

INTRODUCTION

- Limited English proficiency (LEP) status has an impact on health care utilization and health status.
- LEP patients have decreased access to care, continuity of care, and preventive screening, greater difficulty communicating with providers about informed consent, instruction, adherence, and follow up.
- Poor communication leads to increased healthcare costs, including decreased use of preventive care, misdiagnosis, unnecessary testing, and increased ER admission.
- The rising number of LEP patients, particularly Spanish speaking, and the critical role of the ER as the entry point into the US healthcare system makes linguistic interpretation paramount.
- Linguistic interpretation ameliorates health disparities among LEP patients: less use of emergency departments, better adherence to treatment plans, and fewer missed appointments.
- Linguistic interpretation also mitigates costs for providers and hospitals: decreased unnecessary testing and lower admission rates.
- Existing evidence suggests that in-person and videoconferencing interpretation methods are superior to phone or ad-hoc base on patient evaluations.
- Little evidence exists that compares in-person vs videoconferencing methods from the patient, provider, and hospital perspective.

Hypothesis: There is a significant difference in in patient/family, provider preferences between in-person vs videoconferencing Spanish interpretation methods as demonstrated by a self-administered survey. What are the hospital based metrics for utilization of, in-person vs videoconferencing Spanish interpretation methods?

MATERIALS & METHODS

Population:

Children's Hospital Colorado Emergency Department Providers

- Lack proficient Spanish language skills

Patient Families

- Parent or legal guardian of admitted patient.
- Lack of proficient English language skills

Methods:

Patient/Family Surveys

A 9 question self-administered survey after an initial encounter assessing:

- Quality of Communication with Provider
- Understanding of Patient's Health Concerns
- Information Comprehension
- Respect of Privacy
- Respect of Cultural Values
- Satisfaction with interpretation

Provider Surveys

A 9 question self-administered survey after an initial encounter assessing:

- Quality of Communication with Interpreter
- Quality of Communication with Patient
- Provider Engagement with Patient Cultural Values
- Provider Engagement with Patient Main Health Concern
- Encounter Efficiency
- Interpretation Aid in Medical Decision Making
- Satisfaction with Interpretation

Hospital Based Outcomes

Utilization and cost data was obtained for in-person and videoconferencing interpreters Children's Hospital of Colorado.

- # of minutes/encounter
- # of encounters/month
- Total monthly cost
- Monthly cost/encounter

COMIRB Protocol #: 18-1008

The presenter has no conflicts of interest to report regarding the study.

RESULTS

Table 1: Provider-reported Quality of 80 Language Interpreted Medical Visits by Interpretation Mode

	In-Person N=41 (%)	Videoconferencing N=39 (%)	p-value	Total (%)
Quality of Communication with Interpreter				
Always/Often/Sometimes	5 (12%)	15 (38%)	< 0.01	20 (25%)
Rarely/Never	36 (88%)	24 (62%)		60 (75%)
Quality of Communication with Patient				
Excellent/Very Good/Good	41 (100%)	39 (100%)	1.00	80 (100%)
Fair/Poor	0 (0%)	0 (0%)		0 (0%)
Provider engagement with patient cultural values				
Extremely/Very/Moderately	33 (80%)	18 (46%)	< 0.005	51 (64%)
Slightly/Not at all	8 (20%)	21 (54%)		29 (36%)
Provider engagement with patient main health concern				
Extremely/Very/Moderately	41 (100%)	39 (100%)	1.00	80 (100%)
Slightly/Not at all	0 (0%)	0 (0%)		0 (0%)
Encounter Efficiency				
Excellent/Very Good/Good	38 (93%)	33 (85%)	0.25	71 (89%)
Fair/Poor	3 (7%)	6 (15%)		9 (11%)
Interpretation aid in medical decision making				
Extremely/Very/Moderately	30 (73%)	35 (90%)	0.0528	65 (81%)
Slightly/Not at all	11 (27%)	4 (10%)		15 (19%)
Satisfaction with interpretation				
Extremely/Very/Moderately	41 (100%)	39 (100%)	1.00	80 (100%)
Slightly/Not at all	0 (0%)	0 (0%)		0 (0%)

Table 2: Patient/Family reported Quality of 90 Language Interpreted Medical Visits by Interpretation Mode

	In-Person N=45 (%)	Videoconferencing N=55 (%)	p-value	Total (%)
Quality of Communication with Provider				
Excellent/Very Good/Good	45 (100%)	53 (96%)	0.36	20 (25%)
Fair/Poor	0 (0%)	2 (4%)		60 (75%)
Understanding of Patient's Health Concerns				
Extremely/Very/Moderately	41(91%)	49 (89%)	0.74	80 (100%)
Slightly/Not at all	4 (9%)	6 (11%)		
Information Comprehension				
Extremely/Very/Moderately	37 (82%)	36 (65%)	0.06	51 (64%)
Slightly/Not at all	8 (18%)	19 (35%)		29 (36%)
Respect of Privacy				
Extremely/Very/Moderately	39 (87%)	41 (74%)	0.1	80 (100%)
Slightly/Not at all	6 (13%)	14 (26%)		0 (0%)
Respect of Cultural Values				
Extremely/Very/Moderately	43 (96%)	51 (93%)	0.5	71 (89%)
Slightly/Not at all	2(4%)	4 (7%)		9 (11%)
Satisfaction with Interpretation				
Extremely/Very/Moderately	45 (100%)	44 (80%)	<0.005	65 (81%)
Slightly/Not at all	0 (0%)	11 (20%)		15 (19%)

Figure 1: # Of Minutes/Encounter

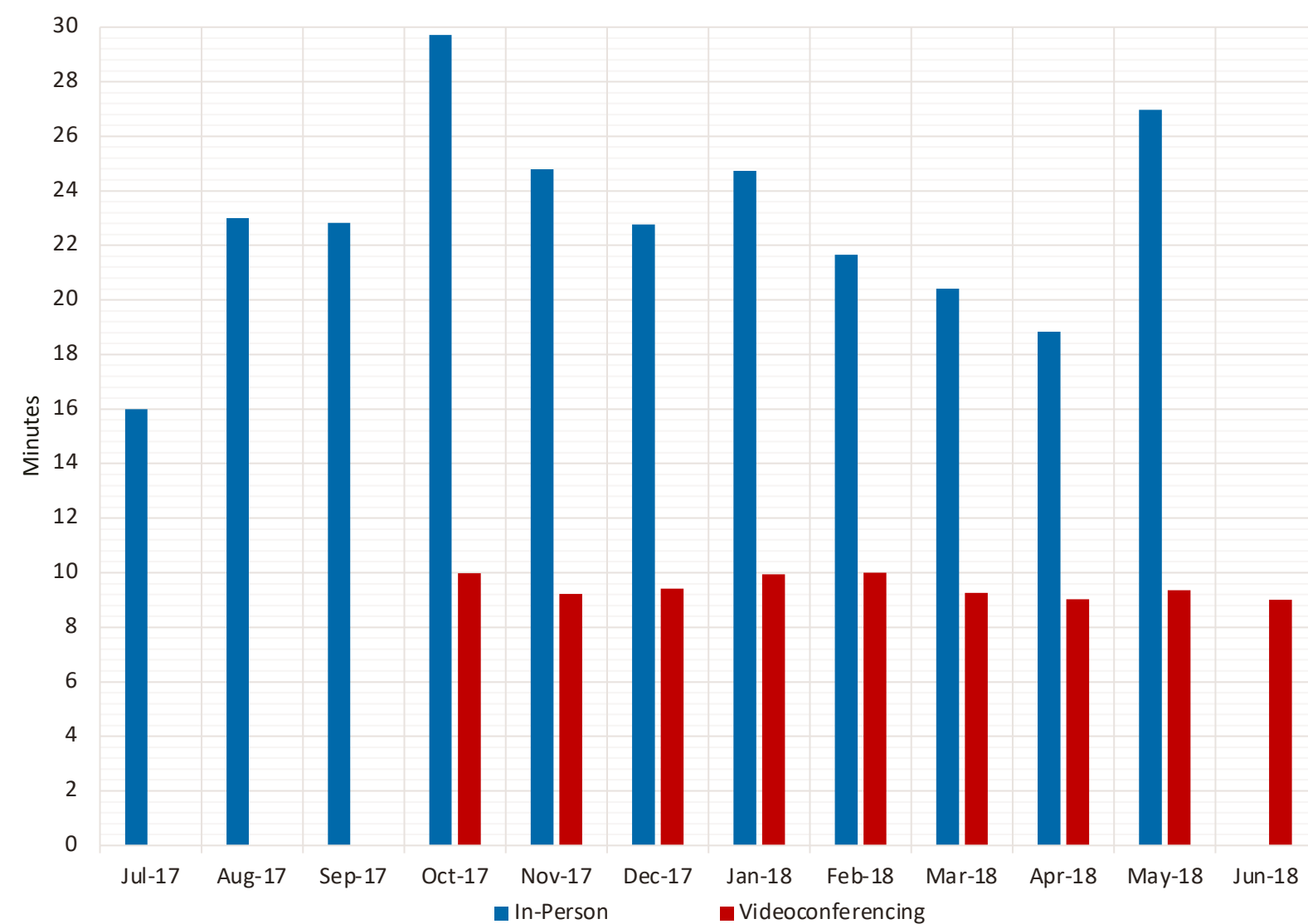


Figure 2: # Of Encounters/Month

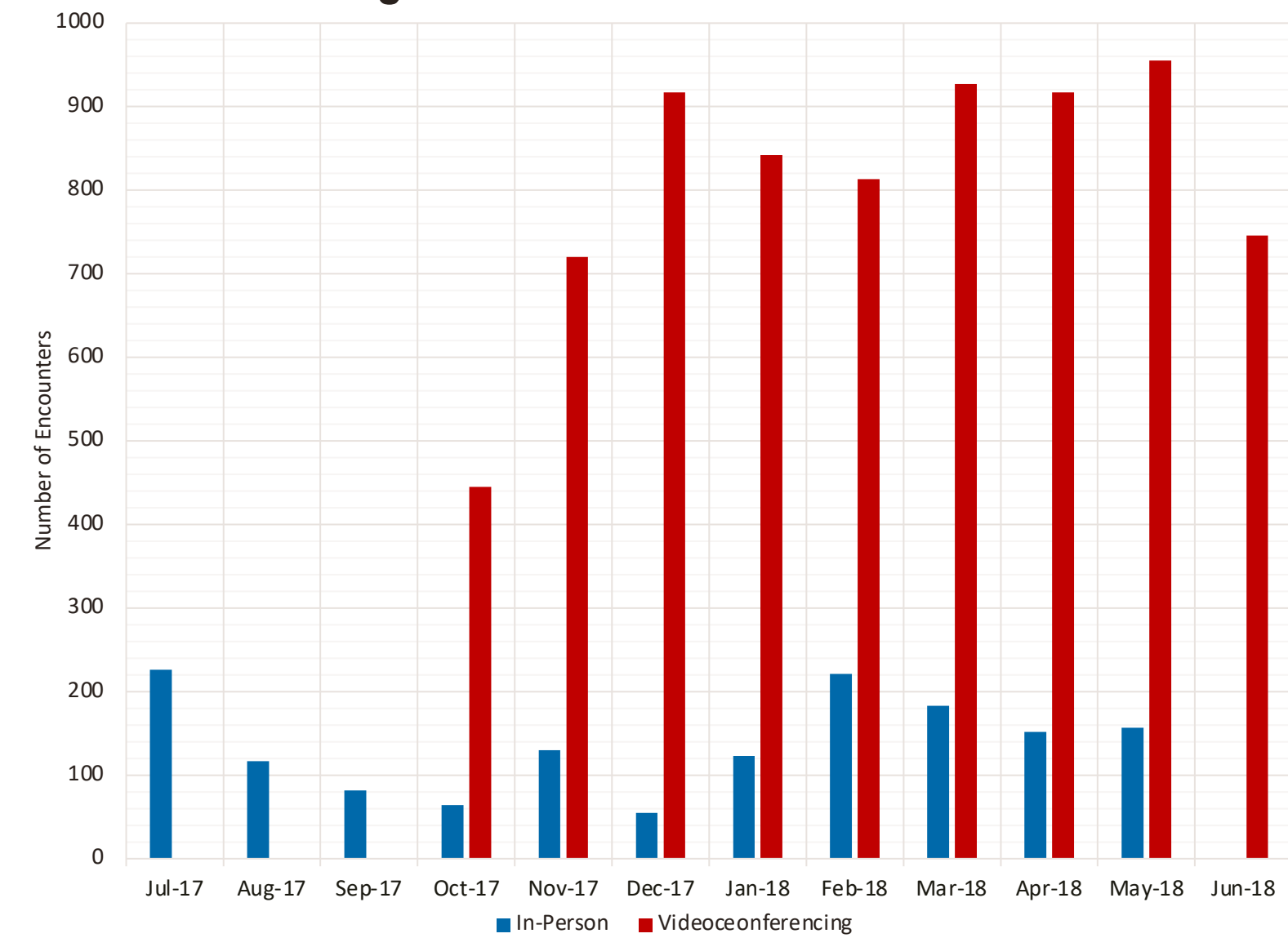


Figure 3: Total Monthly Cost

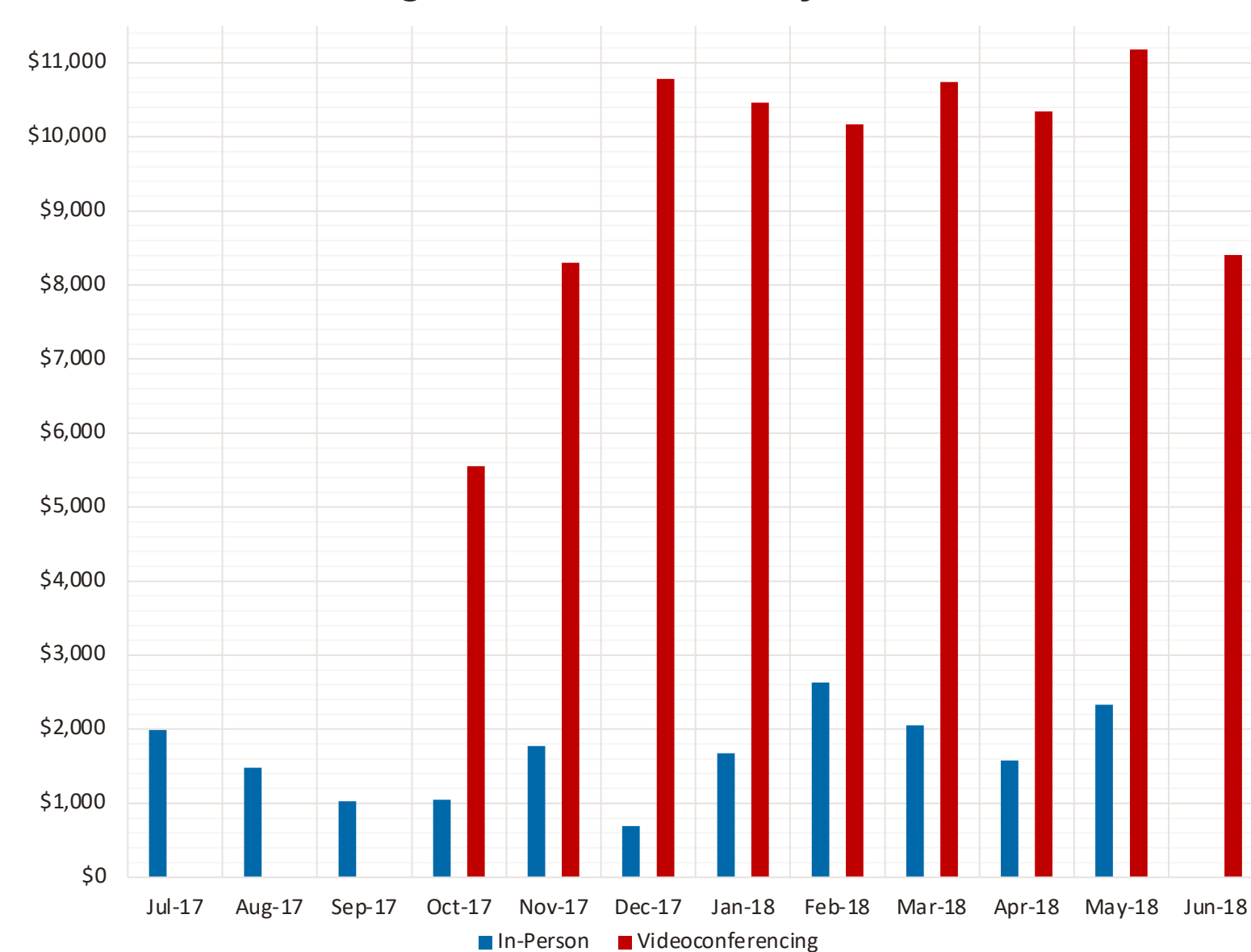
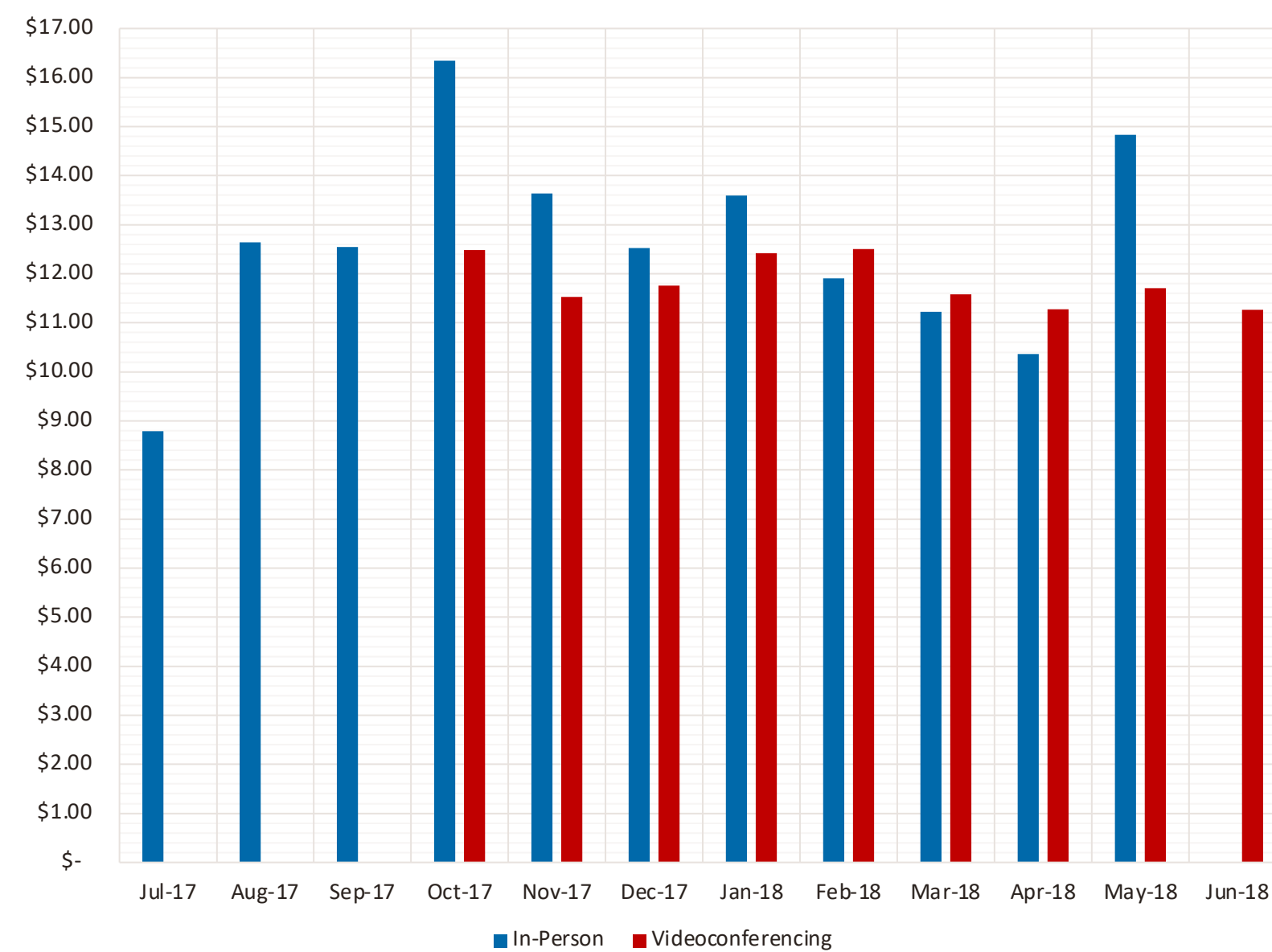


Figure 4: Monthly Cost/Encounter



DISCUSSION

Conclusions:

- Patient/Family Surveys**
 - Data collected suggests an in-person preference for:
 - Information comprehension
 - respect for privacy
 - general satisfaction.
- Provider Surveys**
 - Data collected suggests an in-person preference for:
 - Quality of communication with interpreter
 - Provider engagement with cultural values
 - Data collected suggests a videoconferencing preference for:
 - Aid in Medical Decision Making
- Cost-Benefit Analysis**
 - Fig 1: Videoconferencing encounters are shorter in duration than in-person encounters.
 - Fig 2: Videoconferencing interpreters are utilized more than in-person interpreters.
 - Fig 3: Videoconferencing costs more per month than in-person.
 - Fig 4: Videoconferencing and in-person interpreters cost about the same per encounter.
- Limitations:**
 - Providers and patient/family are aware of the methods already available, thus they may have inherent preference bias.
 - Lack of sufficient survey acquisition and power for the study.
 - Selection bias based on researcher schedule and season.
- Future Directions:**
 - Further data acquisition and expand study to other languages.
 - Develop a training program for all incoming providers that discussed patient/provider preferences in interpretation and how to access each of the methods.

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