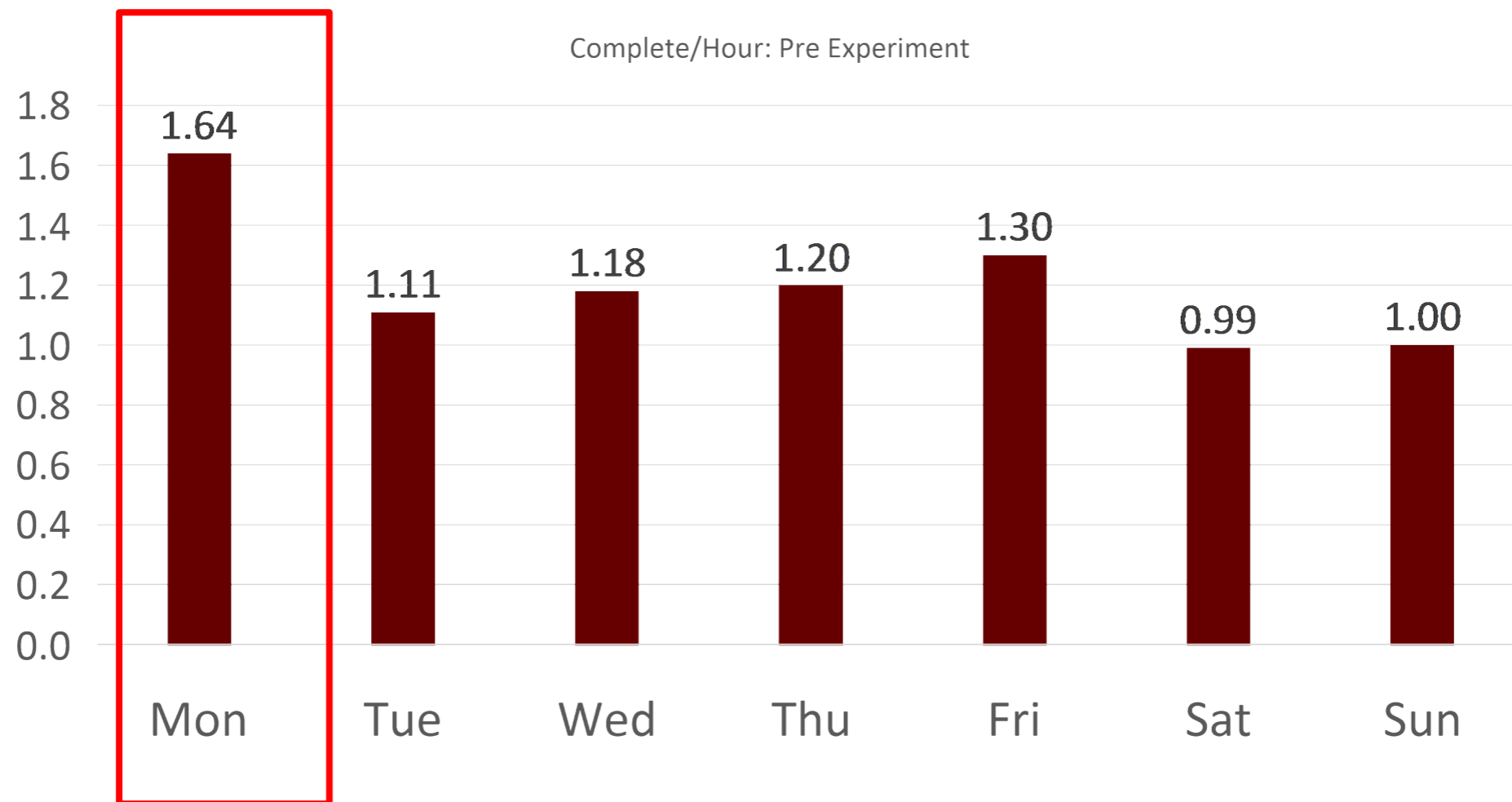
- **Can different patterns for releasing new cases influence completion rates?**
- Interviewer psychology
 - Chance of getting new case
- Respondent availability
 - Mondays vs. rest of week

Original Case Distribution

New	Standard Operations - Weekly Release (pre-experiment - 2006 - 2015)							
Old	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
9am								994
10am								
11am								
noon								
1pm								
2pm								
3pm								
4pm								
5pm								
6pm								
7pm								
8pm								
9pm								
10pm								
11pm								
New cases released	994	0	0	0	0	0	0	994

Original Completion

- An analysis of completes/interviewer hour, by day of week indicates highest completion on Mondays



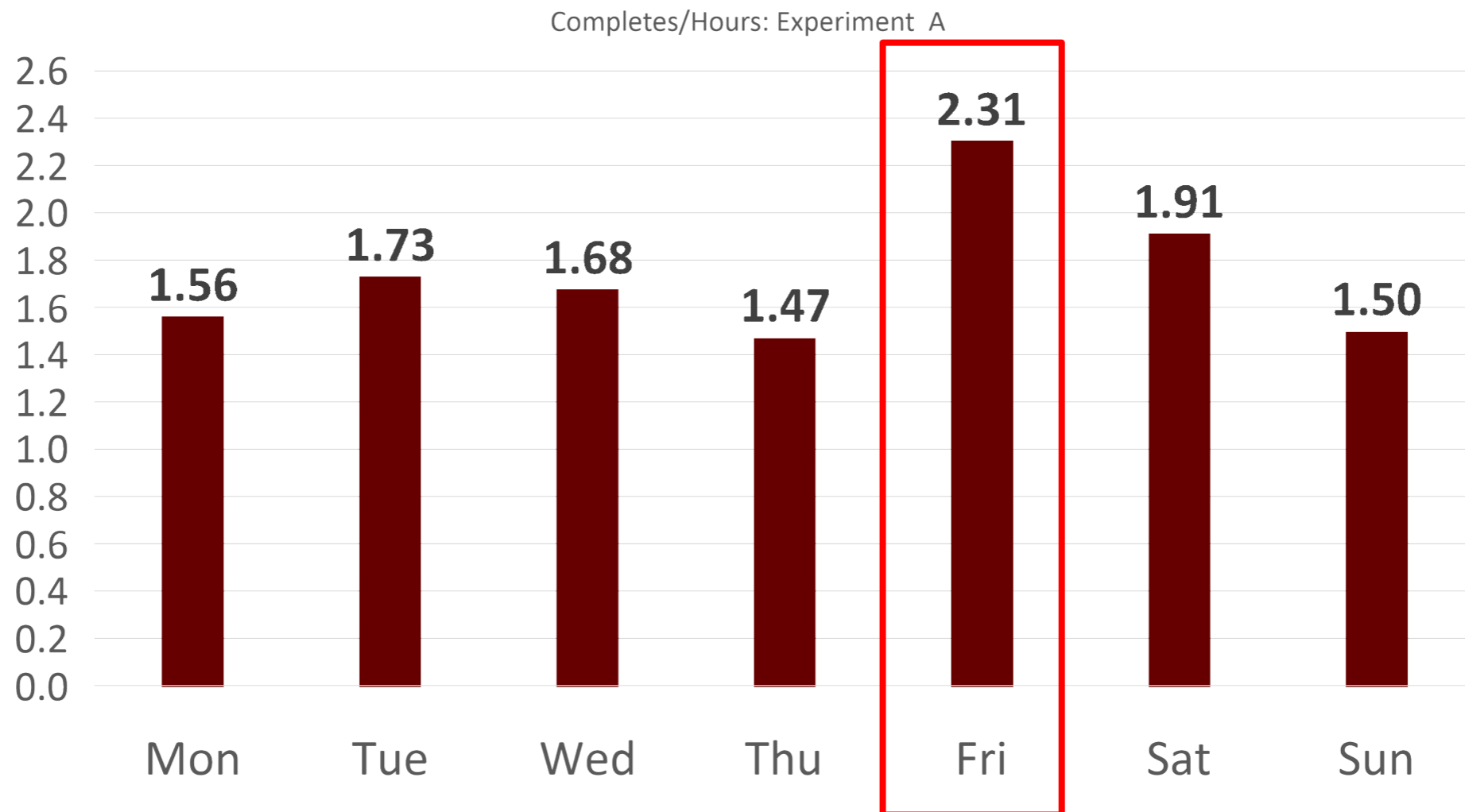
Experiment A- Daily

- To improve completion rates, we created Experiment A - distributed new cases daily.

New	Daily Release (Experiment A) August- September 2015							
Old	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
9am								
10am								
11am								
noon								
1pm								
2pm								
3pm								
4pm								
5pm								
6pm								
7pm								
8pm								
9pm								
10pm								
11pm								
New cases released	142	142	142	142	142	142	142	994

Experiment A - Results

- An analysis of completes/interviewer hour by day of week indicates highest completion no longer on Mondays



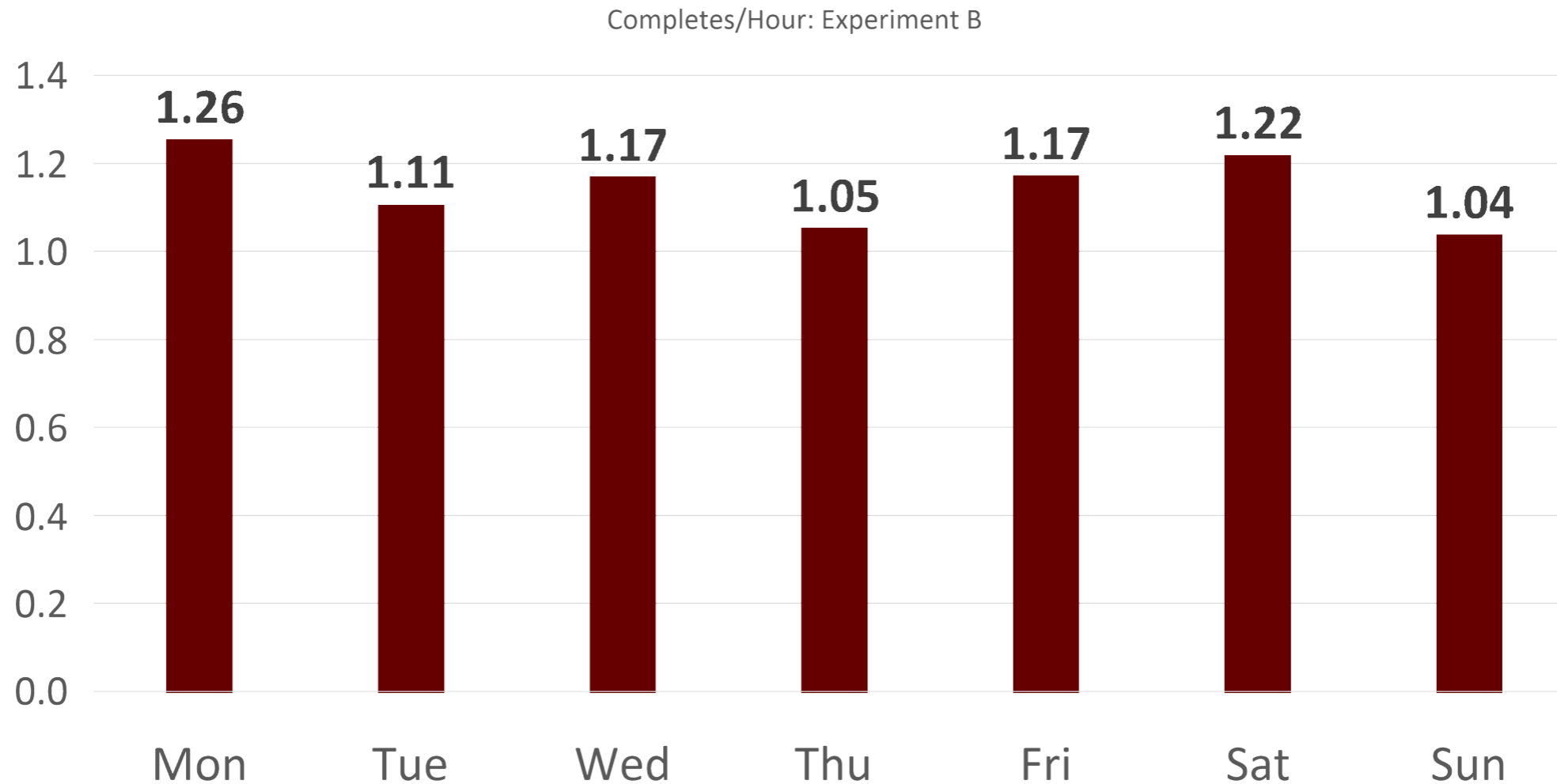
Experiment B - Hourly

- To improve completion rates further, we created Experiment B - distributed new cases hourly each day. (~11 cases/hour)

New	Hourly Release (Experiment B) September- November 2015							
Old	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
9am								
10am								
11am								
noon								
1pm								
2pm								
3pm								
4pm								
5pm								
6pm								
7pm								
8pm								
9pm								
10pm								
11pm								
New cases released	149	183	149	183	126	90	114	994

Experiment B - Results

- An analysis of completes/hour by day of week indicates results worse than Experiment A



Comparison of Results

Original / Experiment A / Experiment B

Scenario	Timing	Average New Cases/ Wk	Average Weekly Interviewer's Hours	Complete/ hour	Calls/ Complete
Monday distribution	8/31-11/20 (2014)	1,276	519	1.22	12
Experiment A: Daily Distribution	8/24-9/20 (2015)	1,109	364	1.68	8.2
Experiment B: Hourly Distribution	9/21-11/22 (2015)	1,062	570	1.23	11



Experiment C

- Prior experiments didn't control for timing, cases, hours.
- Experimental design
 - Experiment C: Split cases between Daily & Hourly
- Implementation
 - Call scheduler
 - Invisible to interviewers

Experiment C: Half Daily, Half Hourly

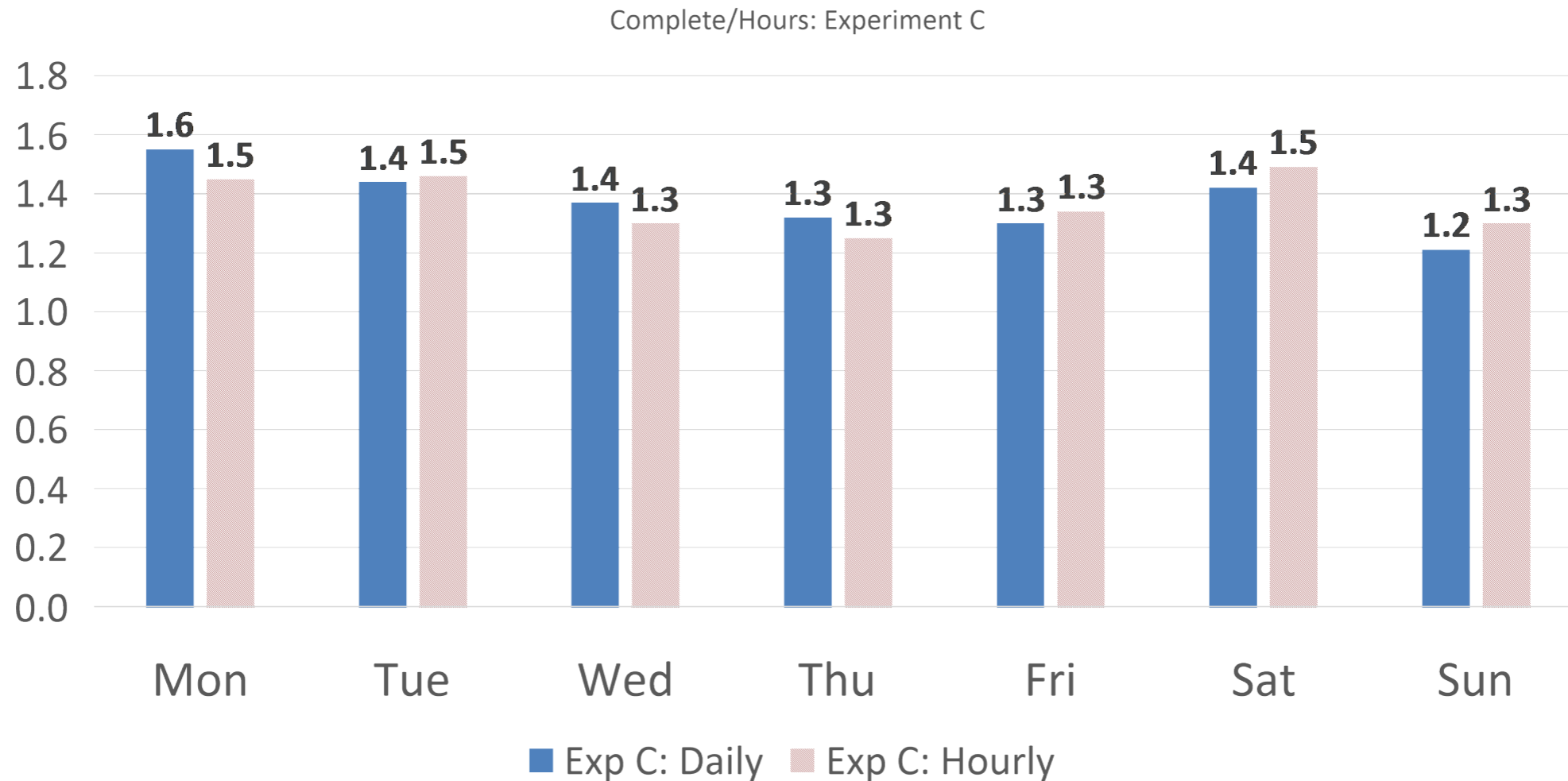
- Split cases: half delivered daily, half hourly

New	Daily Release (Experiment C) Nov 2015 - Mar 2016							Total
Old	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
9am								497
10am								
11am								
noon								
1pm								
2pm								
3pm								
4pm								
5pm								
6pm								
7pm								
8pm								
9pm								
10pm								
11pm								
New cases released	71	71	71	71	71	71	71	497

New	Hourly Release (Experiment C) Nov 2015 - Mar 2016							Total
Old	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
9am								497
10am								
11am								
noon								
1pm								
2pm								
3pm								
4pm								
5pm								
6pm								
7pm								
8pm								
9pm								
10pm								
11pm								
New cases released	71	71	71	71	71	71	71	497

Experiment C - Results

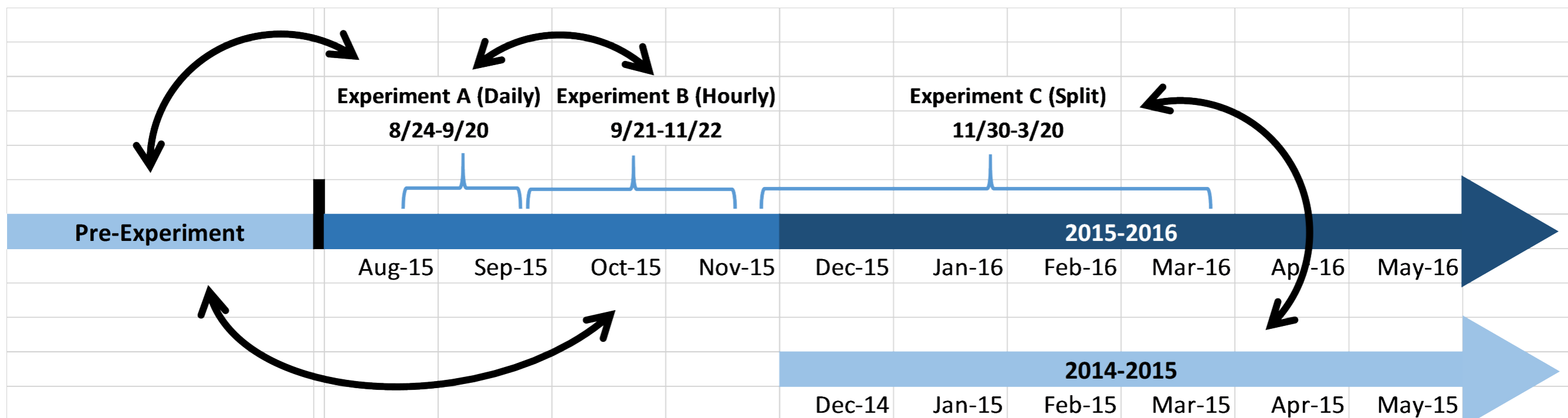
- An analysis of completes/hour by day of week indicates very little difference between hourly and daily



Results: Experiment C

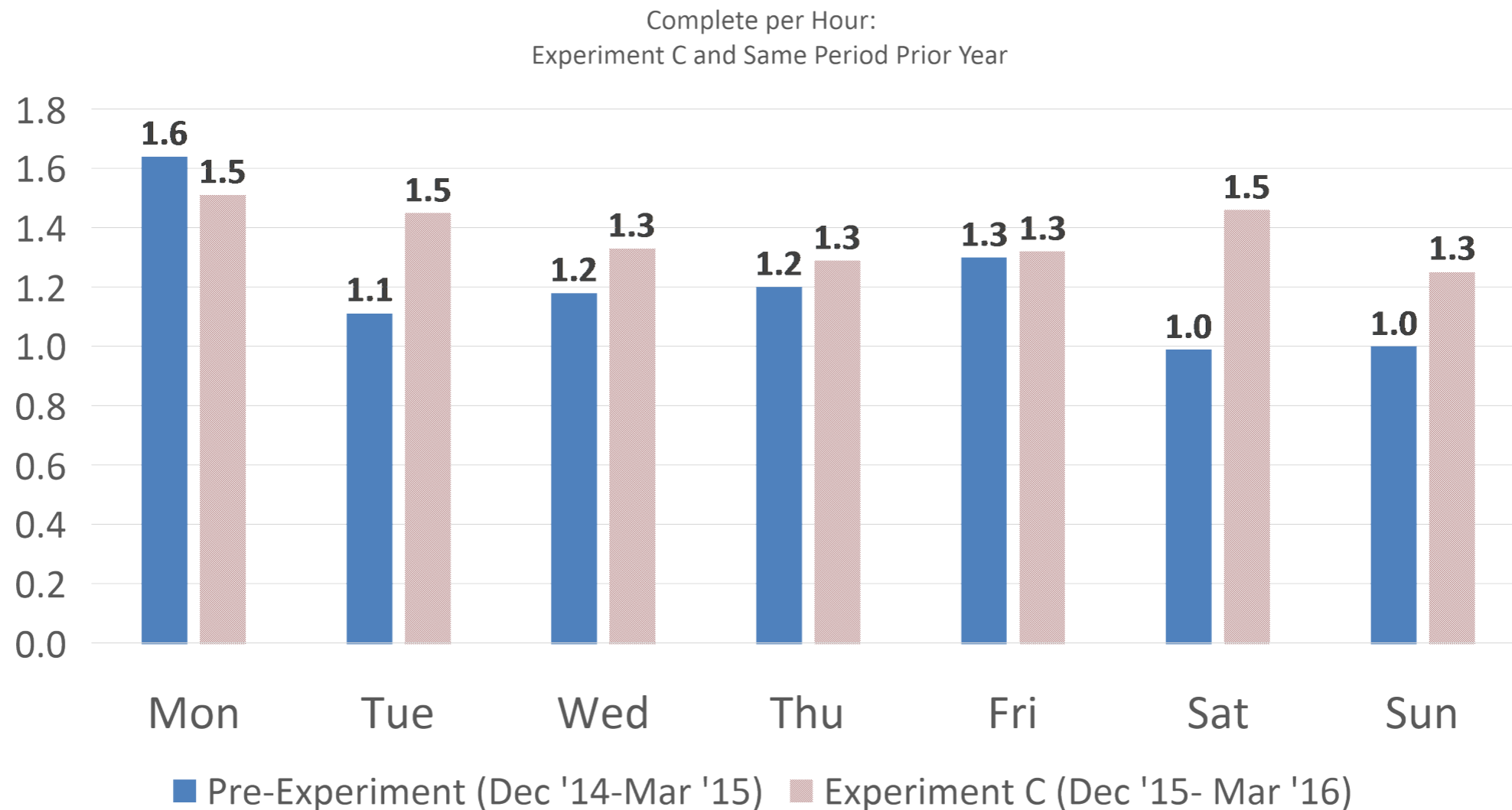
Scenario	Timing	Average New Cases/Wk	Average Weekly Interviewer's Hours	Complete/hour	Calls/Complete
Experiment C: Daily	11/30/15- 3/12/16	527	241	1.39	8.4
Experiment C: Hourly	11/30/15- 3/12/16	522	246	1.38	7.9

Summary Timeline for Experiment



Results- Experiment C and Prior Year

- An analysis of completes/hour by day of week indicates decline on Mondays, but improvement on remainder days of the week.



Conclusion & Next Steps

- What did we learn?
 - Alternative case distribution can be low-cost way improve completion rate
 - Daily and hourly release were better than original
 - Difference between daily and hourly not significant
 - Distribute interviewer hours
 - Planned sample release
- Future research
 - Explore different hours to release cases
 - Explore generalizability for other populations

Thank you!

Questions?

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