

BACKGROUND

- Pharmacists engage in a variety of medication management services (MMS), including medication management therapy (MTM), comprehensive medication management (CMM), and collaborative medication management.
- Several studies have shown the value of pharmacist-led MTM/CMM services in the identification and resolution of medication therapy problems (MTPs).¹⁻⁴
- To promote a standardized framework for documenting, monitoring, and measuring MTPs, the Pharmacy Quality Alliance (PQA) developed the PQA Medication Therapy Problem Categories Framework.⁵
- Since May 13, 2019, ambulatory care pharmacists at Kaweah Delta Health Care District (KDHC) have adopted this framework into an intervention tracking form, the Pharmacy Tracking Ad Hoc form, to document CMM interventions. The tracking form addresses categories of medication-related needs such as indication, effectiveness, safety, and adherence.



OBJECTIVES

- To evaluate the impact of pharmacist-led CMM interventions on patient care and outcomes in a primary care ambulatory setting:
- Evaluate MTPs identified and percentage resolved per MTP category as defined by the PQA, stratified by visit type.
 - Assess cost-avoidance and changes in clinical outcomes (i.e. A1C) as a result of pharmacist-led CMM interventions.

METHODS

- Study design:** retrospective chart review
- Study period:** July 01, 2019 to June 30, 2020
- Study is approved by the Institutional Review Board (IRB) at KDHC and University of California, San Francisco.

Inclusion Criteria

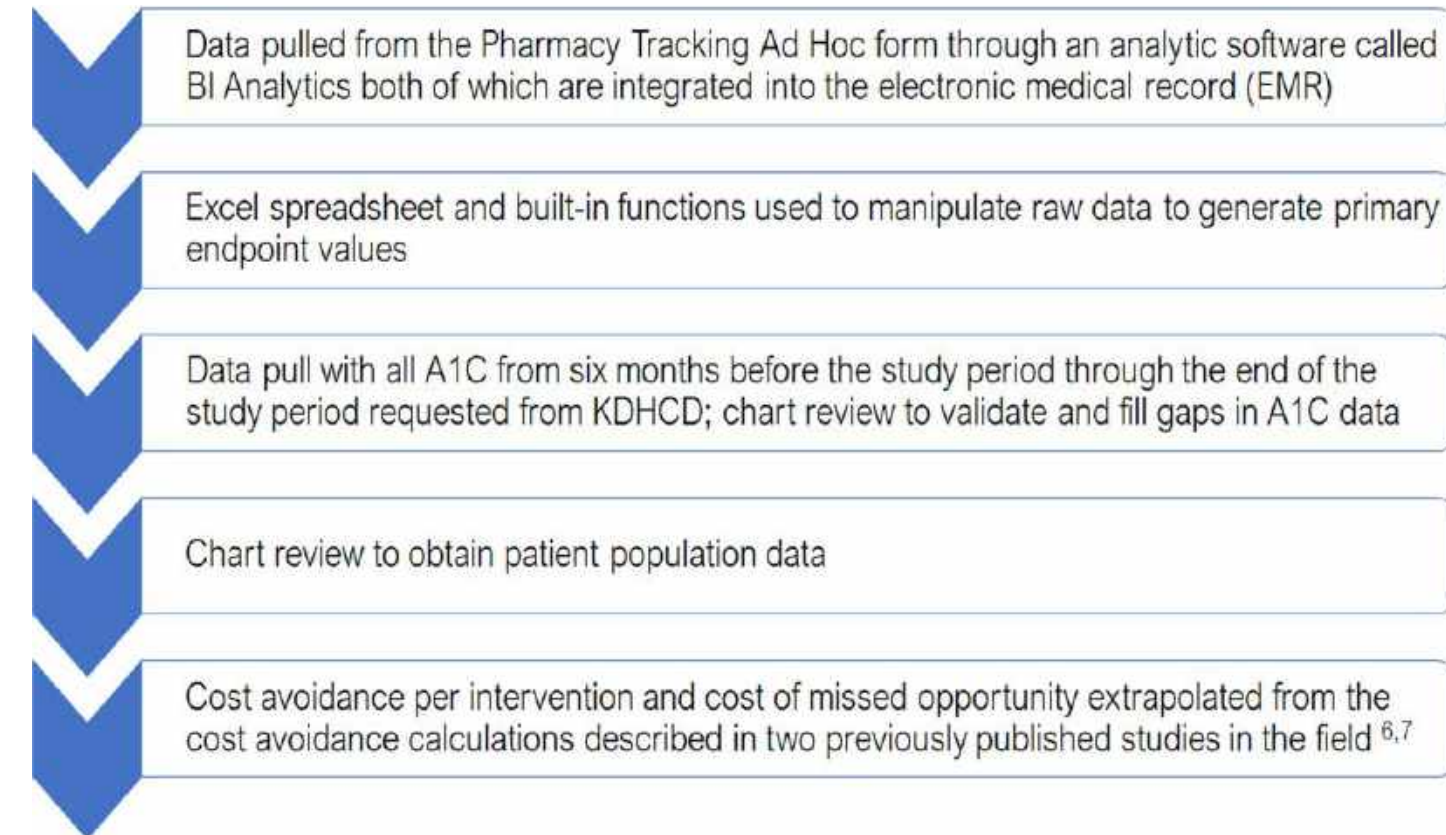
At least one encounter (and at least two encounters for A1C analysis) with a clinical pharmacist in an ambulatory care setting at KDHC.

Age ≥ 18

Exclusion Criteria

Pharmacists interventions recorded as "Other: curbside/drug info/education."

Data Collection and Analysis



Primary and Secondary Endpoints

Primary Endpoints	Types of Visit
	Total number of visits per encounter type
	Percentage of patients who received each encounter type
	Medication Therapy Problems Identified
	MTPs per encounter type and per PQA category
	Percentage of MTPs per encounter type
	Medication Therapy Problems Resolved
	MTP resolution rate per encounter type and per PQA category
Secondary Endpoints	Patient Population
	Average number of conditions and medications per patient
	Clinical
	Average change in A1C per patient
	Economic
	Total cost avoidance from the CMM services

DISCUSSION

Preliminary Results

- Phone encounters were the most common encounter type, followed by pharmacist and co-visit encounters, respectively (Figure 1).
 - Potential factors contributing to higher percentage of phone encounters include convenience and change of practice dynamics due to the COVID-19 pandemic.
 - Pharmacist and co-visit encounters identified more MTPs than did Phone encounters (Table 1). The nature of phone encounters vs. in-person encounters may contribute to the identification of MTPs. For example, in-person encounters might involve more complicated cases and/or thorough evaluations, whereas phone encounters might involve less demanding interactions.
 - Regardless of the differences in the average number of MTPs identified among the different encounter types, resolution rates appear to be similar (Figure 2) with co-visits having a slightly higher rate. This could potentially be a result of interdisciplinary communications at the time of patient encounter.
 - The most common MTP category (per PQA framework) identified across all encounter types was "adherence" followed by "needs additional medication" and "needs additional monitoring," respectively (Figure 3).
 - The most common MTP category resolved was "adherence" followed by "needs additional monitoring" and "dose too low," respectively (Figure 3).
- ### Research in Progress
- Identify patient population and demographic data to gain an understanding of the study population.
 - Analyze changes in A1C among the different encounter types.
 - Evaluate the cost avoidance resulted from the CMM services.

RESULTS

Figure 1. Total Encounters per Encounter Type

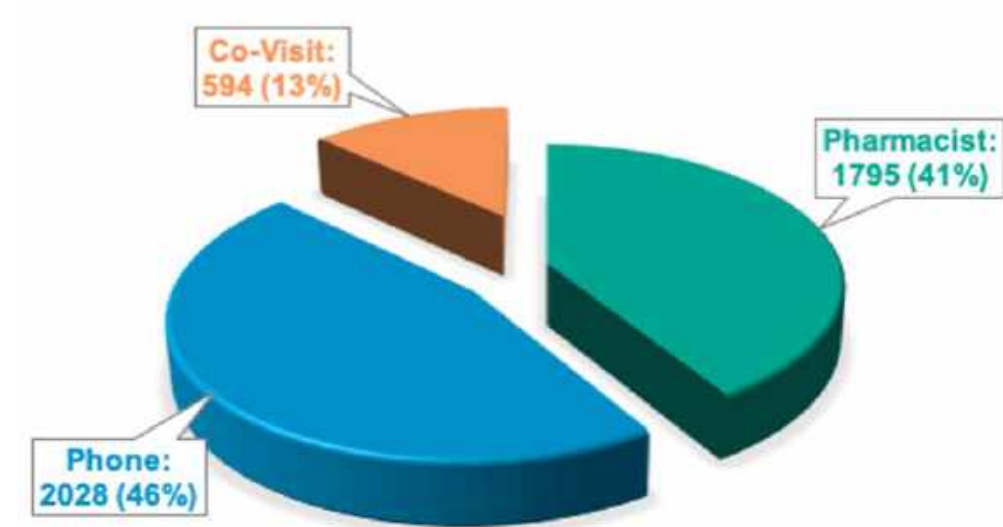


Figure 2. Resolution Rate for MTP Identified by Encounter Type

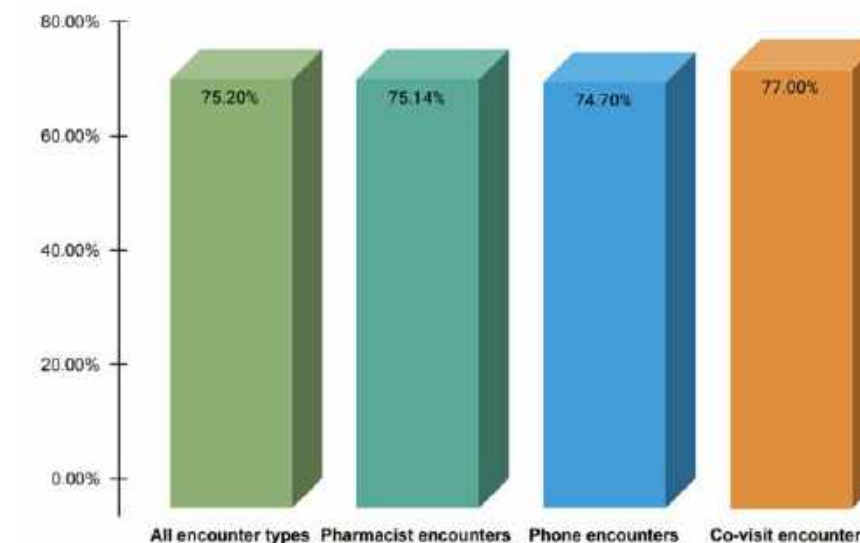
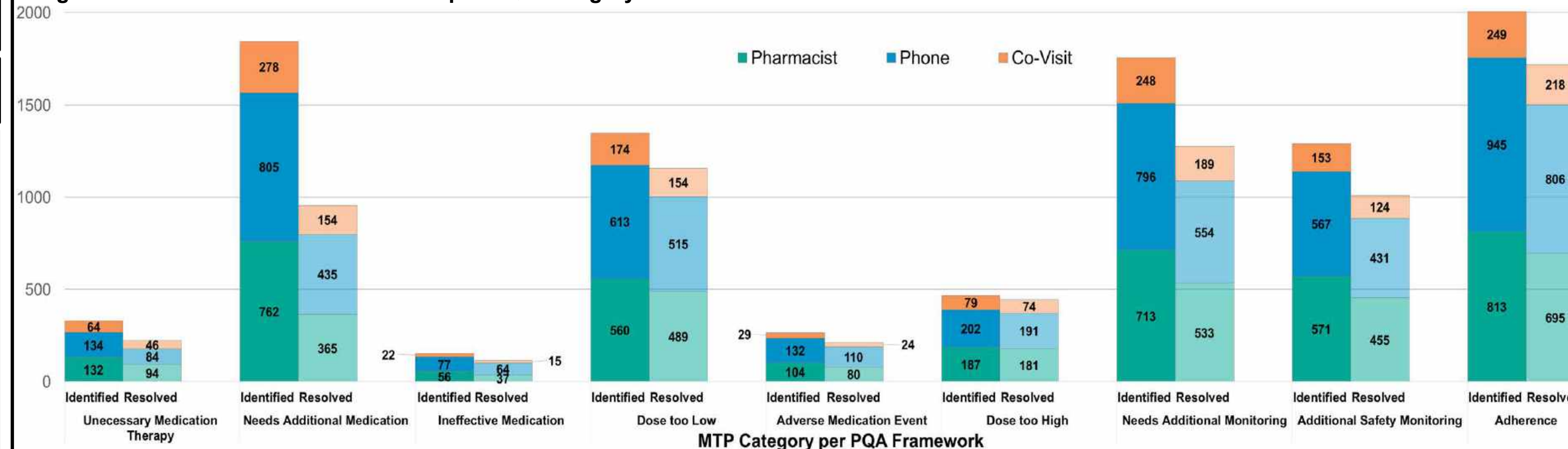


Table 1. MTPs Identified per Encounter Type

Average Number of MTPs Identified per Visit Type				
	All encounters	Pharmacist	Phone	Co-visit
Average MTPs identified per encounter	2.14 (9465/4417)	2.64 (4736/1795)	1.56 (3158/2028)	2.64 (1574/594)

Figure 3. MTPs Identified and Resolved per PQA Category



Research in progress: A1C results and patient population data pending further chart review

REFERENCES

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- Since May 13, 2019, ambulatory care pharmacists at Kaweah Delta Health Care District (KDHCD) have adopted this framework into an intervention tracking form, the Pharmacy Tracking Ad Hoc form, to document CMM interventions. The tracking form addresses categories of medication-related needs such as indication, effectiveness, safety, and adherence. 

Data Collection and Analysis

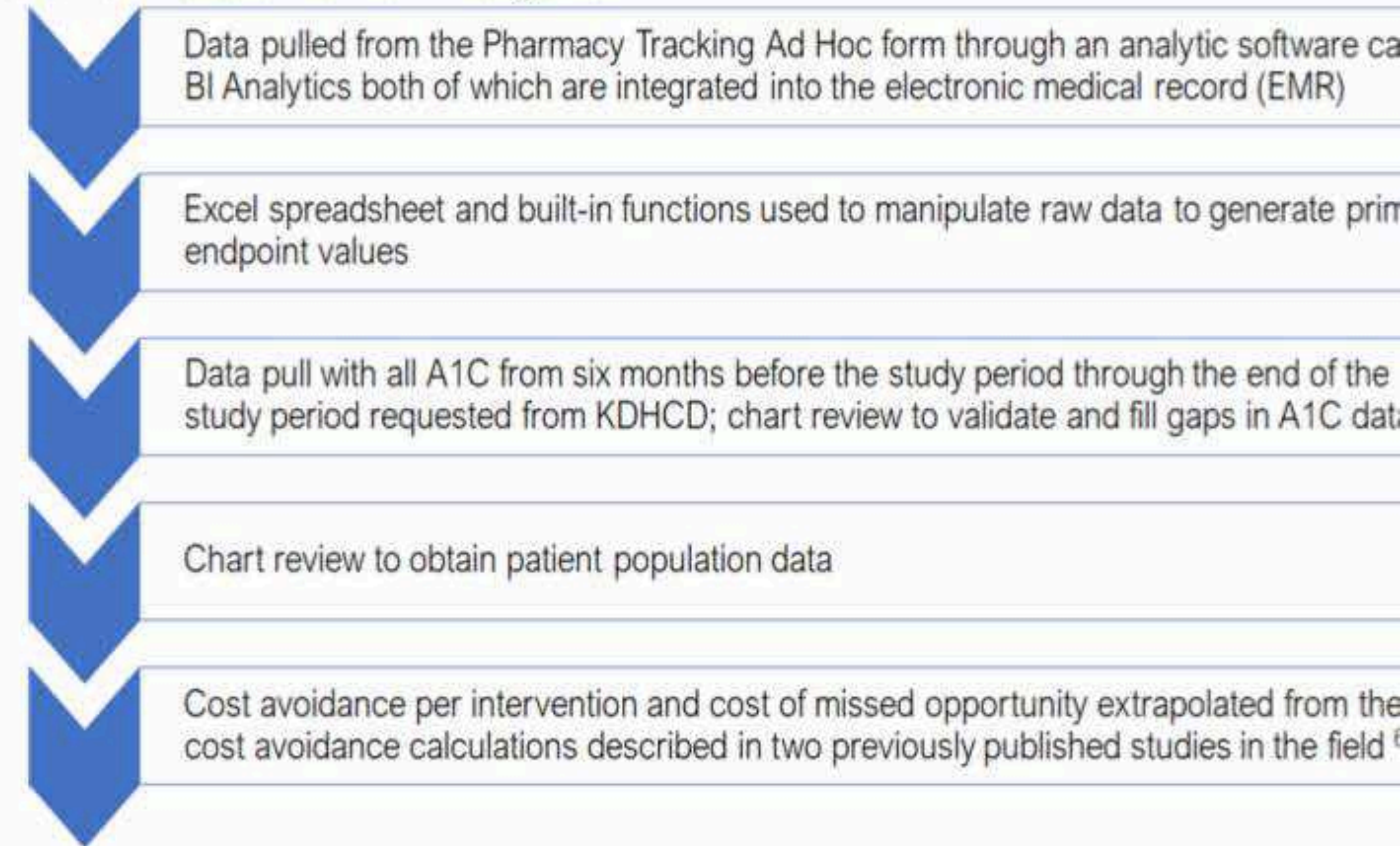
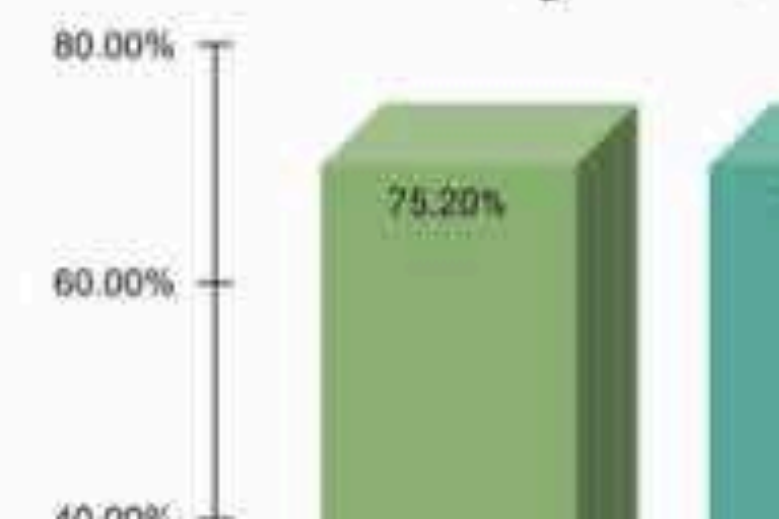


Figure 1. Total Encounters per Encounter Type



Figure 2. Resolu
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OBJECTIVES

To evaluate the impact of pharmacist-led CMM interventions on patient care and outcomes in a primary care ambulatory setting:

- Evaluate MTPs identified and percentage resolved per MTP category as defined by the PQA, stratified by visit type.
- Assess cost-avoidance and changes in clinical outcomes (i.e. A1C) as a result of pharmacist-led CMM interventions.

METHODS

- **Study design:** retrospective chart review
- **Study period:** July 01, 2019 to June 30, 2020
- Study is approved by the Institutional Review Board (IRB) at KDHCD and University of California, San Francisco.

Inclusion Criteria

At least one encounter (and at least two encounters for A1C analysis) with a clinical pharmacist in an ambulatory care setting at KDHCD.

Age \geq 18

Exclusion Criteria

Pharmacists interventions recorded as "Other: curbside/drug info/education."

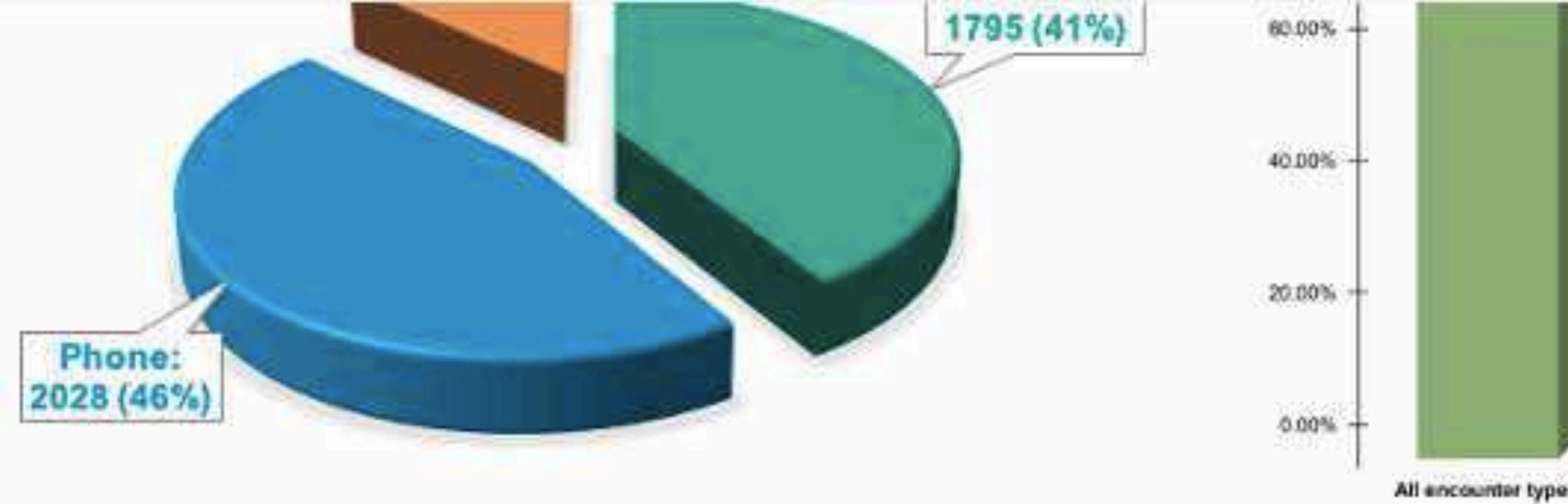
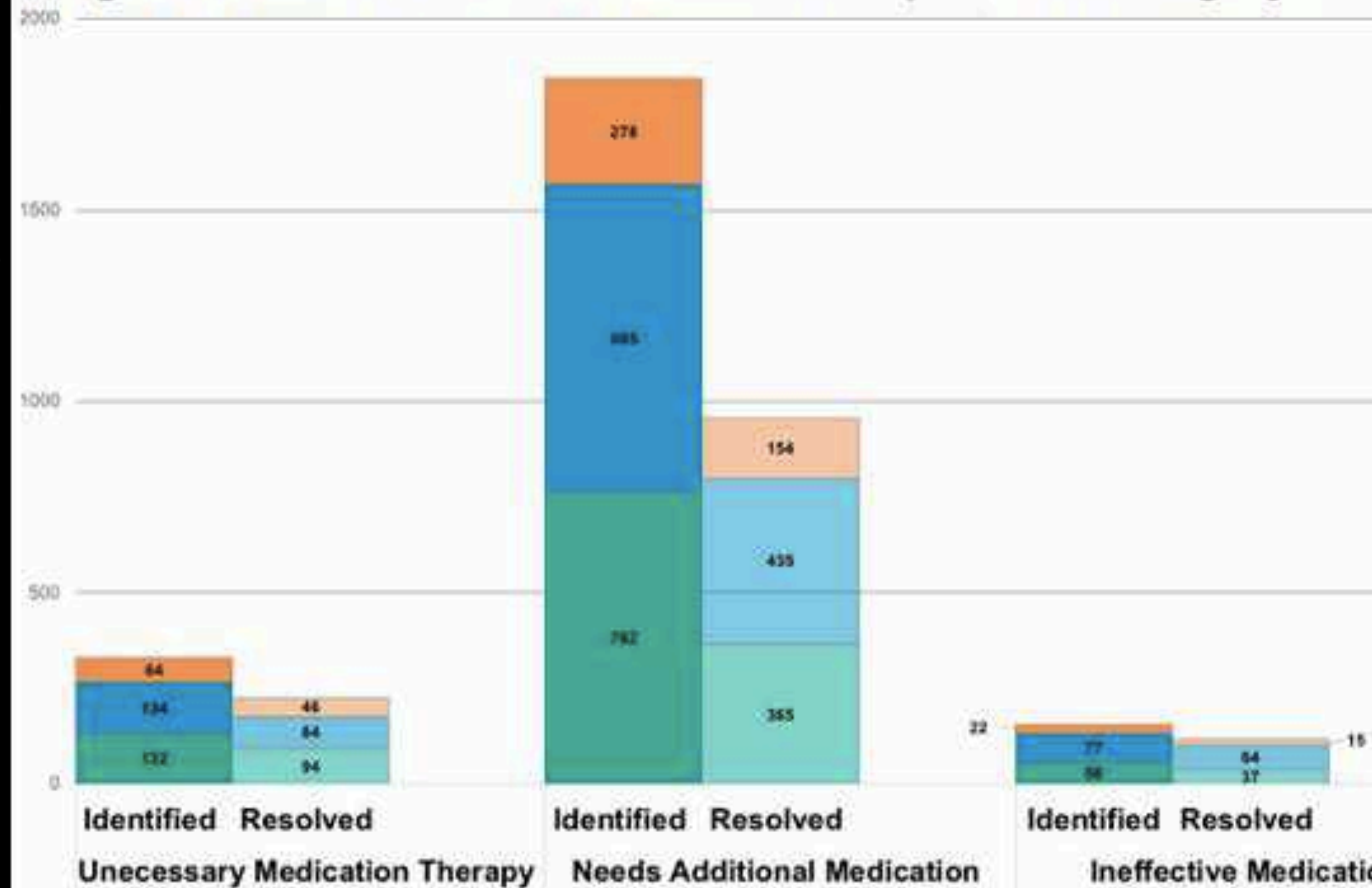


Figure 3. MTPs Identified and Resolved per PQA Category



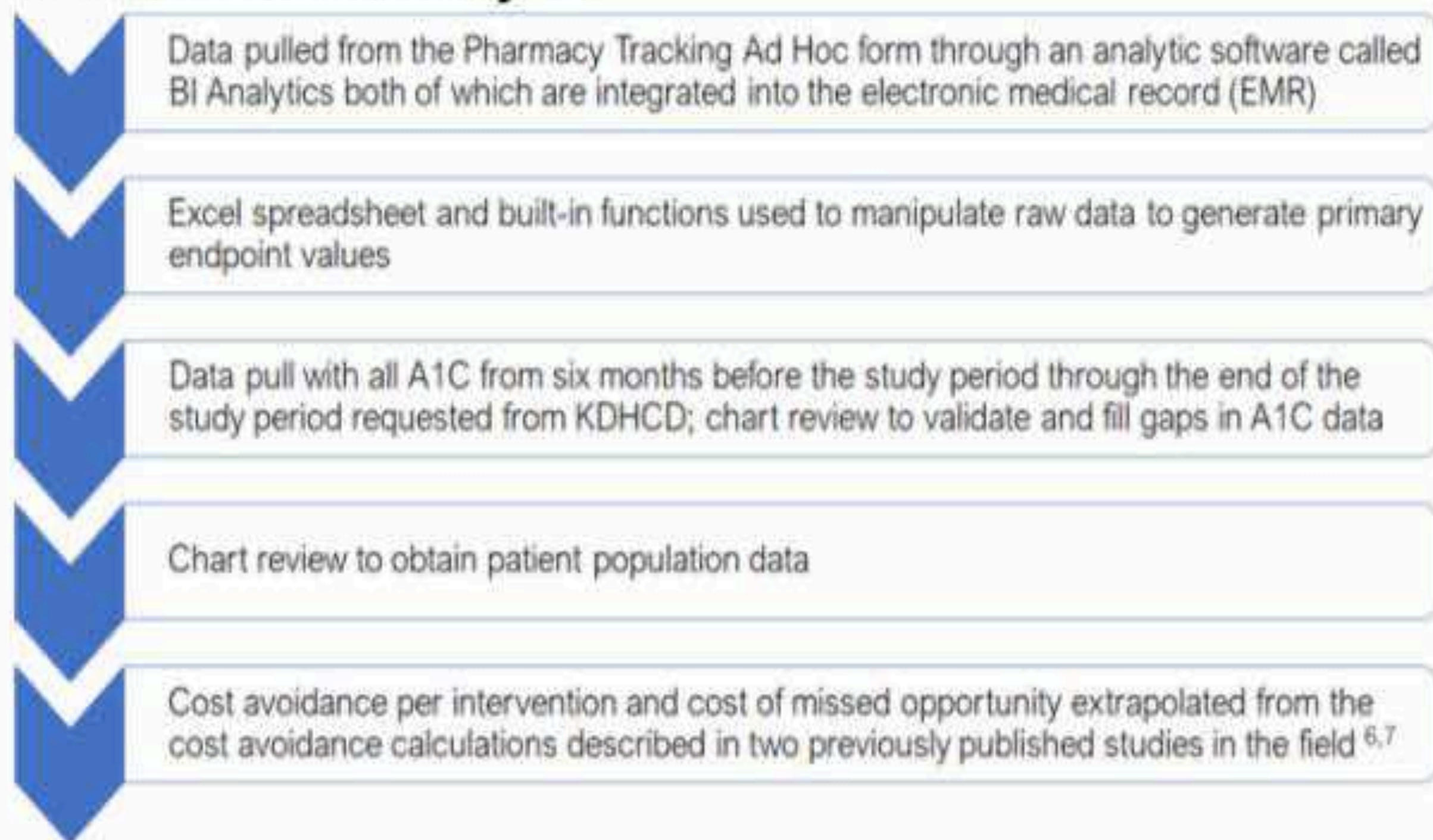
Research in progress: A1C results and patient population data pending fu

Evaluation of 12 Months of Intervention Data Collected by Pharmacists in an Ambulatory Care Setting

Griselda Rivera^a, Grace Bae^a, Anisa Shoghi Ghaleh Shahi^a, Cynthia S. Valle-Oseguera^a, PharmD, APh, BCACP, BCGP, Cory Nelson^b, PharmD, BCACP

^aDepartment of Clinical Pharmacy, School of Pharmacy, University of California San Francisco; ^b Kawaeh Delta Health Care District

Data Collection and Analysis



Primary and Secondary Endpoints

Primary Endpoints	Types of Visit Total number of visits per encounter type Percentage of patients who received each encounter type
	Medication Therapy Problems Identified MTPs per encounter type and per PQA category Percentage of MTPs per encounter type
	Medication Therapy Problems Resolved MTP resolution rate per encounter type and per PQA category
Secondary Endpoints	Patient Population Average number of conditions and medications per patient
	Clinical Average change in A1C per patient
	Economic Total cost avoidance from the CMM services.

RESULTS

Figure 1. Total Encounters per Encounter Type



Figure 2. Resolution Rate for MTP Identified by Encounter Type

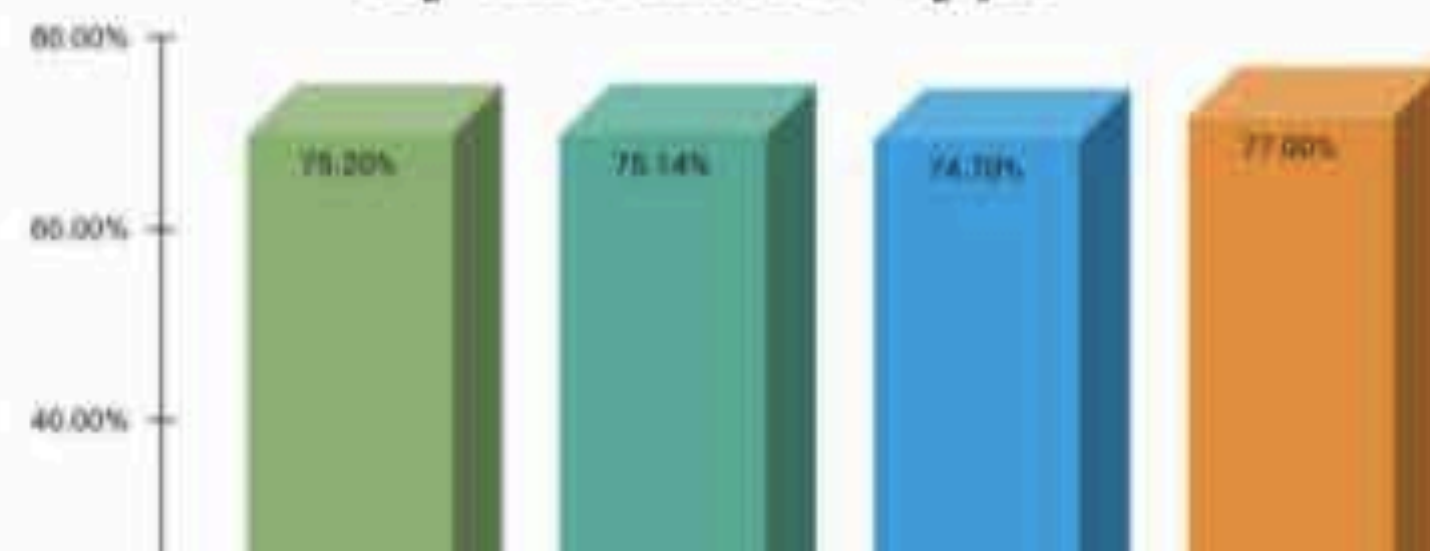


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Average MTPs	2.14 (9465/4417)	2.64 (4736/1795)	1.56 (3158/2028)	2.64 (1574/594)

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Problem Categories



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OBJECTIVES

pharmacist-led CMM interventions on
primary care ambulatory setting:
percentage resolved per MTP
PQA, stratified by visit type.
changes in clinical outcomes (i.e.
pharmacist-led CMM interventions.

METHODS



Cost avoidance per intervention and cost of missed opportunity extrapolated from the cost avoidance calculations described in two previously published studies in the field ^{6,7}

RESULTS

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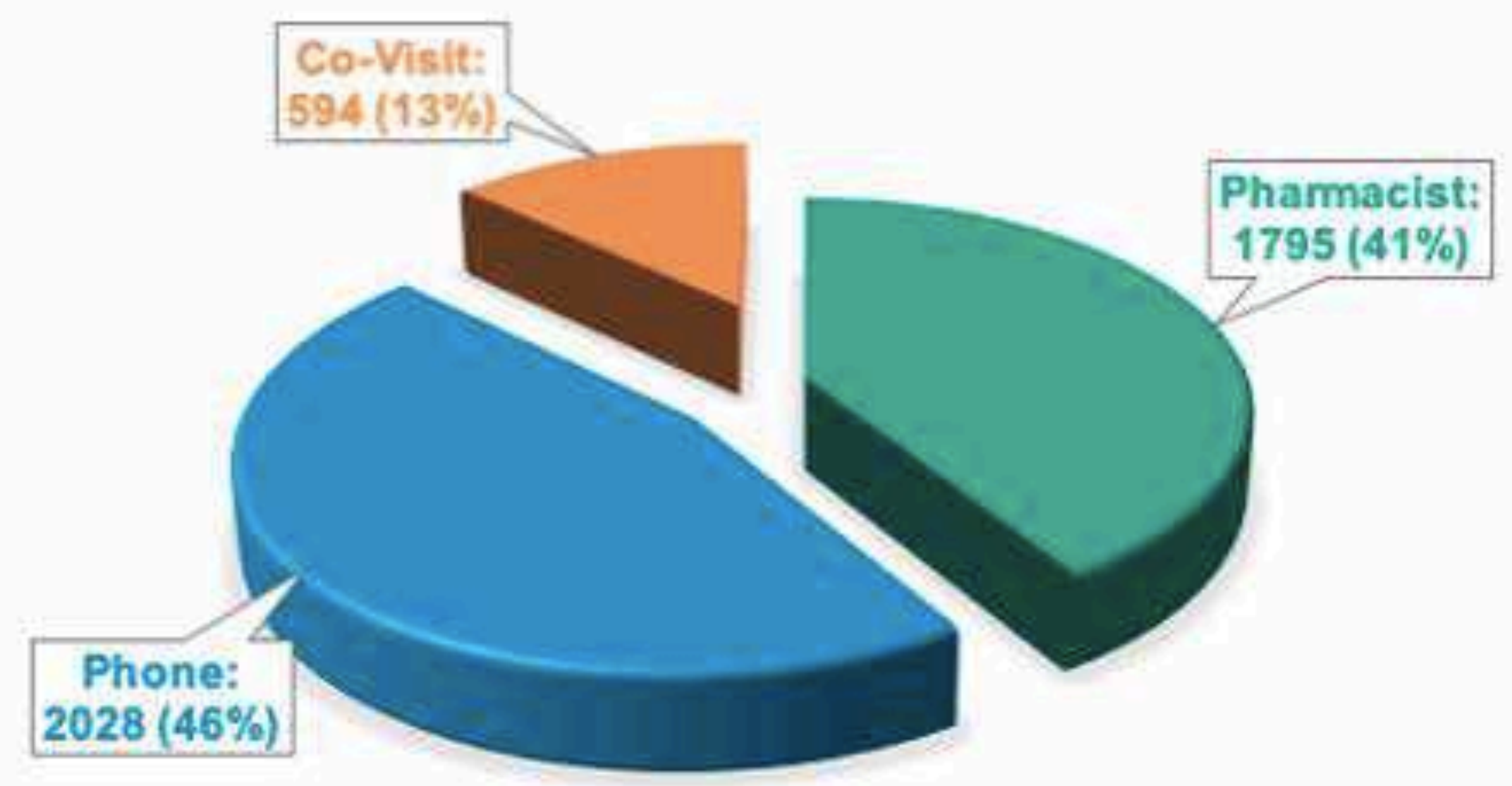


Figure 2. Resolution Rate for MTPs by Encounter Type

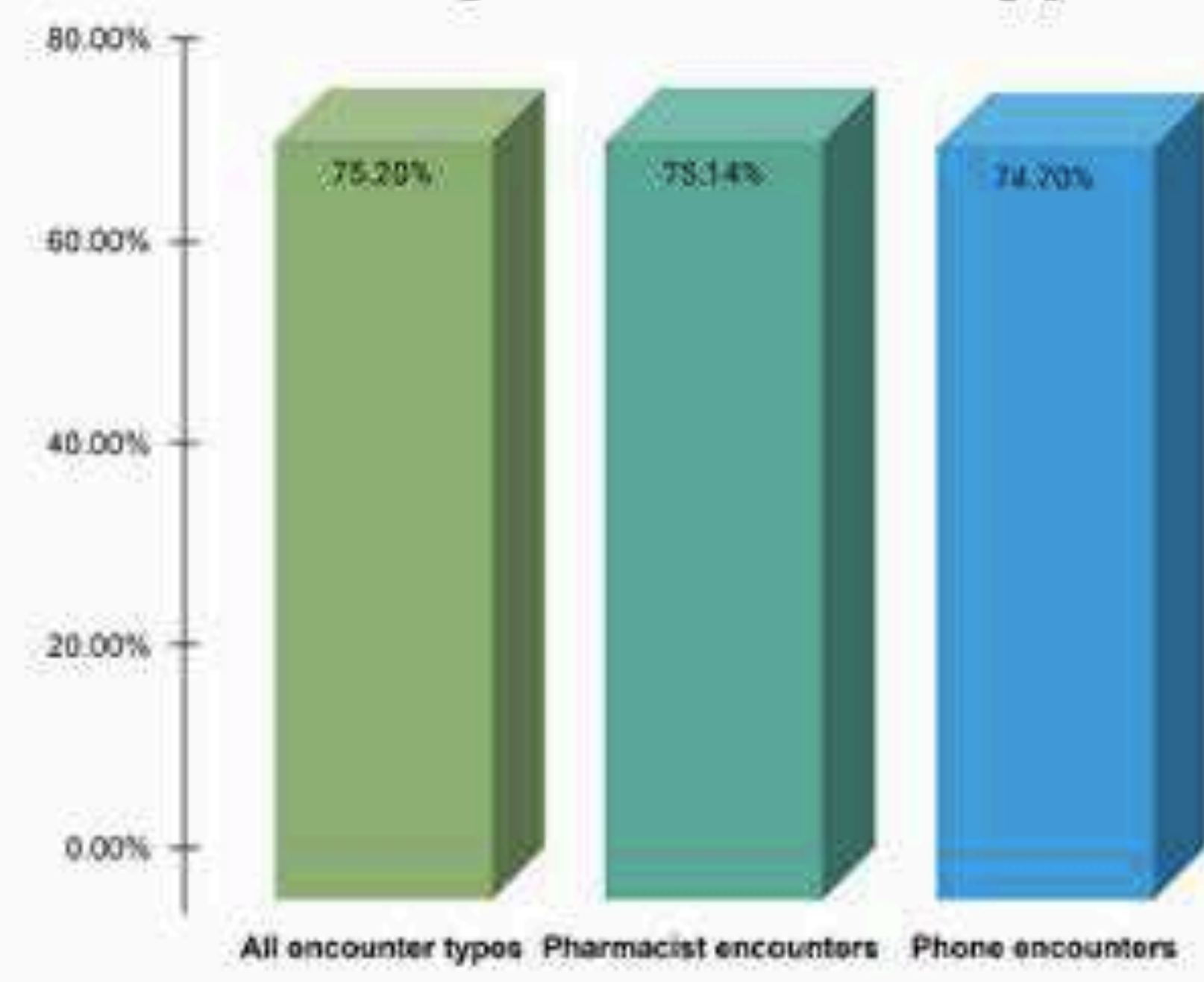
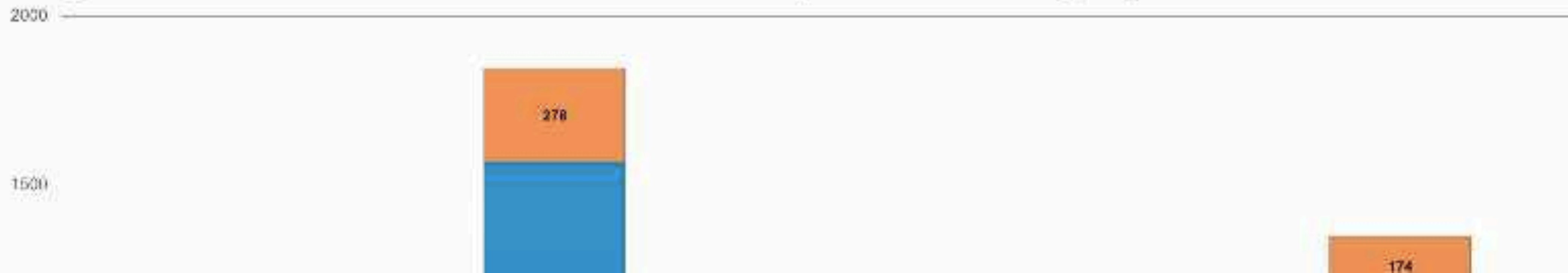


Figure 3. MTPs Identified and Resolved per PQA Category



Average change in A1C per patient

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Total cost avoidance from the CMM services

RESULTS

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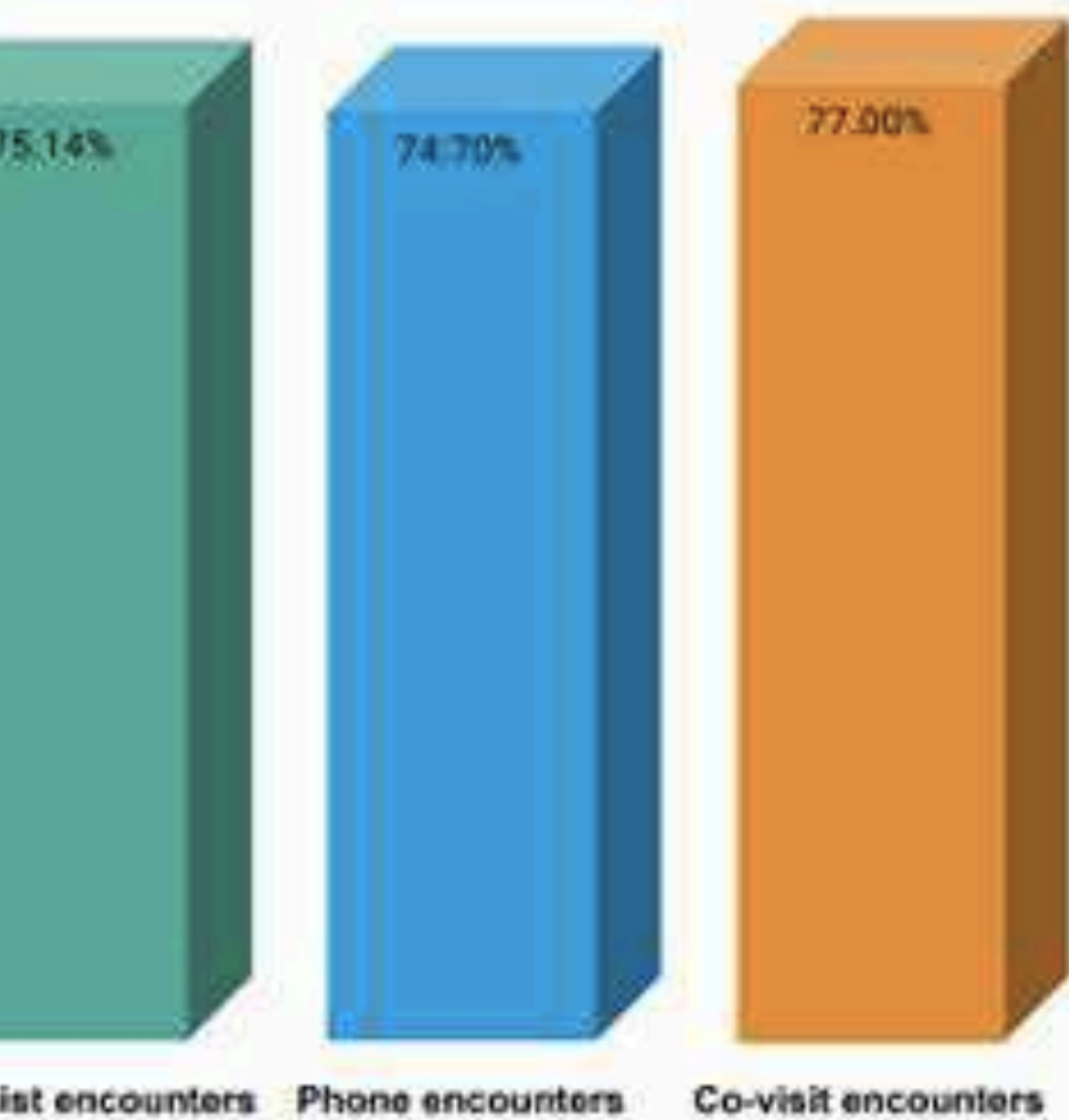
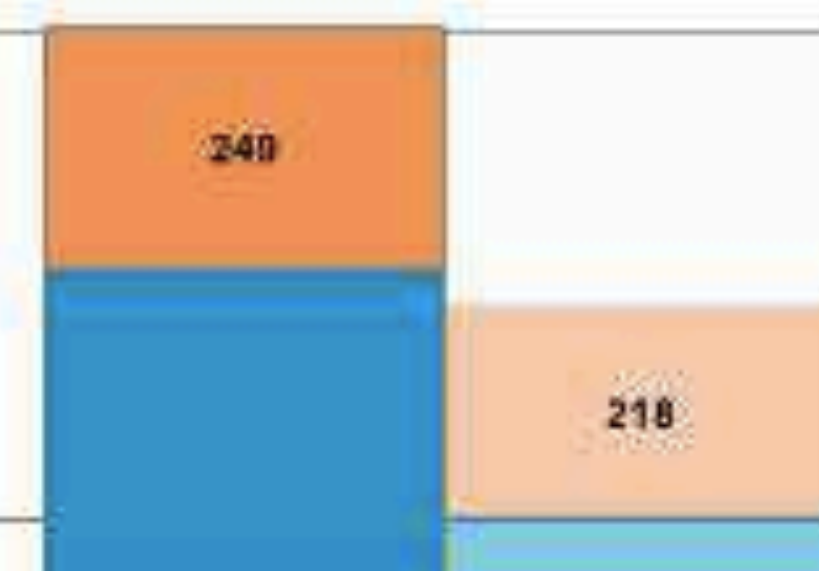


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■ Pharmacist ■ Phone ■ Co-Visit



- contribute to the identification of MTPs. Person encounters might be identified through and/or thorough evaluation and/or through evaluation might involve less demand.
 - Regardless of the different MTPs identified among the resolution rates appear to be visits having a slightly higher resolution rate. This might be a result of interdisciplinary collaboration during the patient encounter.
 - The most common MTP identified across all encounter types was "needs additional monitoring," followed by "adherence," and "dose too low," respectively.
- Research in Progress**
- Identify patient populations that would benefit from an understanding of the different MTPs.
 - Analyze changes in A1C levels over time for different MTP types.
 - Evaluate the cost avoidance from the CMM services.

RESULTS

Encounters per Encounter Type

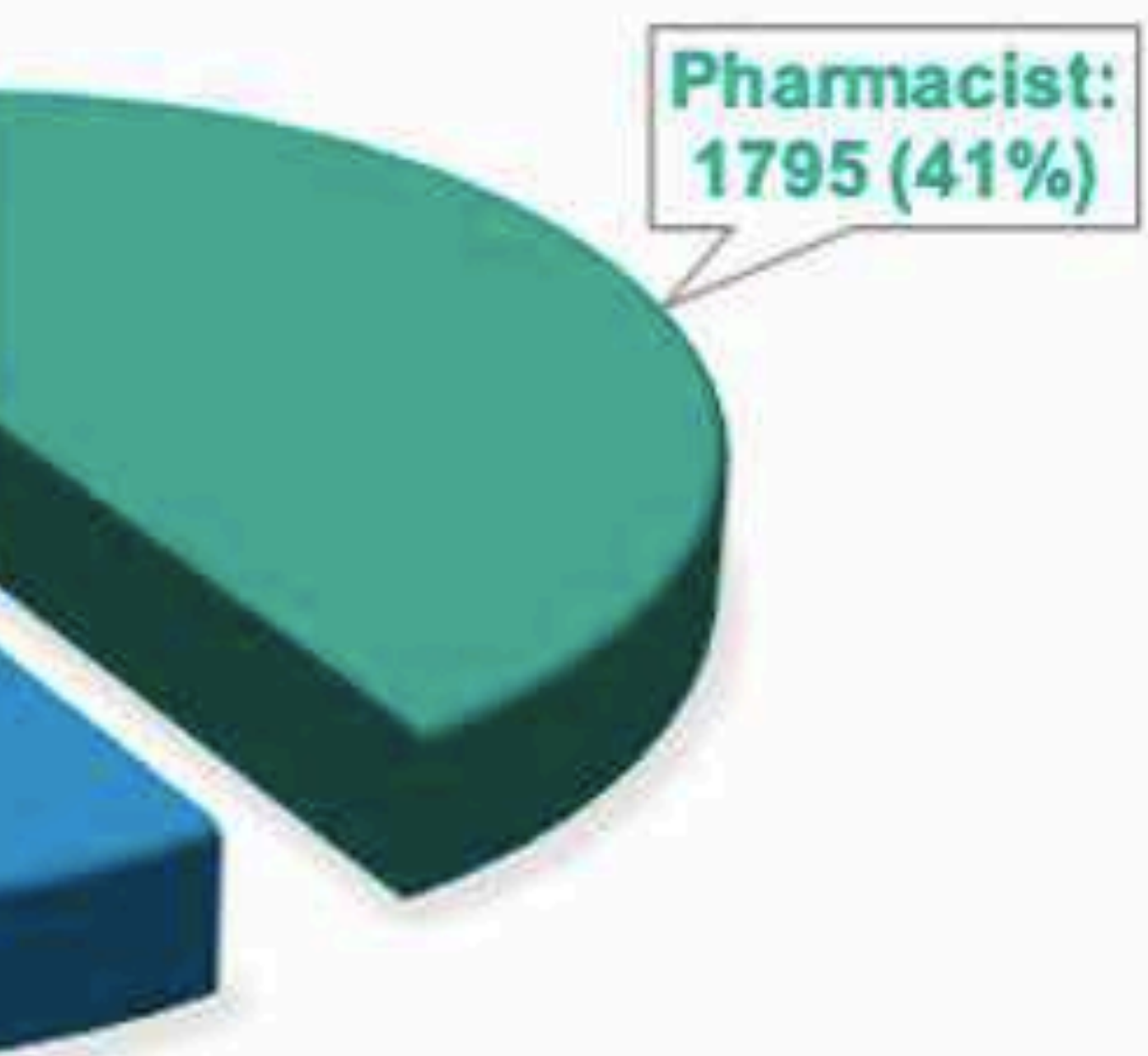


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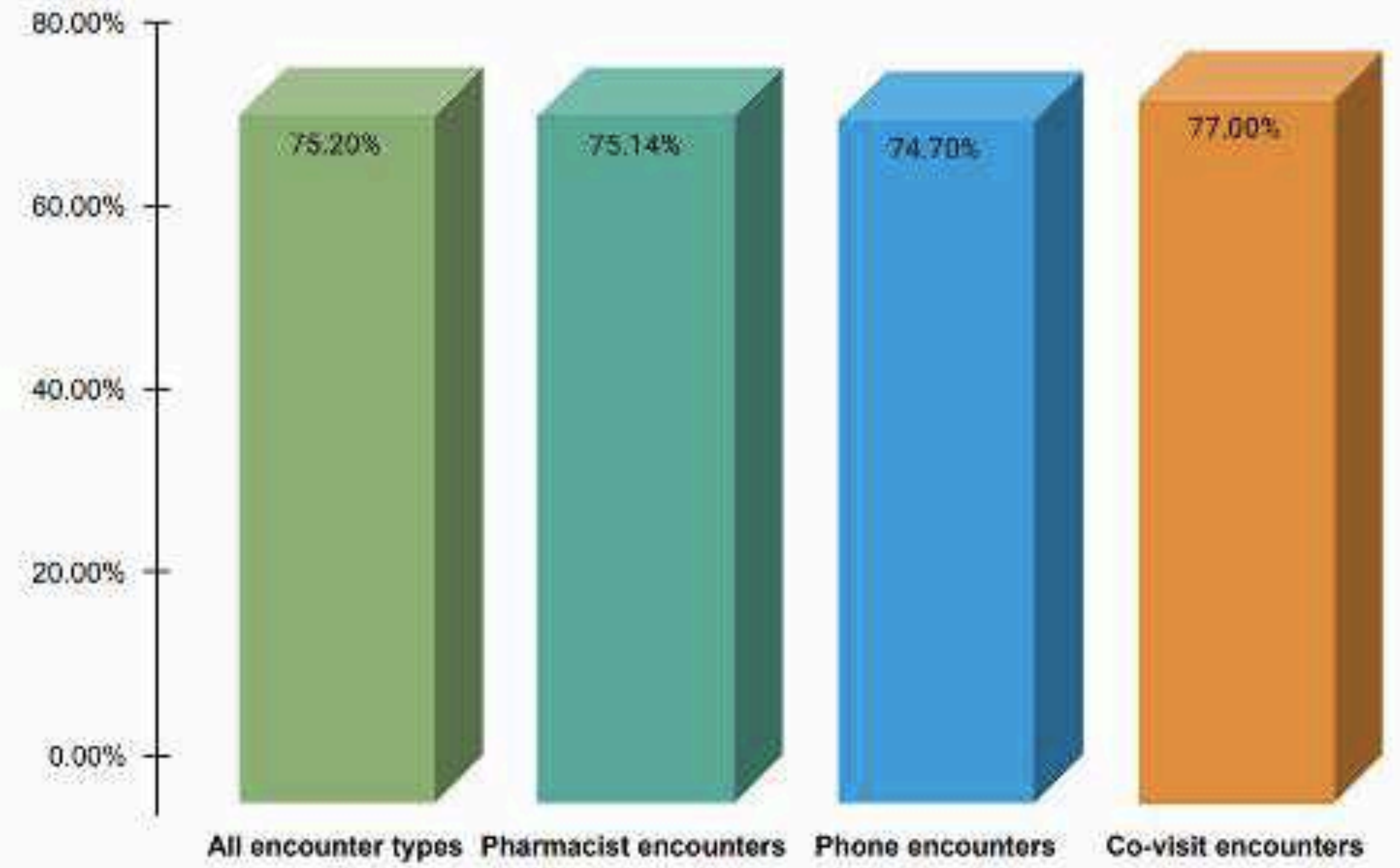


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Encounters Identified and Resolved per PQA Category



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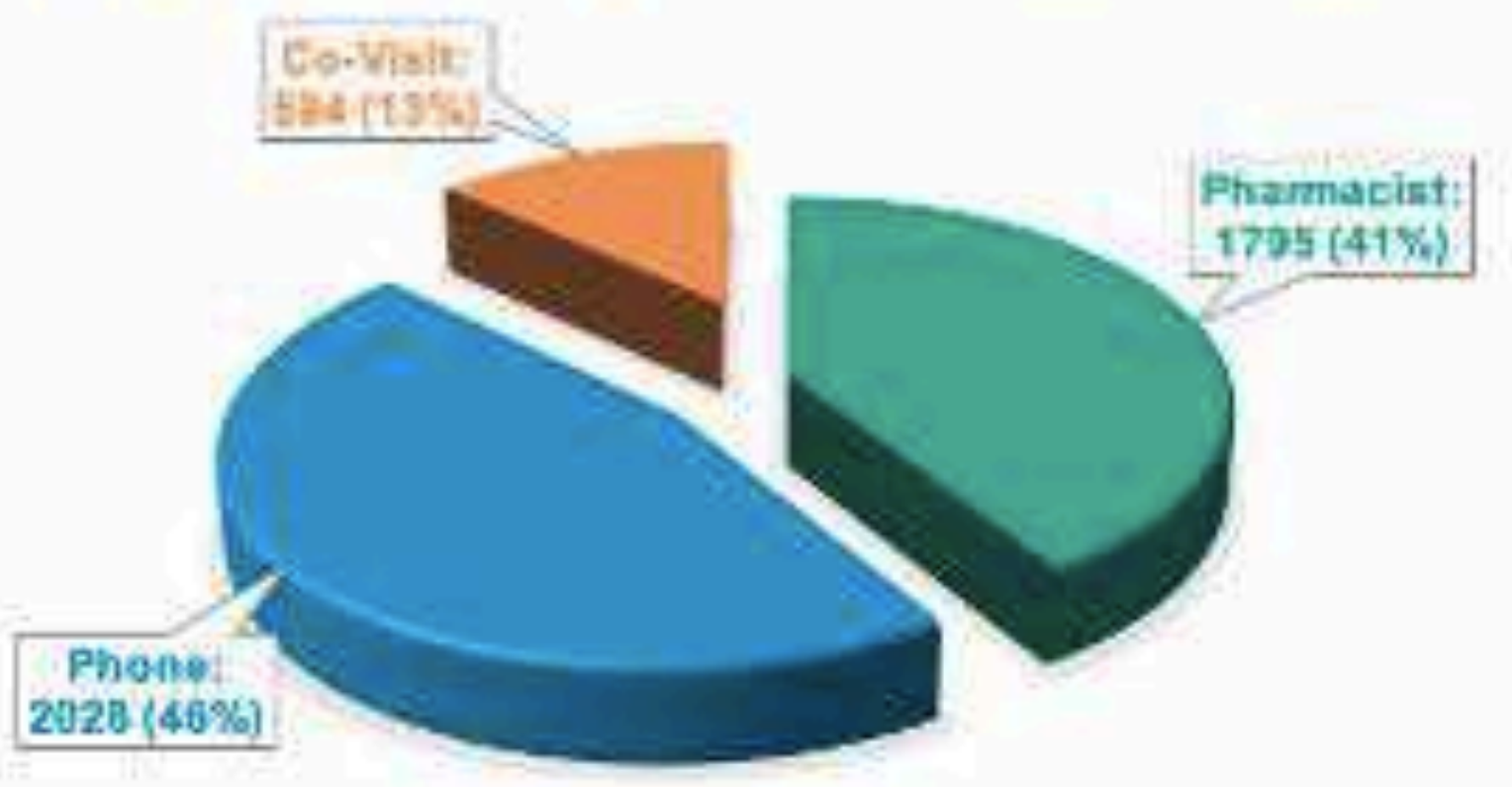


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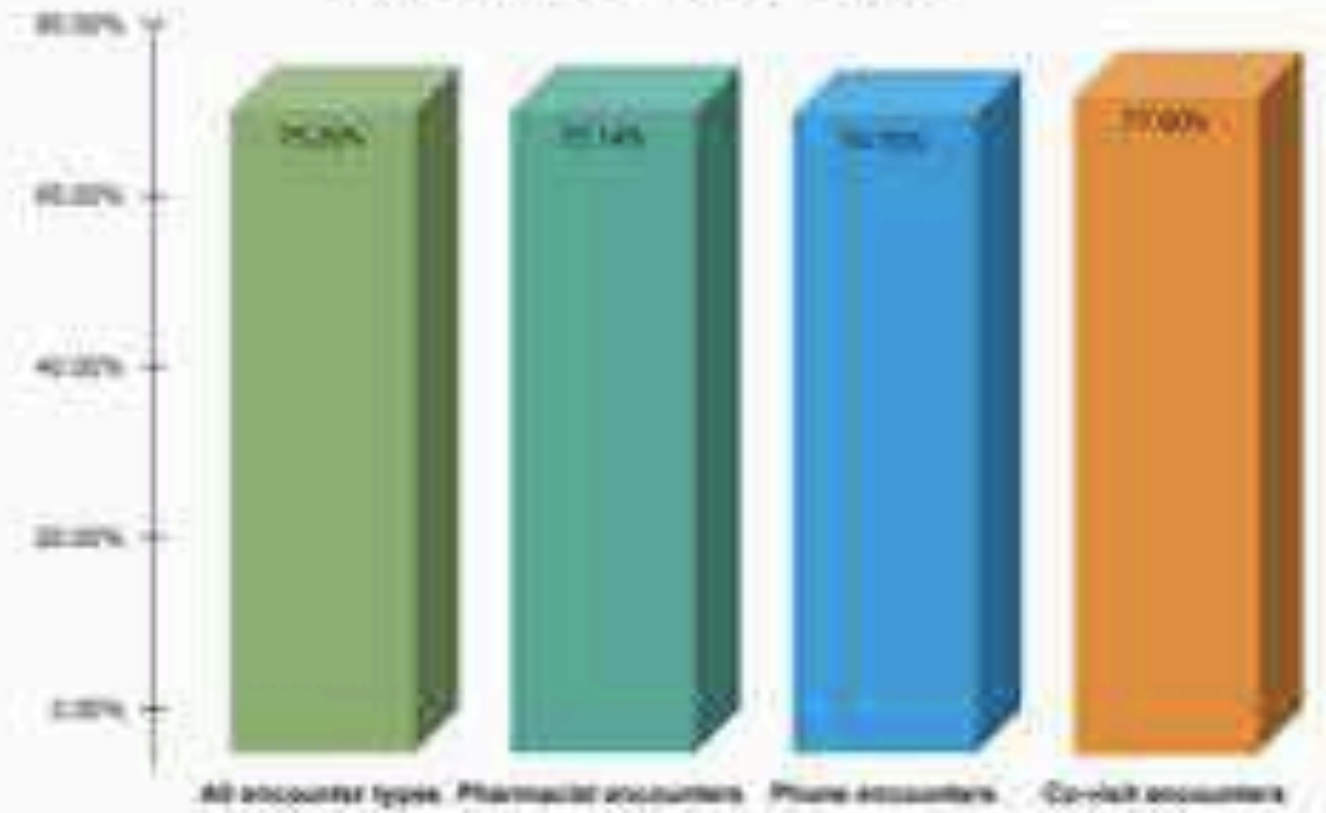
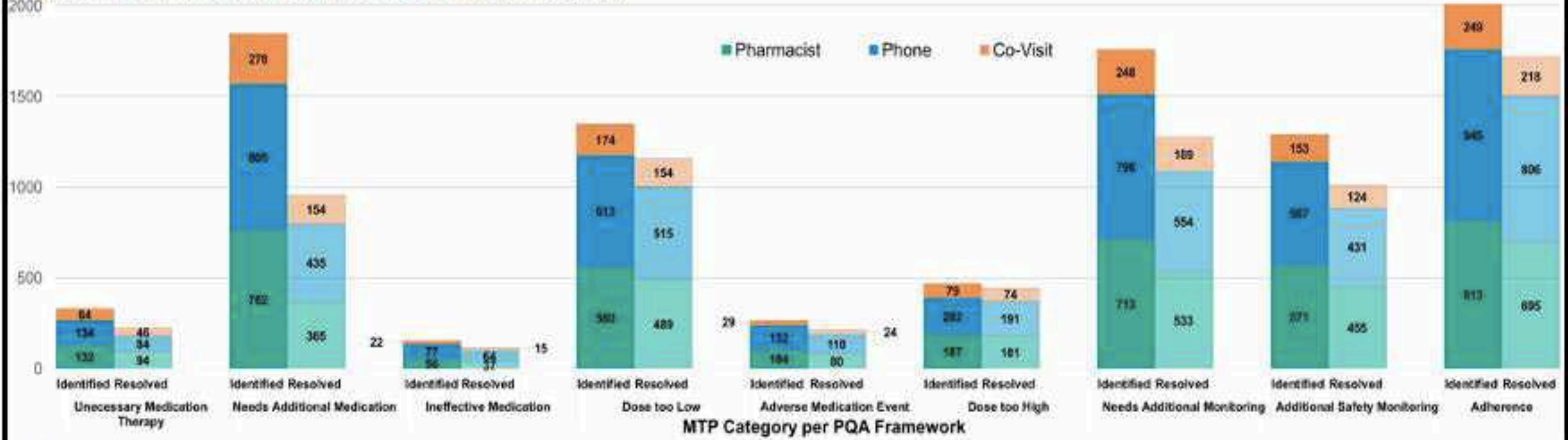


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1. Pfenkel C, Kemp T. pharmacist mediated... 10.1016/j.jmpt.2015.05.001
2. Ramalho de Oliveira... integrated health care... 10.1016/j.jmpt.2015.05.002
3. Duarte WR, Miller... Identifying and Resolving... 10.1016/j.jmpt.2015.05.003
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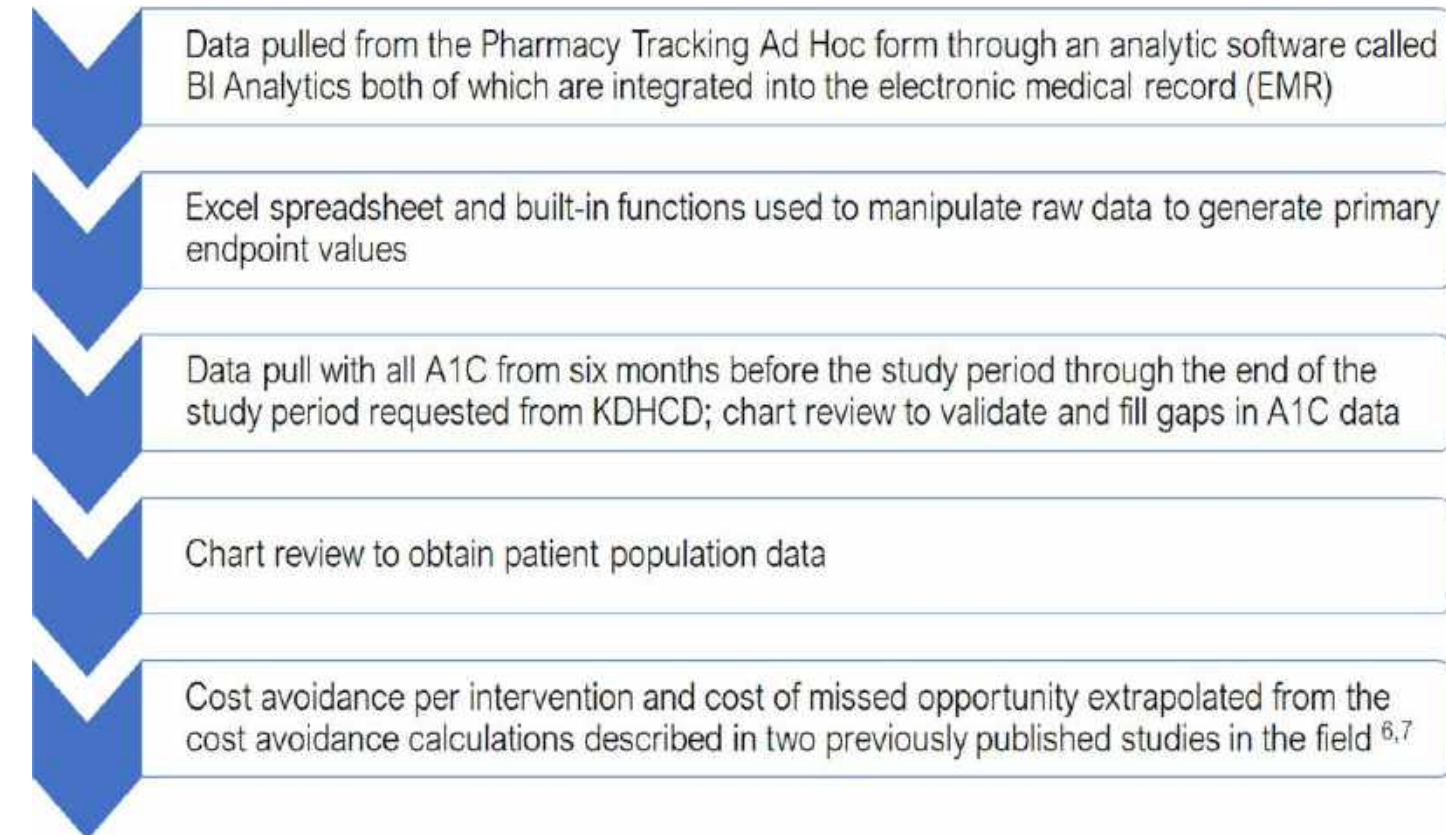
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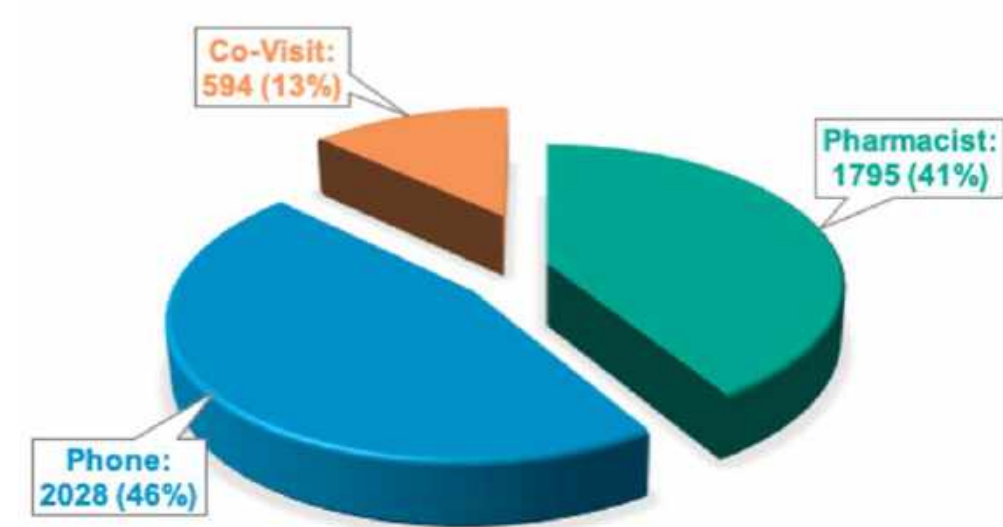


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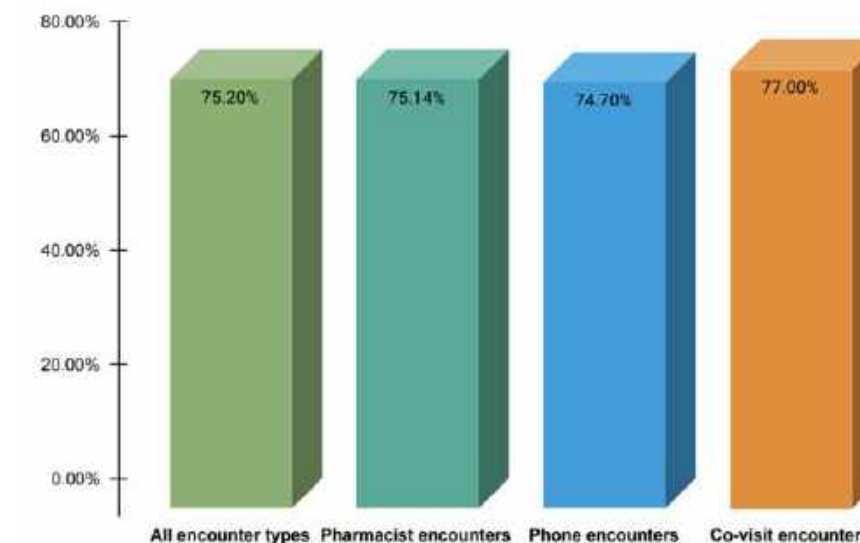
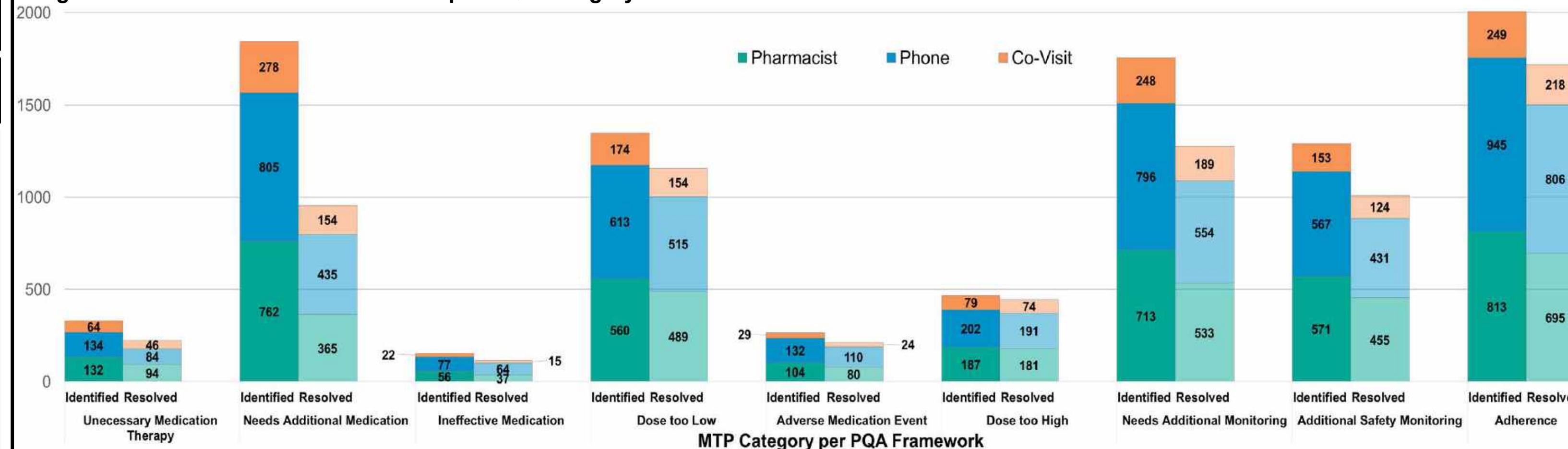


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