EXPERT REPORT OF:

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I. INTRODUCTION

A. Qualifications

I have been retained by Plaintiffs' counsel in the *Dunn* case as an expert in dental care in correctional institutions. I have been a dentist for over 45 years and have had careers in the military, dental education, and correctional dentistry consulting. I am certified by the American Board of Dental Public Health, one of nine specialties recognized by the American Dental Association. Dental Public Health "is that part of dentistry providing leadership and expertise in population-based dentistry, oral health surveillance, policy development, community-based disease prevention and health promotion, and the maintenance of the dental safety net." [American Dental Association Oral Health Topics: Dental Public Health[1]]. I also have extensive experience auditing educational, military, and correctional dental programs. My *curriculum vitae* is attached as Exhibit A.

During my 22-year military career, I had clinical, research, administrative, and command assignments in the United States, Okinawa, and Germany. Among my assignments, I served as the Army Surgeon General's Dental Public Health Consultant and wrote dental public health policy, procedures, and technical guidance. As Commander of the 86th Medical Detachment, I directed dental care delivery for the Army in north central Germany and operated six clinics with 20 dentists and 60 ancillary personnel. I was responsible for the dental health of 25,000 soldiers and family members. Among the studies I planned when I was in a research position were several on the Army's Dental Fitness Classification System, in which dentists assign patients to treatment priority groups based on the severity of dental needs.

I have served as a correctional dentistry consultant, court expert/representative, and expert witness several times since 2005. As a court expert in two major class action settlements involving prisoner dental care, I developed an audit process based on reviewing clinical records and performed system-wide audits of programs in California (roughly 170,000 inmates in 33 institutions) and Ohio (roughly 50,000 inmates in 30 institutions) over a 5-year period. Moreover, I was retained as a dental expert by the U.S. Department of Justice ("DOJ") in an investigation of a prison's dental care under the *Civil Rights of Institutionalized Persons Act.* A complete list of the cases for which I served as an expert is attached as Exhibit B.ve,2.517 0 Td ( )Tj EMC /P <<

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lesions. Five publications relate to correctional dentistry. A complete list of my publications is included in my *curriculum vitae.*

I have been asked to render my opinion

likelihood that decay will progress. Progression of decay destroys tooth structure, possibly causes an abscess, and often requires extraction. Consequently, any classification system must have timelines to ensure that a tooth originally classified as routine does not develop a severe problem due to untimely treatment.

Caries progression is a function of the interaction of risk factors; (1) the presence and virulence of cariogenic bacteria in the dental plaque, (2) the susceptibility of the tooth to the caries process, (3) the presence of sugars and fermentable carbohydrates in the diet, and (4) time [Dental Caries and Associated Risk Factors at 48-50].[2]

To summarize, because decay generally progresses if untreated, untimely treatment even of asymptomatic decayed teeth could put prisoners at risk of preventable pain, increased tooth morbidity (making the tooth more difficult to restore), or tooth loss. While decay progression is highly variable in a population, from my experience as an oral epidemiologist, I am comfortable stating that in a large population such as that of the ADOC, many individuals subjected to treatment delays will suffer tooth morbidity as well as tooth loss.

2. Pulpitis

Pulpitis is an inflammation of the living tissue within the tooth. Reversible pulpitis will resolve when the source of irritation is treated or removed. Typically, reversible pulpitis is attributed to minor tooth fractures, caries (decay), defective or missing fillings, and occlusal (bite) discrepancies and can be treated with analgesics and a dental procedure. The dental procedures may include removing decay and inserting a new or replacement filling, adjusting the bite, and applying desensitizing agents [Treatment of Odontogenic Pain in a Correctional Setting ("Shulman and Sauter") at 63].

When the inflamed living tissue inside the tooth (the pulp) swells and circulation is compromised, pulpitis becomes irreversible. A tooth with irreversible pulpitis has a partially vital pulp with inflammation and degeneration that is not expected to improve. Once pulp death (necrosis) occurs, the tissue is vulnerable to attack by bacteria, leading to infection at the apex of the tooth. Eventually this infection spreads by resorbing bone and supporting structures [*Id.* at 63-64].

3. Lost Fillings or Crowns

It is not uncommon for fillings to fracture and fall out in whole or in part due to wear or underlying decay. Any underlying decay should be removed expeditiously because it is generally within the dentin and close to the pulp. Decay near the pulp may lead to irreversible pulpitis and can jeopardize the prognosis of the tooth.

[2] Among the factors affecting caries progression is xerostomia (hyposalivation or dry mouth) [Psychotropic-Induced Dry Mouth at 53]. Xerostomia is a side-effect of many drug classes such as antidepressants, anticonvulsants, anxiolytics, antipsychotics, anticholinergics, and alpha agonists [*id.* at 54]; a phenomenon known as polypharmacy ("[…] the use of multiple medications increases the risk of adverse medication side effects") [*Id.*] Many prisoners take one or more of drugs in these classes and are particularly vulnerable to rapid caries progression [*Id.*].

1. Timeliness of Care

Prisoners are entitled to timely treatment of their serious dental needs as well as timely routine care, which is needed to prevent the occurrence of more serious dental injuries. Standards of dental care in the community and for correctional dentistry hold that inmates should not be forced to suffer pain or other dental injuries if those injuries could have been avoided by timely care [Lake County Jail Settlement Findings Letter at 15]. Similarly, the DOJ has held that the *Civil Rights of Institutionalized Persons Act* requires institutions to provide dental care consistent with generally accepted professional standards and to have sufficient treatment capacity that care is provided in a timely manner [*See, e.g.*, Dallas County Agreed Order § III(A)(13) (mandating reforms in the dental care provided by the jail); Cook County Agreed Order § III(c)(58) (requiring the jail to "ensure that inmates receive adequate dental care, and follow up, in accordance with generally accepted correctional standards of care. Such care should be provided in a timely manner, taking into consideration the acuity of the problem and the inmate's anticipated length of stay.")].

Because dental conditions can progress absent timely treatment, it is important for a dental care system to have appropriate policies, procedures, protocols and sufficient treatment capacity to ensure that the treatment of painful conditions is sufficiently timely to prevent gratuitous pain[8]. Moreover, asymptomatic conditions should be diagnosed and treated before they progress to the point that they cause pain, preventable loss of tooth structure, or result in a previously restorable tooth becoming non-restorable.[9]

> Delaying or deferring restorative care in a correctional setting simply leads to an increase of oral pain, infection, or tooth loss. As a result, dental services become inundated with emergency dental sick-call requests and more procedures to replace lost teeth with removable prosthetics.

[NCCHC Guidelines at 170 (included in CDAA Dental Resources Binder at Dunn(Corizon)_10222)].

2. Access to Care

A prison system must be staffed with dental professionals qualified to provide inmates with needed dental care. Inadequate staffing causes delay and puts inmates at a substantial risk of pain and serious injury. However, an appropriately staffed dental department is necessary but not sufficient to ensure timely access to care. Dental staff must be accessible, not merely "available" [The Organization of a Correctional Dental Program ("Shulman *et al.* at 58")]. That inmates are

To summarize, when a patient has been prescribed antibiotics for a dental infection, the accepted professional standard is to remove the source of the infection during the course of antibiotic therapy. The longer the delay in removing the source of the infection, the more likely the abscess will recur – with attendant pain and additional courses of antibiotics that pose a risk of producing antibiotic resistance.

4. Diagnosis and Treatment Planning

a. Oral Radiographs

"Accurate diagnostic information

radiographic examination consisting of posterior bitewings is recommended at intervals of 24 to 36 months." [*Id*. at 12].

The use of radiographs is addressed by the National Commission on Correctional Health Care ("NCCHC") ("[r]adiographs are appropriately used in the development of the treatment plan" [Standards for Health Services in Prisons, 2008 ("NCCHC 2008") at 70 (included in the CDAA Dental Resources Binder at Dunn(Corizon)_10216); Standards for Health Services in Prisons, 2014 ("NCCHC 2014") at 81 and the American Correctional Association ("X-rays for diagnostic purposes should be available, if deemed necessary" ACA Standards Supplement, 2012 ("ACA 2012") at 74.)]. "Treatment plans should use current X-rays (6 months to 1 year) and include a full mouth series or panoramic X-ray when indicated. To develop a restorative treatment plan, the treating dentist should have appropriate bite-wing radiographs […]" [NCCHC Guidelines at 170 (included in the CDAA Dental Resources Binder at Dunn(Corizon)_10222)].

To summarize, a treatment plan that is made without clinically-appropriate radiographs is below accepted professional standards. A policy or practice of delaying the use of radiographs until the time of treatment ignores dental problems that are asymptomatic or cannot be visualized. The resulting underdiagnosis is pernicious since it will delaeo2(i)-27(vdo0uil ta)6(0.002 Twe)-4(o2

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In addition to periodontal probing, intra-oral radiographs can assist in periodontal diagnosis [Stefanc at 12]. “Intra-oral radiographs, such as vertical films and horizontal and vertical bitewings, provide a considerable amount of information about the periodontium that cannot be obtained by any other non-invasive means. Although ***valid periodontal diagnoses cannot be made from radiographs alone***, they are an essential component of a complete periodontal examination” [*Id*. (emphasis added)].

In addition to reviewing current radiographs, [Periodontal Exam at 847], NCCHC guidelines for an oral examination state that the dentist should review, *inter alia*, “periodontal screening […] [NCCHC Guidelines at 168] and “[a] periodontal evaluation, such as PSR should be part of all comprehensive dental examinations. PSR is done at the treatment planning appointment with the results recorded on the designated form […]) [*Id*. at 171 (included in the CDAA Dental Resources Binder at Dunn(Corizon)_10223)].

Periodontal probing is not a sterile academic exercise but rather a tool to identify portions of the mouth that require further examination, and it should be performed at every routine examination to monitor disease progression and determine if a more extensive examination should be performed [Periodontal Exam at 847; Parameter on Periodontal Maintenance (“Periodontal Maintenance”) at 853; Parameter on Chronic Periodontitis with Advanced Loss of Periodontal Support (“Advanced Periodontitis”) at 857; Parameter on Chronic Periodontitis with Slight

necessary equipment is available. Furthermore, a pre-operative radiograph can serve as evidence of a potentially life-threatening condition.[37]

To summarize, among the potential consequences of not using a preoperative radiograph for a tooth extraction are 1) causing damage to underlying anatomic structures, 2) iatrogenic root fracture, 3) damage to adjacent teeth, and 4) overlooking an asymptomatic lesion associated with the tooth. Extracting a tooth without an adequate preoperative radiograph is, simply put, reckless clinical behavior that puts patients at a substantial risk of serious harm.

7. Treatment of Chewing Difficulty

Prisoners whose chewing difficulty is due to painful teeth should be prioritized for treatment; typically, restorations or extractions are necessary since partial dentures should not be fabricated until all other treatment (*i.e.*, extractions, restorations and periodontal) has been completed in order to ensure that the dentition is stable.[38]

Chewing difficulty due to an insufficient number of teeth should be addressed by timely fabrication of a prosthetic device. While a soft diet may be useful in the short-term, such as while the denture is being fabricated, it is not a substitute for fabricating the denture timely.

8. Staffing

Inadequate staffing is typically the reason for untimely care; consequently, a dental program should have an appropriate mix of dentists, dental hygienists[39], and dental assistants[40]. Inadequate staffing causes delay and puts inmates at a substantial risk of serious injury. Among the minimum remedial measures identified by the DOJ to rectify deficiencies found in a jail and

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[37] For example, hemangiomas are highly vascular lesions that can occur in the jaws and can be identified radiographically. While rare, they have the "potential to result in exsanguination", which usually follows an unrelated treatment of some type[37], either in

to protect the inmates' constitutional rights was to "[e]nsure dental hours accommodate the need for dental care." [Lake County Findings Letter at 29].

Since appropriate staffing depends on many factors such as the mission of the facility, the

2014, (6) Daily Worksheets (or Day Sheets) [King Dep. 156:15-158:19][47], (7) Corizon Monthly Client Reports and (8) other material listed in Exhibit C.[48]

B. Record Selection

In addition to reviewing records of the Plaintiffs, I performed record audits at each prison I visited to collect sufficient data to allow me to opine about the quality of the ADC dental program.[49] Based on my experience auditing[49]

I reviewed the dental charts of the 39 Plaintiffs and the charts of other prisoners.[52] I selected charts primarily from the Dental X-ray Log[53] that records the name, AIS number[54], date of x-ray, teeth x-rayed, reason for the x-ray, and the dentist's clinical impression. Since many of the x-rays were taken on prisoners with toothaches, I was able to determine from comparing the date of the HSRFs to the date of treatment in the progress notes to determine how long it took for the prisoner to be seen (1) by nurses, (2) by a dentist, and (3) if the dental visit resolved the prisoner's dental problem. Furthermore, by looking back in the record to previous HSRFs and dental progress notes, I was able to assess the timeliness of urgent care (*i.e.* toothaches) and routine care (*i.e.* examinations, fillings, and dentures).

I also selected records from prisoners who received dental treatment whose names were recorded in the Day Sheet[55] that lists all the dental procedures performed on each prisoner. The Day Sheet also provided me with a clear picture of the dental treatment provided to all a facility's prisoners.

I explicitly assume that the health record I reviewed reflects all the prisoners' dental treatment, clinical findings, treatment plans, and treatment requests for the period of interest. Since I reviewed the health record and did not examine any prisoners, I accept the examining dentists' clinical findings and diagnoses and opine based on the material I reviewed and 45 years of experience in institutional dentistry.

C. Record Review[56]

1. Examinations and Treatment Plans

To assess the adequacy of the examinations and treatment plans, I reviewed the Dental Treatment Plan and Treatment Record that identifies the problems found at the examination and prioritized treatment recommended by the dentist. When treatment is provided, it is noted on the form.

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Since I was evaluating the overall quality of the ADOC dental program (as typified by the treatment of the prisoners whose charts I reviewed), not the quality of the care provided to any particular prisoner, I relied on the charting and treatment plans of the dentists who had an opportunity to examine the prisoners. Thus, if a dentist charted a tooth to be filled, I presumed that a filling was appropriate treatment. Similarly, I assumed that a tooth charted for extraction should be extracted. On the other hand, I noted when clinical decisions were made based on insufficient information.

2. Corizon Reports

Corizon summarizes dental

Figure 6. Sample Day Sheet

The Hygiene Section (Fig. 6a) comprises fluoride treatments, x-rays, "prophy (per quadrant[60])", "deep scale (per quadrant)", and oral hygiene instructions. It is notable that while there is a category for "Panoramic X-ray" and "X-ray (intra-oral), there is not a specific category for bite-wing x-rays; so, bite-wing and periapical x-rays are conflated.

Figure 6b shows the "Uncategorized Procedures". Particularly noteworthy is "# anesthetic Carpules used" since it indicates if a prisoner received local anesthetic for the procedures that were documented.[61]

Figure 6a. Hygiene Procedures from Day Sheet

Figure 6b. Uncategorized Procedures from Day Sheet

Figure 6c shows the procedures classified as "Endo [Endodontic]". The significance of the absence of a category for "root canal" or "endodontic treatment" will be discussed in the Routine Care and Monitoring sections, *infra*.

Figure 6c. Endodontic Procedures

[60] A prophy performed on the entire mouth would represent four quadrants.

[61] This is particularly salient for my discussion of the performance of the Deep Scale procedure in ¶IV E(3), *infra*.

b. Dental X-ray Logs

The Dental X-ray Log was introduced 10/12/2014 in the CDAA Radiographic Policy [Dunn(Corizon)_10253-0254][62]. It records the prisoner's name, AIS number, date, teeth x-rayed, the reason for the x-ray, and the dentist's impression of the x-ray.[63]

Figure 7. Dental X-ray Log

D. Limitations of Methodology

My review of the Plaintiffs' dental charts did not include interpretation of any radiographs that might have been in the chart because my interest was not in attempting to second-guess the dentist's diagnosis but rather to determine whether current radiographs were available to dentists when they made clinical decisions.[64] For Plaintiffs' records (reviewed in pdf format), I inferred the existence of radiographs from clinical entries[65] and the presence of informed consent to take ***specific*** radiographs.[66] While the Dental X-ray Log does not document x-rays taken before 10/21/2014, I was able to review the past treatment of all the prisoners whose records I selected for review.[67]

[62] "A log of all radiographs made has been developed and a copy is attached to this Policy. For more details on the ADA Guidelines, see your Resources Book." [CDAA Radiographic Policy as of 10/10/2014 (Dunn(Corizon)_10253)].

[63] Since the CDAA Radiographic Policy did not set forth standard categories for "reason for x-ray" and "impression", there is little consistency between or ***within*** facilities making analysis problematic at best. However, there appears to be consistency in identifying the teeth (that is tooth numbers) that were x-rayed and whether the tooth was diagnosed as being restorable.

[64] For example, what (if any) radiographs were available to the dentist who made a treatment plan or extracted a tooth.

[65] It is a professional standard to document any radiographs taken in the dental progress notes.

[66] A valid consent form must specify the tooth to be x-rayed.

[67] The only X-ray Logs provided for my review were from March through June, 2015. Consequently, I assume that they are representative of the x-ray logs that were not provided.

IV. FINDINGS

A. Organization of the Dental Program

Dental care is provided to ADOC prisoners by CDAA, a subcontractor of Corizon [Dunn(Corizon)_10174]. The President of CDAA, Dr. Charles M. King, also serves as the Corizon Regional Dental Director [Dunn(Corizon)_10175].

b. Routine Care[70]

Routine care will be provided within fourteen (14) days of an inmate's request for

Ruth Naglich, ADOC Associate Commissioner for Health Services, testified that ADOC does not audit Corizon against the community standard [Naglich Dep. 92:4-11] but audits "in

However, there appears to be an unwritten policy (or a practice) of requiring that an inmate complain three times before a request to refer a person to an oral surgeon can be submitted to Dr. King. This greatly restricts inmates' access to oral surgery.

- Patient 1 complained of pain in #32 on 2/8/16 (according to dentist's progress notes, "#32 horizontally impacted and per policy, he will need to complain 3 times before request is submitted"). He was prescribed Ibuprofen (an analgesic) for 15 days. The tooth continued to hurt and he was examined on 2/22/16 ("patient will need oral surgery for removal. Second complaint."). He was prescribed another 15-day course of Ibuprofen. An examination and treatment plan dated 3/16/16 indicated #32 for extraction.[90]
- Patient 2 was seen on sick call (pain in lower left jaw) by a dentist 5/26/15 (#18 decayed and #17 horizontally impacted. Needs OS [oral surgeon]) and was placed on a course of antibiotics. She was seen again for pain in #18 on 8/18/15 (pain #18. Unable to extract) and the was placed on another course of antibiotics. She was seen 9/4/15 (mouth still hurts. OS needed for #17, 18) and was placed on a third course of antibiotics. This delay resulted in gratuitous pain, prolonged infection, and preventable courses of antibiotics.

d. Periodontal Treatment.

CDAA does not have a policy on periodontal diagnosis and treatment; however, the Dental Resources Binder contains material relating to the PSR [Dunn(Corizon)_10181-Dunn(Corizon)_10198]. The material explains the rationale and procedure for the PSR as well as the clinical significance and implications of each score.

For example, a sextant with a PSR score of 3 should have "a comprehensive periodontal examination and charting of the affected sextant" and "[i]f therapy is indicated and performed, a comprehensive examination is necessary to assess therapy and need for further treatment." [Dunn(Corizon)_10193]. "This examination should include but not be limited to identification of probing depths, mobility, gingival recession […] & radiographs." [*Id*.].

Similarly, the treatment option for a sextant with a PSR score of 2 is "OHI [oral hygiene instruction] and appropriate therapy, includes subgingival plaque removal, plus removal of calculus and correction of plaque-retentive margins of restorations"[91] [*Id*.] Notwithstanding the guidance in the Dental Resources Binder, Dr. King testified that scores of 1 – 3 were "acceptable" and would not warrant a follow-up [King Dep. 67:8-68:11].

e. Endodontic Treatment.

none of the listed procedures are endodontic but rather procedures performed incident to general

D. Records Reviewed

I reviewed records of 39 prisoners who were identified to me as Plaintiffs, as well as 181 records of other prisoners.

E. Clinical Findings

1. Inadequate Diagnosis and Treatment Planning

In my opinion, based on a reasonable degree of dental certainty, the policy and practice of the CDAA Dental Program of performing routine examinations and treatment plans without x-rays results in underdiagnosis of dental caries and periodontal disease that subjects prisoners to substantial risk of tooth morbidity, tooth mortality, and gratuitous pain.

Moreover, the ADOC's failure to require documented periodontal probing at initial and periodic examinations (a standard of care in dentistry) until October, 2014 placed many inmates at risk of suffering preventable pain and tooth morbidity by underdiagnosing and failing to appropriately monitor periodontal disease, and the resulting harms are latent and incremental. Furthermore, even when moderate or advanced periodontal disease is identified, the appropriate non-surgical procedure is not ordered.

The ADOC contract requires that inmate care will be provided "consistent with local and federal guidelines and community standards" [ADOC000633]; however, performing examinations and treatment planning without benefit of x-rays and periodontal probing[98] is both below accepted -

not made at this examination [*Id*. 45:5-46:7].[99] Consequently, dental caries is likely to be underdiagnosed and progress until it becomes symptomatic. Of the dentate Plaintiffs whose Dental Treatment Plan and Treatment Records I reviewed, none of the treatment plans were informed by sufficient recent x-rays[100].

b. Inadequate Diagnosis of Periodontal Disease

The ADOC contract with Corizon requires that dental treatment "will be based on assessed needs and will include, but will not be limited to, the following: […] periodontal screening, evaluation, and limited early treatment […]" [Dunn(Corizon)_10177]. Moreover, the contract requires that "Corizon will continue to provide a quality on-site oral health care program in accordance with local and federal guidelines, ADOC-OHS policies and procedures, ADA [American Dental Association] standards and NCCHC and ACA standards of care[101]." [Dunn(Corizon)_10175]. Figure 8 is the portion of the examination and treatment plan form that relates to periodontal disease and Figure 9 is the PSR score stamp used in the dental chart. Figure 9 shows the PSR data entry form[102].

Figure 8. Periodontal Diagnosis Section of Treatment Plan and Treatment Record Form

[99] However, Corizon Oral Care Policy specifies that, "[r]adiographs are appropriately used in the development of the treatment plan." [¶5 at Dunn(Corizon)_00139].

[100] Plaintiffs Patient 3, Patient 4, Patient 5, Patient 6, Patient 7, Patient 8, Patient 9,

i. Plaintiffs

Exhibit D-1 shows that of the 19 Plaintiffs with periodontal disease identified at the treatment plan[105], only 5 (28%) had any periodontal procedure planned. Moreover, two prisoners had PSR scores of 3 (consistent with moderate periodontitis); however, no follow-up for a complete charting was planned.

- Patient 4 was examined by a dental hygienist who indicated that he had aggressive periodontitis and treatment planned him for a prophy; however, his records did not include follow-up and further diagnosis of his periodontal condition [MR002280]. Moreover, there is no documentation of periodontal probing. This is particularly problematic because he is a type II diabetic [MR001842]. The dental chart indicates that examinations were performed on 2/15/12 and 2/5/13 [MR002294-5]; however, there is no documentation that radiographs were ordered.
- Patient 12 submitted HSRFs 4/10/12 [MR007709] and 10/22/12 [MR007697] stating that his gums bleed when he brushes his teeth and he was concerned about periodontal disease and was referred to the Dental Service. He was examined 10/31/12 and it was noted that he had generalized gingivitis; however, there is no documented periodontal probing [MR007708]. He was examined 8/8/13 and it was again noted that he had gingivitis [MR007703]. There was no documented periodontal probing and no documentation in the chart that radiographs were available for the examination.

ii. Other Prisoners

Exhibit D-2 summarizes the treatment plans for 32 dentate prisoners with identified periodontal problems. Many prisoners who were diagnosed as having gingivitis or with a sextant PSR score of 2 or greater were not treatment planned for a prophylaxis[106]. Other prisoners were diagnosed with chronic or aggressive periodontitis[107] or at with least one sextant with a PSR

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periodontal examination and charting are necessary to determine an appropriate care plan. This examination and documentation should include the following: identification of probing depths, mobility, gingival recession, mucogingival problems, furcation involvement, and radiographs. It can be assumed that complex treatment will be required." [Periodontal Screening and Recording at 6 (included in CDAA Dental Resources Binder at Dunn(Corizon)_10188)].

[105] None of the treatment plans were informed by documented periodontal probing or radiographs.

[106] While prisoners on the chronic care program generally were offered a prophylaxis by the dental hygienist who performed the annual screening, the prophylaxis was not part of a treatment plan. For example, Patient 28 (9/4/15), Patient 29 (1/27/16), Patient 30 (1/9/15), Patient 31 (2/9/16), Patient 32 (12/10/12), Patient 33 (5/21/15), Patient 34 (3/27/15), Patient 35 (2/15/13), Patient 36 (1/9/15), Patient 37 (3/27/15), Patient 38 (2/5/15), Patient 39 (2/7/14), Patient 40 (4/1/15), Patient 2 (12/30/14), Patient 41 (3/16/15), Patient 42 (6/4/13), Patient 43 (10/21/13), Patient 44 (4/1/15), and Patient 45 (11/5/14).

[107] Patient 46 (12/28/15), Patient 47 (8/2/12).

score ≥ 3[108] and were not treatment planned for the appropriate treatment (*i.e.*, SRP or deep scale). None of the treatment plans were informed by recent x-rays. Of the 20 prisoners identified with gingivitis alone, none had an oral prophylaxis planned[109]. Of the four identified with periodontitis, two had an oral prophylaxis on the plan. Of the nine prisoners with PSR scores having at least one sextant of '3' (suggestive of mild to moderate periodontitis), only three had any periodontal procedure planned – and it was only an oral prophylaxis.[110] The dental program's failure to inform treatment plans with x-rays and consistently plan non-surgical treatment for mild to moderate periodontal disease places prisoners at risk of advancing periodontal disease with attendant pain and tooth loss.

2. Inadequate Treatment of Pain and Infection

In my opinion, based on a reasonable degree of dental certainty, the treatment of prisoners' dental pain and infection is inadequate because it is untimely. As the result, prisoners are subject to preventable pain and unnecessary exposure to antibiotics.

Treatment for dental pain and infection is untimely[111]. Requests for dental care are reviewed by nursing staff who make a dental referral or refer for a nursing assessment using a Nursing Encounter Tool. Based on the clinical findings, a medical or dental referral is made. Prisoners stating pain are generally offered analgesics, and those with infections are referred to a provider (physician, dentist, or nurse practitioner) for an antibiotic. This generally occurs within a day of a prisoner's submitting an HSRF.

The weak point in the system, however, is the untimeliness of the dental department's

- Patient 18 submitted a request to have a painful tooth extracted 8/25/13 and was assessed by Dr. Caldwell who ordered a course of Amoxicillin (an antibiotic) and Naproxen (an analgesic)f8r 803] Tw -4.27 0 T5.51fh10(f)no(d 8/)-2(o]TJ -0.)4(x)-e(c)4(our)HrgRli d sd a4 c 09 Htia(v
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- Patient 63 submitted an HSRF for a toothache10/28/14 and was screened by the dental service and diagnosed with an abscess, and provided an analgesic and antibiotic. The note reports that he was scheduled to have #16 extracted; however, the record reports that "seg didn't bring" for the 11/7/14 appointment, and while the tooth was finally extracted 11/3/14, he suffered six days of gratuitous pain. Moreover, the tooth was not extracted per the standard of care (within 7-10 days from the time the antibiotic course began).
- In a subsequent dental incident, Patient 63 submitted an HSRF for a toothache 4/12/15 for a painful broken tooth. He resubmitted 4/22 (tooth broke in half), 5/10 (third sick call - severe pain), 5/18 (hurting since beginning of April), 12/6/15 (have put in several sick calls for this tooth). The tooth was finally extracted 12/11/15 – almost eight months later. The record reports that "seg did not bring" 4/16, 4/24, 4/30, 5/8, 5/20, 6/5, 6/12, 6/26[118], 8/28, 9/4, 9/11, 9/18, 10/2, 10/23, 11/13, and 12/4. The persistent failure of custody to ensure he was brought to his dental appointment caused him more than seven months of gratuitous pain.
- Patient 32 submitted an HSRF for a toothache 9/1/15 and was given analgesics and referred to the dental service. The record reports that "seg did not bring" him to appointments 9/11, 10/21, and 10/23. The tooth was extracted 10/29 – after 58 days.
- Patient 64 carhipr

there is no treatment provided because "[p]eriodontal disease is a chronic problem, and most sites would not be equipped to handle a specialty care like that" [*Id*. 94:21-95:9]. However, he later testified that root planing is a deeper scaling than is normally done at regular cleanings that is indicated when there is a sufficient buildup of calculus, plaque and irritated gum tissue in a pocket [*Id*. 122:4-123:3]. He does this for inmates at St. Clair and makes a notation in the prisoner's dental or medical record when he has done so [*Id*. 123:4-13]. I reviewed the Day Sheets for St. Clair Correctional Facility from March 2014 through July 2015 [ADOC128277-128824]. In the 16-month review period, only one patient for whom a deep scale was recorded received a carpule of local anesthetic.[120] Since medical St. deep 0.002 Tc -0.002

The annual screening required by ADOC is not an examination – and consequently need not be performed by a dentist (*see* ¶IV B(4)(b), *supra*). They are generally performed by a dental hygienist.

a. Examples: Plaintiffs

- Patient 16 submitted an HSRF 4/30/11 for fillings and was advised that he would be scheduled [MR011041]

b. Dental X-ray Logs

I reviewed Dental X-ray Logs for seven prisons[128] covering the three-month period 3/25/15 through 6/30/15 that comprised 980 prisoners.[129] The x-ray logs demonstrate that the predominant use of x-rays is to diagnose end-stage dental disease or for planning an extraction – with 767 of the 980 prisoners (78%) documented to have at least one tooth that is non-restorable. Similarly, 684 prisoners had x-rays taken as the result of complaints relating to dental pain; clear evidence of the lack of emphasis on identifying dental problems before they develop into urgent care issues.[130]agnose end

far below generally accepted professional standards placing prisoners at substantial risk of serious harm. Simply put, this practice is reckless clinical

Table 3. Radiographs, Extractions and Fillings Performed at Reception Centers and Systemwide, 2011 – 2014[137]			
	Reception Center		
	Kilby	**Tutwiler**	**All ADOC Prisons**
10/2011 to 9/2012	(ADOC040781)	(ADOC040801)	(ADOC040741)
Dental x-rays	1,181	52	9,960
Extractions	817	885	9,828

gratuitous pain, and preventable tooth loss risk of serious injury. While each prison dental director is responsible for monitoring the quality of the local dental program, Dr. King, the CDAA President (and Corizon Regional Dental Director), has apparently condoned and is therefore responsible for the deficiencies I report.

1. Monitoring Dental Directors

Dr. King testified that he performs peer reviews of the site dentists on the anniversary of their hiring, and to the best of his knowledge, no dentists were disciplined of terminated based on the reviews [King Dep.52:19-53:19]. Furthermore, he cannot think of any time he made a criticism of a dentist in connection with a peer review [*id*. 54:6-9] or felt that the dentist was not performing clinically as he should [*Id*. 55:5-9].

The Corizon Dental Peer Review Form addresses 17 elements, among which are compliance with facility policy with respect to "dental process;" initial oral screening and dental sick call; proper documentation in the dental chart; documenting a "plan of care" (treatment plan); and the use of dental x-rays when they are clinically indicated.

Dr. King testified that he was not familiar with the individual institutions' Oral Care policies, "[b]ut I could say that I've seen most of them at one point of time or another". While it is his understanding that each site has specific policies that may relate to oral care, as Regional Dental Director, he has no input into those policies [King Dep. 127:7-128:132:15].

The CDAA Radiographic Policy required that, as of October 10, 2014, all clinics will keep a Dental X-ray Log [Dunn(Corizon)_10253]. However, when asked to produce them, Defendants were only able to produce the logs for seven prisons (*see* ¶ IV E(4)(c)). That non-compliance with CDAA policy could be so widespread, is consistent with a pattern of grossly inadequate monitoring on the part of Dr. King and Corizon.

Table 3 (*supra*) shows that from 2011 through 2014 dentists at Tutwiler rarely viewed preoperative radiographs when extracting teeth, a practice that is clinically reckless. Yet Dr. King found no reason to criticize the Dental Director, Dr. Ward. For example, Dr. Ward's 7/31/2013 Re-Credentialing Peer Review Summary rates him as good or excellent in all categories [Dunn(Corizon)_0255175-176]. Apparently, Dr. King did not deem Dr. Ward's practice of dentistry almost exclusively without radiographs to be sufficiently important to warrant correction or turned a blind eye to the deficiencies of the Tutwiler dental program.

2. Monitoring the Dental Subcontractor

Dr. King's performance is evaluated by Dr. Hood, the Corizon Regional Medical

While the peer review addressed his clinical performance, there appears to be no formal review of CDAA's dental program for which Dr. King is responsible; and as the result, the serious problems I reported were not identified. Since there is no dentist employed by ADOC to monitor the Corizon dental program, ADOC has defaulted clinical oversight to its contractor. This has redounded to the prisoners' detriment [Dunn(Corizon)_0255031-Dunn(Corizon)_0255033].

3. Monitoring Corizon

Table 4. ADOC Dental Services Audits, 2011-2015			
Prison	**Date**	**Score**	**Page (s)**
Bibb	3/11/11	78.4%	ADOC045251-254
	6/28/11	73.3%	ADOC045201-204
	5/2/12	*	ADOC0220384
	1/18/13	97.4%	ADOC0220383-5
	1/15/15	94.0	ADOC0220382
	6/19/15	*	ADOC0220381
Bullock	**		
Donaldson	[redacted]	94.0	

VI. STATEMENT OF COMPENSATION

My fee schedule is as follows:

Travel - $150 / hour

File review (on or off-site), research, report writing, telephonic and on-site consultation, trial or deposition preparation - $300 / hour

Deposition / trial - $500 / hour

Out-of-pocket expenses (*e.g.*, travel, meals, postage, and mailing) reimbursed as costs

I have to date worked 327.25 hours (at a cost of $ 98,175.00) and incurred 52.25 hours in travel (at a cost of 7,837.50) for a total of $106,012.50.

EXHIBIT A

CURRICULUM VITAE - JAY D. SHULMAN

PERSONAL INFORMATION

Address: 9647 Hilldale Drive
Dallas, Texas 75231
E-mail: jayshulman@sbcglobal.net

EDUCATION

1982 Master of Science in Public Health
University of North Carolina

1979 Master of Arts (Education and Human Development)
George Washington University

1971 Doctor of Dental Medicine
University of Pennsylvania

1967 Bachelor of Arts (Biology)
New York University

POSITIONS HELD

Academic

2007 – Adjunct Professor, Department of Periodontics
Baylor College of Dentistry

2003 - 07 Professor (Tenure), Department of Public Health Sciences
Baylor College of Dentistry (retired October, 2007)

1993 - 03 Associate Professor, Department of Public Health Sciences
Baylor College of Dentistry

Directed dental care for Army in North Central Germany. Operated 6 clinics with 20 dentists and 60 ancillary personnel. Responsible for the dental health of 25,000 soldiers and family members and for providing dental services during wartime using portable equipment. Provided technical supervision of dental public health and oral disease prevention programs for the Army in Europe.

1984 - 87 Chief, Dental Studies Division US Army Health Care Studies & Clinical Investigation Activity. Public Health & Dental Public Health Consultant to Army Surgeon General.

Directed Army Corps' oral epidemiologic and health services research. Supervised a multi-disciplinary team of public health dentists, statisticians, and management analysts. Designed and conducted research in oral epidemiology, healthcare management and policy. Exercised technical supervision of all Army public health and preventive dentistry programs worldwide.

1982 - 84 Assistant Director for Research, US Army Institute of Dental Research.

Responsible for Management of extramural research program, performing epidemiologic research, and teaching biostatistics and epidemiology to Walter Reed Army Medical Center dental residents.

1980 - 82 Full-time graduate student (Army Dental Public Health Training Fellowship) at the School for Public Health, University of North Carolina at Chapel Hill.

1976 - 80 Director, Dental Automation
US Army Tri-Service Medical Information Systems Agency
Walter Reed Army Medical Center, Washington, DC

Directed a team of computer scientists in the development of an automated management system for the Army dental clinics and upper management.

1975 - 76 Clinical Dentist, Pentagon Dental Clinic, Washington, DC

1974 - 75 Clinical Dentist, US Army Hospital Okinawa, Japan

1971 - 74 Clinical Dentist, US Army Dental, Clinic Fort McPherson, Georgia

BOARD CERTIFICATION AND STATE LICENSE

Dental Licensure.

Texas #17518 (retired in good standing).

Board Certification.

Certified by the American Board of Dental Public Health since 1984 (active).

RESEARCH - AREAS OF INTEREST

Oral epidemiology, health services research, health policy, military and correctional health.

RECENT FUNDED RESEARCH

2010 - 12 Instrument system and technique for minimally invasive periodontal surgery (MIS). National Institutes of Health SBIR Grant 2R44DE017829-02A1 ($368,270). Principal Investigator: Dr. Stephen Harrel. Role: Paid consultant.

CURRENT SOCIETY AND ORGANIZATION MEMBERSHIPS

1982 – American Association of Public Health Dentistry

PROFESSIONAL ACTIVITIES

Invited Presentations.

Nov 2015 Panelist, “Challenges of Medical, Mental Health and Dental Care Delivery in Prisons”. Ninth Circuit Corrections Summit. Sacramento, California, November 4, 2015.

Oct 2015 Public Health, Public Policy, And Legal Issues Associated with Health Care in Prisons: A Dental Perspective. National Commission on Correctional Health Care Annual Conference. October 20, 2015.

Apr 2012 Public Health, Public Policy, And Legal Issues Associated with Health Care in Prisons: A Dental Perspective. Presented at the University of Texas Health Science Center, San Antonio.

Apr 2009 Public Health, Public Policy, And Legal Issues Associated with Health Care in Prisons: A Dental Perspective. Presented at the University of Iowa.

Mar 2008 Public Health and Public Policy Issues Related to Dental Care in Prisons. Presented at University of North Carolina School of Public Health, Chapel Hill, NC.

Jun 2007 Characteristics of Dental Care Systems of State Departments of Corrections. Presented to annual meeting of Federal Bureau of Prisons dentists, Norman OK.

Jun 2006 Public Health Aspects of Correctional Dentistry. Presented to annual meeting of Federal Bureau of Prisons dentists, Fort Worth, TX.

Oct 2006 Opportunities for Dental Research Using the National Health and Nutrition Examination Survey. Indiana University School of Dentistry.

Aug 2006 Dental Public Health and Legal Issues Associated with Correctional D

2009 - 11 Expert witness. Inmates of the *Northumberland County Prison, et al. v. Ralph Reish, et al*. 08-CV-345 (M.D. Pennsylvania). Settled February 18, 2011. Jail conditions class action.

2007 - 09 Expert witness. *Flynn v. Doyle* 06-C-537-RTR (E.D. Wisconsin) Deposed June 5, 2008. Settled August 16, 2010. Prison conditions class action.

2006 - 12 Rule 706 Expert (monitor) and Court Representative, *Perez v. Tilton* (*Perez v. Cate*) federal class action lawsuit settlement. C05-5241 JSW (N.D. California). Prison conditions class action.

Responsible to *Perez* Court for coordinating remedies between dental (*Perez v. Tilton / Cate*), medical (*Plata v. Schwarzenegger*), *Americans with Disabilities Act* (*Armstrong* v. *Schwarzenegger*) and mental health (*Coleman v. Schwarzenegger*) cases. Monitored compliance with *Perez* stipulated injunction. Monitoring completed June 2012.

2006 National Institute for Dental and Craniofacial Research Special Emphasis Panel -- PAR 04-091 "NIDCR Small Research Grants for Data Analysis and Statistical Methodology

2005 - 10 Rule 706 Expert (monitor), *Fussell v. Wilkinson* federal class action lawsuit settlement. 1:03-cv-00704-SSB (S.D. Ohio). Prison conditions class action.

Performed initial fact finding, provided dental input to stipulated injunction, wrote policies and procedures, and monitored compliance. Monitoring completed October 2010.

2000 - 06 Predoctoral Consultant to American Dental Association Commission on Dental Accreditation

2000 - 06 Postdoctoral Consultant: Advanced Education (Dental Public Health) American Dental Association Commission on Dental Accreditation

1999 - 03 Editorial Board *Journal of Public Health Dentistry*

1997 Reviewer (primary), Total Fluoride Intake, Centers for Disease Control Fluoride Recommendations Workshop

1996 - 05 Editorial Board, Mosby's Dental Drug Reference

1995 - 97 Consultant, Fluoride Steering Subcommittee, Oral Health Coordinating Committee, US Department of Health and Human Services

1993 – *Ad hoc* reviewer: Journal of Pu 0 Tc 0 Tw 4.46 0 TR7p6 -1. J1.9(h)9.9(and 2.1(P)1

Diseases (2); Journal of Oral Rehabilitation (2); British Dental Journal (5).

Teaching

Predoctoral

1993 - 2007	Director, Principles of Biostatistics
1993 - 2007	Lecturer, Applied Preventive Dentistry
1993 - 2007	Clinical Supervisor, Preventive Dentistry
2006 - 2007	Clinical Supervisor and Care Provider, Dallas County Juvenile Detention Center Dental Clinic
1993 - 2005	Director, Epidemiology & Prevention
1995 - 2003	Director, Dental Public Health

Postdoctoral

2007 –	Research mentor, Department of Periodontics, Baylor College of Dentistry
1994 - 2007	Director, Dental Public Health Residency
1994 - 2007	Lecturer, Research Methods
2001 - 2006	Director, Applied Biostatistics

PUBLICATIONS

Peer-Reviewed (57)

Published

1. Harrel SK, Abraham CM, Rivera-Hidalgo F, Shulman JD, Nunn ME. Videoscope- assisted minimally invasive periodontal surgery: One-year outcome and patient morbidity. *International Journal of Periodontics & Restorative Dentistry* 36 (3); 2016.
2. Harrel SK, Abraham CM, Rivera-Hidalgo F, Shulman JD, Nunn ME. Videoscope-assisted minimally invasive periodontal surgery (V-MIS). *Journal of Clinical Periodontology* 2014; 41 (9):900-7.
3. Bansal R, Bolin KA, Abdellatif HM, Shulman JD. Knowledge, attitude and use of fluorides among dentists in Texas. *Journal of Contemporary Dental Practice* 2012;13(3):371-375.
4. Shulman JD, Sauter DT. Treatment of odontogenic pain in a correctional setting. *Journal of Correctional Health Care* (2012) 18:1, 58 - 65.
5. Barker TS, Cueva MA, Rivera-Hidalgo F, Beach MM, Rossman JA, Kerns DG, Crump TB, Shulman JD. A comparative study of root coverage using two different acellular dermal matrix products. *Journal of Periodontology* (2010) 81:11, 1596-1603.

6. Maupomé G, Shulman JD, Medina-Solis CE, Ladeinde O. Is there a relationship between asthma and dental caries? A critical review of the literature. *Journal of the American Dental Association* 2010;141(9):1061-1074.

7. Puttaiah R, Shulman JD, Youngblood D, Bedi R, Tse E, Shetty S, Almas K, Du M. Sample infection control needs assessment survey data from eight countries. *Indian Dental Journal* 2009; 59, 271-276.

8. Fransen JN, He J, Glickman GN, Rios A, Shulman JD, Honeyman A. Comparative assessment of ActiV GP/glass ionomer sealer, Resilon/Epiphany, and Gutta-Percha/AH Plus Obturation: A Bacterial Leakage Study. *Journal of Endodontics* 2008; 34(6), 725-27.

9. Beach MM, Shulman JD, Johns G, Paas J. Assessing the viability of the independent practice of dental hygiene. *Journal of Public Health Dentistry 2007;*67(4):250-4.

10. Blackwelder A, Shulman JD. Texas dentists' attitudes towards the dental Medicaid program. *Pediatric Dentistry* 2007; 29:40-4(f16(ent)012(8)5.9(t)2(7)7()n7 Td ( )Tj EMC ET

20. Bolin KA, Shulman JD. Nationwide dentist survey of salaries, retention issues, and work environment perceptions in community health centers. *Journal of the American Dental Association* 2005;136 (2): 214-220.

21. Shulman JD. Recurrent herpes labialis in US children and youth. *Community Dentistry & Oral Epidemiology* 2004; 32: 402-9.

34. Maupomé G, Shulman JD, Clark DC, Levy SM, Berkowitz J. Tooth-surface progression and reversal changes in fluoridated and no-longer-fluoridated communities over a 3-year period. *Caries Research* 2001; 35:2:95-105.

35. Trautmann G, Gutmann JL, Nunn ME, Witherspoon DE, Shulman JD. Restoring teeth that are endodontically treated through existing crowns. Part I: Survey of pulpal status on access. *Quintessence International* 2000; 31(10):713-18.

36. Trautmann G, Gutmann JL, Nunn ME, Witherspoon DE, Shulman JD. Restoring teeth that are endodontically treated through existing crowns. Part II: Survey of restorative materials commonly used. *Quintessence International* 2000; 31(10):719-28.

37. Lalumandier JA, McPhee SD, Riddle S, Shulman JD, Daigle WW. Carpal tunnel syndrome: Effect on Army dental personnel. *Military Medicine* 165:372-78, May 2000.

38. McFadyen JA, Shulman JD**.** Orofacial injuries in youth soccer. *Pediatric Dentistry* 1999; 21:192-96.

39. Cederberg RA, Fredricksen NL, Benson BW, Shulman JD. Influence of the digital image display monitor quality on observer performance. *Dentomaxillofacial Radiology* 1999; 28:203-7.

40. Shulman JD, Niessen LC, Kress GC, DeSpain B, Duffy R. Dental public health for the 21st century: Implications for specialty education and practice. *Journal of Public Health Dentistry* 1998; 58 (Suppl 1):75-83.

41. Cederberg RA, Fredricksen NL, Benson BW, Shulman JD. Effect of different lighting conditions on diagnostic performance of digital film images. *Dentomaxillofacial Radiology* 1998; 27:293-97.

42. Shulman JD, Lewis DL, Carpenter WM. The prevalence of chapped lips during an Army hot weather exercise. *Military Medicine* 1997; 162:817-19.

43. Shulman JD, Wells LM. Acute toxicity due to ethanol ingestion from mouthrinses in children less than six years of age. *Pediatric Dentistry* 1997; 19(6):404-8.

44. Kress G, Shulman JD. Consumer satisfaction with dental care: where have we been, where are we going? *Journal of the American College of Dentistry* 1997; 64 (1):9-15**.**

45. Shulman JD, Wells LM. Acute toxicity in children under the age of six from ingesting home fluoride products: an update. *Journal of Public Health Dentistry* 1995; 57(3):150-8.

46. McFadyen JA, Seidler KL, Shulman JD, Wells, LM. Provision of free and discounted dental services to selected populations: A survey of attitudes and practices of dentists attending the 1996 Dallas Midwinter Meeting. *Texas Dental Journal* 1996; 113 (12):10-18.

47. Shulman JD.

8. Shulman JD, Carpenter WM. Risk Factors Associated with Geographic Tongue among US Children. *J Dent Res* 85 (Special Issue): # 1205, 2006.

9. Shulman JD, Bolin KA, Eden BD. Socio-demographic Factors Associated with Root Surface Caries Prevalence. *J Dent Res* 84 (Special Issue): # 3279, 2005.

10. Shulman JD, Carpenter WM, Rivera-Hidalgo F. Prevalence of Hairy Tongue among US Adults. *J Dent Res* 84 (Special Issue): # 1396, 2005.

11. Eden BD, Shulman JD. Root Caries in the US by Tooth Type and Surface. *J Dent Res* 84 (Special Issue): # 2622, 2005.

12. Mobley CC, Shulman JD. Birth Weight and Caries in the Permanent Dentition of Children. *J Dent Res* 84 (Special Issue): # 86, 2005.

13. Puttaiah R, Shulman JD, Bedi R, Youngblood D, Tse E. Infection Control Profile Scores of 11.1 -1.1 0 T71(o1a8 Tw 0.33 0 Td [(d)10(em)-3(o)10(l)70(S)11 EMC /Lead

23. Eden BD, Shulman JD. Factors influencing self-perceived need for periodontal therapy: Data from the Third National Health and Nutrition Survey (NHANES III). *J Dent Res* 2003; 82(Spec Issue):#0481.

24. Shulman JD, Beach MM, Rivera-Hidalgo F. The Prevalence of oral mucosal lesions among US adults: Results from the Third National Health and Nutrition Survey. *J Dent Res* 82 (Special Issue A): # 1472, 2003.

25. Rivera-Hidalgo F, Shulman JD, Beach MM. Recurrence of aphthous ulcerations in adult tobacco smokers. *JDent Res* 82 (Special Issue A): # 0759, 2003.

EXHIBIT B

Court Expert

2006 – 2012. Rule 706 Expert (monitor) and Court Representative, *Perez v. Tilton* (*Perez v. Cate*) federal class action lawsuit settlement. C05-5241 JSW (N.D. CA). Monitoring completed June 2012.

2005 – 2010. Rule 706 Expert (monitor), *Fussell v. Wilkinson* federal class action lawsuit settlement. 1:03-cv-00704-SSB (S.D. OH). Monitoring completed October 2010.

Expert for Plaintiff (s)

2015 – Expert witness. *Aaron Marshal v. Wexford Health Sources, Inc*. 14-722-SMY-

EXHIBIT C

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

C. External Documents

1. Other Correctional Systems

Arizona Department of Corrections, Division of Health Services. Department Order 1103. Inmate Dental Health Care. January 1, 2010 ("AZ P&P").

August 2010. http://www.cdcr.ca.gov/DCHCS/docs/2010-August-PP.pdf (visited September 16, 2014). ("CDCR P&P").

Federal Bureau of Prisons Program Statement P6400.2. Dental Services, January 15, 2005. http://www.bop.gov/policy/progstat/6400_002.pdf (visited September 7, 2014). ("BoP Dental Program Statement").

Ohio Department of Correction and Rehabilitation. Bureau of Medical Services. Protocol F-6. Types of Dental Examinations, September 20, 2007. ("ODRC Exams").

2. Scientific Literature

American Academy of Periodontology. Parameter on Comprehensive Periodontal Examination. *J Periodontol* 2000;71:847-848. ("Periodontal Exam").

American Academy of Periodontology. Parameter on Periodontal Maintenance. *J Periodontol* 2000;71:849-850. ("Periodontal Maintenance").

American Academy of Periodontology. Parameter on Chronic Periodontitis with Advanced Loss of Periodontal Support. *J Periodontol* 2000;71:856-858. ("Advanced Periodontitis").

American Academy of Periodontology. Parameter on Chronic Periodontitis with Slight to Moderate Loss of Periodontal Support. *J Periodontol* 2000;71:853-855. ("Moderate Periodontitis").

American Dental Association. Oral Health Topics: Dental Public Health. http://www.ada.org/en/member-center/oral-health-topics/dental-public-health. Viewed May 18, 2016. ("ADA Oral Health Topics").

American Dental Association. Evaluation: Patient Requiring a Comprehensive Oral Evaluation. http://www.ada.org/en/science-research/dental-practice-parameters/evaluation-patient-requiring-a-comprehensive-oral-evaluation (visited 6/29/2016) ("ADA – Comprehensive Oral Evaluation.").

American Dental

Makrides NS, Costa JN, Hickey DJ, Woods PD, Bajuscak R. Correctional Dental Services, in Clinical Practice of Correctional Medicine, 2nd ed. Philadelphia: Mosby Elsevier, (M. Puisis 2006). ("Makrides, *et al*.").

Mitchell TV. Periodontal Screening and Recording: Early Detection of Periodontal Diseases. Dentalcare.com Continuing Education. http://www.dentalcare.com/en-US/dental-education/continuing-education/ce53/ce53.aspx?ModuleName=introduction&PartID=-1&SectionID=-1. Viewed 6/19/2016. ("Periodontal Screening and Recording").

N'Gom PI, Woda A. Influence of Impaired Mastication on Nutrition. *Journal of Prosthetic Dentistry*; 87:6; 2002; 667-673. ("N'Gom and Woda").

Pedlar J. Extraction of Teeth, in Oral and Maxillofacial Surgery. An Objective-Based Textbook. (Pedlar J and Frame J. eds. Churchill Livingstone Elsevier, 2007). ("Pedlar").

Periodontal Screening and Recording (PSR). Dental Record Administration, Recording and Appointment Control. US Army Technical Bulletin. TB MED 250, Appendix F, April 2006. ("Army TB MED 250").

Sánchez-Ayala A, Campanha NH, Garcia RCMR. Relationship between Body Fat and Masticatory Function. *Journal of Prosthodontics* 2 (2013) 120–125 ("Sánchez-Ayala *et al*.").

Sanz I, Alonso B, Carasol M, Herrera D, Sanz M. Nonsurgical Treatment of Pperiodontitis. *Journal of Evidence Based Dental Practice*. 2012 Sep;12(3 Suppl):76-86. (Sanz *et al*.).

Sheiham A, Steele JG, Marcenes W, Finch S, Walla AWG. The Relationship between Oral Health Status and Body Mass Index among Older People: A N

Swager WM and Morgan SK. Psychotropic-induced Dry Mouth:

OHS Division Manual Policies and Procedures [ADOC000774 – ADOC001117]

Corizon/ADOC contract [ADOC000518 – ADOC000773]

Dental forms [Dunn(Corizon)_10608 – Dunn(Corizon)_10642]

EXHIBIT D

Exhibit D-1. Plaintiffs Diagnosed with Periodontal Disease (N=19)				
Name	**Exam Date**	**Periodontal Condition Identified**	**Periodontal Treatment Planned**	**Page**
Patient 3	4/14/11	Gingivitis	No	MR041954
Patient 4	2/15/12	Gingivitis Chronic periodontitis	No	MR002295
Patient 4	5/3/14	Aggressive periodontitis	Prophy	MR002280
Patient 6	11/11/14	Gingivitis	No	MR021540
Patient 8	10/29/12	Gingivitis	No	MR004863
Patient 9	5/31/12	Gingivitis	No	MR006119
Patient 10	1/25/12			

Exhibit D-2. Dental Treatment Plans for Prisoners with Identified Periodontal Problems (N=32)				
Name	**Exam Date**	**Recent x-rays for Exam**	**Periodontal Condition Identified (PSR)**	**Periodontal Treatment Planned**
Patient 39	2/7/14	No	Gingivitis	No
Patient 76	2/5/15	No	(4,3,4/4,4,3)	No
Patient 53	2/26/15	No	(3,3,3/3,3,3)	No
Patient 41	3/16/15	No	Gingivitis (2,2,2/2,2,2)	No
Patient 49	3/31/15	No	(3,2,3/3,2,3)	Prophy
Patient 47	8/2/12	No	Chronic periodontitis	No
Patient 44	4/1/15	No	Gingivitis (2,2,2/2,2,2)	No
Patient 2				

Exhibit D-3. Wait Time for Plaintiffs Submitting HSRFs Stating Pain (N=16)					
Name	**HSRF Date**	**Issue / Page**	**Date Seen by Dentist**	**Encounter Result /Page**	**Days after HSRF**
Patient 3	2/3/2016	Painful wisdom tooth MR046687	2/24/2016	Consent for extraction MR046712	21
Patient 3	9/20/15	Painful wisdom tooth MR046696	11/30/15	No show for dental sick call MR046593	71
Patient 3	6/24/12	Painful tooth MR042333	6/26/12	Extraction MR042349	2
Patient 55	1/28/14	Dentures causing blisters MR001384	5/21/14	Adjust denture MR001500	113
Patient 55	7/23/13	Denture pain – can't eat MR001370-71	11/20/13	Adjust denture MR001498	119
Patient 55	6/11/12	Painful teeth MR001275	6/16/12	Teeth extracted MR001500	5
Patient 55	1/31/12	Toothache MR001348	5/30/12	Extract tooth MR001500	120
Patient 60	1/2/13				

Exhibit D-4.

Exhibit D-6. PSR Scores of ADOC Prisoners (N=79)			
Name	**Sextants with PSR**	**Name (AIS)**	**Sextants with**
Patient 80	0	Patient 110	0
Patient 81	1	Patient 40	0
Patient 82	0	Patient 2	0
Patient 76	4	Patient 111	1
Patient 62	1	Patient 50	3
Patient 83	0	Patient 112	0
Patient 49	4	Patient 113	1
Patient 35	0	Patient 114	0
Patient 84	0	Patient 115	6
Patient 85	0	Patient 116	0
Patient 86	0	Patient 117	6
Patient 87	0	Patient 38	6
Patient 37	0	Patient 118	6
Patient 51	6	Patient 119	[redacted]