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Dental Professional Liability
2016 Claim Report

Introduction

For more than 30 years, CNA has been a leading underwriter of insurance programs for dentists. Comprehensive insurance programs provide dental professional liability insurance and a number of other insurance coverages. We take seriously our responsibility both to protect individual dentists and to support the dental profession in its mission to deliver safe, effective and evidence-based oral healthcare.

As part of our ongoing effort to provide our insureds with industry-leading risk management information, we are pleased to present our first dental professional liability claim report. The report is based on a dataset of CNA dental professional liability claims and state regulatory civil investigations (i.e., board actions) that closed between January 1, 2011 and December 15, 2015, unless otherwise noted. In addition to claim data analysis, the report offers risk management strategies and resources that address the most common adverse occurrences.

It is our hope that CNA-insured dentists, as well as all other dental professionals, will find this report helpful as they seek to strengthen their patient safety and risk mitigation efforts.

Purpose

By identifying liability patterns and trends, this report seeks to help dentists protect patients from harm and minimize the risk of potential litigation.

Among dental professionals, *prevention* is a core concept in patient management and the delivery of oral healthcare services. It is also the key to risk management. By examining both aggregate liability experience and individual claim scenarios, dentists can better assess their own areas of vulnerability and implement preventive measures to enhance patient safety and minimize liability exposure.

Parts 1 and 2 of this report provide an overview of CNA dental professional liability closed claims and board actions in terms of both frequency of occurrence and severity of loss. The accompanying case scenarios provide examples of the types of lapses that can result in patient injury and negligence allegations. Part 3 offers risk management information and recommendations on the specific practice issues – such as informed consent, referral and documentation – that play a significant role in many or most professional liability claims.

While the report derives certain lessons from the dataset, it is not intended to provide comprehensive risk management guidelines. CNA and professional organizations have published a wide range of materials discussing various patient safety topics and related risk management recommendations. Dental professionals seeking detailed information on specific issues should refer to these publications.

Dataset and Methodology

There were 5,588 professional liability closed claims and board actions attributed to CNA-insured dental professionals from 2011 through 2015. Unless otherwise noted in the report, the dataset in Part 1 consists of 1,078 professional liability closed claims that:

- Involved a CNA-insured dentist or dental practice.
- Closed between January 1, 2011 and December 31, 2015.
- Resulted in an indemnity payment ranging from $10,000 to $1 million (inclusive).

Part 1 also includes a second dataset consisting of 2,881 low or no-indemnity professional liability closed claims that:

- Involved a CNA-insured dentist or dental practice.
- Closed between January 1, 2011 and December 31, 2015.
- Experienced an indemnity payment of less than $10,000.
- Resulted in legal expenses of at least one dollar.

Part 2 analyzes 1,626 board actions resulting in legal and/or related defense expenses that:

- Involved a CNA-insured dentist or dental practice.
- Closed between January 1, 2011 and December 31, 2015.
- Resulted in a defense expense payment.

The methodology used in this report differs from other dental claim reports issued by other organizations. For this reason, its findings should not be compared with these studies.

Scope

This report examines the frequency and severity of dental closed claims, focusing on such claim attributes as dental procedures performed, allegations, injuries and additional loss types, and practice and patient characteristics.

The listed indemnity payments and expenses were paid by CNA on behalf of an insured and do not include any additional payments from employers, other insurance companies or other parties. This analysis solely reflects CNA data and is not necessarily representative of all closed claims for dentists or dental practices.

Note that it may take several years to resolve a professional liability claim. Therefore, although all claims closed between January 1, 2011 and December 31, 2015, some may reflect adverse events that occurred prior to 2011.

Terms

For purposes of this report, please refer to the definitions below:

- **Allegation -** An assertion that the healthcare professional or organization has done something wrong or illegal.
- **Average incurred -** Indemnity plus expense costs paid by CNA, divided by the number of closed claims.
- **Dental practice -** An organization insured through the CNA dental professional liability insurance program that provides dental services and employs dentists, hygienists and/or other dental office personnel.
- **Frequency/distribution -** The percentage of closed claims with a common attribute, such as a specific allegation or injury.
- **Paid expense -** Monies paid in the investigation, management and/or defense of a claim.
- **Paid indemnity -** Monies paid by CNA on behalf of an insured for the settlement, arbitration award or judgment of a claim.
- **Severity -** The average paid indemnity for those dental claims in the dataset that closed with an indemnity payment of one dollar or greater.
- **Total incurred -** The costs or financial obligations, including indemnity and expenses, resulting from the resolution of a claim.
- **Vicarious liability -** A legal principle that assigns responsibility for harm not solely to the person whose negligent act or omission caused an injury (such as a hygienist or employed dentist), but also to that individual's employer or supervisor if the act or omission occurred during the course and within the scope of practice.

Part 1: Analysis of CNA Dental Professional Liability Closed Claims

Part 1 of this report examines closed claims paid by CNA on behalf of individual dentists, group practices and dental organizations that were issued professional liability insurance coverage by CNA. The first section focuses on dental professional liability closed claims with significant indemnity payments ranging from $10,000 to $1 million (inclusive), thus highlighting the types of adverse events that result in patient harm and larger losses. A brief section on less expensive closed claims (i.e., those with an indemnity payment of $0 to $9,999) follows, and serves to widen the analysis of the dental liability environment. Several claim examples and brief descriptions of closed claims with paid indemnity equal to or greater than $1 million are included, offering further perspective on the most severe dental professional liability claims.

DETAILED DATA ANALYSIS: SIGNIFICANT INDEMNITY SEGMENT

This analysis, unless otherwise stated, is based upon the group of 1,078 closed dental professional liability claims with indemnity payments ranging from $10,000 to $1 million.

While the comments and figures throughout the professional liability segment of the report focus on average and total paid indemnity, claim management expenses also contribute significantly to total claim costs. These costs include attorney and expert witness fees, as well as other expenses associated with the investigation and defense of claims.

Figure 1 in this segment provides the *total incurred cost* (paid indemnity plus paid expense) of the professional liability claims in this section of the report, thus highlighting the impact of claim expenses. Including expenses increases closed claim costs by approximately 30 percent over the average and total paid indemnity. Expense costs can vary considerably, based upon the circumstances surrounding each incident.

Analysis of Closed Claims by Dental Specialty

While the vast majority of CNA-insured dentists are general practitioners, a significant proportion of total claim costs involve dental specialists. The higher average paid indemnity for specialists may be due, in part, to the more complex and challenging clinical cases referred for specialty care.

- While approximately 85 percent of insured dentists over the five-year report period are general practitioners, only about 75 percent of total indemnity payments involve claims asserted against insured general practitioners.
- The average indemnity paid for general practitioner claims is below the overall average of $83,120. However, as noted on pages 29-30, general practitioners who perform higher-risk procedures tend to experience increased claim severity.
- The average indemnity paid for all specialist claims is $125,651. Excluding oral surgeons, the average paid indemnity for specialist claims is $98,626.
- Average paid indemnity is highest for oral surgeons and endodontists, due to claims involving surgical procedures that resulted in nerve injury, infection or death, as well as complications stemming from administration of sedative or anesthetic agents.
- The average paid indemnity for pediatric dentist claims is below the overall average of $83,120.
- Most claims involve general practitioners, due to their predominance in the dataset, rather than to a higher claim rate. Claim rate is determined by comparing the number of closed claims of a specific group with the average number of insured dentists per year in that group. These calculations reveal the following:
  - The claim rate for general practitioners and for all specialists, except oral surgeons, is the same – approximately one claim for every 125 insureds during the report period.
  - Specialty groups vary in terms of claim rate. Notably, the claim rate of pediatric dentists and orthodontists is about half that of the overall claim rate. Endodontists, prosthodontists and periodontists have similar claim rates, which are slightly higher than the overall average. Finally, the claim rate of insured oral surgeons is about 4.5 times that of the overall average.

1 Distribution and Severity of Closed Claims by Dental Specialty

Specialty	Claim percentage	Average paid indemnity	Total paid indemnity	Average incurred	Total incurred
Oral surgeon	4%	$212,655	$8,718,865	$249,689	$10,237,268
Endodontist	3%	$151,516	$4,697,000	$174,119	$5,397,698
Prosthodontist	2%	$94,268	$2,262,426	$125,643	$3,015,421
Orthodontist	2%	$90,235	$1,534,000	$113,536	$1,930,118
Periodontist	4%	$85,297	$3,753,079	$123,236	$5,422,368
General practitioner	84%	$74,990	$67,866,235	$98,607	$89,239,609
Pediatric dentist	1%	$48,261	$772,175	$68,103	$1,089,643
Grand total	**100%**	**$83,120**	**$89,603,780**	**$107,915**	**$116,332,126**

Analysis of Claim Distribution and Severity by Dental Practice Business Type

Approximately 60 percent of the closed claims could be sorted by business type. Figure 2 includes only these claims.

- The incorporated group has the highest average paid indemnity and is the only group whose average paid indemnity is greater than the overall average paid indemnity. It is noteworthy that nearly 70 percent of the closed claims in the incorporated group are associated with dentists who have been in practice for 16 or more years. This finding is consistent with the data presented in Figure 6 (page 12), i.e., that average paid indemnity is generally higher for dentists with 16 or more years in practice.
- The independent contractor group has the lowest average paid indemnity, followed by the employed dentist group. Again, years in practice is a factor, as approximately 65 percent of dentists in these combined groups have been in practice 15 years or less.

2 Claim Distribution and Severity by Dentist/Dental Practice Business Type*

** Closed claim count in this table is substantially less than the overall 1,078 dental closed claims in the full dataset.*

Business type	Percentage of included closed claims	Average paid indemnity	Total paid indemnity
Employed dentist	14%	$69,025	$6,212,216
Independent contractor	8%	$53,269	$2,769,975
Incorporated	57%	$95,693	$35,310,877
Non-incorporated (sole proprietor/partnership)	21%	$73,840	$9,746,897
Grand total	**100%**	**$84,043**	**$54,039,964**

57% of closed claims are associated with incorporated dental practices.

Analysis of Frequency and Severity by Dentist Age

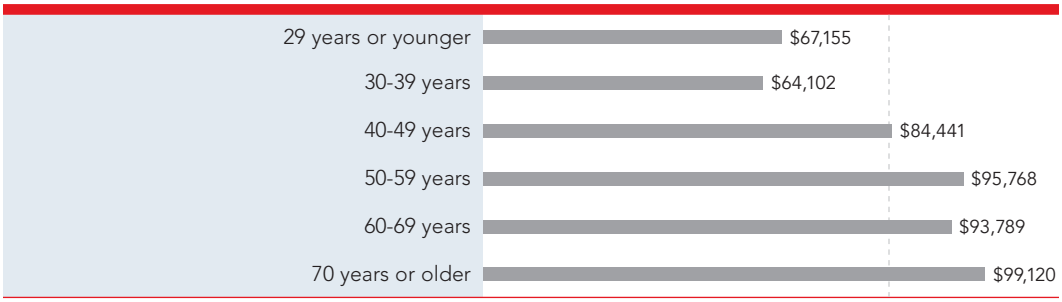
- Dentists in the 40-49 and 50-59 age groups together comprise 53 percent of all closed claims.
- Dentists 70 years or older have the second-lowest proportion of closed claims (5 percent). However, the average paid indemnity for this age group ($99,120) is greater than for any other age group and is 17 percent higher than the overall average paid indemnity of $85,061.
- Dentists in the 30-39 and 29 years or younger age groups have the lowest average paid indemnity level, at approximately 21 to 25 percent under the overall average paid indemnity.
- Dental implant surgery and surgical extractions demonstrate major age-group disparities.
  - The average paid indemnity relating to implant placement is $103,000 for all age groups above 39 years. For dentists under 40 years of age, the average indemnity for the same procedure is approximately $66,000.
  - Similarly, the average paid indemnity for surgical extractions for all age groups above 39 years of age is $145,000. For dentists under 40 years of age, the average paid indemnity for the same procedure is approximately $68,000.

3 Distribution and Severity of Closed Claims by Age of Dentist*

** Excludes claims asserted against a dental practice or corporate entity, or claims for which the dentist's age is unavailable.*

Dentist age group	Percentage of closed claims	Average paid indemnity	Total paid indemnity
29 years or younger	4%	$67,155	$2,417,585
30-39 years	21%	$64,102	$12,628,247
40-49 years	25%	$84,441	$19,843,718
50-59 years	28%	$95,768	$25,378,778
60-69 years	18%	$93,789	$15,569,035
70 years or older	5%	$99,120	$4,460,418
Grand total	**100%**	**$85,061**	**$80,297,180**

4 Average Paid Indemnity by Age of Dentist



Analysis of Severity by Years in Practice

- Dentists who have practiced six to 10 years account for 16 percent of the claims in this report. However, the average paid indemnity of this group is 28 percent below the overall average.
- Dentists who have practiced 46 years or more account for 3 percent of the claims in this report. However, their average paid indemnity is 48 percent higher than the overall average.

5 Frequency and Severity by Years in Practice*

** Excludes claims asserted against a dental practice or corporate entity, or claims for which the dentist's age is unavailable.*

Years of practice	Percentage of closed claims	Average paid indemnity	Total paid indemnity
Less than 6 years	11%	$75,945	$8,202,040
6 to 10 years	16%	$60,417	$9,666,745
11 to 15 years	11%	$69,904	$7,689,410
16 to 20 years	8%	$87,400	$7,079,388
21 to 25 years	12%	$97,504	$11,310,546
26 to 30 years	18%	$88,057	$15,498,060
31 to 35 years	10%	$110,025	$10,672,451
36 to 40 years	8%	$90,318	$7,496,423
41 to 45 years	3%	$67,414	$1,887,599
46 years or more	3%	$124,027	$3,348,731
Grand total	**100%**	**$84,028**	**$82,851,393**

6 Average Paid Indemnity by Years of Practice

Analysis of Closed Claims by Population Density

Figure 8 demonstrates a notable difference in the average paid indemnity by population density. Further analysis reveals the following:

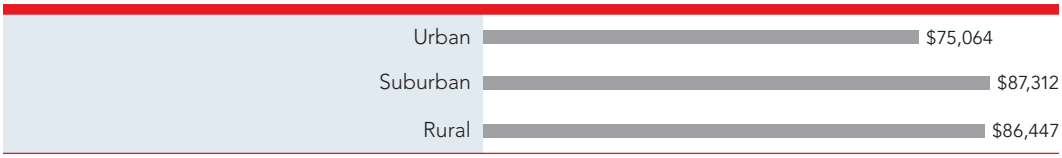
- As seen in Figure 6, younger dentists and/or those with fewer years in practice typically experience a lower average paid indemnity. However, while the rural and suburban population density groups have 15 percent more claims involving younger dentists (i.e., those with 15 years or less practice experience), these groups have *higher* average paid indemnity than does the urban group.
- The lower average paid indemnity in the urban group may reflect the group's mix of dental procedures, as indicated in Figure 9, which shows the distribution of common claim-causing procedures by practice location.

7 Frequency and Severity by Population Density*

** Urban, suburban and rural location categories correlate to high, medium and low population densities respectively, based in part upon information from the United States Bureau of the Census. The closed claim count in this table excludes a small number of claims for which data were not available.*

Location of practice	Percentage of closed claims	Average paid indemnity	Total paid indemnity
Urban	20%	$75,064	$15,237,995
Suburban	44%	$87,312	$40,774,788
Rural	36%	$86,447	$32,245,074
Grand total	**100%**	**$84,619**	**$88,257,857**

8 Average Paid Indemnity by Population Density

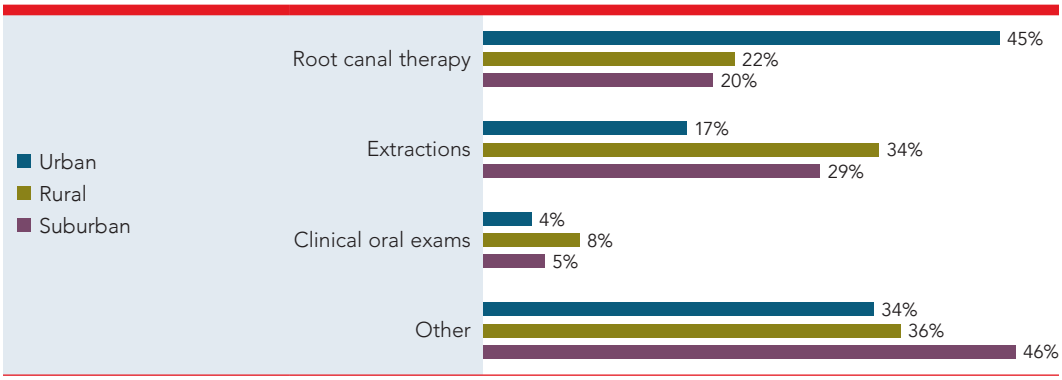


44% of closed claims – the highest percentage – occurred in suburban practices.

The differing proportions of claims associated with root canal therapy and extractions materially contribute to the variation in average paid indemnity.

- Closed claims associated with root canal therapy, which have a lower average paid indemnity, are much more common in the urban group.
- Closed claims associated with extractions, which have a higher average paid indemnity, are more common in the rural and suburban groups.
- Claims associated with clinical oral examinations (often involving failure-to-diagnose allegations) affect the variation in average indemnity to a lesser extent.
- Implant placement and crowns (part of the "Other" category) were more common and costly on average for suburban dentists than for urban and rural ones.

9 Closed Claim Percentages by Population Density



45% of the urban dentist claims involve root canal therapy, a much higher rate than that of suburban and rural dentists.

Analysis of Frequency and Severity by Region

Figure 10 breaks down dental professional liability closed claim severity by region. Two regions – West and Northeast – have average paid indemnity above the overall average of $83,120.

- The West region has the highest average paid indemnity at $91,096. A number of large losses in certain injury categories – death, tumor/cancer, brain damage, unauthorized restraint, paralysis and injury to nerve – contributed to this result.
- The Northeast region also had some large losses – involving severe infection, post-procedure hospitalization and tumor/cancer claims – that affected the average paid indemnity.
- Although all regions experienced similar types of injury claims, indemnity payments were generally lower in the South and Midwest.

10 Frequency and Severity by Country Region

** Regions defined by the **U.S. Census Bureau**.*
*** Includes Puerto Rico.*

Region*	Percentage of closed claims	Average paid indemnity	Total paid indemnity
Region 1: Northeast	18.5%	$90,241	$18,138,363
Region 2: Midwest	20%	$68,288	$14,681,842
Region 3: South**	33%	$81,147	$28,726,063
Region 4: West	28.5%	$91,096	$28,057,513
Grand total	**100%**	**$83,120**	**$89,603,780**

At over **$91,000**, the **West region** has the **highest average paid indemnity.**

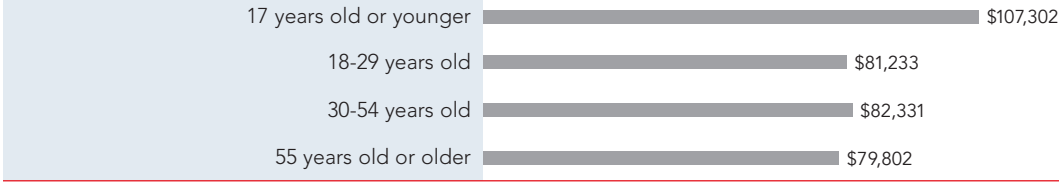
Analysis of Closed Claims by Patient Age

- Claims involving pediatric patients aged 17 years or younger are fewer in number than for any other age group, but the average paid indemnity is over 29 percent more than the overall average paid indemnity.
- The average severity for claims involving pediatric patients would be similar to the other age groups if it were not for three claims with total incurred loss ranging from the high six figures to the low seven figures. One claim involves an anesthesia complication, and two others involve failure to obtain informed consent.
- Closed claims associated with pediatric patients include unnecessary treatment, improper or missing informed consent, failed orthodontic treatment or inappropriate restraining of the patient during a procedure.

11 Frequency and Severity by Patients' Age

Patient age group	Percentage of closed claims	Average paid indemnity	Total paid indemnity
17 years old or younger	7%	$107,302	$7,940,330
18-29 years old	14%	$81,233	$12,022,490
30-54 years old	49%	$82,331	$43,306,268
55 years old or older	31%	$79,802	$26,334,692
Grand total	**100%**	**$83,120**	**$89,603,780**

12 Average Paid Indemnity by Patients' Age Group



Analysis of Closed Claims by Patient Gender

- Female patients account for two-thirds of closed claims over the five-year period. The average paid indemnity is similar for male and female patients.

13 Frequency and Severity by Patient Gender

Patient gender	Percentage of closed claims	Average paid indemnity	Total paid indemnity
Female	67%	$83,642	$59,971,446
Male	33%	$82,283	$29,457,391
Grand total	**100%**	**$83,120**	**$88,428,837**

Closed Claims by Procedure, Allegation and Injury/Additional Loss Type

This section provides both claim data and targeted risk management recommendations.

Analysis by Dental Procedure

- A total of 68 types of dental procedures are associated with at least one closed claim during the five-year report period. The 10 procedures listed in Figure 14 comprise 80 percent of all closed claims, while the remaining 58 procedures each produce 1 percent or less of the overall closed claims.
- The top three procedures listed in Figure 14 are considered in greater detail later in this report, due to their relatively high frequency and total paid indemnity.

14 Dental Procedures Frequently Associated with Professional Liability Claims

Dental procedure	Percentage of all closed claims	Average paid indemnity	Total paid indemnity
Root canal therapy	19%	$55,649	$11,463,792
Extractions, surgical	13%	$119,742	$17,123,139
Implant surgery - placement	11%	$94,734	$11,652,343
Crowns	11%	$64,307	$7,845,438
Extractions, simple	9%	$74,612	$7,088,130
Fixed bridges, tooth-supported	5%	$57,003	$3,078,149
Clinical oral examinations	5%	$109,481	$5,583,523
Composite restorations	3%	$77,853	$2,179,894
Comprehensive orthodontics	2%	$113,654	$2,386,742
Veneers, laboratory-fabricated	2%	$83,088	$1,412,499
Grand total (these procedures only)	**80%**	**$81,179**	**$69,813,648**

The top 4 procedures associated with claims are root canals, surgical extractions, surgical placement of implants and crowns.

Allegations by Severity

Figure 15 ranks allegation categories by severity, based upon the average paid indemnity. Note that more than one allegation category may apply to any claim. For purposes of claim coding, the most severe or most appropriate allegation category is selected during the claim assessment and management process.

The following category definitions apply to this section of the report:

- **Adverse reaction/local anesthetic -** complications or untoward effects from the administration of medications for local anesthesia only.
- **Anesthesia complication -** adverse effects from the administration of medications for anesthesia and sedation, excluding local anesthetic medications.
- **Failed implant -** a problem with a surgically placed implant, due to infection, failed osseo-integration, fracture or other reasons.
- **Improper procedure performed -** the chosen treatment varies from the standard of practice/standard of care, resulting in patient harm.
- **Procedure performed improperly -** treatment executed in a manner that does not meet the standard of practice/standard of care, resulting in patient harm.
- **Treatment failure -** a problem with the definitive (i.e., final) treatment, restoration and/or prosthesis.

Note that the table includes only those allegation categories with total paid indemnity of $1 million or more during the five-year report period.

- These 16 categories comprise 93 percent of all the claims included in the dataset, with an overall average indemnity of $83,646.
- The top two allegation categories by percentage of closed claims – treatment failure and procedure performed improperly – account for 43 percent of all closed claims, far exceeding other categories in terms of total paid indemnity.
- Although allegations of inadequate radiograph and anesthesia complication are infrequent, they are the costliest allegation categories. The inadequate radiograph claims during this report period involve poor imaging prior to surgical extractions and implant placements, allegedly leading to significant nerve or other injuries.
- Approximately one-third of the equipment failure claims are associated with dental handpiece/bur failures.

15 Allegation Categories with Total Paid Indemnity >$1M for Report Period

Allegation	Percentage of closed claims	Average paid indemnity	Total paid indemnity
Inadequate radiograph	<1%	$604,500	$1,813,500
Anesthesia complication	1%	$470,410	$6,585,745
Failure to prescribe	1%	$245,833	$2,212,500
Inadequate informed consent	3%	$145,684	$4,953,242
Failure to diagnose	7%	$114,348	$8,804,795
Improper follow-up care	2%	$104,123	$2,394,834
Failure to refer	2%	$74,194	$1,706,466
Treatment failure	23%	$72,732	$17,892,090
Procedure performed improperly	20%	$72,288	$15,397,293
Failed implants	3%	$70,810	$1,982,680
Unnecessary treatment	5%	$70,390	$3,519,500
Inadequate precautions to prevent injury	12%	$70,119	$8,905,175
Improper procedure performed	7%	$62,759	$4,706,941
Adverse reaction/local anesthetic	2%	$62,264	$1,120,751
Equipment failure	3%	$41,503	$1,203,599
Wrong tooth (teeth) treated	4%	$27,172	$1,032,534
Total	93%	$83,646	$84,231,645

23% of closed claims allege treatment failure, resulting in total paid indemnity of $17,892,090.

Allegations by Frequency

By focusing risk management efforts on procedures and situations associated with the most frequent and/or severe types of claims and injuries, dentists can significantly improve patient safety and minimize liability exposure.

As noted in Figure 15, the two most frequent allegation categories are treatment failure and procedure performed improperly. These allegations often involve issues relating to informed consent, assessment and management of patient expectations, and evaluation of one's own skill and experience. Figures 16 and 17 list the dental procedures associated with these most-frequent allegation categories.

16 Procedures Most Commonly Associated with 'Treatment Failure' Allegations

Procedure	Percentage of category closed claims	Average paid indemnity	Total paid indemnity
Root canal therapy	36%	$55,563	$3,389,330
Crowns	28%	$66,211	$3,178,114
Implant surgery - placement	22%	$82,295	$3,127,192
Fixed bridges, tooth-supported	12%	$61,654	$1,294,744
Extractions, surgical	2%	$65,000	$195,000
Total	**100%**	**$65,406**	**$11,184,380**

17 Procedures Most Commonly Associated with 'Procedure Performed Improperly' Allegations

Procedure	Percentage of category closed claims	Average paid indemnity	Total paid indemnity
Root canal therapy	31%	$58,224	$2,852,962
Extractions, surgical	23%	$103,422	$3,723,200
Implant surgery - placement	19%	$106,109	$3,077,164
Crowns	17%	$38,532	$1,040,377
Fixed bridges, tooth-supported	10%	$56,117	$841,749
Grand Total	**100%**	**$73,945**	**$11,535,452**

Analysis of Inadequate Precautions to Prevent Injury

This major allegation category can be divided into the following subcategories to provide more details about certain claims:

- Adverse outcome – expected (See below for description.)
- Adverse outcome – accident/human error
- Adverse outcome – dental material/product
- Failure to disclose adverse event
- Failure to use safe practices/procedures – barrier/rubber dam
- Failure to use safe practices/procedures – other

The subcategories presented in Figure 18 are self-explanatory, except for "adverse outcome - expected," which refers to an adverse event that is known to occur, and which should be included in the informed consent discussion with a patient (i.e., a material risk associated with a specific procedure).

- Examples of "failure to use safe practices - other" include patient burned by dental handpiece; patient swallowed or aspirated impression material; and laceration of cheek, tongue, lip or gingiva from dental instrument.
- Examples of "adverse outcome - accident/human error" include staff member fell, causing patient injury; and patient exposed to or swallowed a harmful chemical.

18 Subcategories, Inadequate Precautions to Prevent Injury

Subcategory	Percentage of all closed claims	Average paid indemnity	Total paid indemnity
Failure to use safe practices/procedures - other	4%	$95,793	$4,406,456
Adverse outcome - accident/human error	3%	$82,378	$2,718,460
Adverse outcome - expected	2%	$48,280	$1,062,150
Failure to use safe practices/procedures - barrier/rubber dam	2%	$28,672	$602,109
Failure to disclose adverse event	<1%	$23,667	$71,000
Adverse reaction - dental material/product	<1%	$22,500	$45,000
Total	**12%**	**$70,119**	**$8,905,175**

Closed claims involving failure to use safe practices/procedures - other have an average paid indemnity of $95,793.

Allegations and Injuries Related to Inadequate Supervision of Personnel

This section analyzes the types of allegations and injuries resulting from dental team members' actions or omissions – i.e., the dentist was not directly involved in the action or omission that resulted in the injury/allegation. Such claims are relatively rare, but may be costly, as described below:

- In the most expensive claim (mid-six figures), a dental hygienist administered an oral medication to which the patient had a known allergy. Supervising dentists denied ordering/authorizing the medication. The patient succumbed weeks after the exposure due to complications. The following measures can help prevent similar incidents:
  - Ensure that dentists and staff understand state laws/regulations for authorizing and/or administering medications in the dental office.
  - Establish appropriate office procedures and protocols to help prevent medication errors/oversights.
  - Review the medical history for known medical issues and contraindications (e.g., allergies, drug interactions, serious medical conditions) before all patient visits, and document the review in the patient record. Consider including such points in daily patient care meetings (e.g., "morning huddles").
  - Question the patient about medical history changes at every dental visit.
  - Document all patient authorizations, discussions and findings.
- A final impression delegated to a dental assistant resulted in a patient complaint of pain days after the procedure. Medical imaging revealed a mass in the small intestine, which was determined upon surgical removal to be swallowed impression material. Claim costs were in the low six figures. To help prevent such incidents, ensure that dentists and staff understand and remain current on state scope of practice laws/regulations via routine review sessions, and also implement sound policies and procedures to reinforce appropriate practice boundaries.
- A few patient injury claims in the low to mid-five figures involve the taking of radiographs, removal of temporary crowns and the placement of a rubber dam. While the injuries may be primarily associated with accidents and human error, inadequate staff training resulting in unsafe practices also may have played a role. To minimize the likelihood of such errors and consequent liability, provide adequate training for delegated tasks; require appropriate certifications in accordance with state requirements; and utilize adverse outcomes as a learning experience, reviewing process errors as a team and implementing necessary corrective measures.

Analysis of Patient Injuries and Additional Loss Types

- "Additional loss types" refer to corrective treatment interventions, or health conditions and findings that may have resulted from dental procedures or adverse outcomes. The claim dataset lists almost 50 categories under "injuries and additional loss types."
- The six most common categories comprise from 5 to 24 percent of all closed claims. (See Figure 19).
- The list differs slightly when claims are ranked by total paid indemnity. (See Figure 20.)

19 Injuries and Additional Loss Types Ranked by Percentage of Closed Claims

Injury	Percentage of all closed claims	Average paid indemnity	Total paid indemnity
Corrective dental treatment required	24%	$66,377	$16,926,173
Injury to nerve/paresthesia	12%	$117,608	$14,818,571
Lost tooth (teeth)	10%	$54,703	$5,634,374
Failed root canal therapy	6%	$42,531	$2,551,840
Infection	5%	$98,669	$5,821,474
Corrective surgical treatment required	5%	$70,772	$4,033,983

20 Injuries and Additional Loss Types Ranked by Total Paid Indemnity

Injury	Percentage of all closed claims	Average paid indemnity	Total paid indemnity
Corrective dental treatment required	24%	$66,377	$16,926,173
Injury to nerve/paresthesia	12%	$117,608	$14,818,571
Death	2%	$476,625	$8,579,245
Infection	5%	$98,669	$5,821,474
Lost tooth (teeth)	10%	$54,703	$5,634,374
Tumor/cancer	2%	$266,115	$5,056,179

A broader view of injuries and additional loss types is presented in Figure 21.

- The table includes categories with more than $500,000 in total paid indemnity for the five-year period.
- Most injury and additional loss type categories represent 1 percent or less of all closed claims. Examples of costly but infrequent injury and additional loss type categories include unauthorized restraint, brain damage and osteomyelitis.
- A relatively small number of injuries and additional loss types – such as corrective dental treatment required and injury to nerve/paresthesia – have consistently high frequency and total paid indemnity.
- Corrective dental treatment required comprises a broad range of dental procedures and allegations. Restorative procedures (primarily crown and bridge) are involved in approximately half of this group of closed claims. Treatment failure and procedure performed improperly are the most common allegations, constituting over 60 percent of the group.
- Injury to nerve/paresthesia is the second-highest category in this segment by total paid indemnity. (See Figures 23 and 24 on pages 27 and 28 for related dental procedure and allegation categories.)
- Other examples of injury and additional loss types with high total paid indemnity in some report years include lost tooth/teeth, brain damage, tumor/cancer, infection and failed root canal therapy.

Corrective dental treatment required and injury to nerve/paresthesia have consistently high frequency and total paid indemnity.

21 Injuries and Additional Loss Types with Over $500,000 Total Paid Indemnity

Injury	Percentage of all closed claims	Average paid indemnity	Total paid indemnity
Corrective dental treatment required	24%	$66,377	$16,926,173
Injury to nerve/paresthesia	12%	$117,608	$14,818,571
Death	2%	$476,625	$8,579,245
Infection	5%	$98,669	$5,821,474
Lost tooth/teeth	10%	$54,703	$5,634,374
Tumor/cancer	2%	$266,115	$5,056,179
Corrective surgical treatment required	5%	$70,772	$4,033,983
Broken/fractured bone(s)	3%	$119,152	$3,336,250
Failed root canal therapy	6%	$42,531	$2,551,840
Hospitalization - nonspecific	1%	$164,541	$2,468,117
Unauthorized restraint	<1%	$750,000	$1,500,000
Swallowed object	3%	$42,171	$1,391,643
Retained foreign object	3%	$45,695	$1,325,169
TMJ problem	1%	$134,253	$1,208,278
Loss of implant	2%	$66,323	$1,193,813
Sinus perforation	2%	$46,516	$1,162,900
Adverse drug reaction	1%	$131,625	$1,053,000
Brain damage	<1%	$518,750	$1,037,500
Pain and suffering	2%	$53,605	$1,018,501
Wrong tooth/teeth	3%	$29,303	$967,000
Laceration	2%	$52,451	$944,120
Remake of bridge(s)	2%	$41,309	$867,487
Periodontal disease	1%	$65,036	$715,400
Osteomyelitis	<1%	$178,750	$715,000
Remake of full or partial denture	1%	$41,001	$615,022
Remake of crown(s)	1%	$54,405	$598,460
Burn(s)	2%	$33,002	$594,038

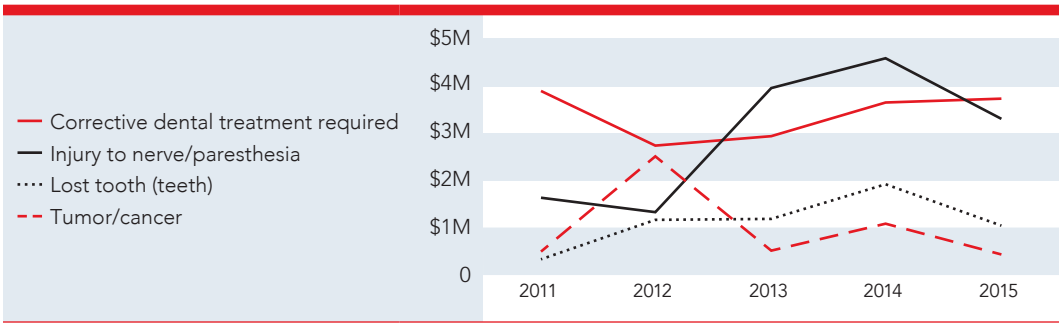
Special Claim Considerations

This section analyzes the following dental risk management topics: trigeminal nerve injuries, high-risk dental procedures, wrong site/wrong tooth injuries, and injuries and additional loss type claims with high severity. Individual closed claims with paid indemnity of $1 million or greater are also briefly described.

Trigeminal Nerve Injury

Figure 22 highlights the top injury and additional loss type categories in all years from 2011 to 2015, indicating the growing impact of nerve injuries during the report period. This trend reflects increased severity rather than changes in frequency.

22 **Top Injuries and Additional Loss Types by Year (Total Indemnity)**



Nerve injury severity has increased over time.

Figures 23 and 24 provide a breakdown of dental procedures and allegations associated with nerve injury closed claims:

- Many nerve injury claims involve implant placement surgery. Dentists who perform implant placement should assess their diagnostic and surgical protocols to ensure that they reflect current recommended practices, and should implement changes necessary to improve patient safety.
- Surgical extractions, including those for impacted third molars, are also at the top of the nerve injury list, and call for similar assessment of skills and patient evaluation protocols.
- Nerve compression and surgical injuries related to root canal therapy are another major source of nerve injury closed claims.
- Note that nerve injuries may result from surgical trauma or non-surgical dental procedures.

23 Top Procedure Categories/Subcategories Associated with Nerve Injuries

Procedures	Percentage of trigeminal nerve injury closed claims	Average paid indemnity	Total paid indemnity
Implant surgery - placement	30%	$151,537	$5,758,391
Extractions, surgical			
Impacted third molar	24%	$145,416	$4,362,491
Surgical - other	6%	$81,571	$571,000
Root canal therapy			
Molar teeth	9%	$98,591	$1,084,500
Other teeth	4%	$113,000	$565,000
Extractions, simple	8%	$80,200	$802,000

30% of trigeminal nerve injury closed claims involve implant placement surgery.

The findings shown in Figure 24 underscore the importance of honest self-assessment when making referral decisions, as well as the need to pay careful attention to patient evaluation, patient education and informed consent.

Non-surgical nerve injuries are often associated with the injection of local anesthetic drugs.

- Twelve percent of nerve injury claims in the five-year report period are coded as adverse reaction/local anesthetic, as noted in Figure 24.
- Adverse anesthetic reaction and nerve injury may sometimes be secondary to other allegations and injuries. As a result, a higher percentage (about 15 percent) of non-surgical procedure claims are associated with nerve injuries.
- The percentage of nerve injury claims associated with non-surgical procedures increases to nearly 25 percent for all professional liability claims with paid indemnity from $0 to $1 million.

24 Top Allegation Categories/Subcategories Associated with Nerve Injuries

Allegation category/*subcategory*	Percentage of trigeminal nerve injury closed claims	Average paid indemnity	Total paid indemnity
Procedure performed improperly	36%	$143,810	$6,471,440
Inadequate precautions to prevent injury			
Adverse outcome - expected	6%	$66,250	$530,000
Failure to use safe practices/procedures - other	7%	$143,944	$1,295,500
Adverse reaction/local anesthetic	12%	$53,767	$806,501
Treatment failure	10%	$112,749	$1,465,742
Inadequate informed consent	8%	$68,500	$685,000
Failed implants	6%	$115,235	$806,648

Trigeminal nerve injury is not always preventable and hence is not in and of itself indicative of negligence or a breach of the standard of care.

- Careful attention to post-injury patient management is critical to minimizing the possibility of permanent nerve injury, and a sound informed consent process can reduce the likelihood of a claim and enhance legal defensibility.
- For guidance on the management of nerve injuries, please refer to Appendix A: Resources and Information on page 63.

High-risk Procedures by Practitioner Specialty

For purposes of this report, "high-risk" procedures are those associated with a relatively large number of closed claims and/or elevated severity. As noted in the previous section, nerve injuries are most commonly related to implant placement, extractions (primarily impacted third molars) and root canal therapy (primarily for molar teeth), which are often performed by dental specialists. This section of the report looks at the claim experience associated with high-risk procedures by practitioner specialty.

Impacted Third Molar Surgery

As revealed in Figure 25, the majority of claims and claim costs for impacted third molar extractions are associated with general practitioners.

- The average paid indemnity for impacted third molar surgery is lower for general practitioners, which would seem to be consistent with the referral of more complex clinical cases.
- However, the average paid indemnity for impacted third molar extractions performed by general practitioners is 52 percent higher than the overall average paid indemnity for general practitioners ($74,990).

25 Frequency and Severity of Impacted Third Molar Extraction Claims by Specialty

Practitioner	Percentage of impacted third molar closed claims	Average paid indemnity	Total paid indemnity
Specialists	22%	$153,944	$2,771,000
General practitioners	78%	$114,124	$7,189,825
Grand total	100%	$122,973	$9,960,825

Claim severity for general practitioners is increased by 52% with impacted third molar extractions.

Implant Placement

Figure 26 provides a similar analysis of claims/claim costs for surgical placement of dental implants. (A small number of claims for surgical implant repair procedures are included.)

- The average indemnity for oral surgeons is strongly affected by one claim at the policy limit. Absent that claim, the average paid indemnity is $79,400 for oral surgeons, *below* all other practitioners.
- While the average paid indemnity for dental implant placements by general practitioners is below the overall average paid indemnity of $83,120, it is 7 percent higher than the overall general practitioner average paid indemnity of $74,990.

26 Frequency and Severity of Implant Placement Claims by Specialty

Practitioner	Percentage of implant placement closed claims	Average paid indemnity	Total paid indemnity
Oral surgeon	5%	$232,833	$1,397,000
Periodontist	20%	$103,435	$2,689,313
Prosthodontist	9%	$92,267	$1,107,200
General practitioner	65%	$80,182	$6,574,964
Endodontist	1%	$80,000	$80,000
Grand total	**100%**	**$93,295**	**$11,848,477**

Molar Endodontic Therapy

Figure 27 compares claims involving molar endodontic (root canal) therapy (A small number of claims for molar root canal retreatment procedures are included.)

- Root canal therapy is the most common procedure associated with claims.
- As with impacted third molar surgery and implant placement claims, molar root canal treatment claims are more costly on average when performed by a specialist.
- Notably, 83 percent of molar endodontic therapy claims involve general practitioners, a higher proportion than for the other procedure categories in this section.
- The average paid indemnity for general practitioners is approximately half that for endodontists.
- Molar root canal procedures comprise nearly 60 percent of all general practitioner root canal claims and 55 percent of the total paid indemnity associated with root canal treatments.
- For molar root canal procedures associated with nerve injuries, the average paid indemnity increases 41 percent for endodontists and 63 percent for general practitioners.

27 Frequency and Severity of Molar Root Canal Treatment Claims by Specialty

Practitioner	Percentage of molar root canal closed claims	Average paid indemnity	Total paid indemnity
Endodontist	17%	$103,167	$2,166,500
General practitioner	83%	$49,960	$5,245,827
Grand total	**100%**	**$58,828**	**$7,412,327**

Analysis of Wrong Tooth Closed Claims

Wrong tooth claims are all too frequent. The claim data reveal that approximately 85 percent of wrong tooth claims result from treatment by dentists in general practice and the vast majority (79 percent) relate to extractions. Notably, the average paid indemnity for wrong tooth claims ($27,172) is 67 percent lower than the overall average of $83,120.

Wrong tooth claims typically involve technical errors leading to the performance of dental procedures on an incorrect tooth or damage to adjacent teeth. Such claims also may involve a miscommunication regarding treatment sequence or the need for treatment, even when the treated tooth *does* require dental care. Wrong tooth claims also may be asserted following appropriately performed procedures if the patient consults a second dentist whose judgment or opinion regarding the need for treatment contradicts that of the treating dentist.

One approach to preventing wrong tooth extractions/treatments is to implement a "time-out" policy, based upon the Joint Commission's Universal Protocol for preventing wrong site surgery. Dental-oriented information on this topic is available here. In addition, it is essential to involve the entire dental team and the patient in the verification process.

28 Frequency and Severity of Wrong Tooth Injury Claims by Procedure

Procedure	Percentage of wrong tooth closed claims	Average paid indemnity	Total paid indemnity
Extractions - simple	61%	$24,456	$562,495
Extractions - surgical	18%	$45,214	$316,500
Crowns	11%	$17,135	$68,539
Root canal therapy	8%	$22,167	$66,500
Apicoectomy/periradicular services	3%	$18,500	$18,500
Grand total	**100%**	**$27,172**	**$1,032,534**

61% of wrong tooth injury claims involve simple extractions.

Analysis of High-severity Injuries and Additional Loss Types

Figure 29 shows the five highest-severity injuries and additional loss types – i.e., those with average indemnity payment over $250,000. The grand total reflects these top five categories.

- Unauthorized restraint and brain damage have the highest average paid indemnity, but are relatively infrequent.
- Death is the third most severe category, as well as the second most frequent category in this high-severity grouping. The overall impact of these claims is substantial, as indicated by the total paid indemnity.
- No patterns emerge regarding procedures associated with high-severity claims, other than the adjunctive use of anesthesia and sedation medications. (See pages 37-38 for examples.)
- The most common allegations associated with these claims include failure to diagnose and anesthesia complication. Other frequent allegation categories include failure to prescribe medication properly, inadequate examination/health history, accident/human error, inadequate informed consent and failure to use safe practices.

29 **Top High-severity Injuries and Additional Loss Types by Average Paid Indemnity**

Category	Percentage of top injuries and additional loss types	Average paid indemnity	Total paid indemnity
Unauthorized restraint	5%	$750,000	$1,500,000
Brain damage	5%	$518,750	$1,037,500
Death	43%	$476,625	$8,579,245
Paralysis	2%	$400,000	$400,000
Tumor/cancer	45%	$266,115	$5,056,179
Grand total	**100%**	**$394,593**	**$16,572,924**

Together, death and tumor/cancer account for 88% of the high-severity injuries and additional loss types.

Case Study: Impacted Third Molar Surgery

Claim Example: Impacted third molar/nerve injury
Practitioner: General practitioner
Claimant: 49-year-old female

Facts

After completing planned restorative work, the patient underwent extraction of an impacted lower third molar. According to the chart notes, the extraction was difficult and the tooth was removed with sectioning. The records indicate that the occlusion was evaluated after the procedure. At the post-operative appointment two days later, the record indicates that the patient reported "numbness" in the lower quadrant associated with the surgical extraction. A panoramic radiograph was obtained. Several weeks later, the patient sought a second opinion from another area dentist, revealing a mandibular fracture and a retained portion of the third molar. The patient was hospitalized and an oral surgeon performed an open reduction with intermaxillary fixation after removal of local infection, granulation tissue and retained tooth parts. Following the initial healing phase, the patient sought treatment from several dental and medical practitioners over time. Medical documentation indicated limited relief from painful neurological symptoms, the possible need for ongoing temporomandibular joint (TMJ) injections (steroid), periodic botulinum toxin masticatory muscle injections and lifetime neurological care due to permanent inferior alveolar and lingual nerve injuries.

Key allegations

Treatment/extraction not indicated; failure to obtain informed consent; inadequate pre-operative radiographs; improper surgical technique, resulting in fracture/nerve injuries; failure to diagnose fracture.

Claimed injury/damages

Mandibular fracture, nerve damage, infection, altered/inadequate occlusion, nerve/muscle pain, TMJ pain/dysfunction.

Analysis

When a patient presents for evaluation and treatment of a dental disease or condition, the practitioner must assess the need for treatment, as well as the degree of complexity and associated benefits and risks. These elements, as well as the risks of no treatment, must be reviewed with the patient through an informed consent process. The content of an informed consent discussion and associated documentation will vary consistent with the treatment risks and potential adverse outcomes. Each practitioner also must assess the level of knowledge and skill necessary to accomplish a procedure with the least possible risk. This scenario raises several risk management questions, including the following:

- *Was treatment necessary and acceptable in view of the patient's history, oral condition, age and other factors?* The dental healthcare record does not include a diagnosis to support the recommendation for extraction. Pre-operative radiographs do not include images of all necessary structures in the operative field, and the record is silent regarding patient symptoms.
- *After treatment was recommended, was informed consent obtained?* Fracture and nerve injury are examples of known adverse outcomes for surgical extractions in the posterior mandible. The dental healthcare record does not include informed consent documentation regarding discussion of these and other possible treatment risks, or the risks of no treatment.
- *Was referral for specialty care considered/offered prior to treatment?* As healthcare outcomes cannot be predicted or guaranteed in all cases, adverse events may occur without the standard of care being breached. Nevertheless, dentists are expected to honestly judge whether they have the skills necessary to minimize the risk of injuries or adverse events, and to refer to a specialist, if indicated. The dental healthcare record documents no discussion of specialty referral before the extraction was performed.
- *Were patient concerns after treatment adequately addressed?* Clinical records include very limited information about post-operative patient concerns and clinical findings. A reasonable effort to determine the causes of patient concerns/symptoms must be pursued and documented in the record. Timely referral may be an appropriate alternative for some post-surgical symptoms, such as non-resolving nerve injury symptoms, as in this case history.

Outcome

The claim settlement and expenses totaled in the high six figures.

Case Study: Surgical Implant Placement

Claim Example: Dental implant placement/surgery
Practitioner: General practitioner
Claimant: 66-year-old female

Facts

The patient reported a history of frequent headaches, head/neck/jaw injury, grinding/clenching (for which an oral appliance had been worn in the past) and bleeding gums. After examination, the dentist recommended extraction of a mandibular first molar (non-restorable) and other restorative care. The patient agreed to proceed, beginning with the first molar extraction and replacement. Extraction and immediate placement of a dental implant occurred at the next visit, with a post-placement radiograph. One week post-surgery, the records indicate that while healing appeared to be proceeding well, the patient reported post-surgical "numbness." The doctor reassured the patient that he would monitor her progress.

Approximately three weeks post-surgery, the healing continued, but a new periapical radiograph revealed that the implant seemed to be impinging on the mandibular nerve. One month post-surgery, the patient reported about half as much numbness compared to the immediate post-surgical period. After taking another radiograph, the doctor contacted an oral surgeon, who recommended removing, replacing or backing out the current implant to relieve nerve compression. The doctor and patient agreed to back out the implant and monitor symptoms. One week later, the patient reported continued numbness and "tingling."

Approximately three months post-surgery, the dental office contacted the patient to schedule a follow-up visit. The patient, who reported feeling frustrated, instead sought care from a periodontist, who removed the implant and placed a bone graft approximately five months post-surgery. A suit was filed three months later. The patient opted for a fixed bridge restoration and continued to report numbness and altered sensation.

Key allegations

Failure to obtain necessary radiographs, including cone beam computed tomography (CBCT) imaging, in order to prevent nerve impingement/injury and diagnose impingement post-surgery; failure to place a dental implant properly/safely; failure to take appropriate actions and/or refer during post-surgical follow-up.

Claimed injury/damages

Mandibular nerve damage, medical expenses and lost wages.

Analysis

Paresthesia is a known risk of extractions and/or implant placement. While the patient agreed to the surgery and implant placement, she was not informed of the foreseeable risks related to the recommended treatment, including the possibility of nerve injury and paresthesia. The adequacy of the pre-extraction radiograph was questionable, showing the extent of the tooth roots but not the mandibular nerve canal. Additional intraoral/extraoral images (including CBCT) would have shown the nerve position, thus facilitating a more accurate assessment of the procedural risks, as well as guiding placement and preventing injury. While the two-dimensional periapical radiograph later appeared to reveal impingement, CBCT imaging would have provided additional useful information, either before or after the implant was backed out.

Nerve compression from implant placement or endodontic overfill requires swift action (i.e., decompression) to minimize the risk of permanent nerve injury. While the dentist diligently followed the patient until she left his care, delays in assessing the damage and taking necessary counter-measures breached the standard of care. These delays, combined with the failure to obtain informed consent and other poor record-keeping practices, led to settlement of the claim before trial.

Outcome

The claim was settled with a total incurred loss in the low six figures.

Case Study: Molar Endodontics

Claim Example: Failed endodontic (root canal) therapy
Practitioner: General practitioner
Claimant: 42-year-old male

Facts

The patient presented with pain from biting pressure related to a mandibular second molar. The dentist obtained an intraoral periapical radiograph and recommended root canal therapy (RCT). Following the completion of the RCT, the dentist placed a composite restoration at a subsequent visit. The patient sought care from another dentist several months later for two painful areas – one in the posterior maxilla and the other in mandible, near the prior RCT. The second dentist recommended that the root canal filling in the mandibular second molar be removed and that the tooth be re-treated. The patient then returned to the original dentist's office and made a number of visits over the next several months for preventive and restorative care before the RCT re-treatment was initiated.

The day after the re-treatment procedure, the patient had pain and presented to the second dentist, since the first dentist was not available. Dentist number two administered a local anesthetic for pain relief, removed occlusal contacts from the molar tooth, prescribed an antibiotic and suggested possible referral to an endodontist or extraction of the tooth. A few days later, the patient sought care at a local hospital for infection with substantial swelling and fever. The swelling required open drainage in the operating room and removal of the offending mandibular second molar. The diagnosis: lateral pharyngeal abscess with hematoma, extending into the floor of the mouth. Post-surgery, the patient continued to seek treatment for ongoing paresthesia, hyperalgesia and other complaints.

Key allegations

RCT treatment below the standard of care; inadequate records, including inadequate diagnostic work-up and radiographs; failure to obtain needed consultations or refer for care; and abandonment/inadequate emergency care.

Claimed injury/damages

Infection, tooth loss/disfigurement, medical expenses, pain and suffering, mental anguish.

Analysis

Review of the records and expert opinions for this claim highlight a number of risk management topics, including the following:

- *Recordkeeping*. When RCT or any other treatment is recommended, objective clinical findings, test results and diagnosis must support the treatment plan and be adequately documented. However, while a radiograph was taken to aid in the diagnosis, the findings were not recorded. Moreover, as RCT may be complex, it should be performed only after obtaining and documenting the patient's informed consent, including disclosure of the nature of treatment, treatment alternatives and foreseeable risks, as well as the risks associated with no treatment. The patient record included no written/signed consent form and no supporting progress note.
- *Specialist treatment/referral*. While all dentists may perform root canal therapy, non-endodontists should always offer referral to an endodontist as a viable treatment alternative to reduce the risk of a failure-to-refer allegation. Dentists must honestly assess their own skill and experience and discuss the alternatives with the patients. In this case, file sizes and file lengths were not documented, and no post-fill radiograph was produced or documented in the records. Later radiographs revealed radiolucent areas associated with root canal fillings that were well short of the root apices. These findings led dentist number two to recommend that the patient seek re-treatment of the molar RCT from an endodontist. When the patient returned to his original dentist, re-treatment was delayed for unknown reasons and other treatment needs were addressed instead. If a referral was made to a specialist, it was not documented.
- *Abandonment*. Dentists should inform patients how to access care in the event of a dental emergency, whether it occurs during customary business hours or after hours. Treatment may be provided by the dentist or by colleagues with whom the dentist has made such arrangements. The dentist was not available to manage the patient's pain and swelling immediately after the root canal re-treatment and he failed to inform the patient of emergency care options. He subsequently failed to examine the patient, who later sought care at a local hospital. Failure to effectively manage the patient's post-treatment emergency care needs left the dentist open to an allegation of abandonment.

Outcome

The claim was settled in the low six figures.

Case Study: Successful Defense of a Dentist

Claim Example: Failure to diagnose oral cancer/oral lesion
Practitioner: General practitioner
Claimant: 20-year-old male

Facts

The patient presented with pain in the lower posterior. The dentist restored several teeth and completed root canal therapy (RCT) on the mandibular first molar. Approximately four years later, the patient returned for dental care, including restorations and RCT on the second molar in the same quadrant as the first endodontic procedure. During an examination approximately 18 months later, a periapical radiograph was taken of the premolar region, anterior to the two endodontically treated molars. The doctor noted in the record that the teeth were "OK."

One year later (about seven years after the patient's initial treatment), a new radiograph of the premolar area revealed bone destruction. At that point, the patient was referred to an oral surgeon (OS) for evaluation/biopsy. The OS obtained a CBCT image and proceeded to extract the mandibular first molar, at the same time removing tissue by incisional biopsy for analysis. The oral pathologist's microscopic diagnosis was spindle cell neoplasm, consistent with fibrosarcoma.

Shortly thereafter, the patient underwent surgery in a university hospital setting. ENT surgeons performed a partial mandibulectomy, which involved removing a seven-centimeter segment, along with neck dissection and a fibular bone graft to repair the mandible. No distinct mass was noted, but severe erosion of the alveolar ridge/bone was observed. Postoperative analysis of the excised tissues revealed clear margins on the mandibular segment and no metastatic disease in the neck. Based upon these findings, physicians recommended monitoring for recurrent disease with no follow-up chemotherapy or radiation therapy. The patient remained under medical care as healing progressed, while undergoing physical rehabilitation and speech therapy.

Approximately three months post-surgery, the patient was referred to a general thoracic surgeon regarding lung nodules found on CT imaging. In addition, the patient suffered from an ulcer on his left lower leg with protruding granular tissue at the fibular graft site. Follow-up and monitoring continued over the next year with no significant change of lung nodules. The patient also underwent consultations for dental implant/restorative care during this time.

Allegations

Approximately nine months post-surgery, the patient's attorneys filed a complaint in state superior court alleging that the treating general dentist negligently failed to identify the patient's progressing oral cancer on radiographs, resulting in a delayed diagnosis and patient injury.

Claimed injury/damages

General damages, past/future medical and other expenses, past/future lost wages, physical disability, with a total demand in the mid-six figures.

Analysis

While seeking a pre-trial settlement may have resulted in lower legal costs, the decision of the dentist and the insurer to take this case to trial resulted in a favorable outcome. The patient's attorneys presented a relatively weak case, with the sole expert witness opining that the insured violated the standard of care owed by not recognizing the signs of the patient's cancer on radiographs taken up to three years before the referral for biopsy. The defense compiled a team of experts who supported the patient assessment and referral timing of the dentist. Medical experts opined that even if a delay occurred, it made no difference in the type of surgery required or length of recovery. Notably, a defense pathologist and sarcoma specialist testified that, based upon the morphological differences between a fibrosarcoma and a similar but benign lesion, the patient did not have cancer. Metastasis was, therefore, not a concern and the recurrence rate of such lesions is very low.

Outcome

The court ruled in favor of the insured. The total cost to defend the claim was in excess of $200,000.

Closed Professional Liability Claims with Indemnity Payment of $1 Million or More

The claims in Figure 30 were resolved with an indemnity payment of $1 million or greater. The highest-severity closed claims most frequently involve inappropriate monitoring or inadequate emergency precautions during the administration of anesthesia, or inadequate precautions to prevent injury involving existing medical conditions and medications. These lapses rendered the claims difficult to defend.

30 Closed Claims with Paid Indemnity of $1 Million or More

Summary	Specialty	Dental procedure	Allegation(s)	Injury
A 62-year-old female patient alleged that the insured oral surgeon negligently placed an implant in the area of tooth 30. The practitioner did not perform imaging of the area and the patient suffered inferior alveolar nerve damage causing paresthesia.	Oral surgeon	Implant surgery	Inadequate radiograph	Paresthesia/ nerve injury
An 84-year-old female patient with a 15-year history of warfarin treatment was scheduled to undergo a simple extraction of teeth 4 and 5. During the initial visit, the practitioner instructed the patient to stop taking all medications (including anticoagulation therapy)* seven days prior to her extraction procedure, but requested that she consult with her physician prior to doing so. The insured failed to document his instructions to the patient. The patient underwent the extractions without complications or excessive bleeding, but on the next day suffered a massive cerebrovascular accident and died.	General practitioner	Simple extraction	Inadequate precautions to prevent injury; sub-category, failure to use safe practices/ procedures - other	Death
A 58-year-old male patient was referred to an endodontist for assessment of tooth sensitivity. After clinical assessment of tooth 13, apicoectomy was recommended. The patient was taking an anticoagulant for atrial fibrillation and the endodontist recommended that the patient cease taking his medications three days prior to surgery.* Informed consent was obtained and the surgery proceeded without complication. The practitioner instructed the patient to wait two days before resuming the anticoagulant therapy. Two weeks post-surgery, the patient suffered a massive cardiovascular accident.	Endodontist	Apicoectomy/ periradicular services	Inadequate precautions to prevent injury; sub-category, failure to use safe practices/ procedures - other	Brain damage
The practitioner attempted surgical extraction of impacted wisdom teeth. The 31-year-old female patient alleged that during the extraction, the dentist caused her to suffer severe damage to teeth, bone, nerve and other tissues. The patient was later diagnosed with trigeminal neuralgia, requiring extensive medical treatment.	General practitioner	Surgical extraction	Procedure performed improperly	Paresthesia/ nerve injury
A 37-year-old male patient developed pain in the left posterior mandible. The patient's general dentist diagnosed infection and abscess in the area of teeth 18 and 19 and prescribed amoxicillin 500 milligrams for 10 days. Due to severe pain and continued fever, the patient sought treatment from his physician, who prescribed cephalexin 500 milligrams for seven days. The physician referred the patient to an oral surgeon (OS) for evaluation. The OS diagnosed acute trismus with facial cellulitis, secondary to the abscess. The OS administered cephalexin two grams intramuscularly and instructed the patient to continue taking the oral cephalexin as prescribed. The OS recommended and scheduled surgical extraction of teeth 18 and 19 for the following week. However, two days later, the patient developed a low-grade fever with increased pain and facial swelling, and sought treatment at a nearby emergency room. A diagnosis of sepsis required hospital admission, treatment with intravenous antibiotics and reevaluation by the OS. The OS documented that he could not perform any procedures until the abscess became fluctuant. The patient developed Ludwig's angina with respiratory distress, resulting in hypoxic encephalopathy and anoxia. The offending teeth and infection in the neck were later removed in the OR, but the patient suffered severe motor impairment and is unable to walk, use his hands effectively or speak intelligibly.	Oral surgeon	Surgical excision of tissue	Treatment failure	Encephal- opathy/brain damage

* Clinical guidance regarding anticoagulant therapy with dental procedures is available from the ADA. See Appendix A: Resources and Information.

Summary	Specialty	Dental procedure	Allegation(s)	Injury
A 64-year-old male patient with an extensive history of throat and neck cancer presented to a periodontist for pain at tooth 31. The practitioner consulted with the patient's oncologist, who agreed with the plans to extract the tooth. Due to the periodontist's full schedule, another periodontist in his practice performed the procedure. The patient alleged that the extraction was performed negligently, resulting in the fracture, and that referral to an oral surgeon would have prevented the injury.	Periodontist	Surgical extractions	Failure to refer	Fracture
A 57-year-old female patient with a complex medical history received conscious sedation for surgical extraction of tooth 32. During the procedure, the patient became unresponsive, showed low oxygen levels and stopped breathing. Resuscitation efforts were attempted, but the patient became comatose and died a few days later. Allegations included inadequate emergency training and delayed activation of the emergency medical service system.	Two claims filed, against general practitioner and against dental practice for vicarious liability.	Surgical extraction	Anesthesia complication	Death
A 42-year-old male with a known history of hepatitis and liver disease underwent root canal therapy on tooth 30 lasting more than three hours. The practitioner administered intravenous midazolam 20 milligrams, diazepam 45 milligrams and morphine 40 milligrams. Upon release from the office after the procedure, the patient returned home, where he continued to sleep. His wife became concerned when she found him snoring, breathing shallowly and difficult to awaken. When she contacted the practitioner's office, she was advised that additional morphine was administered towards the end of the procedure to maintain sedation, causing his drowsiness. An hour later, the patient was found unresponsive and not breathing. The cause of death was determined to be aspiration pneumonia, resulting from intoxication due to the combined effects of multiple CNS depressant medications (midazolam, diazepam and morphine). Toxicology tests detected no other drugs or alcohol.	Endodontist	Root canal therapy	Anesthesia complication	Death
Allegedly, a dental practice aggressively solicited pediatric patients for unnecessary dental care to increase dental services, revenue and profits. After clinical examination and review of dental radiographs, treating dentists would allegedly recommend unnecessary and excessive pulpotomy and stainless steel crown procedures for primary teeth.	Dental practice	Clinical oral examination	Unnecessary treatment	Pain and suffering
A 29-year-old patient was given intravenous midazolam and ketamine while undergoing surgical extraction of impacted third molars 17 and 32. During the procedure, the patient became hypoxic, and the surgeon administered flumazenil, a benzodiazepine reversal agent. The patient became apneic and unresponsive. During resuscitation, several unsuccessful attempts were made to intubate. The EMS system was activated and the patient was intubated while being transported to the hospital. However, oxygen levels did not stabilize. In the emergency room, the physician extubated the patient. Upon re-inserting the endotracheal tube, the physician noticed a large piece of gauze lodged between the patient's vocal cords. The patient later expired from anoxic brain injury due to blocked airway.	Oral surgeon	Surgical extraction	Inadequate precautions to prevent injury; sub-category, adverse outcome - accident/ human error	Death

SUMMARY DATA ANALYSIS: LOW/NO INDEMNITY SEGMENT

General Comments and Summary Analysis

The preceding section focused on the more severe dental professional liability closed claims – i.e., those with indemnity payments between $10,000 and $1 million, inclusive. This summary analysis is based upon a different dataset of 2,881 dental professional liability closed claims with paid indemnity of less than $10,000, including 1,980 claims with no indemnity payment.

While each claim scenario is unique, the lower indemnity payments are typically related to a combination of risk mitigation efforts before and after a claim is filed, patient management techniques, strong doctor-patient rapport, effective claim management and a more favorable legal venue. Although claims such as these produce smaller monetary losses, they can be costly in terms of the practitioner's time, energy and reputation, as well as staff morale.

These lower-indemnity closed claims resemble the higher indemnity claims with respect to most frequent dental procedures, allegations, and injuries and additional loss types.

- The top five allegation categories vary slightly in order but are the same for both datasets.
- The top five most frequent dental procedures associated with closed claims are nearly the same, although in a slightly different order:
  - Root canal therapy (RCT) is second in the number of closed claims with paid indemnity of less than $10,000, but ranks first in the dataset of closed claims with paid indemnity from $10,000 to $1 million.
  - Implant surgery is the sixth most frequent procedure in the lower-indemnity segment but is third in the higher-indemnity dataset.
- Nerve injuries and RCT failure are the second and fourth most common injuries/additional loss types, respectively, in the high-indemnity dataset, but rank seventh and eleventh among the lower-indemnity closed claims.

Closed Claims with Paid Expense Only

A number of claims in this dataset incurred claim expenses but no indemnity payment. These expenses include legal and other costs involved in investigating and defending the claim. Claim expenses vary based upon the circumstances of the incident or complaint.

- In Figure 32, the low/no indemnity data are divided into two subgroups: those claims with $1 to <$10,000 of paid indemnity and those claims with paid expense only.
- Dental claims may close without indemnity payment if they are:
  - *Successfully defended* on behalf of the dentist (i.e., result in a favorable jury verdict).
  - *Dismissed or abandoned* by the patient during the investigation or discovery process.
  - *Terminated* in favor of the insured dentist by the court prior to trial.
- The higher average paid expense in claims with no indemnity payment is consistent with the additional time and cost involved in defending rather than settling a claim.

31 Dental Closed Claim Segment Comparison

Claim characteristics	All closed claims with paid indemnity from $10K to $1M	All closed claims with paid indemnity <$10K
Number of closed claims	1,078	2,881
Average paid indemnity	$83,120	$968
Average paid expense	$24,794	$8,110
Percentage of general practitioner closed claims	83%	87%
Top claim-related procedure (%)	Root canal therapy (19%)	Crowns (16%)
Top injury and additional loss type (%)	Corrective treatment (24%)	Corrective treatment (24%)

32 Low/No Indemnity Segment Subgroup Comparison

Claim characteristics	All closed claims with paid indemnity from $1 to <$10K	All closed claims with expense payments only
Number of closed claims	901	1,980
Average paid indemnity	$3,094	$0
Average paid expense	$3,656	$10,137
Percentage of general practitioner closed claims	90%	85%
Top claim-related procedure (%)	Crowns (18%)	Crowns (15%)
Top injuries and additional loss types (%)	Corrective treatment (14%) and swallowed object (14%)	Corrective treatment (26%)

Closed claims with no indemnity payment have higher average paid expense than do claims with low indemnity payment.

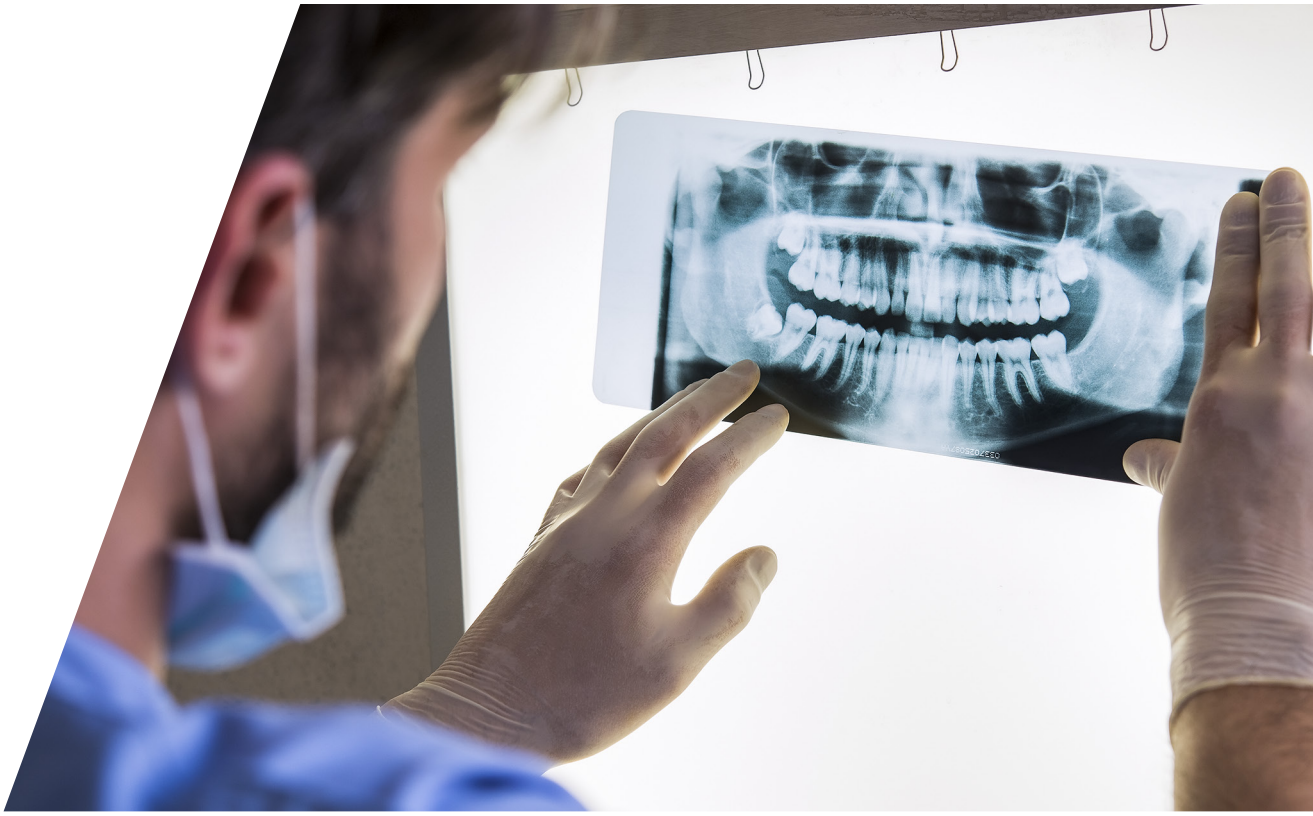
EMERGING RISKS

Speculating about the future is easy; accurate prediction is not. However, we know that nothing in today's world is constant except change. Exposures will continue to emerge as oral and general healthcare delivery models evolve, and as new treatments and procedures are developed and implemented. The following information is designed to help dental professionals address ever-changing patient safety and liability challenges.

- *Scope of practice issues are emerging as dentistry evolves and various types of practitioners provide or assist with the delivery of oral healthcare services.* While it is too early to know how these changes will affect dental professional liability claims, dentists must remain vigilant and stay abreast of both clinical guidelines and state regulation of dental team members. In addition, dentists should consult their professional liability insurance agent or insurance company before adding new types of dental professionals to their team and/or modifying the scope of practice for existing dental team members.
- *Federal and state regulations focusing on patient privacy and the security of protected health information are a growing concern.* Although legal expenses to defend an insured dentist for certain regulatory compliance issues may be covered under professional liability insurance policies, fines due to noncompliance are typically not covered. In addition, dentists should be aware that patient confidentiality breaches have become a liability issue. In November 2014, the Connecticut Supreme Court ruled that patients can sue for negligence if a healthcare practitioner violates patient confidentiality regulations. Other states that reportedly have taken a similar position include Missouri, West Virginia and North Carolina. Dentists should consult with their attorneys, national and state dental organizations, and/or consultants to ensure compliance with applicable statutes/regulations and minimize regulatory and liability exposure.
- *Auditing activities by government agencies, as well as insurers, are likely to increase.* Internal audits may help mitigate risks, improve patient safety and facilitate response to external audit requests. Areas and activities that require ongoing auditing include adverse event tracking and response, clinical recordkeeping, billing and insurance coding.
- *It will become even more critical to remain current in terms of information technology (IT).* IT uses go beyond electronic health records to include such applications as teledentistry, wireless accessibility, Skype™ and social networking, all of which must interface with other systems. Dental practices should retain knowledgeable IT professionals with experience in healthcare/dental IT systems to help assess and mitigate risks, which include:
  - Inadequate backup processes.
  - Data corruption.
  - Intentional or unintentional breaches in security and confidentiality.
  - Inappropriate information contained in emails or text messages.
  - Lost or stolen portable equipment (e.g., laptops or handheld devices).
  - Patient identity theft.
  - Social media lapses.

- *Social media platforms and social networking will continue to increase consumer access to information, including feedback posted by patients, their friends and family, and dental office staff members.* This increase in access and networking creates a variety of exposures, including boundary issues, negative consumer reviews and breaches of protected health information. Dental offices must establish stringent policies and train staff regarding "friend requests" from patients or their family members, as well as commenting about work-related situations on social media sites. Risks associated with social media include:
  - Legal actions arising from marketing materials or statements containing express or implied guarantees, warranties and/or deceptive representations, which are posted on the practice website or distributed through social media.
  - Claims of libel or slander.
  - Breach of confidentiality regarding patients' protected health information and/or other confidential information.
  - Inappropriate behavior by dental practice employees.
- *New dental practice models – and risks – are emerging as dentists near retirement and consider whether to sell their practices and become employees.* The various types of employment and contractor relationships offer financial and personal advantages, as well as liability exposures that must be considered. Dentists should explore new situations thoroughly to ensure that their business and professional expectations are aligned with the new practice/employer, accessing resources available for this purpose from professional dental organizations and/or dental consultants. It is also essential to consult with a qualified attorney regarding business/employment contracts. If no formal contract is provided, consider offering a written agreement that addresses one's own business needs and professional responsibilities. The bottom line is that a dentist's first responsibility is always to the patient. No business/employment situation should compromise patient safety or a dentist's ability to meet the standard of care.

Part 2: Analysis of Dental Board Actions



Overview

This part of the report examines closed claims associated with state regulatory agency civil investigations (i.e., board actions) submitted to CNA and pursued on behalf of individual dentists with CNA professional liability coverage. These investigations are typically initiated by dental licensing boards following a patient complaint. In some states, however, other governmental agencies pursue the investigations on behalf of professional licensing boards.

The analysis includes closed claims with legal expenses of one dollar or more. Closed claim examples are provided, as well as cumulative data and commentary regarding trends and mitigating actions. While the report derives certain lessons from the dataset, it is not intended to provide comprehensive risk management guidelines. Dental professionals seeking detailed information on specific issues should refer to relevant publications from CNA and professional organizations.

Dataset and Methodology

The Part 2 dataset consists of 1,626 board actions involving CNA-insured dentists that closed between January 1, 2011 and December 31, 2015, and resulted in a defense expense payment. Unless otherwise stated, the charts and analyses include all closed claims in this dataset.

Note that the methodology used in this report differs from other dental claim reports issued by other organizations. For this reason, its findings should not be compared with other studies.

Scope

This section focuses on a range of board action characteristics, including dental procedure, allegation, injury, associated legal expenses and geographic distribution.

The listed expenses were paid by CNA on behalf of the insured and do not include any additional payments from employers, other insurance companies or other parties. As with Part 1, this analysis solely reflects CNA data and is not necessarily representative of all closed claims for dentists or dental practices.

It may take several years to resolve a board action. Therefore, although all claims closed between January 1, 2011 and December 31, 2015, some originate in events and complaints that occurred prior to 2011.

DATA ANALYSIS: BOARD ACTIONS

Analysis by Expense Range

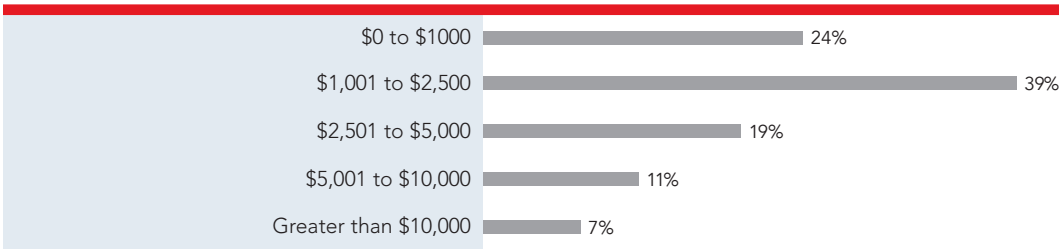
Figures 33 and 34 show that a relatively small number of board actions comprise a significant portion of the total expense paid.

- Claims with a paid expense greater than $10,000 account for 45 percent of the total expense during the report period, but only about 7 percent of the claims.
- Approximately 23 percent of closed claims incurred a paid expense above the overall average of $4,093. The average paid expense for these higher-cost claims is $12,259.

33 Board Actions by Expense Range

Expense range	Percentage of board actions	Average paid expense	Total paid expense
$0 to $1000	24%	$554	$211,449
$1,001 to $2,500	39%	$1,735	$1,101,801
$2,501 to $5,000	19%	$3,528	$1,083,086
$5,001 to $10,000	11%	$6,728	$1,244,703
Greater than $10,000	7%	$25,758	$3,013,661
Grand total	**100%**	**$4,093**	**$6,654,700**

34 Paid Expense by Percentage of Board Actions



Only **7%** of the claims have a paid expense greater than $10,000, but these claims account for **45%** of the total paid expense.

Analysis by Specialty

Pediatric dentists and oral surgeons experience the highest average paid expense, albeit with a very low percentage of claims. CNA-insured general practitioners far outnumber specialists, as noted in Part 1 of this report. However, the ratio of general practitioners to specialists is slightly higher for board actions than for professional liability claims.

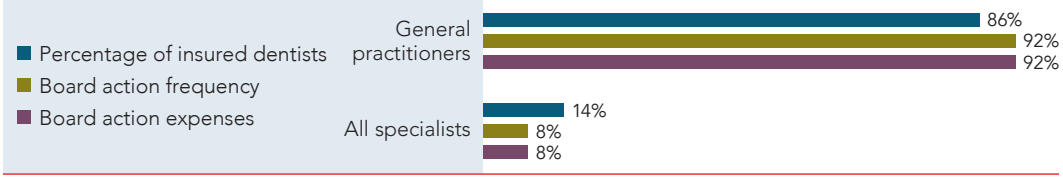
- For reference, in Part 1, about 83 percent of higher-indemnity professional liability claims and 87 percent of lower-indemnity claims involve general practitioners. However, 92 percent of board actions involve general practitioners.
- General practitioners account for 92 percent of the total paid expense for board actions.
- Based upon the average number of insured general practitioners and specialists for the report period, the rate of board actions against general practitioners is about one in 77 (1.3 percent) and about one in 143 (0.7 percent) for all specialists.

35 Frequency and Average/Total Paid Expense by Specialty

** "Other" includes business/corporate policies under which expenses were paid.*

Specialty	Percentage of board actions	Average paid expense	Total paid expense
Pediatric dentist	1%	$6,283	$125,666
Oral surgeon	1%	$5,623	$95,593
Other*	<1%	$4,373	$8,747
General practitioner	92%	$4,130	$6,153,596
Periodontist	1%	$3,967	$83,302
Endodontist	1%	$3,048	$57,909
Prosthodontist	1%	$2,835	$48,201
Oral pathologist	<1%	$2,780	$2,780
Orthodontist	2%	$2,201	$70,421
Public health dentist	<1%	$1,697	$8,485
Grand total	**100%**	**$4,093**	**$6,654,700**

36 Percentage of: Insured Dentists; Board Action Frequency; and Board Action Expenses



Analysis by Geographic Distribution

Figure 37 provides a breakdown of board action expenses by region. Three regions have average paid expense above the overall average of $4,093: South, Northeast and West.

Figure 38 depicts the percentage of professional liability claims and board actions by region for comparison.

37 Board Action Paid Expenses by Region

** Regions from **U.S. Census Bureau**.*
*** Includes Puerto Rico.*

Region*	Percentage of board actions	Average paid expense	Total paid expense
Region 1: Northeast	11%	$4,337	$745,932
Region 2: Midwest	17%	$3,152	$895,042
Region 3: South**	30%	$4,414	$2,180,311
Region 4: West	42%	$4,191	$2,833,414
Grand total	100%	$4,093	$6,654,700

38 Regional Comparison of Professional Liability Claims* and Board Actions

** For closed claims with paid indemnity from $10K to $1M, inclusive.*
*** Regions defined by **U.S. Census Bureau**.*
**** Includes Puerto Rico.*

Region**	Percentage of professional liability claims	Percentage of board actions
Region 1: Northeast	18.5%	11%
Region 2: Midwest	20%	17%
Region 3: South***	33%	30%
Region 4: West	28.5%	42%
Grand total	100%	100%

Only the West region has a higher board action percentage compared to its percentage of professional liability claims.

Analysis by Dental Procedure

Figure 39 lists the dental procedures most frequently associated with board actions and their average paid expense.

Note that this analysis is based on a subset of 998 closed claims, reflecting the 60 percent of board actions in the overall dataset coded for dental procedure.

39 Dental Procedures Most Frequently Associated with Board Actions*

** Based on 998 closed claims for which dental procedure coding is available.*

Procedure	Percentage of board actions with coded procedures	Average paid expense	Total paid expense
Crowns	17%	$3,467	$603,296
Root canal therapy	9%	$4,354	$378,777
Extractions, simple	7%	$4,868	$326,182
Implant surgery - placement	6%	$6,819	$422,786
Composite restorations	6%	$3,520	$197,093
Grand total	**45%**	**$4,323**	**$1,928,134**

Crowns are the procedure most commonly associated with board actions.

Analysis by Allegation and/or Injury and Additional Loss Types

Due to the nature of board actions and the CNA coding system, approximately 55 percent of claims in the dataset are coded for allegations and/or injuries and additional loss types. These coded closed claims are classified into six major groups or causes, in order to present the data most clearly and usefully. Given the large number and broad range of codes in the dataset, these groupings help reveal patient rationales for filing a licensing board complaint.

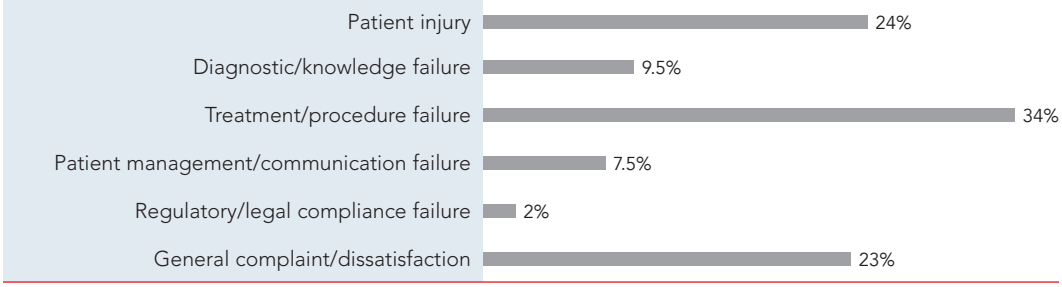
- The high average paid expense in the regulatory/legal compliance group primarily reflects allegations of personal misconduct.
- At $5,308, the treatment/procedure failure category has an average paid expense above the overall average for this group of claims ($4,435) and also ranks highest for total paid expense.

40 Frequency and Severity of Board Actions by Claim Cause*

** Based on 894 closed claims for which allegation and/or injury coding is available.*

Board action cause*	Percentage of board actions	Average paid expense	Total paid expense
Patient injury	24%	$3,953	$857,725
Diagnostic/knowledge failure	9.5%	$3,246	$279,194
Treatment/procedure failure	34%	$5,308	$1,597,810
Patient management/communication failure	7.5%	$3,412	$231,990
Regulatory/legal compliance failure	2%	$7,356	$139,756
General complaint/dissatisfaction	23%	$4,228	$858,298
Grand total	**100%**	**$4,435**	**$3,964,772**

41 Distribution of Board Actions by Claim Cause



TOP 10 BOARD ACTIONS BY PAID EXPENSE

The table on page 51 provides a brief summary of the 10 most costly board actions by paid expense. These board actions most frequently involve restorative services, including several claims related to implant placement. Standard of care lapses, poor documentation, overtreatment and other forms of unprofessional conduct are among the most common liability issues.

These scenarios illustrate the importance of understanding and complying with state laws and regulations, as well as maintaining clinical skills to meet accepted standards of practice. Sound business practices, including appropriate and accurate use of procedure codes for services provided, are also critical to maintaining compliance and averting complaints, lawsuits and sanctions.

By understanding the types of allegations and actions most commonly filed against them, dentists can identify their vulnerabilities and implement effective preventive measures. To minimize the risk of state regulatory civil investigations and licensing board actions, dentists should:

- Develop and utilize effective communication and interpersonal skills.
- Establish sound and legally compliant policies regarding clinical and financial matters, and implement them on a consistent basis.
- Identify, discuss and manage patient expectations.
- Maintain professional skills/competencies through well-documented continuing education.
- Accurately and contemporaneously document treatment and patient information in the dental record.
- Obtain and thoroughly document patients' informed consent to treatment.

42 Top 10 Board Actions by Paid Expense

Summary	Specialty	Dental procedure(s)	Allegations/ injuries	Outcome
The complaint involves a licensing board review of multiple patient records initiated originally by a complaint of treatment failure and overtreatment. The investigation expanded to a more general investigation of overtreatment and inadequate justification for recommended and completed dental restorative treatments and preventive measures.	General practitioner	Inlays/onlays (metal); various restorative procedures	Overtreatment/ treatment failure	Vigorous defense resulted in a limited ruling against dentist; ruling appealed and overturned
This complaint involves allegations that the dentist's care failed to meet the standard of care for implant surgery/ placement by extracting healthy teeth, causing bone loss, unnecessary pain and infection. It was also alleged that the dentist failed to inform the patient of the benefits, risks and reasonable alternatives to the treatment – i.e., did not obtain informed consent.	General practitioner	Extractions - simple	Failure to obtain informed consent/loss of teeth	Knowledge/skills assessment resulted in license suspension and revocation
This action concerns a dentist who placed implants to convert tissue-borne dentures into implant-supported prostheses. The complaint alleges that the treatment resulted in inadequate masticatory function, breaching the standard of care.	General practitioner	Complete dentures - implant-supported	Treatment failure and failed implants	License censure and probation
A dentist employed by a dental benefits company filed a complaint with the licensing board against a general practitioner. Allegations included overtreatment and questionable/ fraudulent billing practices.	General practitioner	Unnecessary treatment; billing practices/ dispute	Not applicable	Short-term suspension; monetary fine; continuing education; follow-up chart reviews
The complaint alleges that the doctor administered a higher-than-recommended dosage of a sedative, resulting in excessive sedation and the need for hospitalization.	General practitioner	Other restorative services	Adverse drug reaction	Reprimand; short-term restriction of sedation/anesthesia permit; monetary fine
Alleged sexual misconduct involving a patient with related professional allegations of unnecessary administration of sedative medications and failure to adequately monitor a sedated patient.	General practitioner	Sedation; miscellaneous services	Personal misconduct	Dental license suspended; counseling and professional education
The complaint involves numerous allegations, including inadequate diagnostic and safety procedures related to implant placement, inadequate and fraudulent record-keeping practices, inadequate infection control practices, failure to adequately supervise professional staff and billing for services not provided to patients.	General practitioner	Implant surgery - placement; other restorative services	Unnecessary billing/ over-billing; infection control breach	Dental license suspended; professional education (documentation and dental ethics); additional restrictions upon reinstatement
A patient filed a complaint regarding failed implants several years after placement. The complaint alleges failure to meet the standard of care for services provided.	General practitioner	Implant surgery - placement	Failed implants	Licensing board proposed numerous sanctions initially, but the case was dismissed after further review
The complaint alleges that the patient suffered sodium hypochlorite burn due to leakage under the rubber dam used during root canal therapy.	General practitioner	Root canal therapy	Chemical burn	Probation with required CE; monetary fine
The licensing board sent a letter to the dentist stating that there had been allegations of professional misconduct and that an investigation was proceeding. The board requested the patient's records and a narrative of all diagnoses, conditions and treatments provided to support its investigation.	General practitioner	Crowns	None alleged	No evidence found to support allegations: case dismissed without action

DENTAL LICENSURE COMPLAINTS*

In many states, complaints against dental licenses are on the rise. These often involve disgruntled patients who, unable to find an attorney to pursue a malpractice case on their behalf, submit a complaint to the state dental licensing board.

The state public health code, dental practice act or health department administrative rules define the procedures to be followed. The following general description of the complaint process and related recommendations apply to most dentists. However, as state laws and state dental boards differ, dentists must be conversant with the processes and procedures for their own jurisdiction.

Stages in the Complaint Process

The process begins when the dental licensing board receives a complaint about a dentist instituted by a disgruntled patient, another dentist or a third party, such as a dental insurance provider. In addition, some states may require dentists to self-report convictions of crimes, which will result in a complaint related to their license. Many state legislatures have enacted legislation requiring the state dental board to investigate every complaint asserted against a dental licensee.

The dental board then requests pertinent records. If a dentist receives such a request, a license complaint has probably been initiated. If the dental board is merely contacting a dentist regarding a complaint against someone else, the dentist will be so advised. The licensing board often requires submission of original radiographs and will not accept copies. If originals are required, duplicate the radiographs and keep the duplicates in the patient chart before sending the originals to the state board or its investigator.

If the dentist's records, radiographs and other documents do not indicate any violation of the dental practice act or other health code, then the case will be closed and the dentist will be notified. However, if the dental licensing board believes that further investigation is necessary, the process will continue according to state rules and requirements, as typically set forth in the dental practice act.

If a violation is found, a number of different sanctions can be imposed, including fines, continuing education requirements, probation, restriction on practice activities, restitution (i.e., repayment to a patient or third-party payer), and/or license suspension or revocation. In addition, the National Practitioner Data Bank (NPDB) requires state medical and dental boards to report to it certain disciplinary actions – including revocation, suspension, censure, reprimand, probation and surrender – taken against the licenses of physicians, dentists and other healthcare professionals. Actions reported to the NPDB can then be accessed by other licensing bodies and hospital/managed care credentialing committees throughout the United States.

* *CNA wishes to thank Lynda Farnen, Esq., Partner, Merry, Farnen & Ryan, P.C., St. Clair Shores, Michigan, for her contributions to this section of the report.*

The Need for Legal Representation

Licensing complaints are a serious matter, but dentists may erroneously believe they are informal processes that they can manage themselves. Sometimes dentists make unsupported and ultimately counterproductive assertions about the patient's veracity or the level of care provided. By the time a complaint has escalated, a dentist who has been responding to the dental licensing board without legal representation may have already caused irreparable harm to his or her defense.

Legal representation is advisable from the moment a request for records is made, unless the request states that the investigation does not pertain to the contacted dentist. The attorney will assist the dentist in complying with the board's request. The attorney also will ensure that the dentist retains copies of any original records submitted to the dental licensing board.

Dentists should never submit to an interview with an investigator from the dental licensing board without having previously met with an attorney and having an attorney present at the interview. If the dental licensing board suggests a settlement or other type of conference prior to proceeding with further administrative steps, an attorney should be present at the conference.

With the exception of the requested patient records, a dentist should never submit anything in writing to the dental licensing board, a board investigator, an assistant attorney general, or other investigative body or individual without first consulting an attorney. Numerous dentists who have agreed to interviews without counsel have made ill-advised statements that proved detrimental to their case. And dentists who have tried to manage pre-complaint settlement conferences on their own have on occasion rejected reasonable board-proposed disciplinary measures and ended up with more severe sanctions. Similarly, written responses to dental board complaints made without attorney assistance have sometimes compromised legal defense.

Dentists also should contact their insurance agent and report a claim as soon as they receive a request for records from a licensing board or any other party, unless the investigation is clearly aimed at another practitioner. Most dental professional liability policies provide coverage for attorney fees and costs associated with defending a licensure complaint if it arises out of injury or damage from a dental incident. However, fines, restitution, costs of continuing education or other disciplinary action that may be imposed generally are excluded from coverage.

Part 3: Risk Management Fundamentals

This section provides information and suggestions on several risk management topics that are relevant to every dental practice. More detailed information on these and other risk control subjects appears in the CNA *Dental Professional Liability Risk Management Manual* (provided as part of CNA's live and online risk management education programs). Dentists may also access risk management content at www.cna.com/dentists.

The following risk control recommendations, as well as the list of additional resources and self-assessment tool, are included in order to help dental professionals review their custom and practice in light of the risks identified in this report. In our view, risk management education is a critical component of the services we provide to our insured dentists, and our research indicates that such education has a favorable impact on claim severity. (See page 60.)

Informed Consent

All healthcare providers have a duty to obtain a patient's informed consent before commencing treatment. The consent must be given without coercion or fraud, based upon the patient's reasonable understanding of what will take place. Unauthorized treatment of a patient may constitute the crime of battery.

Most patients have a reasonable idea of what will occur during a routine examination or treatment and give implied permission for work performed when they visit an office for such care. Implied consent, however, has serious limits as a legal defense, especially when more complex or risky treatment is involved. Dentistry is a highly technical profession, and patients often have a limited understanding of the procedures to be performed.

Informed consent can be regarded as an educational process involving two main components:

- *Discussion*, including disclosure and patient education. Informed consent requires a verbal component, whether or not a written form is used.
- *Documentation* in the patient record, which often includes the use of a written informed consent form. (In certain states, a written form may be required for some procedures.)

The informed consent discussion is also an important means of managing patient expectations with respect to treatment outcomes and reducing the possibility of misunderstanding. When well-documented, such a discussion minimizes the likelihood of a complaint or claim based upon lack of informed consent, and also may help strengthen legal defense in the event of a claim.

In today's healthcare and legal environment, the informed consent process assumes ever-greater significance in terms of patient education, dentist-patient communication and risk management.

Treatment or Referral?

Claim data reveal that the most frequent and severe claims often involve procedures performed by both general dentists and specialists. These findings reinforce the importance of honestly judging whether or not one is capable of performing a specific procedure and managing its foreseeable complications. The following measures can help reduce risk and facilitate decision-making:

- *Assess the patient's clinical needs* and the procedure's degree of difficulty.
- *Consider the patient's overall health/medical history*, as well as patient expectations and personality traits and the strength of the doctor-patient relationship.
- *Explain the risks and potential complications of the treatment* during the informed consent process and include the possibility of specialist referral.
- *Reevaluate the wisdom of proceeding* if the decision is made to refer and the patient does not accept the recommendation for specialty care.
- *Inform patients that in the event of a complication they will be referred to a specialist* if it is in their best interest. Remember that making a referral due to a treatment complication is *not* an admission of negligence in and of itself and may actually help support the defense in the event of a claim.
- *Consider whether to charge for procedures resulting in a complication that requires a referral*. Many dentists decide not to bill the patient in such situations, in order to avoid angering the patient to the point of filing a lawsuit or complaint. Remember that waiving the fee does not constitute an admission of liability.
- *If a referral is made mid-treatment, follow up with the patient*. Ask the specialist to notify the practice when the treatment is complete, and call the patient that evening to inquire about his or her condition.
- *Document the events thoroughly*, including treatment decisions made, actions taken, the corresponding rationale and information given to the patient.

Recordkeeping and Documentation

The dental record serves two major purposes: strengthening memory of events that have occurred and facilitating the sharing of vital information, both within and outside of the practice. Comprehensive and timely documentation can help prevent treatment errors, communication problems and consequent patient dissatisfaction. For this reason, all information critical to the diagnosis, treatment and continued care of the patient should be noted in the dental record.

In the event that a dental professional liability action is asserted, a comprehensive dental record serves as the chief defense weapon, proving that the care provided met or exceeded the standard of care. It is difficult for a plaintiff's attorney to challenge an accurate and unaltered dental record written at the time of treatment. On the other hand, it is equally difficult to effectively defend a dentist against a claim or lawsuit, however excellent the care provided, if diagnostic, treatment, referral, consultation or other decisions are not supported by appropriate documentation. At trial, the jury will be told, and the insured dentist must acknowledge, that all pertinent patient information, both personal and clinical, should be documented in the dental record. If the record is then found to be deficient, the dentist's credibility as a witness is weakened. In the subsequent battle of oral testimony between experts on behalf of both parties, a jury composed of the patient's peers will tend to believe the patient's version of the events, if the narrative is credible.

Good recordkeeping involves accurately conveying what was heard, seen and thought, so that others can determine what treatment was performed at each appointment, why that treatment was necessary and what future care was required, based solely upon written documentation. As legal requirements for patient records vary substantially among states, dentists should review their state practice act on a regular basis. Additional information and guidance is available from professional associations, practice consultants and CNA.

Treatment Failure

By including the prognosis within the informed consent process, dentists can help forestall unrealistic expectations. Honest discussion of the possibility of failure helps patients understand and accept the fact that, while some treatment choices are better or safer than others, no option is perfect or totally without risk.

Dentists also must fully inform patients about their responsibility to maintain good oral health and minimize the likelihood of treatment failure. Document such discussions, written and oral instructions given, and patient responses, as well as instances and/or patterns of noncompliance. This information represents an important component of a strong professional liability defense.

The Risk Management Process

1. Identify and analyze potential adverse events.

There will always be clinical, operational and financial risks associated with dentistry. While this report focuses on professional liability, many other types of exposures exist, including property, equipment, and personnel/employment practice issues.

Knowledge is critical to identifying potential losses before they occur. CNA provides a wide range of educational opportunities and publication. Other sources of instruction include professional groups and study clubs, continuing education programs and peer review groups. Patient survey results and quality assurance program findings may also prove useful.

Once identified, risks must be analyzed in terms of probability of occurrence (i.e., frequency) and potential impact on the practice (i.e., severity). The dentist can then decide which risks pose the most danger. For example, an orthodontist identifies root blunting and resorption as a risk of treatment with possibly serious consequences. The dentist may then opt to address the risk directly because of its potential severity, rather than its relatively rare frequency of occurrence.

2. Avoid, control or transfer risks.

With input from the team, the dentist determines the optimal risk management approach, using some combination of the following three primary techniques:

- **Avoidance.** Dentists can choose not to perform certain clinical procedures, thereby eliminating the risk of a patient injury and possible subsequent claim. Risk avoidance also can take the form of not accepting certain new patients, e.g., those who are rude or demanding, have unreasonable expectations or refuse radiographs.
- **Control.** Dentists can endeavor to reduce the likelihood of a dental professional liability claim by meeting or exceeding the standard of care and using such basic *loss prevention* techniques as thorough documentation, ongoing staff training, and clear communication with staff and patients. They also can attempt to control the severity of occurrences by using such *loss reduction* techniques as responding in a timely manner to adverse events, maintaining intact and unaltered records, promptly reporting possible claims to insurers, and seeking expert advice prior to communicating with plaintiffs or plaintiff attorneys.
- **Transfer.** Dentists can transfer risk by purchasing different types of insurance coverages, including professional liability, general liability, property, cyber liability, workers' compensation and employment practices liability. They also may transfer risk contractually via hold harmless agreements. However, practitioners should be aware that third-party benefits agreements typically transfer risk *from* the plan *to* the dentist.

3. Implement selected risk management techniques.

There may be numerous possible risk management responses to an identified exposure. Dentists must select the techniques that most effectively manage their unique constellation of risks and patient safety concerns, based upon practice culture, patient population, staff capabilities and available resources.

4. Encourage staff participation.

Effective patient safety initiatives require that every dental team member accept ownership of the program. By scheduling weekly or monthly meetings dedicated to risk management principles, dentists can more efficiently address current or emerging issues and trends, while reinforcing the message that patient safety and risk management are central to every staff member's role. Remember to celebrate team successes and recognize individual efforts to improve patient safety and reduce errors.

5. Reassess and improve techniques.

In today's rapidly changing business and healthcare environment, risk analysis and mitigation plans should be reviewed on a routine basis, as with any clinical protocol or technique. Regularly request input from the dental team and utilize information gleaned from patient and staff questionnaires, quality assurance audits, checklists and continuing education courses. Analyze results over time and reevaluate any areas requiring improvement.

Benefits of Risk Management Education

CNA is committed to risk management education as a means of improving safety, reducing risk, and lowering claim and business costs. We provide both live and computer-based education programs for dentists and dental staff and, as a continuing education sponsor, maintain records of participation. These records have been analyzed in order to assess the effectiveness of our educational efforts.

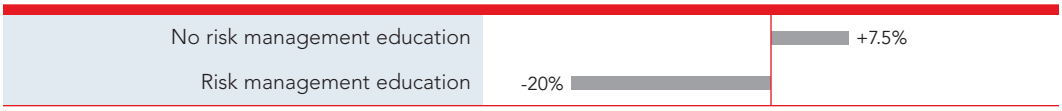
Figure 43 compares average claim costs for insured dentists with and without risk management education against overall average claim costs. The overall average claim cost is indicated by the center line. The dataset includes all open and closed claims during the five-year report period other than claims with a paid indemnity of $1 million or more, in order to minimize the impact of individually significant losses.

For the five-year period from January 2011 to December 2015, the average claim cost for insured dentists who participated in risk management education programs is approximately 20 percent below the overall average claim cost. The claim cost for the group who did not participate in such programs is approximately 7.5 percent above the overall average.

Although there are many possible reasons for this difference in average claim costs – e.g., dentists who elect to take risk management education courses already may be better communicators or more empathetic – CNA believes that risk management education is itself an important factor. We encourage all dentists and dental staff members to pursue risk management and patient safety programs and make them a regular part of their continuing education activities.

43 Average Relative Claim Costs by Participation in Risk Management Education Programs

** Excludes a small number of dentists for whom risk management education participation is undetermined.*



Dentists who participated in risk management education programs had claim costs 20% below the overall average.

Conclusion

The critical first step in enhancing patient safety and reducing exposure is to know the risks encountered by dentists today. The claims data, analysis, resources and recommendations contained in this report are intended to help dentists in this effort. By carefully examining policies and processes, sharpening team members' focus on patient safety, and developing effective communication and risk prevention protocols, dental professionals can elevate their practice to the next level, benefiting everyone.

We are proud to provide this report in the hope that it will inspire our insureds, as well as the dental profession as a whole, to examine patient care philosophies and practices and initiate constructive change. CNA remains committed to supporting our partners and colleagues in the important effort to prevent patient injury and minimize healthcare professionals' exposure to litigation and loss.

Appendix A:
Dental Office Self-assessment Tool

This checklist is designed to help dentists evaluate their risk management readiness and take measures to reduce exposure. While it focuses on the topics explored in Part 3 of this report, it also addresses other common vulnerabilities. For additional dental risk control tools and information, please visit www.cna.com/dentists.

Informed Consent/Refusal	Yes	No	Comments
Do you and your staff know the components of informed consent?			
Do you know when an informed consent discussion is required?			
Do you document in a progress note that informed consent was obtained?			
If you use a written informed consent form, does it …			
- Have a patient-friendly title and use lay terms/language?			
- Discuss the nature of the proposed treatment?			
- List alternative treatments?			
- Discuss possible complications of the recommended treatment?			
- Allow some degree of customization?			
If you use a written informed consent form, do you …			
- Also have a face-to-face discussion with the patient?			
- Permit the patient sufficient time to ask questions?			
- Answer all patient questions?			
- Give a copy of the form to the patient to retain?			
- Include the signed form in the patient record?			
Is there a formal process for obtaining and documenting patients' informed refusal of treatment?			
If so, does the process involve explaining the potential consequences of declining treatment recommendations and documenting this discussion?			
Are you aware of your own stated informed consent requirements, as delineated in the state practice act or regulations?			
Have you downloaded CNA sample informed consent forms for reference?			

Referral-related Practices	Yes	No	Comments
Before commencing a complex procedure, do you …			
- Assess the patient's clinical needs and the difficulty of the procedure?			
- Consider the patient's medical history, expectations and personality traits, as well as the strength of the doctor-patient relationship?			
- Discuss during the informed consent process the risks and potential complications associated with the procedure, and offer the option of referral to a specialist?			
- If you decide to refer and the patient refuses, do you reevaluate whether or not to proceed with treatment?			
- If you refer mid-treatment, do you contact the specialist to check on the outcome and also call the patient for an update?			
Do you use a written referral form for every referral and retain a copy in the patient record?			
Do you require a written referral form from all providers who refer to you?			
After making a referral, do you call the other provider to confirm that the patient followed up?			
If patients do not follow through, do you explain to them the potential consequences of ignoring a referral recommendation?			
Do you document all referral-related information and communications in the dental record?			
Do you review upon receipt all reports, progress notes, radiographs and other information relating to referral treatment?			

Patient Care and Documentation	Yes	No	Comments
Do new patient and recall examinations include a provisional, differential or specific disease diagnosis for positive findings?			
Is there a process or protocol in place to confirm at each visit the surgical/treatment site, procedure, tooth number(s), surface(s), etc.?			
Do you use rubber dam isolation for all endodontic procedures, and if not, do you consider specialist referral or other treatment options?			
Are immediate response and follow-up procedures in place for medical emergencies and potentially serious adverse outcomes, including surgical and non-surgical nerve injuries/paresthesia, swallowed/aspirated objects and sinus perforation?			
Do you provide patients with written post-procedure instructions, when appropriate?			
Do you clearly document the patient's chief complaint, or alternatively note "none" in the patient record?			
Do you document all diagnostic findings, both positive and negative?			
Do you document care plans, including proposed treatment and follow-up/reassessment needs?			
Do you fully document completed treatment plans and/or therapies?			
Do you document recall notifications, appointment cancellations and no-shows in the patient record?			
Are all employees trained in stringent record-keeping practices?			
Do you enter supplemental treatment notes in the next available space, and never leave blank spaces in the patient record?			
If a paper record requires correction, do you avoid obliterating the original notation?			
Do you audit clinical records internally on a regular basis to assess documentation quality?			
Does the practice have a written record release and retention policy?			
Is a formal patient recall system in place for implantable devices?			
Do you check the patient record for completeness and consider the dentist-patient relationship before sending a patient to a collection agency or initiating a court action to collect a debt?			

Patient Satisfaction, Safety and Education	Yes	No	Comments
Do you have a process in place to monitor …			
- Overall patient satisfaction?			
- Satisfaction with professional staff?			
- Satisfaction with charges and payment policies?			
- Satisfaction with scheduling policies and hours of service?			
- Satisfaction with urgent/emergency care protocols and availability?			
- Satisfaction with referral policies?			
- Other relevant patient satisfaction parameters, such as excessive waiting times and staff response?			
Do you review patient satisfaction survey results on a regular basis?			
Do you analyze low satisfaction levels for underlying causes and take appropriate corrective actions?			
Are office safety issues and incidents discussed at staff meetings, and are security measures regularly reviewed and updated?			
Is a procedure in place to manage "angry patient" situations?			
Are patients informed promptly of delays and given a choice between waiting and rescheduling the appointment?			
When working with a new patient or beginning a new treatment plan, do you inquire about functional, cosmetic/esthetic and financial expectations?			
Are unreasonable expectations identified, discussed and resolved to each party's satisfaction?			
Do you discuss the patient's prognosis and the probable outcome of procedures, in order to avoid inadvertent guarantees?			
Do you reassess patient expectations following job, health, family or other changes?			
Do you and staff members routinely educate patients about …			
- Office business practices and the patient's financial responsibilities?			
- Office infection control practices/procedures?			
- Processes for managing patient concerns and complaints?			
Does the office utilize dental educational resources suitable to individual patients' level of health literacy?			
When a patient requests a refund, do you fully consider …			
- The doctor-patient relationship (i.e., historical considerations)?			
- The patient's perspective (i.e., empathetic considerations)?			
- The "Golden Rule" (i.e., ethical considerations)?			
- Possible consequences if a refund is given or not given (i.e., practical considerations)?			
Before giving or refusing to give a refund, do you seek advice from the insurer, an attorney, professional association or some other knowledgeable third party?			

Appendix B:
Resources and Information

The following list of resources is offered to readers as a reference tool and source of continued learning.

Any references to non-CNA websites are provided solely for convenience, and CNA disclaims any responsibility with respect to such websites.

CNA Web Pages and Resources

- CNA website.
- CNA Dental Program information.
- Subscribe to CNA's Dental Expressions® electronic risk management quarterly newsletter.

Adverse Clinical Outcomes/Events

- Abussmaan, M. et al. "Swallowed and Aspirated Dental Prostheses and Instruments in Clinical Dental Practice: A Report of Five Cases and a Proposed Management Algorithm." *Journal of the American Dental Association (JADA)*, May 2014, volume 145:5, pages 459-463. (Abstract).
- Dental incident (adverse event) reports. Safety Net Dental Clinic Manual.
- Kalendarian, E. et al. "An Adverse Event Trigger Tool in Dentistry: A New Methodology for Measuring Harm in the Dental Office." *JADA*, July 2013, volume 144:7, pages 808-814.
- What Is a Time-out Policy and Does the Dental Clinic Need One? Safety Net Dental Clinic Manual.

Dental Risk Management/Professional Liability

- Liability Protection: What Is Risk Management? Safety Net Dental Clinic Manual.
- Risk Management, from the ADA Center for Professional Success. (Content may be available to ADA members only.)

Evidence-Based Practice/Clinical Guidelines

- ADA Center for Evidence-Based Dentistry™. The site includes a number of clinical practice guidelines and implementation tools, as well as an extensive resource list with links to guidelines and dental/medical practice information. Also featured are tutorials, reviews, critical summaries of systematic reviews, patient information and more.
- Agency for Healthcare Research and Quality (AHRQ). AHRQ provides a broad range of information on healthcare research and quality for both professionals and consumers, including the following guideline-related links:
  - AHRQ Clinician and Provider Resources.
  - AHRQ's National Guideline Clearinghouse. (To simplify and better "filter" a guideline search, visit the Guideline Matrix.
- American Dental Association Oral Health Topics: "Anticoagulant and Antiplatelet Medications and Dental Procedures."
- Bailey, E. et al. "Systematic Review of Patient Safety Interventions in Dentistry." *BMC Oral Health*, November 28, 2015, volume 15:152, pages 1-11.
- *Dental Expressions*®, 2014-issue 2. "Clinical Guidelines: A Dental Risk Management Perspective."

Legal/Regulatory Resources (including HIPAA)

- American Dental Association 2013 Privacy and Security updates, information and resources.
- Americans with Disabilities Act (ADA) Information and Technical Assistance. The U.S. Department of Justice, Civil Rights Division. Additional useful links are available here.
- Health Information Privacy home page. U.S. Department of Health and Human Services. The site containes frequently asked questions, enforcement activities and guide, breach notification rules and more.
- HIPAA/HITECH Security Risk Assessment Tool for Practitioners.
- Language Services Action Kit. National Health Law Program & The Access Project, 2004. (Information about language services for patients with limited English proficiency.)
- State Dental Practice Statutes/Regulations.

Nerve Injury/Local Anesthetics

- Bagheri, S. and Meyer, R. "When to Refer a Patient with Nerve Injury to a Specialist." *JADA* August 2014, volume 145:8, pages 859-861.
- *Dental Expressions*®, 2015-issue 1. "Trigeminal Nerve Injuries."
- Trigeminal Nerve Injuries. Miloro, M., editor. New York: Springer Publishing, 2013.

Oral Cancer

- American Dental Association Oral Health Topics: Oral Cancer. (Multiple references and resources.)
- Rethman, M. et al. "Evidence-based Clinical Recommendations Regarding Screening for Oral Squamous Cell Carcinomas." *JADA*, May 2010, volume 141:5, pages 509-520.
- "Statement on Human Papillomavirus and Squamous Cell Cancers of the Oropharynx." ADA Council on Scientific Affairs, November 2012.

Patient Safety/Safety Culture

- Christman, A. et al. "Designing a Safety Checklist for Dental Implant Placement: A Delphi Study." *JADA*, February 2014, volume 145:2, pages 131-140.
- *Dental Expressions*®, 2013-issue 4. "Dental Self-assessment: Addressing Risks, Managing Expectations." Includes a questionnaire for evaluating patient satisfaction, safety and clinical documentation.
- *Dental Expressions*®, 2014-issue 4. "Preventive Risk Management: Creating a Culture of Safety." Includes multiple references and resources on "just culture" and related concepts.
- *Dental Expressions*®, 2016-issue 2. "Safety Checklists: A Key to Reducing Errors and Risk Exposure."
- Hupp, J. "Creating a Culture of Safety." *JADA*, April 2014, volume 145:4, pages 321-323, 326.
- Patient Safety Network, Agency for Healthcare Research and Quality. "In Conversation with ... Bernardo Perea-Perez, MD, DDS, PhD" and Ramoni, R. et al, "Safety in Dentistry."
- Ramoni, R.B. et al. "From Good to Better, Toward a Patient Safety Initiative in Dentistry." *JADA*, September 2012, volume 143:9, pages 956-960.
- "Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®)," or here. See also the TeamSTEPPS dental module.

Recordkeeping and Documentation

- ADA Center for Professional Success: Dental Records. (Members-only content.)
- "Electronic Health Records" at ADA.org.

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