Interprofessional education and collaboration is suggested as a means to improve the quality and efficiency of healthcare, while reducing costs. In order to prevent medication errors to improve patient safety, accurate medication histories are necessary across all healthcare settings. Within the dental practice setting, there is a lack of research regarding the frequency and type of medication discrepancies that occur during medication histories, as well as the clinical impact of these discrepancies in the context of dental treatment.

### Methods

#### Primary Objective:
To compare interprofessional (IP) care versus standard care on medication history clarifications in dental patients.

#### Secondary Objectives:
- To assess the clinical significance of these clarifications with regards to the potential impact on dental treatment plans.
- To describe the interventions provided by IP care to clarify discrepancies and/or resolve medication-related problems.

#### Design:
Quasi-experimental, single-center, retrospective study.

#### Inclusion criteria
- All charts from IP care days at the dental admissions clinic between 9/8/15-12/2/15 (fall semester) and 2/2/16-4/28/16 (spring semester).
- IP care: charts seen by a dental and pharmacy student team.
- Standard care: charts seen only by the dental student from the dental admissions clinic.

#### Exclusion criteria
- Charts of pregnant women and individuals <18 years of age.
- Charts that met inclusion criteria, but without a matched control.

#### Data collection
- Demographic data, medication clarifications (number, type, and drug class of clarification), source of information, and pharmacy interventions to resolve discrepancies were collected.

#### Data analysis
- Demographics, medication clarifications, clinical significance, and pharmacy interventions were analyzed using descriptive statistics.
- Between-group differences were analyzed using chi-squared, Student’s t-Tests, and Wilcoxon signed-rank tests as appropriate.
- A p-value of <0.05 was considered statistically significant.

### Results

#### Demographics
- 257 patient charts were included from the Fall 2015 (n=133) and Spring 2016 (n=124) semesters.
- A majority of patients were female (62.3%), African-American (54.5%), with a mean age (SD) of 51.1 (±17.3) years.

#### Total clarifications
<table>
<thead>
<tr>
<th>IP Care</th>
<th>Standard Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>median (IQR)</td>
<td>median (IQR)</td>
</tr>
<tr>
<td>Total clarifications</td>
<td>9 (1-4)</td>
</tr>
<tr>
<td>Drug omissions</td>
<td>2 (1-5)</td>
</tr>
<tr>
<td>Route omissions</td>
<td>3 (1-6)</td>
</tr>
<tr>
<td>Frequency clarifications</td>
<td>4 (2-10)</td>
</tr>
</tbody>
</table>

#### Clinical Significance from Dental Perspective

<table>
<thead>
<tr>
<th>Clarification</th>
<th>IP Care</th>
<th>Standard Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical significance</td>
<td>97 (77.0%)</td>
<td>55 (42.0%)</td>
</tr>
<tr>
<td>Not clinically significant</td>
<td>50 (51.5%)</td>
<td>33 (60.0%)</td>
</tr>
<tr>
<td>Clinically significant</td>
<td>47 (48.5%)</td>
<td>22 (40.0%)</td>
</tr>
</tbody>
</table>

#### Potential Impact on Dental Treatment of Clinically Significant Drug Omission Clarifications

- **Key**: 
  - A: Allergy education
  - D: Drug education
  - I: Intervention education
  - C: Clarification education
  - M: Medication education

#### Pharmacy Interventions

- **Key**: 
  - A: Allergy education
  - D: Drug education
  - I: Intervention education
  - C: Clarification education
  - M: Medication education

### Discussion

- This study demonstrates that pharmacy students on an interprofessional team increase the accuracy of medication histories, as evidenced by the significant number of medication clarifications compared to standard care.
- This finding reinforces previous literature that has demonstrated that pharmacists and pharmacy students are well trained to conduct medication histories in a variety of practice settings.
- This study found that a majority (60%) of patients in the dental clinic setting omit at least 1 medication from their medication history.
- A majority of these omissions are clinically significant with the potential to impact their dental care from a dentist’s perspective.
- Strengths: large sample size, assessment of clinical relevance of medication omission clarifications in conjunction with reporting frequency and type of discrepancies, standard care was matched to IP care by dental student and medication complexity.
- Limitations: retrospective design, inability to capture dental student interventions because not routinely documented, clarifications relating to dose, route, or frequency are not routinely collected by dental students and may have inflated the total clarifications comparison.

### Conclusions

- Interprofessional care had significantly more medication clarifications compared to standard care when conducting medication histories in dental patients.
- For patients with ≥1 drug omission clarification(s), a majority were deemed clinically significant with regards to the impact on dental treatment.
- The most common reasons for the potential impact these drug omissions have on dental treatment included chronic disease control, drug manifestations in the oral cavity, and bleeding risk.
- Interprofessional care received additional pharmacy-related interventions, most commonly, adherence education, education on proper administration of medications, smoking cessation education, and recommendations to follow up with provider for medication-related problems that were identified.

### Disclosures

Authors have nothing to disclose.

### References