Survey of adherence to antibiotic prophylaxis and opioid prescribing guidelines among dentists practicing in Allegheny County, 2020

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Acknowledgments

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INTRODUCTION

Dentists, who number approximately 200,000 currently practicing in the United States,\(^1\) are responsible for a significant percentage of outpatient antibiotic and opioid prescriptions. Of outpatient prescriptions for antibiotics, 10% are prescribed by dentists.\(^2\) Dentists are also among the leading prescribers of opioids, after primary care providers and internists.\(^3,4\) In 2012, 6.4% of all opioid prescriptions came from dentists, amounting to 18.5 million total prescriptions.\(^4\)

Studies have shown that dentists may overprescribe antibiotics and opioids leading to adverse outcomes. One retrospective cohort study found that prescriptions of antibiotics by dentists were unnecessary 81% of the time.\(^5\) A cross sectional analysis found that about half of opioid prescriptions for dental procedures exceeded recommended guidelines.\(^6\)

Improper practices related to antibiotic prophylaxis for individuals seeking dental care can contribute to the development of antibiotic resistance, one of the top threats to public health. The primary drivers of resistance are overuse and misuse of antibiotics.\(^7\) Antibiotic resistant infections impact 2.8 million people, cause 35,000 deaths, and cost more than $2 billion dollars annually.\(^8,9\) Judicious use of antibiotics is key to avoiding the development of antibiotic resistance.

To limit the amount of antibiotics prescribed by dentists, the American Dental Association (ADA) and the American Heart Association (AHA) developed guidelines specifying the conditions and invasive procedures for which antibiotic prophylaxis is appropriate.\(^12\) A national survey, however, indicated that dentists continue to prescribe antibiotics for certain situations in which they are no longer recommended.\(^13\) No data are available on prescribing practices among dentists in Allegheny County.

Opioids are also frequently overused and can lead to negative health outcomes. It is estimated that approximately 23% of the first opioid prescriptions for children and adolescents come from dentists.\(^10\) First-time opioid prescriptions for orofacial pain have contributed to an increased risk for substance abuse for adolescents and young adults.\(^11\) Reducing misuse and overuse of opioids is key to minimizing the potential for abuse and diversion.

The ADA does not currently endorse any comprehensive national guidelines on opioid use in dental settings. The Commonwealth of Pennsylvania and the Pennsylvania Dental Association developed statewide guidelines for best practices on opioid prescribing.\(^14\) The Prescription Drug Monitoring Program (PDMP) was developed to track prescribing of opioids and other controlled substances by all providers, including dentists. Compliance with Pennsylvania state guidelines or PDMP requirements among dental care providers in Allegheny County is currently unknown.

Medication stewardship efforts to promote appropriate prescribing have focused on antibiotics and opioids, given their potential severe adverse consequences and
widespread misuse. To identify gaps in dentists’ prescribing knowledge and practice, the Allegheny County Health Department developed and administered a survey to licensed dentists in the county. The objective of the survey was to assess Allegheny County dentists’ compliance with antibiotic prophylaxis and opioid prescribing guidelines set forth by the ADA, the AHA, and the Commonwealth of Pennsylvania.

**Methods**

The survey was developed to assess knowledge of and compliance with the main tenants from the following guidelines: *Prevention of Infective Endocarditis* (AHA), The *Use of Prophylactic Antibiotics Prior to Dental Procedures in Patients with Prosthetic Joints* (ADA), and *Opioids in Dental Practice* (Commonwealth of Pennsylvania). Information collected included provider characteristics (e.g., dental specialty, years in practice, practice setting), self-reported prescribing behaviors, and guidelines referenced.

Survey questions on antibiotic prescribing were modeled after previously conducted surveys from Illinois Department of Public Health and Minnesota Department of Health. Opioid prescribing questions were developed using language consistent with the Commonwealth’s prescribing guidelines. All questions were piloted among a small group of local dentists, both retired and actively practicing. Dentists who piloted the survey were not eligible to participate in the final survey and were not included in subsequent analyses.

The Pennsylvania Coalition for Oral Health provided ACHD with mailing addresses for licensed dentists in Allegheny County via the state licensing board. Dentists with available mailing addresses received a paper copy of the survey, which included a URL link and scannable QR code to an online version of the survey. Dentists were also provided with a prepaid return envelope. Phone numbers were obtained for the subset of dentists who had a national provider identifier (NPI) from a separate NPI database that Pennsylvania Department of Health (PADOH) shared with ACHD. Names and addresses were used to match phone numbers from the NPI data set with the list of licensed dentists in Allegheny County. Two weeks after initial survey distribution, staff called all dentists from the mailing list with available phone numbers at least twice and reminded them to complete the survey. Staff were available to conduct the survey over the phone if the dentist preferred. Reminder postcards containing the URL link and QR code were sent out three weeks after initial survey distribution.

All survey responses were received either on paper or via the online survey platform Checkbox. Two staff members performed double data entry for all hardcopy surveys into the Checkbox data file. The double entry datasets were then exported to SAS 9.4. Duplicate entries were removed, and discordant results were identified and reconciled using original paper copies. Surveys of respondents who indicated that they
did not practice in Allegheny County were removed from the analysis. Respondents who indicated they did not prescribe opioids or who indicated the opioid prescribing questions were not applicable were not included in the analysis of opioid prescribing practices.

Responses were summarized using descriptive statistics. Frequencies and percentages were used to describe awareness of and compliance with each of the guidelines specified.

Results

Survey Response Rates

Of the 1,083 surveys mailed to dentists, 96 (9%) were returned to ACHD with a label reading “not deliverable as addressed” (Figure 1). Of the remaining 987 surveys, 501 (51%) were returned, including 455 (46%) by mail or fax, 44 (5%) electronically, and 2 (0.2%) by phone. Of the 501 returned surveys, 37 respondents indicated they did not practice in Allegheny County, leaving 464 respondents in the final analysis.

Provider Characteristics

Most dentists participating in this survey represented single provider practices (61%) or group practices (28%) (Table 1). Those in other practice types served at academic centers, Federally Qualified Health Centers (FQHCs), mobile locations, hospitals, and surgery centers. Of the dentists responding, 73% were general dentists, 71% worked at practices that did not accept Medicaid, 89% worked more than 20 hours a week, and 60% had practiced dentistry for >30 years.

Prophylactic Antibiotic Guidelines: Dental Procedures

According to ADA guidelines, prophylactic antibiotics for patients with high-risk medical conditions should be considered for the following dental procedures: dental extractions, periodontal procedures, and dental implant placements. Of the dentists surveyed, 83% prescribe antibiotics for high risk patients for dental extractions, 73% for periodontal procedures, and 63% for dental implant placements (Table 2).

For patients with high-risk medical conditions, ADA guidelines do not support prescribing antibiotics for root canals, supra-gingival scaling, routine anesthetic injections with no infected tissue, or placement of direct restoration procedures. More than half (54%) of all dentists, however, reported prescribing antibiotics for root canals, 33% for supragingival scaling, 20% for routine anesthetic injections, and 19% for placement of a direct restoration (Table 2).

Prophylactic Antibiotic Guideline Compliance: High-Risk Medical Conditions
ADA guidelines recommend that prophylactic antibiotics be considered before or immediately following invasive procedures for patients who have the following high-risk conditions: cardiac transplantation with valve regurgitation due to structurally abnormal valves, previous infective endocarditis, prosthetic cardiac valves or valve repair with prosthetic materials, repaired congenital heart defect with residual shunt or valvular regurgitation at/adjacent to the site of a prosthetic patch/device, and unrepaired cyanotic congenital heart disease. Most (85%) respondents reported prescribing antibiotics for patients with cardiac transplantation with valve regurgitation, 81% for previous infective endocarditis, 80% for prosthetic cardiac valves, 78% for repaired congenital heart defects, and 58% for unrepaired cyanotic congenital heart disease (Table 3).

Patients with mitral valve prolapse, any congenital heart disease, and prosthetic joints are not recommended to receive prophylactic antibiotics before or immediately following certain invasive procedures; however, 78% of respondents report prescribing prophylactic antibiotics for prosthetic joints, 27% for mitral valve prolapse, and 26% for any congenital heart disease.

Antibiotic Prophylactic Prescription Challenges

Many dentists (47%) reported that recommendations from other medical providers are one of the biggest challenges when making decisions about antibiotic prescribing (Figure 2). Other challenges include patients taking antibiotics on their own (39%) and patient or family demand (37%). About a quarter (24%) of dentists report no challenges when making decisions about antibiotic prescribing.

Common Reference Guidelines for Dentist for Antibiotic Prescriptions

When participants were asked to select guidelines they reference, 83% selected guidelines of the American Dental Association (ADA), 78% the American Heart Association (AHA), 47% the American Academy of Orthopedic Surgeons (AAOS), 14% the American Academy of Pediatric Dentistry (AAPD), and 13% American Association of Endodontists (AAE). Only 2% indicated they do not use any guidelines.

Compliance with Opioid Guidelines

Of the respondents, 76 indicated that they did not prescribe opioids and were excluded from the analysis of questions pertaining to opioid prescribing practices. Of the 388 dentists included, 303 answered the question about first line analgesic therapy; of these, 51% reported using ibuprofen-acetaminophen combinations and 38% use NSAIDs as first-line analgesic therapies (Figure 3). Approximately 4% use opioids and 5% use acetaminophen. According to PA state guidelines for opioid prescriptions in the dental setting, nonsteroidal anti-inflammatory drugs (NSAIDs), e.g. ibuprofen, are the recommended first line therapy, and that a combination of NSAIDs and acetaminophen can provide additional relief.
More respondents (372) answered the question about the average number of days for which they prescribe opioids. Of these, 83% reported prescribing opioids for 1-3 days as recommended, 16% for 4-7 days, and <1% for 8 days or longer (Figure 4).

Regarding safe disposal of opioids, 24% percent of dentists report that they always provide safe disposal information for unused opioids (Figure 5). Approximately half rarely or never provide safe disposal information.

Nearly half (49%) of dentists always check the PDMP before prescribing controlled substances, a recommendation of the program; 28% check often or sometimes (Figure 6). However, 8% rarely check the PDMP, 8% are not registered and never check the PDMP, and 7% are registered but never check the PDMP.

Opioid Prescribing Challenges

Half of the dentists responding to the opioid questions indicated that patient and family demand were challenges when prescribing opioids (Figure 7). Around 40% responded that patients taking opioids on their own was a challenge. About a third (32%) reported experiencing no challenges when prescribing opioids.

Common Reference Guidelines for Dentist for Opioid Prescriptions

When respondents were asked which guidelines they reference when prescribing opioids, 69% checked the ADA Policy on Opioid Prescribing, 36% the Commonwealth of Pennsylvania guidelines, and 3% the Johns Hopkins University Center for Opioid Research and Education (CORE) guidelines. Seventeen percent indicated they do not reference any guidelines.

Supporting Judicious Antibiotic and Opioids Prescribing Practices

In response to questions about how ACHD can support judicious prescribing, approximately 70% of dentists checked “distribute guidelines” (Figure 8). Approximately 50% supported creating an email list for updates on current guidelines and resources as an appropriate support mechanism, and 40% endorsed distributing education materials for patients and families and 40% for providers as well.

Differences by Specialty or Years in Practice

No major differences in antibiotic or opioid prescribing practices by clinical specialty or years in practice (30+years vs <30 years) were observed, although statistical significance testing was not completed for the purposes of this project. Future analyses will further explore any significant differences.

Discussion

Results of this survey indicate that most dentists in Allegheny County prescribe antibiotics and opioids according to current guidelines with a few noted exceptions.
Most reported following guidelines when prescribing antibiotics for certain procedures such as dental extractions, periodontal procedures, and dental implant placements. A large percentage of dentists, however, reported prescribing antibiotics for root canals, which is not recommended by guidelines. Other studies have also shown that antibiotics are overprescribed for root canals.19,20 More education on this topic is needed.

In general, Allegheny County dentists follow guidelines when prescribing antibiotics for patients with high-risk medical conditions. The greatest deviance from guidelines pertains to patients with prosthetic joint implants, for whom prophylactic antibiotics are no longer recommended. More than half of all dentists in the study reported prescribing antibiotics for this condition. This deviance from guidelines could be due to use of outdated guidelines. In 2014, the ADA published guidelines which definitively stated that prophylactic antibiotics are not recommended prior to dental procedures for patients with prosthetic joint implants.16 Dentists may not be aware of the guideline revisions. There should be further initiatives for provider education on guidelines for patients with prosthetic joints.

Most providers followed recommended opioid prescribing guidelines for first-line therapies, short courses of opioids, and use of the Prescription Drug Monitoring Program. Many fewer, however, indicated adherence to guidelines regarding counseling for safe disposal of unused opioids. A large percentage of dentists report never providing safe disposal information. To prevent opioid diversion and misuse, there should be more provider education around the importance of providing patients with safe disposal information for unused medication.

The challenges experienced by dentists when making decisions about antibiotic and opioid prescriptions were quite similar. For antibiotics, challenges reported included recommendations from other medical providers to prescribe antibiotics, patients taking their own antibiotics, patient and family demand, and prescriptions by other medical providers for the patient. The greatest challenges reported for prescribing opioids included patient and family demand, patients taking opioids on their own, and prescriptions by other medical providers for the patient. To support judicious prescribing practices among dentists, there should be more education given to patients and non-dental providers around antibiotic and opioid prescribing guidelines in the dental setting.

In response to a question about how health departments could assist with judicious prescribing, most dentists indicated that distribution of guidelines, emailing updates about current guidelines, providing educational material for patients and providers would be useful forms of support. Use of these mechanisms is key to furthering initiatives around antibiotic stewardship and opioid overuse prevention.

Two limitations may have affected the study results. First, only about half of licensed dentists submitted the survey. Our response rate, however, was much higher than for most providers survey, perhaps because of the use of paper surveys coupled
with follow-up calls and reminders. Nonetheless there is a possibility than the
prescribing practices of nonresponders were different from that of responders. Second,
we did not directly ask the respondents if they prescribed opioids. Some wrote that they
did not prescribe opioids or that the opioid questions were not applicable; these
respondents were removed from the analysis of the opioid questions. A few dentists
may have answered the opioid prescribing questions even if they did not prescribe
opioids, and their responses would have been included.

Despite the limitations, this study benefitted from input from a small subset of
dentists prior to administration, use of survey questions from other studies, and double-
data entry to reduce errors. These practices improved quality of survey questions and
data accuracy.

In summary, this study aimed to assess current prescribing practices among
Allegheny County dentists and support future research and initiatives related to dental
care in Pennsylvania. Most dentists responding to the survey followed antibiotic and
opioid prescribing guidelines with a few noted exceptions. These survey results will be
shared with programs at PADOH and ACHD which can provide feedback and education
to practicing dentists in the county. Furthermore, these results add to limited literature
on prescribing practices of dentists in the United States and can be used to support
future research endeavors.

References

   https://www.ada.org/en/science-research/health-policy-institute/dental-
   Variation According to Geography, Patient Population, and Provider Specialty in
4. Levy B, Paulozzi L, Mack KA, Jones CM. Trends in Opioid Analgesic–Prescribing
   Antibiotic Prescriptions for Infection Prophylaxis Before Dental Procedures, 2011
6. Suda KJ, Zhou J, Rowan SA, Evans CT, Gellad WF, Calip GS. Overprescribing of
Figure 1: Survey Participation

Total surveys sent
n = 1083

Returned to sender (i.e. invalid address)
(n = 96)

Delivered
n = 987

No response
(n = 486)

Completed and returned
n = 501

Excluded due to not actively practicing in Allegheny County
(n = 37)

Included in final dataset
n = 464

Paper: 425
Online: 37
Phone: 2

Paper: 455
Online: 44
Phone: 2

Paper: 30
Online: 7
# Table 1. Demographic characteristics of dentists participating in the 2020 dental prescribing survey (n=464)

<table>
<thead>
<tr>
<th>Practice Type</th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Academic Practice</td>
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<td>8</td>
</tr>
<tr>
<td>Government Facility</td>
<td>5</td>
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</tr>
<tr>
<td>Group Practice</td>
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</tr>
<tr>
<td>Long-term Care Facility</td>
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<td>Single Provider Practice</td>
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<td>Other</td>
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<tr>
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<th>Specialty&lt;sup&gt;a&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>General</td>
<td>339</td>
<td>73</td>
</tr>
<tr>
<td>Endodontics</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Oral and maxillofacial surgery</td>
<td>34</td>
<td>7</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Pediatric dentistry</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Periodontics</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>26</td>
<td>6</td>
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<table>
<thead>
<tr>
<th>Average Hours Per Week</th>
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<tbody>
<tr>
<td>Part-time</td>
<td>52</td>
<td>11</td>
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<tr>
<td>Full-time</td>
<td>410</td>
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<table>
<thead>
<tr>
<th>Number of Years in Practice</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Fewer than 5 years</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>5-10 years</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>11-20 years</td>
<td>58</td>
<td>13</td>
</tr>
<tr>
<td>21-30 years</td>
<td>92</td>
<td>20</td>
</tr>
<tr>
<td>Greater than 30 years</td>
<td>276</td>
<td>60</td>
</tr>
<tr>
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</tbody>
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<sup>a</sup>Percentages do not add to 100% as respondents were asked to select all that apply
Table 2: Percentage of dentists who report prescribing prophylactic antibiotics for invasive dental procedures (n=435)

<table>
<thead>
<tr>
<th>Procedure Type</th>
<th>Frequency n</th>
<th>Percent %&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antibiotics recommended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental extractions</td>
<td>363</td>
<td>83</td>
</tr>
<tr>
<td>Periodontal procedures</td>
<td>317</td>
<td>73</td>
</tr>
<tr>
<td>Dental implant placement</td>
<td>275</td>
<td>63</td>
</tr>
<tr>
<td><strong>Antibiotics not recommended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root canal therapy</td>
<td>234</td>
<td>54</td>
</tr>
<tr>
<td>Supra-gingival scaling</td>
<td>144</td>
<td>33</td>
</tr>
<tr>
<td>Routine anesthetic injections (no infected tissue)</td>
<td>88</td>
<td>20</td>
</tr>
<tr>
<td>Placement of a direct restoration such as crown cementation</td>
<td>81</td>
<td>19</td>
</tr>
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</table>

<sup>a</sup>Percentages do not add to 100% as respondents were asked to select all that apply
Table 3: Percentage of dentists who report prescribing prophylactic antibiotics for high-risk medical conditions (n=447)

<table>
<thead>
<tr>
<th>Condition Type</th>
<th>Frequency n</th>
<th>Percent %a</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antibiotics recommended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiac transplantation with valve regurgitation due to a structurally abnormal valve</td>
<td>382</td>
<td>85</td>
</tr>
<tr>
<td>Previous infective endocarditis</td>
<td>362</td>
<td>81</td>
</tr>
<tr>
<td>Prosthetic cardiac valves or valve repair with prosthetic material</td>
<td>357</td>
<td>80</td>
</tr>
<tr>
<td>Repaired congenital heart defect with residual shunt or valvular regurgitation at/adjacent to the site of a prosthetic patch/device</td>
<td>347</td>
<td>78</td>
</tr>
<tr>
<td>Unrepaired cyanotic congenital heart disease</td>
<td>261</td>
<td>58</td>
</tr>
<tr>
<td><strong>Antibiotics not recommended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitral valve prolapse</td>
<td>120</td>
<td>27</td>
</tr>
<tr>
<td>Any congenital heart disease</td>
<td>115</td>
<td>26</td>
</tr>
<tr>
<td>Prosthetic joint(s)</td>
<td>347</td>
<td>78</td>
</tr>
</tbody>
</table>

*aPercentages do not add to 100% as respondents were asked to select all that apply*
Figure 2: Percentage of dentists who report challenges when making decisions about antibiotic prescriptions (n= 454)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations from other medical providers to prescribe</td>
<td>47</td>
</tr>
<tr>
<td>Patients taking antibiotics on their own</td>
<td>39</td>
</tr>
<tr>
<td>Patient/family demand</td>
<td>37</td>
</tr>
<tr>
<td>Other medical providers prescribing antibiotics for the patient</td>
<td>34</td>
</tr>
<tr>
<td>Unsure of which guidelines to reference</td>
<td>18</td>
</tr>
<tr>
<td>Fear of lawsuits</td>
<td>15</td>
</tr>
<tr>
<td>Culture of prescribing within my practice</td>
<td>4</td>
</tr>
<tr>
<td>Lack of time to keep up with current guidelines</td>
<td>2</td>
</tr>
<tr>
<td>No challenges experienced</td>
<td>24</td>
</tr>
</tbody>
</table>

*Percentages do not add to 100% as respondents were asked to select all that apply*
Figure 3: First-line analgesic therapies most often used for patients with acute dental pain (n= 303)

*recommended by guidelines
Figure 4: Average number of days for which dentists report prescribing opioids (n= 372)

1-3 days* 83%

4-7 days 16%

8-10 days 0.3%

>10 days 0.3%

*recommended by guidelines
Figure 5: Frequency of prescribers providing safe disposal information for unused medication (n=372)

- Never: 29%
- Always*: 24%
- Often: 12%
- Rarely: 21%
- Sometimes: 15%

*recommended by guidelines
Figure 6: Percentage of dentists who check the prescription drug monitoring program before prescribing controlled substances (n=381)

*required by the program
Figure 7: Percentage of dentists who report challenges when making decisions about opioid prescriptions (n= 376)

*Percentages do not round to 100 as respondents were asked to select all that apply*
Figure 8: Percentage of dentists endorsing selected health department activities to support judicious antibiotic and opioid prescribing in the dental setting (n= 436)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribute guidelines</td>
<td>72</td>
</tr>
<tr>
<td>Create an e-mailing list for updates on current guidelines and resources</td>
<td>48</td>
</tr>
<tr>
<td>Distribute educational materials for patients/families</td>
<td>44</td>
</tr>
<tr>
<td>Distribute educational materials for providers</td>
<td>44</td>
</tr>
<tr>
<td>Produce toolkit regarding prescribing best practices in dental settings</td>
<td>36</td>
</tr>
<tr>
<td>Monitor individual prescribing practices using PDMP data</td>
<td>21</td>
</tr>
<tr>
<td>Organize a dental prescribing work group</td>
<td>7</td>
</tr>
</tbody>
</table>

*Percentages do not add to 100% as respondents were asked to select all that apply*
Appendix A. Survey of Adherence to Antibiotic Prophylaxis and Opioid Prescribing Guidelines Among Dentists Practicing in Allegheny County

Antibiotic and Opioid Prescribing Survey for Allegheny County Dentists

Thank you for taking the time to complete this short survey regarding antibiotic and opioid prescribing practices at your dental office. Your responses will help us develop new initiatives to support judicious prescribing of antibiotics and opioids which could benefit your patients. This survey is being conducted by the Allegheny County Health Department.

Instructions:

We ask that each licensed dentist at your facility complete this survey. It should not take more than 5 minutes to complete. Your individual responses are anonymous and will not be shared with anyone. Only aggregate (summary) results will be presented. Surveys can be returned the following ways:

- **Mail**: use the enclosed pre-paid postage envelope
- **Online**: visit https://achd.checkboxonline.com/DPS or scan QR code
- **Fax**: 412-578-8025 (please set fax to two-sided original so we receive all pages)

Please contact Molly Nace (email: molly.nace@alleghenycounty.us, phone: 412-578-8370) with any questions.

Thank you,

Bureau of Assessment, Statistics, and Epidemiology Allegheny County Health Department
Practice and Provider Characteristics

Do you practice in Allegheny County? *(only complete the survey if yes)*

- Yes
- No

Which of the following *best* describes the practice for which you work?

- Single provider practice
- Group practice
- Academic practice (i.e. dental school)
- Long-term care facility
- Government facility (e.g. VA)
- Public health department
- Other *(specify)*: ___

Does the practice for which you work accept Medicaid?

- Yes
- No

What is your area of specialty? *(check all that apply)*

- General dentistry
- Endodontics
- Oral and maxillofacial surgery
- Orthodontics
- Pediatric dentistry
- Periodontics
- Prosthodontics
- Other *(specify)*: ___

Do you currently practice at least 20 hours per week on average in the clinical setting?

- Yes
- No

How many years have you been practicing dentistry?

- Fewer than 5 years
- 5-10 years
- 11-20 years
- 21-30 years
- Greater than 30 years
Antibiotic Prescribing Practices

For certain patients with high-risk medical conditions, for which dental procedures would you prescribe or recommend prophylactic antibiotics? (check all that apply)

- Routine anesthetic injections (no infected tissue)
- Supra-gingival scaling
- Periodontal procedures
- Root canal therapy
- Dental implant placement
- Placement or removal of orthodontic bands/appliances
- Dental extractions
- Placement of a direct restoration such as crown cementation
- Other (specify):

For patients with which high-risk medical conditions would you prescribe or recommend prophylactic antibiotics before or immediately following certain invasive dental procedures? (check all that apply)

- Any congenital heart disease
- Cardiac transplantation with valve regurgitation due to a structurally abnormal valve
- Prosthetic joint(s)
- Unrepaired cyanotic congenital heart disease
- Repaired congenital heart defect with residual shunt or valvular regurgitation at/adjacent to the site of a prosthetic patch/device
- Previous infective endocarditis
- Mitral valve prolapse
- Prosthetic cardiac valves or valve repair with prosthetic material
- Other (specify):

How often do other providers such as primary care physicians, orthopedists, and cardiologists prescribe antibiotics for your patients before dental procedures?

- Never
- Rarely
- Sometimes
- Often
- Always

How often do patients take their own antibiotics (such as from previous procedures or conditions) without a prescription from you before invasive dental procedures?

- Never
- Rarely
- Sometimes
- Often
- Always
- Unknown
What challenges, if any, do you experience when making decisions about antibiotic prescribing? *(check all that apply)*

- Patient/family demand
- Recommendations from other medical providers to prescribe
- Other medical providers prescribing antibiotics for the patient
- Patients taking antibiotics on their own
- Unsure of which guidelines to reference
- Lack of time to keep up with current guidelines
- Fear of lawsuits
- Culture of prescribing within my practice
- No challenges experienced

□ Other *(specify)*: ___

Which of the following guidelines do you reference when considering prescribing antibiotics? *(check all that apply)*

- American Dental Association (ADA)
- American Academy of Pediatric Dentistry (AAPD)
- American Heart Association (AHA)
- American Academy of Orthopedic Surgeons (AAOS)
- American Association of Endodontists (AAE)
- None
- Other *(specify)*: ___

**Opioid Prescribing Practices**

Which type of medication do you most often use as first-line analgesic therapy (not prophylaxis) for patients with acute dental pain?

- Steroids
- Non-steroidal anti-inflammatory drugs (NSAIDs)
- Opioids
- Acetaminophen
- Ibuprofen-Acetaminophen combination
- Other *(specify)*: ___

How often do you prescribe opioids for pain management after the performance of third molar extractions?

- Never
- Rarely
- Sometimes
- Often
- Always
- NA - I do not perform third molar extractions
When prescribing opioids, what is the average number of days for which you provide a supply?

- 1-3 days
- 4-7 days
- 8-10 days
- Greater than 10 days

When prescribing opioids, how often do you provide information about safe disposal of unused medication to prevent diversion or misuse?

- Never
- Rarely
- Sometimes
- Often
- Always

How often do you check reports from the Prescription Drug Monitoring Program before prescribing a controlled substance?

- Never - not registered
- Registered but do not use
- Rarely
- Sometimes
- Often
- Always

What challenges, if any, do you experience when making decisions about opioid prescribing? (check all that apply)

- Patient/family demand
- Recommendations from other medical providers to prescribe
- Other medical providers prescribing opioids for the patient
- Patients taking opioids on their own
- Unsure of which guidelines to reference
- Lack of time to keep up with current guidelines
- Fear of lawsuits
- Culture of prescribing within my practice
- No challenges experienced
- Other (specify): ___

____________________________________________________________________________

____________________________________________________________________________
Which of the following guidelines do you reference when considering prescribing opioid medications? (check all that apply)

- Johns Hopkins University Center for Opioid Research and Education (CORE)
- American Dental Association (ADA) Policy on Opioid Prescribing
- Commonwealth of Pennsylvania
- None
- Other (specify): _____

Final Comments

In your opinion, how can the Allegheny County Health Department or the Pennsylvania Department of Health support judicious antibiotic and opioid prescribing in the dental practice for which you work? (check all that apply)

- Distribute guidelines
- Produce toolkit regarding prescribing best practices in dental settings
- Organize a dental prescribing work group
- Create an e-mailing list for updates on current guidelines and resources
- Distribute educational materials for patients/families
- Distribute educational materials for providers
- Monitor individual prescribing practices using PDMP data
- Other (specify): _____

Any additional comments: