UNITED STATES DISTRICT COURT
DISTRICT OF NEBRASKA

HANNAH SABATA, et al, **Plaintiffs,** **v.** **NEBRASKA DEPARTMENT OF CORRECTIONAL SERVICES, et al,** **Defendants.**	**Case No. 4:17-cv-03107-RFR-MDN** **CLASS ACTION** **EXPERT REPORT OF JAY D. SHULMAN, DMD, MA, MSPH**

I, Jay D. Shulman, DMD, MA, MSPH, declare as follows:

1. I am a dentist experienced in the field of Correctional Dentistry retained by Plaintiffs' counsel in the *Sabata* case as an expert in dental care in correctional institutions. I have been asked to render my opinion with respect to whether there are current systemic deficiencies in the dental care provided by the Nebraska Department of Correctional Services ("NDCS") that are amenable to a common remedy that will reduce the risk of harm to prisoners. A true and correct copy of my *curriculum vitae* is attached as **Exhibit 1**.

I. PROFESSIONAL QUALIFICATIONS

A. Clinical, Management, and Academic Experience

2. I have been a dentist for 47 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 the nine specialties recognized by the American Dental Association ("ADA"). Moreover, I have extensive experience auditing educational, military, and correctional programs.

3. 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 and was responsible for the dental health of 25,000 soldiers and family members.

4. I have written 59 peer-reviewed articles and four book chapters, served as a reviewer for national and international dental journals and on the editorial board of the Journal of Public Health Dentistry, the official journal of my specialty. Many of the papers I wrote during my academic career related to the epidemiology of oral disease, such as dental caries, periodontal disease, and oral lesions. Eight publications relate to correctional dentistry. A complete list of my publications is included in my *curriculum vitae*.

B. Correctional Dentistry Experience

5. 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 prisoners in 33 institutions) and Ohio (roughly 50,000 prisoners in 30 institutions) over a five-year period. I am currently a member of a Rule 706 Medical Investigation Team in class action litigation involving dental care in the Illinois prison system.[1] Moreover, in 2014, I was retained as a dental expert by the U.S. Department of Justice in an investigation of a prison's dental care under the *Civil Rights of Institutionalized Persons Act*.

6. I have performed clinical dentistry and supervised dental and dental hygiene students at the Dallas County Juvenile Detention Center. My work in the military and

[1] *Don Lippert el al. v. John Baldwin, et al.*, Case No. 10-cv-4603 (N.D. Ill.).

correctional dentistry, as well as my training in Dental Public Health focusing on population-based care, have given me unique expertise to discuss not only specific incidences of dental care, but system-wide deficiencies in dental care and the effects those deficiencies are likely to have on prison populations. A complete list of the cases for which I served as an expert is in the Consultant Activities section of my *curriculum vitae* attached as **Exhibit 1**.

7. I have been asked to render my opinion with respect to whether prisoners in NDCS facilities are subjected to a substantial risk of serious dental injury caused by NDCS's systemic deficiencies; and whether the deficiencies are amenable to a common remedy that will reduce the risk of harm to prisoners. My opinions are based on a review of dental records of the named prisoner plaintiffs, interviews of two plaintiffs, review of randomly selected prisoner records, as well as documents, and reports, available at this time, as listed in **Exhibit 2**, and the scientific literature. In addition, the opinions are based on my 47 years of professional experience in dentistry and are made to a reasonable degree of dental certainty.

II. SUMMARY OF OPINIONS

8. It is my opinion that the consistently inadequate dental care documented in the records I reviewed is attributable to systemic problems caused by inadequate dentist staffing and inadequate policies and procedures in the NDCS's Dental Department. Specifically, the NDCS's policies and practices regarding quarantine periods for routine care and dentures and inadequate diagnosis and treatment of periodontal disease combine into a system that fails to adequately identify, or properly and timely treat, dental issues experienced by prisoners. The NDCS's policies on these issues are in many cases themselves below the standard of care. These failures place all prisoners at risk not only of preventable pain, but also of advanced tooth decay, advanced periodontal disease, and unnecessary loss of teeth. The inadequacies in dental care experienced by the plaintiffs are typical of the risk of inadequate dental care for all inmates.

Consequently, all prisoners are at risk for preventable pain and tooth morbidity. In my experience as Court Expert / Monitor in *Fussell v. Wilkinson*[2] and *Perez v. Tilton*[3], both large dental prisoner class actions, I have seen systemic problems of this type addressed successfully by mandated changes in the dental care system.

III. DENTAL CONDITIONS

A. Odontogenic Pain (Toothache)

9. Regardless of the size of an institution or the scope of dental care provided, the requirement to treat toothaches is common to all correctional facilities since managing patients' pain is a standard part of dental practice.[4] Pain is managed by the appropriate use of analgesics as well as expediting the treatment of patients whose complaints of pain are clinically validated. Among the possible non-traumatic causes of tooth pain are (a) tooth fractures (often, a tooth that has been weakened splits during normal chewing), (b) pulpitis, (c) caries (decay) extending through the enamel into dentin, (d) dental (periapical or periodontal) abscess, and (e) cellulitis (a diffuse inflammation of the connective tissue caused by a spreading bacterial infection just below the skin surface).

B. Dental Caries

10. Dental caries (tooth decay) is an infectious disease characterized by progressive destruction of tooth substance, beginning on the outer (enamel) surface or the exposed root surface. Left untreated, the decay can progress, causing pain and leading to tooth loss, localized infection (dental abscess), and occasionally, systemic infection.

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[2] Case No. 1:03-cv-00704 (S.D.Ohio), filed 10/14/2003), R.181, Page 4 (appointing Dr. Shulman as an expert in dentistry).

[3] Case No. 3:05-cv-05241 (N.D.Cal.), filed 12/19/05), R.96, ("Order Appointing Court Experts as Court Representatives"; R. 36, "Order Appointing Experts".)

[4] Shulman JD and Sauter DT (2012). Treatment of odontogenic pain in a correctional setting. *Journal of Correctional Health Care* 18:62.

11. Caries is typically diagnosed visually and/or radiographically. The visual appearance ranges from a "white spot" on the enamel (outer layer of the tooth) to a gaping hole in the tooth with black staining characteristic of end-stage caries. **Figure 1** is a representation of how different stages of caries may appear on an intraoral radiograph.

Figure 1. Interproximal Decay as Seen on a Radiograph

A. Incipient **B. Moderate/ Advanced** **C. Severe**

12. An incipient lesion (Figure 1A) may not readily identified clinically because there is no "cavity" in the tooth and too little tooth has been affected to be seen on a radiograph.[5] Once the lesion reaches the dentin—a tissue that is less resistant to decay than enamel (early Figure 1B)—the patient should be scheduled for treatment. Figure 1C shows an advanced lesion that is almost through the dentin to the pulp. When decay reaches the pulp, the tooth will require either endodontic (root canal) treatment or extraction. Caries that is radiographically at or beyond the dentin should receive prioritized treatment to prevent deterioration to the point that the only practical alternative will be extraction.

13. A tooth that is classified as requiring routine (as opposed to urgent) treatment will typically not remain asymptomatic indefinitely. Caries, especially once the enamel has penetrated the dentin, generally progresses. The more time that passes before the tooth is treated (*i.e.*, filled), the greater the likelihood that decay will progress, destroying tooth structure, possibly causing an abscess, and generally requiring the tooth to be extracted. Consequently, any

[5] At this point, the lesion has the potential to re-mineralize, reversing the decay process.

classification system must have timelines to ensure that teeth that did not have a severe problem at the time of classification do not develop a severe problem due to untimely treatment.

14. 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.[6] Moreover, xerostomia (dry mouth) has been reported to be a common complaint of patients with diabetes.[7]

15. Among the factors affecting caries progression is xerostomia (hyposalivation or dry mouth) [*Id.*] Xerostomia is a side-effect of many drug classes such as antidepressants, anticonvulsants, anxiolytics, antipsychotics, anticholinergics, and alpha agonists[8]; a phenomenon known as polypharmacy[9] ("[…] 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.*)

16. To summarize, because decay generally progresses if untreated, untimely treatment even of asymptomatic decayed teeth puts prisoners at risk of preventable pain, increased tooth morbidity (making it more difficult to restore), or tooth loss. While the rate of decay progression is highly variable in a population, from my experience as an oral epidemiologist, I am comfortable stating that all individuals subjected to treatment delays are at

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[6] Shulman JD, Cappelli DP. "Epidemiology of Dental Caries." In Cappelli DP, Mosley C, eds. Prevention in Clinical Oral Health Care. Elsevier (2008), 3-4.

[7] L.M. Sreebny, A. Yu, A. Green, et al., Xerostomia in diabetes mellitus, *Diabetes Care* 15:7 (1992) 900–904.

[8] Swager, LWM and Morgan, SK (2011). Psychotropic-induced dry mouth: Don't overlook this potentially serious side effect. *Current Psychiatry* 10:12, 54-58.

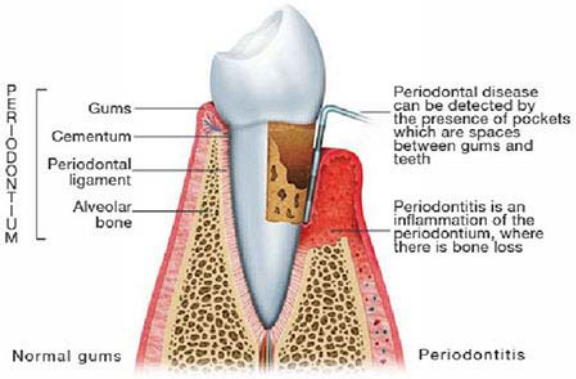
[9] "The risk of salivary hypofunction increases with polypharmacy and may be especially likely when ≥3 drugs are taken per day" (Swager and Morgan, p. 54).

substantial risk of suffering loss of tooth structure (tooth morbidity) as well as tooth loss (tooth mortality).

C. Periodontal Disease

17. Periodontal disease is an inflammatory disease of the supporting tissues of the teeth resulting in the progressive destruction of the periodontal ligament and the alveolar bone with pocket formation, gingival recession, or both and resulting tooth loss.[10] Figure 2 compares normal periodontium to that which has been damaged by periodontal disease. Note that periodontal probe is inserted in a space created where the periodontal ligament and alveolar bone were destroyed.[11] The probe measures the depth of the periodontal pocket (in millimeters). These measurements are recorded by dentists and dental hygienists to establish a baseline and to assess disease progression over time. Tracking periodontal pocket depth over time is black letter dentistry.

Figure 2. Normal and Diseased Periodontium



[10] Cappelli DP, Shulman JD. Epidemiology of Periodontal Diseases." In Cappelli DP, Mosley C, eds. Prevention in Clinical Oral Health Care. Elsevier (2008), p. 14. ("Cappelli and Shulman")

[11] See discussion of the Periodontal Screening and Recording System in **Exhibit 3**, *infra*.

1. Periodontal Diagnosis

18. Periodontal probing is not a sterile academic exercise but rather a tool to identify portions of the mouth that require further examination. It should be performed at every routine examination to monitor disease progression and determine if a more extensive examination should be performed.[12,13,14,15]

19. PSR scores that indicate the presence of moderate or severe periodontal disease should be followed-up. For example, if there is one sextant with a PSR score of 3,

> [a] comprehensive periodontal examination and charting of the affected sextant 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. If two or more sextants score a Code 3, a comprehensive full mouth examination and charting are indicated.[16]

20. **Exhibit 3** describes the process for determining the PSR that should be performed at every routine examination to monitor disease progression (Periodontal Exam, p. 847; Periodontal Maintenance, p. 849; Chronic Periodontitis, p. 853). Sextants with PSR scores of 3[17] or 4[18] are often described as having moderate and severe periodontal disease, respectively.

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[12] American Academy of Periodontology. Parameter on Comprehensive Periodontal Examination. *J Periodontol* 200;71:847-848, p. 847. ("Periodontol Exam")

[13] American Academy of Periodontology. Parameter on Periodontal Maintenance. *J Periodontol* 2000;71:849, p. 849.("Periodontal Maintenance")

[14] American Academy of Periodontology. Parameter on Chronic Periodontitis with slight to moderate loss of periodontal support. *J Periodontol* 2000;71:853-854. ("Chronic Periodontitis")

[15] American Academy of Periodontology. Parameter on Chronic Periodontitis with Advanced Loss of Periodontal Support. *J Periodontol* 2000;71:856-857, p. 857. ("Advanced Periodontitis")

[16] Mitchell, TV. Periodontal Screening and Recording: Early Detection of Periodontal Diseases. Dentalcare.com Continuing Education. Visited 10/29/2018 at http://www.dentalcare.com/en-US/dental-education/continuing-education/ce53/ce53.aspx, p. 6. (If there is at least one sextant with a PSR score of 4, "[a] comprehensive full mouth periodontal examination and charting are necessary to determine an appropriate care plan" [*id.*]).

[17] Deepest probing depth >5.5 millimeters [Cappelli and Shulman at 20].

[18] Deepest probing depth between 3.5 and 5.5 millimeters [Cappelli and Shulman at 20].

Untreated, the disease could progress, and the affected dentition may be lost. A comprehensive periodontal examination should be performed and in most cases the patient should be scheduled for scaling and root planing ("SRP") and re-evaluation.

21. In addition to periodontal probing, intraoral radiographs can assist in periodontal diagnosis; however, "[b]ecause of the lower resolution and superimposition of structures on the film, a ***panoramic***[19] ***radiograph does not have the fine detail necessary to diagnose caries or document periodontal bone loss***"[20]

22. Moreover, conventionally read radiographs routinely underestimate the amount of bone loss[21]. "Intraoral 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" [Stefanac, p. 12, emphasis added].

23. To summarize, treatment plans that are not informed by periodontal probing are below accepted professional standards because they will likely underdiagnose periodontal disease. Moreover, when periodontal screening indicates the presence of moderate or advanced disease, the standard of care dictates that further diagnostic modalities should be used to identify the ***specific*** disease sites.[22] This is especially problematic since periodontal disease is typically

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[19] A panoramic (Panoral, Panorex) radiograph is taken extra-orally and displays the entire maxillofacial complex.

[20] Stefanac SJ. Information Gathering and Diagnosis Development in Treatment Planning in Dentistry [electronic resource]. Stefanac SJ and Nesbit SP, eds. Edinburgh; Elsevier Mosby, 2nd. Ed. 2007, p. 12. Emphasis added. ("Stefanac")

[21] American Academy of Periodontology. Position Paper: Diagnosis of Periodontal Diseases. Journal of Periodontology 74:1237-1247; 2003, p. 1242. ("Periodontal Diagnosis")

[22] This is important since a PSR score simply indicates the deepest probing depth in a sextant of the mouth rather than the site or sites that generated the measurement. Failure to document the

painless. Failure to diagnose dental conditions timely is likely to result in preventable pain, tooth morbidity and tooth mortality.

2. Oral Radiographs

24. "Accurate diagnostic information forms the foundation of any treatment plan.[23] This information comes from the patient history, ***radiographs***, and the clinical examination." ["Stefanac", p. 3 (emphasis added).][24] Radiographs are an important adjunct in the diagnosis of dental conditions.

25. The radiographs most frequently used in dentistry are the panoramic (often referred to as a Panorex), periapical, and bite-wing. The panoramic radiograph (Fig. 2) displays a wide area of the jaws and helps detect developmental anomalies, pathologic lesions of the teeth and jaws, or other bone fractures. In adults, dentists most commonly use this radiograph to evaluate third molar position or the condition of edentulous areas of the jaws before fabricating removable prosthodontics (dentures). [Stefanac p. 17]. It is generally taken as part of the intake process (for new patients) in institutional settings such as the military, community health centers, and departments of corrections as well as in many private practices.

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problematic sites prevents determining the extent to which subsequent treatment has been effective.

[23] Radiographs or images of diagnostic quality should be obtained as part of a comprehensive oral evaluation. The number and type of radiographs or images required to provide the information needed for diagnostic purposes will vary according to the needs of the individual patient and should be determined by the attending dentist. *See* American Dental Association – Evaluation: Patient Requiring a Comprehensive Oral Evaluation. Visited 10/29/2018 at https://www.ada.org/en/member-center/member-benefits/practice-resources/dental-practice-parameters/evaluation-patient-requiring-a-comprehensive-oral-evaluation ("ADA Comprehensive Oral Evaluation")].

[24] For example, a treatment planning examination in the Federal Bureau of Prisons includes, *inter alia*, a complete periodontal examination and necessary radiographs (less than one year for bitewing and periapical x-rays, less than five years for panoramic x-rays). BoP Dental Program Statement at 11.

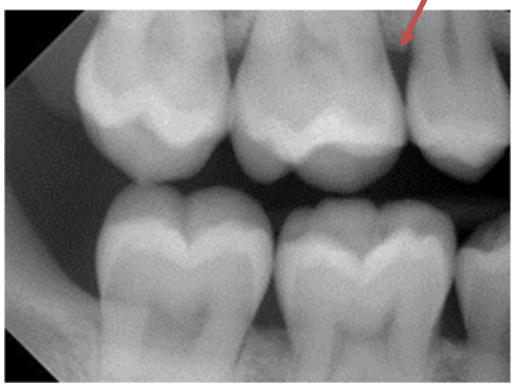
Figure 3. Panoramic Radiograph

26. Because of the lower resolution and superimposition of structures on the film, a panoramic radiograph does not have the fine detail necessary to document periodontal bone loss. This is more effectively accomplished with intra-oral radiographs [Stefanac at 17].

27. Dentists rely on intra-oral (film or sensor placed inside the mouth) and extra-oral radiographs in their practice. The intra-oral radiographs comprise periapicals (Figure 4) and bite-wings (Figure 5). Periapical radiographs should show the entire tooth and the surrounding bone. They are useful for imaging the teeth, detecting caries, and documenting signs of periodontal and periapical disease [*id.*]. They are especially valuable when a patient presents with a toothache to determine whether the source of the pain was an adjacent tooth or whether there is an abscess associated with the root of the tooth (see arrow, Figure 4).

Figure 4. Periapical Radiograph

Figure 5. Bite-Wing Radiograph



28. Horizontal and vertical interproximal or bite-wing radiographs show the crowns of the teeth in both arches and the alveolar crestal bone[25]. They are most frequently used for the detection of interproximal caries (caries between the teeth) and for evaluating the crestal bone height to assess periodontal health (Figure 5. Bite-Wing Radiograph)

29. The ADA and U.S. Food and Drug Administration recommendations for prescribing dental radiographs for adults are based on encounter type (new patient versus recall patient) and caries / periodontal disease history. In a prison, new intakes (other than intra-system transfers and recent recommits) fall into the "new patient" category. An examination for a new dentate or partially edentulous patient (*i.e.*, intake exam) comprises an

> [i]ndividualized radiographic exam consisting of posterior bitewings with panoramic exam or posterior bitewings and selected periapical images. A full mouth intraoral radiographic exam is preferred when the patient has clinical evidence of generalized oral disease or a history of extensive dental treatment.[26, 27]

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[25] The bone between the teeth (note red arrow in Figure 5).

[26] U.S. Department of Health and Human Services, Public Health Service, Food and Drug Administration, American Dental Association, Council on Scientific Affairs. Dental Radiographic Examinations: Recommendations for Patient Selection and Limiting Radiation Exposure (2012), p. 10. ("Dental Radiographs"). Visited 10/29/2018 at https://www.ada.org/~/media/ADA/Member%20Center/FIles/Dental_Radiographic_Examinations_2012.ashx

[27] *See also* Cappelli and Shulman, p. 21, ("[r]adiographic evidence of bone loss remains the most valid measure of destructive periodontal disease").

30. At recall (*e.g.*, periodic) examinations, dentate or partially edentulous patients with clinical caries are at increased risk for caries should have "[p]osterior bitewing exam at 6 to18-month intervals" [*id*. p. 11] and those with no caries and for those not at increased risk of caries[28] "a radiographic examination consisting of posterior bitewings is recommended at intervals of 24 to 36 months." [*Id*. p. 12].

31. To summarize, a treatment plan that is made without clinically-appropriate radiographs and periodontal probing 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 (such as periodontal disease or early caries). The resulting under diagnosis is pernicious since it will delay treatment and allow the condition to progress to the point that it causes pain. At this point treatment may be more difficult or the tooth may be unsalvageable and require extraction.

3. Periodontal Treatment

32. While advanced surgical treatment of periodontal disease is beyond the scope of services in available in most public dental programs, scaling and root planing ("SRP") is well within the scope of practice of dentists and dental hygienists[29] and comprises the standard of care

[28] Adult dentate patients who receive regularly scheduled professional care and are free of signs and symptoms of oral disease are at a low risk for dental caries. Nevertheless, consideration should be given to the fact that caries risk can vary over time as risk factors change [Radiographic Examination at 9]. For example, medications commonly prescribed to prisoners often cause dry mouth – which is a risk factor for caries. (*See*, discussion of dry mouth at ¶IIII B *supra.*)

[29] "At a minimum, noninvasive periodontal care such as scaling and root planing should be available to inmates and is to be used where periodontal pockets exceed 3 millimeters." NCCHC Guidelines p. 171.

for nonsurgical periodontal therapy[30,31] Similarly, the purpose of the debridement procedure[32] is to remove gross accumulations of materials that interfere with a dentist's performing a proper exam of the teeth. It is at best a precursor to definitive dental treatment[33,34] The advanced lesion, once formed, can progress and the associated bone destruction may result in tooth loss (Cappelli and Shulman, p. 18).

33. **Exhibit 3** shows the non-surgical treatment generally associated with the range of PSR scores. Mild gingival inflammation evidenced by slight bleeding on probing (PSR Score 1) can generally be addressed by oral hygiene instruction and a prophylaxis. As periodontal disease progresses, PSR scores increase, *pari passu*; and starting at PSR Score 2, prophylaxis and oral hygiene instruction are insufficient[35] (Chronic Periodontitis, p. 854; Advanced Periodontitis, p. 857). Typical non-surgical treatment of individuals identified with moderate or severe periodontal disease is a deep cleaning called 'periodontal scaling and root planing' ("SRP") followed by periodic re-evaluation.

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[30] Sanz et al. Nonsurgical treatment of periodontitis (2012). *Journal of Evidence Based Dental Practice* 51:76-86, p. 77.

[31] This is particularly important since one study of prisoners found 41.5% had at least one PSR score of 3 and 30.9 percent had at least one PSR score of 4 Clare JH (1998). Survey, Comparison, and Analysis of Caries, Periodontal Pocket Depth, and Urgent Treatment Needs in a Sample of Adult Felon Admissions, 1996. *J Correctional Health Care*; 5: 89–101, p. 70.

[32] American Dental Association Current Dental Terminology ("CDT") Code 04355.

[33] Systematic Review and Meta-Analysis on the Nonsurgical Treatment of Chronic Periodontitis by Scaling and Root Planing with or without Adjuncts (2015) *Journal of the American Dental Association* 146(7) 508-524, p. 509.

[34] Oral hygiene instruction (01330), while important to provide a patient with information on how to remove plaque (*e.g.*, by proper brushing and flossing), cannot remove calculus. Absent other periodontal procedures, disease may progress to the point that alveolar bone and periodontal ligament are lost, resulting in the formation of periodontal pockets (Figure 1 *supra*).

[35] Periodontal lesions may be generalized, or localized in a quadrant, or a tooth.

34. Mild gingival inflammation evidenced by slight bleeding on probing (PSR Score of 1) can generally be addressed by oral hygiene instruction and a prophylaxis. As periodontal disease progresses, PSR scores increase, *pari passu*, and starting at PSR Score 3, prophylaxis and oral hygiene instruction are insufficient (Moderate Periodontitis, p. 854; Advanced Periodontitis, p. 857). Typical non-surgical treatment of individuals identified with moderate or severe periodontal disease is SRP [36,37] followed by periodic re-evaluation.

35. Typically, SRP requires several visits[38]; and, since it involves smoothing (or planing) the roots of vital teeth and often results in the removal of soft tissue, local or topical anesthesia are generally used – since it is extremely difficult to perform this procedure on a squirming patient with acceptable results. It simply cannot be done in the time allocated for a dental prophylaxis.

36. To summarize, untreated, periodontal disease is typically painless especially in its early or moderate stages. It is likely to progress, and the affected dentition may be lost. While performing a dental prophylaxis is appropriate for early periodontal disease and may be a first-

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[36] CDT Code 4342 (periodontal scaling and root planing - one to three teeth per quadrant) involves instrumentation of the crown and root surfaces of the teeth to remove plaque and calculus from these surfaces. It is indicated for patients with periodontal disease and is therapeutic, not prophylactic, in nature. Root planing is the definitive procedure designed for the removal of cementum and dentin that is rough and/or permeated by calculus or contaminated with toxins or microorganisms. This procedure may be used as a definitive treatment in some stages of periodontal disease and/or as a part of pre-surgical procedures in others (Excerpted from CDT 2015 of the ADA).

[37] For example, the California Department of Corrections considers that moderate and severe periodontitis to comprise "interceptive care" and the appropriate treatment (i.e., scaling and root planing) should be performed within 120 days (CDCR Dental Policy at 5.4-3, p 127).

[38] For example, CDCR policy recommends that, "inmate-patients who need two quadrants or less of SRP have it completed in a single encounter and those needing more than two quadrants have the treatment completed in two encounters that are at least two weeks apart" [CDCR Dental Policy at 2.4.4 p 24]. Also, "[i]nmate-patients shall receive a re-evaluation of their periodontal disease status four (4) to eight (8) weeks following completion of treatment procedures associated with active therapy" [*id.*].

step for treating moderate to advanced periodontal disease, appropriate non-surgical treatment for moderate to advanced periodontal disease is scaling and root planing – a procedure that is ***not*** a part of a dental prophylaxis.

D. Pulpitis

37. 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 (Shulman and Sauter, p. 63).

38. 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 (Shulman and Sauter, pp. 63-64).

39. To summarize, failure to remove the cause of pulpal irritation timely, typically by removing decay and placing a filling, places the tooth at risk of developing an irreversible condition that jeopardizes the prognosis of the tooth.

E. Lost Fillings or Crowns

40. 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.

41. When a filling falls out or fractures, it must be replaced in a timely manner to protect the pulp of the tooth from the effects of dentinal sensitivity, which is pain brought on by such stimulating factors as cold and sweet[39]. The longer dentinal sensitivity persists the greater the likelihood that what initially may have been a reversible condition will develop into irreversible pulpitis requiring root canal or extraction. The structural integrity of the tooth also may be impaired making it vulnerable to fracturing during normal chewing. Consequently, even a tooth in which the pulp is not exposed may develop irreversible pulpitis if the filing is not timely replaced or repaired.

42. To summarize, failure to timely replace the filling and remove underlying decay, places the tooth at risk of developing an irreversible condition that jeopardizes the prognosis of the tooth.

F. Fractured Teeth

43. Fractures of the teeth are often the result of trauma and can be difficult to diagnose. Non-vital teeth are more susceptible to fracture than vital teeth due to the loss of their blood supply (pulp). Moreover, because they are 'dead', there is no pain associated with the fracture. The broken tooth, however, may become an irritant to the soft tissues.

44. Fractured teeth[40] are generally classified into three categories: (1) enamel only, (2) enamel into dentin, and (3) fractures involving the pulp. Fractures that extend only into the enamel are usually asymptomatic and do not require immediate dental treatment unless the tooth is an irritant to the lips, tongue, or cheeks. In contrast, fractures that extend into the dentin are usually symptomatic, causing tenderness, reaction to thermal changes, and pain. While not an

[39] Ingle JI. *PDQ Endodontics*, 2nd ed. Peoples Medical Publishing House – USA; 2009, p. 1-2.

[40] In my experience monitoring prison dental care, prisoners will often complain of "chipped teeth" when they have fractured teeth.

emergency, they should be treated to relieve the symptoms. The greater the area of exposed dentin the more urgent the treatment need because the pulp can become necrotic, resulting in infection. Fractures that extend into vital pulp often cause severe pain and are considered an emergency. Bleeding from the pulp can be seen in some cases, usually as a small pinpoint of red in the dentin. These fractures should be treated as soon as possible.

45. To summarize, the longer the pulp of the tooth is exposed to the oral environment, (from a lost filling, fractured tooth, or a crown that has fallen off), the greater the likelihood that the pulpitis will become irreversible and absent endodontic treatment, the tooth will require extraction. This places a premium on timely diagnosis and treatment.

G. Chewing Difficulty

46. Chewing difficulty can be caused by pain associated with decayed, broken-down, or infected teeth. This can be addressed by timely repair or extraction of the problematic teeth. Another type of chewing difficulty is the result of an inadequate number of opposing teeth[41]. This can be addressed by fabricating prosthodontic appliances (*i.e.*, dentures)[42]. Tooth loss is not satisfactorily compensated for by removable prostheses since the masticatory efficiency of a denture wearer is far from matching that of a fully dentate person[43]; however, people with impaired mastication may cope with feeding by either adapting their food choices or swallowing coarse particles that make the problem a digestive one. The first type of behavior is known to

[41] Opposing teeth are teeth that are positioned so that they can crush or tear food between them. In the absence of opposing teeth, food is crushed against soft tissue – which can be a source of pain. (See discussion of prisoner Valerie Thorpe *infra*).

[42] While prescribing a soft diet may be a short-term solution until the denture is fabricated, edentulousness can be a serious problem since it reduces chewing performance and affects food choice.

[43] While the chewing efficiency of removable dentures is less than that of natural teeth, dentures 1) do improve chewing efficiency and 2) protect the soft tissue from abrasion from food during chewing.

induce imbalance in dietary intake, and the second may result in decreased bioavailability of nutrients and gastrointestinal disturbances. In both situations, the impaired dietary or nutrient intake may increase nutrition-induced disease risks[44].

47. Chewing difficulty can be caused by pain associated with decayed, broken-down, or infected teeth and can be addressed by timely repair or extraction of the problematic teeth. Another type of chewing difficulty is the result of an inadequate number of opposing teeth[45] and can be addressed by fabricating prosthodontic appliances (*i.e.*, dentures).

48. Tooth loss has been associated with changes in food preference and nutritional deficiency although the evidence that people whose mastication is impaired by tooth loss are more likely to be underweight is conflicting[46]. Individuals with limited chewing ability are at risk for nutrition problems that have different physical manifestations. First, chewing may be so painful that an individual has an inadequate caloric intake – as evidenced by weight loss and reduced Body Mass Index ("BMI"). Second, people with a compromised dental status may avoid hard-to-chew foods and instead choose processed foods, favoring the absorption of cholesterol and saturated fatty acids, or may prefer simple carbohydrate-rich diets that are high in calories but low in dietary fiber, vitamins, and protein, thus leading to weight gain[47]. In this case, weight gain would be ***pathologic*** and not evidence that the individual had no chewing difficulty.

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[44] N'Gom PI, Woda A (2002). Influence of impaired mastication on nutrition. *Journal of Prosthetic Dentistry*; 87:6; 667-673, p. 667.

[45] Opposing teeth are teeth that are positioned so that they can crush or tear food between them. In the absence of opposing teeth, food is crushed against soft tissue – which can be a source of pain.

[46] Sheiham A, Steele JG, Marcenes W, Finch S, Walla AWG (2002). The relationship between oral health status and Body Mass Index among older people: a national survey of older people in Great Britain. *British Dental Journal*; 192:12 703-706, p. 703.

[47] Sánchez-Ayala A, Campanha NH, Garcia RCMR (2013). Relationship between body fat and masticatory function. *Journal of Prosthodontics* 22: 120–125, p. 120 ("Sánchez-Ayala et *al*.")

49. While one might naively assume that weight gain necessarily is evidence of an absence of chewing problems, prisoners generally gain weight during incarceration[48]. Whether this is due to lack of physical activity, the effects of medication, stress, or commissary purchases[49] is unresolved.

50. Many drugs commonly prescribed for chronic disease have weight gain as an adverse effect[50] and many are commonly prescribed to prisoners. Weight gain can arise due to differing mechanisms; such as increased appetite (e.g., corticosteroids) or reduced metabolic rate (e.g., beta-adrenoceptor blockers) [*id*. p. 396]. A systemic review of drug clinical trials found that drug classes such as used to treat Type 2 diabetes (insulin, sulphonylureas, thyiazolinidiones), hypertension (beta-blockers), inflammatory disease (corticosteroids), psychosis (antipsychotics), epilepsy, depression (tricyclic antidepressants), and bipolar disorder (Valproate, Lithium) are obesogenic [*id*. p. 396].

51. To summarize, weight gain or a stable weight are not dispositive of a lack of chewing difficulty. The association between chewing difficulty and weight loss is not clearly established and there is a body of studies explained by plausible scientific mechanisms that support the association between chewing difficulty and (pathologic) weight loss or gain. Moreover, the literature suggests that weight gain may occur irrespective of chewing difficulties.

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[48] Gates ML and Bradford RK (2015). The Impact of Incarceration on Obesity: Are Prisoners with Chronic Diseases Becoming Overweight and Obese during Their Confinement? *Journal of Obesity*; Volume 2015, Article ID 532468, p. 4. ("Gates and Bradford")

[49] Food purchases from the commissary (many of which also are only an approximation of what offenders consume) instead of, or in addition to, their institutional meals. Offenders sometimes engage in proxy purchases for other offenders or trade commissary goods as a form of currency. Moreover, goods from the commissaries include food items, many of which are processed high sodium and high fat content foods [Gates and Bradford at 6].

[50] Leslie WS, Hankey CR, Lean MEJ (2007). Weight gain as an adverse effect of some commonly prescribed drugs: a systematic review. *Quarterly Journal of Medicine* 100:395–404, p. 395. ("Leslie et al.")

Consequently, a that a prisoner has not lost weight or, in fact, gained weight does not necessarily rule out chewing difficulties. Failure to timely address the source of chewing difficulty can result in gratuitous pain, digestive problems, and dietary imbalances.

IV. STANDARD OF DENTAL CARE

A. Scope of Services

52. While the scope of services in prisons may be less extensive than that in a private practice, the standard for quality is the same in a correctional institution as it is in the community at large (Makrides et al., p. 557). The focus of correctional dentistry is the control of acute and chronic dental pain, stabilization of dental pathology, and maintenance or restoration of function. Dental treatment should not be limited to extractions and should include restorations (fillings) (*id*.). These standards of dental care are based on my research, the care provided in the community to include the Nebraska Medicaid Program, and the care provided in institutions including that provided by departments of corrections that have emerged from federal monitoring in the past 10 years. The standard of care used in the community at large is instructive because that standard is based on the type of care needed to protect patients from unnecessary pain and dental injury.

53. Furthermore, *Nebraska Revised Statute* 83-4, 155 states that "[i]n administering health care services, the department [NDCS] shall provide a community standard of health care to all inmates.". While the "community standard" for dental services was not defined in the statute, the scope of services for which reimbursement is allowed by the Nebraska Medicaid

Program[51] (which I presume follows the community standard) is a reasonable point of comparison.[52]

B. Access to Care

54. A prison system must be staffed with dental professionals qualified to provide inmates with needed dental care. Inadequate staffing causes delay and puts prisoners 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"[53]. That inmates are in restricted housing does not relieve the institution of the responsibility of ensuring that they are brought to dental appointments.

C. Quality of Care

55. While the scope of services may vary, the requirement to treat dental pain is universally applicable to all correctional facilities. The standard of care for treatment of odontogenic pain requires (a) a competent, well-documented examination of the mouth, (b) a diagnosis and treatment plan based on sufficient clinical data, (c) prompt referral to and treatment by a dentist, and (d) documented follow-up[54]. Prisoners complaining of a toothache should be examined by a midlevel medical provider, physician, or dentist within twenty-four hours of the complaint being received by prison staff[55].

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[51] Nebraska Medicaid Practitioner Fee Schedule for Dental Services Medicaid Services. Chapter 6-000 Dental Services, Manual Letter #49-2017. "Dental services must be delivered in accordance with generally accepted, evidence-based medical standards". ¶6-003.01A.

[52] With respect to quality, the standard of care is what a reasonably skilled and competent dentist provides in the community as well as what is taught in dental schools.

[53] Shulman JD, Makrides NS, Lockhart A (2017). The Organization of a Correctional Dental Program. In Cohen F. (Ed.), Correctional Health Care: Practice, Administration, and Law (Chapter 8, pp. 1-23). Kingston, NJ: Civic Research Institute, p. 8-16, 8-17.

[54] Shulman and Sauter, p. 67.

[55] Shulman & Sauter, p. 67.

D. Treatment of Dental Pain

56. The standard of care for treatment of urgent care encounters requires (a) a competent, well-documented examination of the mouth, (b) a diagnosis and treatment plan based on sufficient clinical data, (c) prompt referral to and treatment by a dentist, and (d) documented follow-up. treatment is below the standard of care and is inappropriate under all circumstances[56].

57. Because dental conditions can progress absent timely treatment, it is important that a dental program have appropriate policies, procedures, protocols, and enough treatment capacity to ensure that the treatment of painful conditions is sufficiently timely to prevent gratuitous pain[57]. 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[58].

> ***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.[59]

58. To summarize prisoners who complain of dental pain should be seen by a mid-level or advanced level provider within 24 hours of receipt of the IIR and by a dentist within 72 hours. Those who have been started on antibiotics for a dental infection should be treated by a dentist while there is a therapeutic blood level of the antibiotic. Providing repeated courses of

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[56] Shulman & Sauter, 2012, p. 68.

[57] "Providing restorations and periodontal care to offenders is the priority in eliminating active dental disease. The interval between appointments should be brief enough that teeth that were initially categorized as requiring routine care do not become urgent care problems" [Shulman *et al*. at 57].

[58] Not only must restorations (fillings) be provided, but treatment should be timely so that teeth that could be filled will not deteriorate to the point that extraction is necessary. Systematic untimeliness in providing routine care is, in effect, a *de facto* extraction only policy and thus, highly problematic [Shulman *et al*. at 8-11].

[59] NCCHC Guidelines, p. 170 (emphasis added).

antibiotics as a substitute for dental treatment is below the standard of care and is inappropriate under all circumstances.

E. Record Keeping

59. Routine examinations should be documented with a sequenced treatment plan and the results of the oral soft tissue (oral cancer) examination should be described. Urgent care encounters should be documented using the SOAPE format, a standardized protocol for recording the patient consultation.

V. METHODOLOGY

60. In looking at dental care in a correctional system, a useful methodology should focus on policies and practices of the system and the way they create risk for the prison population. Consequently, reviewing the treatment of individual prisoners is not an end, but simply a means to illuminate the issues that relate to systemic problems.

61. To assess the care provided to prisoners, I reviewed the dental charts of the plaintiffs as produced by NDCS. Because of the difficulties inherent in trying to copy x-rays I was unable to review x-rays except for Plaintiffs Galle and Gunther, whose paper files I was able to review onsite. I noted the results of the intake examination when it was present in the dental chart. I reviewed each IIR / kite and noted when the patient was seen, and what treatment was provided.

62. Pursuant to a Notice of Site Inspection, I was able to review selected class member files from four NDCS facilities. I selected 20 records from three prisons (DEC, NSP, CCC-L) and 19 from LCC. I toured the dental facilities at DEC, NSP, and LCC in person on October 22 and 23, 2018. I did not tour CCC-L's dental facilities because CCC-L used DEC's dental facilities for patient care. I reviewed the patient files selected from each facility on site

and performed further review after they had been duplicated by NDCS.[60] The focus of my review was the period from 2014 to the present although where it was available, I reviewed the plaintiffs' entire dental history. Some exemplars that bear on systemic program inadequacies are summarized below.

63. I explicitly assume that the entries in the dental charts are valid and complete, and conversely, that putative events that do not appear in the dental chart did not happen.[61] I computed wait times by subtracting the date of the intake examination from subsequent examination or treatment date using Microsoft Excel 2016. Where the clinical record notes treatment but the kite that requested the treatment was not in the dental or medical charts, I assume this reflects poor record keeping.

64. To assess the overall quality of NDCS's dental program, including the timeliness of addressing complaints of pain, identifying disease, arresting disease progress, and rehabilitating affected teeth, I reviewed dental records of the 11 plaintiffs as well as those of the randomly selected prisoners. In my experience evaluating correctional and institutional care, I found that interviews with prisoners regarding their dental treatment are time-consuming, logistically difficult, and need to be corroborated by a record review. Consequently, I spent the limited time that I was allowed at the prisons on document and record reviews and interviewed only two prisoners: Plaintiffs Galle and Gunther.

65. I did not focus on reviewing prisoner's x-rays because of my limited time at each facility because I was evaluating the overall quality of the NDCS dental care system, not the quality of the care provided to any individual prisoner. Instead, I relied on the charting and

[60] I assume that the charts were duplicated the day I selected them (10/22/18) unless noted otherwise.

[61] I have audited dental charts for more than 30 years and it is a canon of auditors that, "if it isn't in the chart, it didn't happen".

treatment plans of the dentists who had an opportunity to review x-rays and examine the prisoners. Thus, if a dentist charted a tooth to be filled, I presumed that a filling was appropriate treatment. If a periodontal assessment or periodontal probing is not documented, I assumed that it was not done. Similarly, I assumed that a tooth charted for extraction should be extracted.

66. In assessing timeliness, I started the 'clock' on the date recorded by the prisoner on the Inmate Interview Request ("IIR"). If that date was not legible, I used the date the IIR was received by the Nursing Department. I stopped the clock when the prisoner was examined by a dentist to assess the problem or, if an extraction or filling was indicated for a painful tooth, when the tooth was extracted or filled. I use Excel 2016 to compute waiting times.

VI. FINDINGS

A. Intake Dental Examination

67. Medical Protocol ("MP") 18 (2018), states that new commitments receive an oral examination and hygiene instructions within 30 days (¶A6(b); NDCS 078391). Prisoners receive an initial (intake) dental examination at the Diagnostic and Evaluation Center ("DEC"). I observed Dr. Ngyuen, perform a soft tissue examination and a visual examination with a mouth mirror. She viewed a panoramic (panoral or Panorex) x-ray and charted the number of decayed, missing, and filled teeth, determining whether the prisoner has any urgent or emergent treatment needs. No intraoral x-rays were taken, and she did not perform periodontal probing.

68. The examination is deficient for two reasons. First, it is performed without periodontal probing[62] and the panoramic radiograph (without intraoral x-rays)[63] is used to determine bone loss; which, as discussed earlier, is inadequate for assessing periodontal bone loss. The inadequate initial examination places all dentate prisoners at risk of harm from undiagnosed and underdiagnosed periodontal disease.

69. Second, while a panoramic radiograph can be used to diagnose advanced caries and certain jaw abnormalities, a proper caries exam should employ intraoral (*e.g.*, bite wing radiographs)[64] or early and moderate caries will be underdiagnosed.[65] This is particularly problematic since per NDCS policy, these prisoners will not be eligible to receive a more thorough examination and treatment for Priority III conditions for 12 months. While incipient caries (Fig 1A, *supra*) is potentially reversible, caries that has breached the dentin tends to progress; with the rate of progression varying with factors such as saliva quality and quantity, plaque characteristics, acidity of the oral cavity.[66] The inadequate initial examination places all dentate prisoners at risk of harm from undiagnosed dental caries.

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[62] For example, the American Dental Association defines a Comprehensive Oral Examination – New Patient (Procedure Code D 0150) as including "the evaluation and recording of dental caries, missing or unerupted teeth, restorations, existing prostheses, occlusal relationships, ***periodontal conditions (including periodontal screening and/or charting)***, hard and soft tissue anomalies, etc." CDT 2015 Dental Procedure Codes at 9. American Dental Association; Chicago, Illinois, 2014. ("CDT 2015"). Emphasis added.

[63] To illustrate this, the April 2018 Daily Dental Production Report for DEC shows that only one x-ray was taken for each prisoner examined at intake.

[64] Stefanac, p. 12.

[65] Dr. Ngyuen said that while bite wing radiographs are not taken at the intake examination, they are taken at the routine examination – which may be requested by IIR when the prisoner emerges from quarantine.

[66] Shulman and Cappelli, pp. 2-3.

B. Staffing

70. "Inadequate staffing is typically the reason for untimely care. Thus, it is critical that the dental program be adequately staffed with the optimal mix of personnel."[67]

71. In 2006, the NDCS reported 4,389 prisoners and six dentist and four authorized dental hygienist dentist positions all of which were filled; or 732 prisoners per dentist and 1,098 per dental hygienist FTE.[68]

72. The NDCS Medical Director testified that there are currently three full-time dentists who are state employees and "contract services" at the other facilities[69]. There are seven FTE dental positions authorized only three of which are filled.[70] Of the four vacancies, three were vacant for more than two years.[71] In addition there are contract dentists working at 0.8 FTEs at OCC, 0.4 FTEs at York, and 0.4 FTRs at Tecumseh[72]; for a systemwide total of 4.6 FTEs. Based on the 2017 average daily population of 5,229[73], there are 1,137 FTEs per prisoner – a 36% decrease in dentist staffing since 2006.

73. Dr. Deol testified that gaps in dentist staffing did not affect the department's ability to provide dental services although gaps in hygienist staffing delayed cleanings.[74] Based

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[67] Shulman JD, Makrides NS, Lockhart A (2017). The Organization of a Correctional Dental Program. In Cohen F. (Ed.), Correctional Health Care: Practice, Administration, and Law (Chapter 8, pp. 8-4, 8-5). Kingston, NJ: Civic Research Institute.

[68] Nebraska Department of Correctional services response to National Institute of Corrections (NIC) Survey on Correctional Dentistry, December 2006, pp. 3, 7.

[69] Deol Tr. 58:4-16.

[70] Deol Tr. 59:4-9.

[71] Deol Tr. 59:19-25.

[72] Deol Tr. 63:18-64:13.

[73] NDCS Average Daily Population, 2017. Viewed 12/28/2018 at https://corrections.nebraska.gov/public-information/ndcs-research-division.

[74] Deol Tr. 43:4-44:9.

on a staffing model developed before he arrived at NDCS, he testified that an appropriate staffing ratio is 1,200 patients per FTE dentist.[75]

74. The Chief of Dentistry position has been unfilled for about two years since the previous Dental Director was let go and Dr. Deol has been directly supervising the dentists.[76] Of the four vacant state employee dentist positions, three have been vacant for more than two years.[77] He attributed difficulty in filling state employee dentist, dental hygienist, and nursing positions to salaries that were not comparable to the marketplace.[78,79]

75. Dr. Deol testified that there are three funded dental hygienist positions of which two are filled and there is an additional 0.2 FTE contracted dental hygienist.[80] Note that in 2006 there were four dental hygienist positions – all of which were filled for fewer prisoners.

76. To summarize, even if all the vacant state-employed positions were filled there would not be enough treatment capacity to provide dentistry at the standard of care as previously described. In fact, the effect of the changes for Medical Protocol 18 in 2016 was to decrease the amount of treatment required – partially compensating for inadequate dentist and dental hygienist staffing.

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[75] Deol Tr. 60:20-62:20.

[76] Deol Tr. 18:10-19:18. "Q: Are efforts being made to fill the position? A: Yes, they are."

[77] Deol Tr. 59:4-25.

[78] Deol Tr. 253:4-25.

[79] As Court Expert / Monitor in the *Perez* case, I saw that "[a]s the result of the [court ordered] salary increases, the statewide vacancy rate for staff dentists plummeted from 53% in January 2007 to less than 10% in May 2008". Shulman JD. Structural Reform Litigation in Prison Dental Care: The *Perez* Case. *Correctional Law Reporter* 25(2) August-September 2013, p. 20.

[80] Deol Tr. 64:17-25.

77. That NDCS was unable to fill dentist positions – including the Chief of Dental Services for at least two years suggests that the salaries offered are not competitive and must be increased as part of remediation.

C. Scope of Dental Services

78. MP 18 (2018)[81] classifies dental services as Priority I (emergency care)[82], Priority II (urgent care)[83], Priority III (routine care)[84], and Priority IV[85]. Non-covered services include elective procedures, orthodontics, fixed bridgework or cast crowns for cosmetic purposes, implants, dentures for new commitments until a minimum of 24 months have been served, and the earliest parole or mandatory discharge release date is more than six months away[86], extracting asymptomatic third molars, and periodontal diagnosis and treatment (*id*. at A2 (b) 3). Several aspects of the Protocol are highly problematic.

79. MP 18 (2018) states that "[w]ithin the limits of available dental resources, care and treatment will be provided consistent with the following four priorities and listed examples. The dental practitioners may use their professional judgment to upgrade or down grade the

[81] The priorities and non-covered services were unchanged from 2016 to 2018; however, there were changes from the 2015 policy that will be addressed *infra*.

[82] Incapacitating pain, facial swelling, oral-facial trauma, suspected serious pathological conditions, and profuse bleeding. [*Id*. at ¶ A 2(b) 1].

[83] Extraction of non-restorable, symptomatic teeth, placement of sedative restorations in grossly decayed teeth, pulpotomy or pulpectomy, Prescription of medications as appropriate, and gross scaling and debridement of calculus. [*Id*. ¶ A 2(b)2; NDCS 078390]

[84] Routine non-acute care for conditions that are not of an urgent nature [*id*. ¶ A 2(b) 3; NDCS 078390-1].

[85] May be scheduled after all are met or as medically indicated. Prosthodontic care (dentures) is reserved for patients with NDCS length of stay greater than two (2) years and mandatory release date is no more than six (6) months. *Id*. ¶ A 2(b) 4; NDCS 078391.

[86] Exceptions may be granted by the Chief of Dental Services of designee. *Id*. ¶ A 3(e); NDCS 078391.

priority of a patient's dental condition.[87] Dr. Deol explained that this means that if there is insufficient staffing, Priority IV care may not be provided for some period.[88] Furthermore, he said that there have been "gaps in service" resulting from insufficient dental resources.[89]

80. To summarize, the scope of dental services provided by NDCS is inadequate. It is below the community standard and conflicts with *Nebraska Revised Statute* 83-4. Moreover, recent changes in Medical Protocol 18 degraded the dental program to the level of a third-world nation.

1. Treatment Restrictions (Quarantines)

(a) One-Year Waiting Period for Routine Services

81. Only patients with an NDCS length of stay greater than one year are eligible for Priority III (*i.e.*, non-urgent) care.[90] The effect of this is to impose a one-year quarantine on all prisoners during which they are not eligible to receive treatment for dental disease until the conditions become Priority II; that is, cause pain.[91] Moreover, a prisoner is released on parole and then re-incarcerated, the restriction period starts again.[92]

82. The current Medical Protocol (MP 2018) represents a substantial retrenchment of the dental program since 2016 which redounded to the prisoners' detriment. Not only are they

[87] MP 18 (2018), ¶A 2(b).

[88] Deol Tr. 42:7-43:3.

[89] Deol Tr. 43:4-44:9

[90] This 12-month restriction or quarantine period was not a prerequisite for receiving Priority III (non-urgent or routine) care in the 2015 protocol (NDCS 076338).

[91] Dr. Deol testified that a prisoner who is who is released on parole and then reincarcerated, the one-year waiting period restarts (Deol Tr. 44:18-45:14) and he could not explain the purpose of the one-year restriction for routine care (Id. 46:15-21).

[92] Deol Tr. 44:18-45:9. Moreover, Dr. Deol was not sure about the purpose of the restriction, did not know when it was added to the protocol, or whether it was consistent with American Correctional Association or National Commission for Correctional Health Care standards. *Id.* 46:19-48:1.

without clinical basis but they fly in the face of well-established dental science[93], but the NDCS Medical Director was unable to explain the reason for the one-year restriction and feels that it is inappropriate. Deol Tr. 48:7-16.

83. As discussed *supra*, periodontal conditions are generally painless (until they progress to an abscess) and it is more likely than not that prisoners may suffer progression while waiting for their quarantine to end. While the rate of progression is variable in a population, in my experience as an oral epidemiologist, it is more likely than not that asymptomatic dental disease can progress to the point that the tooth becomes painful or the tooth becomes more difficult to repair.[94] As a point of comparison, there is no such quarantine for routine dental care under the Nebraska Medicaid Program.

84. In short, the one-year quarantine policy is contrary to the canons of dental science and places prisoners at risk of preventable loss of tooth structure, periodontal support, resulting in pain. Simply put, it has no clinical justification and represents a pernicious attempt on the part of NDCS to reduce the patient load to accommodate inadequate staffing.

[93] See discussions of caries and periodontal disease *supra*.

[94] Typically, as more tooth structure is destroyed by decay, placing a filling may become increasingly difficult or even non-restorable. This is especially true in an incarcerated population where (as discussed supra) prisoners are taking medications that reduce salivary flow (which promotes the development of decay) or have diabetes which characteristically causes a reduction in salivary flow. Srebny et al (1992). Xerostomia in diabetes mellitus. *Diabetes Care* 15:7, p. 900.

(b) Prosthetics (Dentures) Eligibility

85. MP 18 (2018) classifies dentures as a Priority IV covered service (¶A 4 - NDCS 078391) and imposes a 2-year restriction for receiving dentures.[95,96,97] This represents a change from the 2015 Protocol which does not impose such a quarantine but rather states that dentures may not be fabricated for prisoners with a sentence length of less than 24 months.[98] A prisoner with chewing difficulty who is otherwise eligible for dentures will have to endure pain and discomfort gratuitously. While this policy may defer workload, it has no clinical justification. In fact, The NDCS Medical Director testified that he did not know the purpose of the restriction or whether it was consistent with ACA or NCCHC standards (Deol Tr. 48:21-49:25) and he believes that it is appropriate. Deol Tr. 50:10-11.

86. Moreover, while the Protocol mentions a waiver process, it is highly problematic because the basis for approving a waiver is not stated. The NDCS Medical Director testified that he was not sure if the availability of the waiver was communicated to the patient in writing. Deol Tr. 50:16-51:15. Moreover, since there is currently no Chief of Dental Services, Dr. Deol is the

[95] MP18 (2018), A2(b)3e. "Except in specific cases, dental prosthesis will not be fabricated for new commitments until 24 months minimum have been served and the earliest parole or mandatory discharge release date is more than six months away". Waivers must be approved by the Chief of Dental Services/Designee. NDCS 078391.

[96] Note that the Nebraska Dental Medicaid Program does not require that beneficiaries wait 24 months before being eligible for dentures. Medicaid Dental Fee Schedule, p. 11.

[97] As with the one-year quarantine, the prosthetics quarantine restarts if a prisoner is released on parole and is reincarcerated; moreover, he did not know the purpose of the quarantine. Deol Tr. 48:17-49:13.

[98] "Except in specific cases, dental prosthesis will not be fabricated for new commitments with incarceration of less than 24 months minimum and earliest parole or mandatory discharge release date of less than six months when Class IV priority is next service." Waivers must be approved by the Chief of Dental Services/Designee. MP 18 (2015) A2(b)3e; NDCS 076339.

decision authority; and to the best of his recollection, he has not received a request for an exception. *Id*. 51:11-52:6.[99]

87. MP 18 (2018) specifies that NDCS will "only replace dentures or partials every five years when deemed necessary by a Dentist. Any exception will be by the approval of the Chief of Dental Services/designee.". *Id*. ¶14 (d) – NDCS 078392. The NDCS Medical Director did not know what the intention of the policy was nor whether it was consistent with ACA or NCCHC standards. Deol Tr. 55:12-56:6. Moreover, as with the 2-year quarantine, the availability of requesting an exception is not communicated to the patient in writing. *Id*. 56:24-57:1.

88. To summarize, the restrictions for prosthetics care have no clinical justification and represent an attempt on the part of NDCS to reduce the patient load to accommodate inadequate staffing. These changes redounded to the detriment of NDCS prisoners who may be subject to prolonged chewing difficulty and gratuitous pain.

2. Diagnosis and Treatment of Periodontal Disease

89. Protocol MP 18 (2018) classifies periodontal diagnosis and treatment as non-covered services. [*Id*. at ¶A2(b)3(f); NDCS 078391].[100,101] The NDCS Medical Director

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[99] He testified that he did not know if such an exception has ever been granted. *Id*. 53:9-12. However, he disapproved a request for a waiver 7/6/18 (see discussion of Valerie Thorpe *infra*).

[100] American Correctional Association Standard 5-6A-4360 requires "a full dental examination (excluding intra-system transfers) by a dentist within 30 days [of admission]". "The dental examination should remain current upon patient request, include a periodontal examination (Periodontal Screening and Recording [PSR] or Community Periodontal Index of Treatment Needs [CPITN]) and taking or reviewing and updating of the patient's dental and related history." Performance Based Expected Practices for Adult Correctional Institutions, Fifth Edition, August 2018, p. 176.

[101] Periodontal diagnosis and treatment were not classified as non-covered services in the 2013, 2014 or 2015 Protocols. Rather than being classified as a non-covered service, the "[i]nitial treatment phase of periodontitis II, Ill, IV including scaling, root planing and oral hygiene instruction" was classified as Priority II (schedule for treatment as soon as possible) [A2(b)2;

confirmed that NDCS prisoners are ineligible for periodontal diagnosis and treatment, although he was not sure of the purpose of the restriction. Deol Tr. 53:16-54:3. Moreover, he was not sure if this restriction was consistent with ACA of NCCHC standards. *Id*. 54:12-17.

90. As discussed earlier, not only are periodontal diagnosis and non-surgical treatment accepted professional standards, but early diagnosis and treatment of periodontal disease are important since the prevalence of moderate to severe periodontal disease in correctional populations is higher than in the free population (Makrides et al., p. 566; Clare, p. 95) and often not associated with pain[102] (Makrides et al., p. 560). Furthermore, the lack of periodontal diagnosis and treatment place diabetics at particular risk of harm.[103] As a point of comparison, periodontal diagnosis and non-surgical treatment are allowed for adults under the Nebraska Medicaid Program.[104] The removal of periodontal diagnosis and treatment from the covered services in 2016 marked the nadir of the NDCS dental program.

NDCS 076338]. That properly recognizes the importance of identifying and treating periodontal disease as early as possible. Simply put, the current protocol, is willfully blind to periodontal disease.

[102] Typically, pain comes in later stages (after irreversible damage has been done) in the form of a periodontal abscess.

[103] See, for example, Herring ME and Shah SK (2006). Periodontal Disease and Control of Diabetes Mellitus. *J Am Osteopath Assoc* 106:416–421; Patel MH, Kumar JV, Moss ME (2013). Diabetes and tooth loss. *JADA* 144(5);478-485 (adults with diabetes are at higher risk of experiencing tooth loss and edentulism than are adults without diabetes); and Teeuw WJ, Gerdes VE, and Loos BG (2010). Effect of periodontal treatment on glycemic control of diabetic patients. *Diabetes Care* 3 (3) :421-427 (periodontal treatment leads to an improvement of glycemic control in type 2 diabetic patients).

[104] For example, gingivectomy, periodontal scaling and root planing, and periodontal maintenance are allowed. 471-000-506 Nebraska Medicaid Practitioner Fee Schedule for Dental Services, pp. 10-11. Note that unlike NDCS which allows one prophylaxis per year, Medicaid allows one prophylaxis per 180 days. (Procedure D1110, p. 3). Visited 10/27/2018 at http://dhhs.ne.gov/medicaid/Documents/471-000-506-7-18.pdf.

91. While dentists occasionally perform a periodontal assessment at intake, they rarely document periodontal probing[105] or plan periodontal treatment. In addition, and dental hygienists generally do not document periodontal probing; a departure from the standard of practice of the dental hygiene profession (ADHA Standards, pp. 9-10). This failure to diagnose and appropriately treat periodontal disease placed the dentate[106] plaintiffs as well as all other NDCS prisoners at risk of harm.

92. The NDCS Medical Director testified that NDCS currently does not provide periodontal care and he was not sure of the purpose of excluding periodontal diagnosis and treatment from covered services (Deol Tr. 53:19-54:3), although he feels that it is inappropriate. *Id*. 54:18-22. Moreover, he was not sure of this exclusion was consistent with ACA or NCCHC standards. *Id*. 54:12-17.

93. While periodontal diagnosis and treatment and are non-covered services starting from MP 18 (2016), NDCS allows a dental prophylaxis ("prophy") every 12 months. This is not a periodontal procedure but a preventive procedure and is typically a precursor to routine dental treatment.[107] In fact, while the Daily Dental Production Report has a column for "prophy" it does not have one for any periodontal procedure.

94. By proscribing periodontal diagnosis (starting with MP 18 (2016)), the NDCS dental program descended to the level of third-world dentistry, deviating from decades of standard dental practice. Prohibiting a dentist from diagnosing periodontal disease makes no more sense than prohibiting a physician from diagnosing hypertension. As discussed *supra*,

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[105] This is an accepted professional practice. See discussion of the standard of care in Section IV.

[106] Individuals who are without teeth are not affected by periodontal disease.

[107] An Adult Dental Prophylaxis (American Dental Association Procedure Code D1110) is a preventive procedure defined as "[r]emoval of plaque, calculus and stains from the tooth structures in the permanent and transitional dentition. It is intended to control local irritational factors.

diagnosing periodontal disease is the standard for the community, the Nebraska Medicaid Program, and correctional accrediting organizations.

95. While prisoners are generally expected to request dental care via IIR, they first must be aware that they need care; this is particularly critical with asymptomatic conditions such as periodontal disease. Specifically, patients with undiagnosed periodontal disease will not request care if they are not told they are affected.

96. As with periodontal diagnosis, proscribing periodontal treatment is problematic since absent periodontal treatment, disease may progress to the point that alveolar bone and periodontal ligament are lost, resulting in the formation of periodontal pockets (Figure 2 *supra*). Moreover, the advanced lesion, once formed, can progress and the associated bone destruction may result in tooth loss (Cappelli and Shulman, p. 18).

97. While "periodontal treatment" is a non-covered service in MP 18 (2018), "routine dental scaling"[108] is a Priority III service [¶A3(b); NDCS 078390].[109] In contrast, the 2015 Protocol allows for the "[i]nitial treatment phase of periodontitis II, Ill, IV[110] including scaling, root planing and oral hygiene instruction." [¶A2(b)2; NDCS 076338]. It is noteworthy that the pre-2016 Protocols elevate periodontal treatment to Priority II; that is, "schedule for treatment as soon as possible" [*id.*]; recognizing the importance of early control of periodontal disease.[111] As

[108] While the Protocol does not define "routine scaling", I take this to mean a dental prophylaxis.

[109] Since newly admitted prisoners are subject to the 12-month quarantine, they will not be eligible to request a prophylaxis for 12 months.

[110] Mild, moderate, and advanced periodontitis, respectively.

[111] Note that dental prophylaxis is distinct from periodontal treatment and is classified as Priority III. [¶A2(b)3; NDCS 076338].

a point of reference, the Nebraska Medicaid program allows gingivectomy or gingivoplasty, periodontal scaling and root planing, and periodontal maintenance.[112]

98. To summarize, NDCS's policy of defining periodontal diagnosis and treatment as excluded services to compensate for inadequate dental staffing was done at the expense of its prisoners' oral health. This policy is malign, and its consequences are latent and cumulative. The NDCS dental program has departed from the mainstream of American dentistry subjecting prisoners to risk of harm.

3. Inadequate Treatment of Chewing Difficulty

99. Partial and complete denture construction and repair are classified as Priority IV services; that is, they "may be scheduled after all *-other priorities are met or as medically indicated." "[e]xcept in specific cases[113], dental prosthesis will not be fabricated for new commitments with incarceration of less than 24 months minimum and earliest parole or mandatory discharge release date of less than six months when Class IV priority." ¶A2(b)4; NDCS 076338-9.

100. A prisoner must wait 24 months to be eligible for dentures. There no such limitation in the Nebraska Medicaid Program even though Medicaid eligibility may be intermittent. [Medicaid Dental Fees at 12-13]. However, this limitation not only applies to fabricating new dentures it applies to "[r]epair or reline partial or full dentures." Protocol MP 18, 2018 at ¶A2(b)4b; NDCS 078390-91. While there is a provision for waiver, the grounds for a waiver are not spelled out.[114]

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[112] Procedures 6-003.02E1, 6-003.02E2, and 6-003.02E4, respectively. 471-000-506 Nebraska Medicaid Practitioner Fee Schedule for Dental Services at 10-11.

[113] "Chief of Dental Services/Designee approval must be obtained." *Id.*

[114] Dr. Deol testified that the availability of exceptions to prosthetics policy is not communicated to patients in writing. Deol Tr. 56:17-23.

101. While an edentulous patient may be ready for complete dentures without additional dental procedures, partial denture fabrication is generally (and appropriately) the last step in a treatment plan[115], the cumulative effect of delays in accessing appointments for an examination, fillings, and periodontal treatment may result in prolonged chewing difficulty. This, when combined with the 12-month quarantine further delays partial denture treatment. Moreover, the prohibition of periodontal diagnosis and treatment makes the prognosis for some partial dentures poor. As a point of reference, the Nebraska Medicaid Program has no such restriction.

102. To summarize, while NDCS's policy of denying dentures to prisoners who have not been incarcerated two years may reduce NDCS's dental workload to compensate for inadequate staffing, it has no clinical basis and gratuitously prolongs prisoners' chewing difficulties. The harms that are associated with chewing difficulties are, for example, pain (if natural teeth cut into oral tissues during chewing), digestive problems (if food is swallowed without adequate chewing), and dietary imbalances (if prisoners eat a soft, high-caloric, low-fiber, diet).[116]

VII. OPINIONS AND RATIONALE

103. In my opinion, based on a reasonable degree of dental probability, the deficiencies described herein can be remediated by a classwide solution comprising rewriting policies, increasing staffing, raising salaries, and appropriate systemwide monitoring.

A. Opinion: Inadequate Initial Examination

104. In my opinion, based on a reasonable degree of dental certainty, the NSCS's inadequate policies and practices for diagnosis of caries and periodontal disease at the intake

[115] "Priority IV - may be scheduled after all other priorities are met or as medically indicated. MP 18 (2018) ¶A 2(b) 4; NDCS 078391.

[116] See discussion of chewing difficulties *supra*.

(initial) examination places all new prisoners at risk of underdiagnosed caries and periodontal disease and places them at an unreasonable risk of receiving untimely and inadequate care; especially considering the one-year quarantine policy. Specifically, NDCS's failure to perform consistent periodontal assessment to include documented periodontal probing places all dentate prisoners at risk of harm from undiagnosed periodontal disease.

1. Inadequate X-rays

105. In my opinion, based on a reasonable degree of dental certainty, the policy or practice of diagnosing caries at intake using a panoramic radiograph without intraoral x-rays subjects prisoners to risk of harm and caries progression due to systemic underdiagnosis of caries. Similarly, the policy or practice of basing a treatment plan on bite wing x-rays without a panoramic x-ray places prisoners at risk of underdiagnosed dental disease. Finally, a sequenced treatment plan is often not produced at the intake examination and as the result, treatment is episodic until a prisoner is able to obtain a routine examination appointment.

(a) Basis for Opinion

106. As discussed *supra*, the initial examination bases the charting and treatment plan on a panoramic x-ray (panograph, or Panorex) without intraoral x-rays is below accepted professional standards since interproximal decay and periodontal bone height cannot be assessed accurately. This will more likely than not result in under diagnosis of caries and periodontal disease. This is exacerbated by the 1-year quarantine since asymptomatic conditions may progress during the quarantine period.

107. The standard of care for the examination and treatment plan for a new adult patient requires the use of a panoramic x-ray or a full mouth x-ray series. Dr. Deol testified that

while a panoramic x-ray had not been required at NDCS, "[we] just made a change in policy on the intake process. We started doing the panoramics and initial exam is done by the dentist".[117]

108. **Plaintiff Zoubek** (also known as **Zoe Rena**) was examined at intake 8/3/15 and a treatment plan was established based on bite wing x-rays and a visual examination (NDCS 015748, NDCS 015760). Neither a panoramic nor periapical x-rays were taken at that time. An initial examination and treatment plan made without a panoramic x-ray can overlook pathology and (as illustrated in Plaintiff Zoubek's clinical history) and result in untimely treatment of dental abscesses.

109. The initial charting shows that tooth #14 was marked for extraction and # 3 and 18 marked as "evaluate" (NDCS 015760).[118] However, without a panoramic[119] or periapical x-ray, teeth # 3, 14, and 18 cannot be evaluated fully. Additional x-rays might have shown radiologic evidence of an abscess which would prompt a prudent clinician to expedite the extractions to remove a source of infection. Failure to do so placed Plaintiff Zoubek at risk for painful infections that dominated her dental treatment for more than a year.

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[117] Deol Tr. 30:22-32:8. While he testified that the change was made in "this July" [July 2018] and was written down in the dental protocol (*id*. 31:13-20), the most recent protocol provided to me (MP 2018 – last revised 3/18 and signed by Dr. Deol) states that "[r]adiological procedures will include Panograph (***when indicated***) and additional films as required to make the diagnosis (¶7 NDCS 078392). Emphasis added. He explained that he initiated the change because "I felt that – we needed to have some documentation initially people coming into the system ***to see what the dental pathology was, rather than relying on clinical judgment so we have some basis to go by in the future treatments***." *Id*. 31:25-32:5. Emphasis added.

[118] Tooth #3 was also indicated for extraction; however, when this was done cannot be determined since the date of the notation was not shown.

[119] It is interesting to note that on 6/1/16 (almost 2 years after her initial examination) the Medical Director authorized a referral to a private dentist for a panoramic x-ray to assist in the diagnosis of dental abscesses (NDCS 015740).

110. **Plaintiff Norris** received an intake examination 4/22/14 based on bite wing x-rays; however, there is no documentation that a panoramic x-ray was taken at that time (NDCS 011637, NDCS 011654)

111. **Plaintiff Galle** received an intake medical screening 3/10/10 which noted that his dental fillings needed to be fixed (NCDS 003751). The dental records did not contain an intake dental examination with x-rays, so I presume one was not done or it was lost due to inadequate record keeping.

112. **Plaintiff Gunther** had an intake dental exam 4/22/05; however, there is no documentation that x-rays were taken at that time (NDCS 228500).

113. **Plaintiff R.P.'s** charting form is blank and there is no indication that an intake dental exam was performed or that x-rays were taken (NDCS 075083). The record reports that he received an evaluation by an NDCS dentist 1/25/16; however, the examination was based on a panoramic x-ray and did not use bite wings (NDCS 075086).[120]

114. **Plaintiff Curtright** received an examination at intake that was performed with bite wing x-rays but without a panoramic radiograph (NDCS 001167).

115. **Plaintiff Sabata** was examined at intake 6/18/13 based on 2 bite wing x-rays and without a panoramic x-ray (NDCS 016860).

116. **Plaintiff Cardeilhac** had no initial exam and charting. The first chart entry dated 6/15/14 does not document that x-rays were taken (NDCS 073875).

[120] The record reports, "[n]o visible caries […]" This is consistent with the absence of bite wing x-rays.

117. To summarize, of 11 plaintiffs, three had only a panoramic x-ray taken[121], four had only bite wing x-rays taken[122], three had bite wings and a panoramic x-ray taken[123], and four[124] had no x-rays taken at the intake dental examination. As discussed *supra*, an adequate treatment plan for a new adult patient requires bite wings and a panoramic x-ray.

2. Inadequate Diagnosis and Treatment of Periodontal Disease

118. In my opinion, based on a reasonable degree of dental certainty, NDSC's policies (i.e., excluding periodontal diagnosis from allowed treatment and the 12-month quarantine), procedures and practices for diagnosing periodontal disease at the initial and periodic examinations (i.e., lack of documented periodontal probing and lack of intraoral x-rays at the initial treatment plan), as well as the policies restricting periodontal treatment are below accepted professional standards and subject prisoners to substantial risk of serious harm by delaying diagnosis and treatment. Moreover, treatment plans rarely include periodontal treatment other than oral prophylaxis (if that); increasing the likelihood of preventable and disease progression. Periodontal diagnosis and treatment are not minimally adequate and below accepted professional standards. They subject prisoners to an increased likelihood of preventable and disease progression.

119. In my opinion, based on a reasonable degree of dental certainty, NDCS's failure to provide non-surgical treatment of periodontal disease places prisoners at an unreasonable risk of receiving untimely or inadequate care. The NDCS's failure to require documented periodontal probing at initial and periodic examinations (a standard of care in dentistry) places all prisoners at risk of suffering preventable pain and tooth morbidity by underdiagnosing and failing to

[121] Plaintiffs Sweetser (Sweetser 2), Griswold (NDCS 003938) and Reeves (NDCS 074127).

[122] Plaintiffs Zoubek, Norris, Cutright, and Sabata.

[123] Sweetser, Griswold, and Reeves.

[124] Plaintiffs Galle, Pathot, Cardeilhac, and Gunther.

appropriately monitor periodontal disease. Moreover, even when moderate or advanced periodontal disease is identified, the appropriate non-surgical procedure neither ordered nor performed.

120. The diagnosis and treatment of periodontal disease are non-covered services since the 2016 version of Protocol MP 18. While this may compensate for inadequate dentist staffing, it redounds to the detriment of the prisoners for whom NDCS is responsible. Early diagnosis and monitoring periodontal disease progress are well-established responsibilities of dentists and dental hygienists. By classifying the diagnosis of periodontal disease as a non-covered service, the NDCS deviated from the community and correctional standard of care and regressed to the level of third world dentistry.

121. As discussed *supra*, the initial examination (as well as periodic examinations) does not include an adequate (or sometimes any) periodontal assessment. This is consistent with Medical Protocol 18 since 2016 that categorizes periodontal diagnosis as a non-covered service. While the Health Services Dental Record enables the dentist to classify "stain & tartar" as light, medium, or heavy, this categorization is inadequate because it conflates stain (a cosmetic issue) and tartar (calculus) calcified deposits that can cause gingival and periodontal inflammation. This classification does not specifically address the possible presence of periodontal disease.

122. **Plaintiff Curtright** was examined 2/5/14 and assessed as "Perio type 0 – oral hygiene excellent" (NDCS 001163). Although he was seen 2/24/14, 3/2/14, 4/6/16, 2/27/17, 3/2/17 (when he had a prophy performed by a dental hygienist), 8/30/17, and 8/31/17, (*id*.) there is no documented periodontal assessment or probing. This failure to document periodontal status is consistent with the revised Medical Protocol 18 that beginning 2016, classified periodontal

diagnosis and treatment as excluded services.[125] The point here is not that Plaintiff Curtright had periodontal disease in 2017 (which is not knowable from the dental chart) but that there was consistently inadequate documented assessment over a more than three-year period that placed him at risk of harm from undiagnosed periodontal disease.

123. **Plaintiff Galle** received an intake medical screening 3/10/10 which noted that his dental fillings needed to be fixed (NCDS 003751). The dental records did not contain an intake dental examination, so I presume one was not done or was lost due to inadequate record keeping. None of the chart entries document a periodontal assessment. In fact, from the dental chart, one cannot tell if he has periodontal disease. It is the standard of care to diagnose and document periodontal disease. NDCS failed to do so placing Plaintiff Galle at risk of harm to include preventable pain, periodontal abscess, and tooth loss.

124. **Plaintiff Zoubek/Rena** was examined at intake 8/3/15 and was found to have light stain / tartar and was indicated for a prophy, extractions, and fillings. No periodontal assessment was documented (NDCS 015760). She requested a cleaning (prophy) 5/14/16 and again 10/30/16 (NDCS 015704) and was informed that she was on the list. She received the prophy 1/7/17 and the dental hygienist documented periodontal probing (NDCS 015700) - after 238 days. This is the first periodontal assessment she received in the 513 days she was in NDCS's custody.

125. **Plaintiff Norris** requested a cleaning and examination 11/21/13 and was advised that NDCS does not provide cleanings for County Safe Keeps (NDCS 011678). She received an initial exam 4/22/14 – six months later. She was found to have medium and heavy stain and tartar; however, no periodontal assessment or periodontal probing was documented (NDCS

[125] While he commended the dentist for extracting his tooth (NDCS 001163), he could not have been aware of the inadequate periodontal diagnosis.

011637). The chart indicated that she was Type 2 diabetic (NDCS 011638) – a risk factor for periodontal disease.[126] While she was seen for an extraction and post-operative follow-up, a periodontal assessment was not documented (NDCS 011641). At her 7/31/16 prophy appointment, the dental hygienist noted, the presence of 4-5 mm periodontal pockets and BOP (bleeding on probing); however, the note did not indicate which teeth the pockets and bleeding were associated with (NDCS 011654).[127] Since that progress note, she was seen several times by the dental service; however, there is no mention of her periodontal condition. To summarize, her periodontal disease was ignored by the NDCS dental service.

126. Patient 23[128] received an Initial Charting and treatment plan 6/3/14 and a fistula associated with #5 was noted (NDCS 123525, 123538). Neither a periodontal assessment nor an investigation of the source of the infection associated with the fistula was documented. On 11/23/15, severe periodontal disease was noted by a dental hygienist (NDCS 123538). Other than a prophy and a 'debridement' performed by the hygienist, neither a periodontal assessment was performed nor was periodontal treatment prescribed. At a 3/21/17 prophy appointment, an 8 mm periodontal pocket was noted in the area of #5 - the tooth that was diagnosed with a fistula on 6/4/14 (NDCS 123525). On 10/4/18 examination documented generalized bone loss associated with #2 and it was recommended that the tooth be extracted (NDCS 123538). The Dental Service failed to appropriately diagnose and timely treat Mr. Bean's periodontal disease, allowing it to progress.

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[126] See discussion of the association between diabetes and periodontal disease *supra*.

[127] See discussion of periodontal diagnosis *supra*. This failure to document periodontal disease appropriately is below professional standards; however; it is consistent with Medical Protocol 18 that categorizes the diagnosis of periodontal disease as an excluded service (NDCS 078391, ¶3f).

[128] A key identifying the prisoner name and number for each of the non-named Plaintiffs discussed herein is attached as **Exhibit 4**

127. Similarly, the failure to adequately diagnose the cause of the infection associated with the fistula that was identified 6/3/14 was below accepted professional standards and more likely than not allowed a possible infection to persist for more than three years.

128. **Patient 6** was categorized as having Class 2 and 3 periodontal disease at intake (NDCS 119765). While he was provided with debridement and prophys (cleanings), at no time was there a periodontal assessment with documented periodontal probing. Nor was non-surgical periodontal treatment prescribed.

129. **Patient 8** received an intake dental examination 9/14/17 and he was found to have medium stain and tartar. There was no periodontal assessment nor any documented periodontal probing. He was denied an appointment for the prophy that was prescribed on the treatment plan 2/6/18 but it was denied because per NDCS policy he does not qualify until he has been in NDOC for one year (NDCS 119844).

130. **Patient 11** had an initial exam 6/26/17 that identified three teeth that needed to be filled, heavy stain / tartar and prescribed a prophy (NDCS 119870). Neither a periodontal assessment or probing were documented (*Id.*). Because of the 1-year quarantine, a prophy was delayed for at least a year.

131. **Patient 13** received his initial exam 8/17/17 and was charted as having heavy stain / tartar. No periodontal assessment was performed nor was periodontal probing documented (NDCS 119894). Although he requested a prophy 8/16/17 (NDCS 119900) he did not receive a prophy by the time the chart was duplicated (more than 14 months) (NDCS 119899).

132. **Patient 66** was examined 1/10/10 at intake and was found to have medium stain and tartar but there was no periodontal assessment performed (NDCS 086763). While he was

examined and treated by dentists and dental hygienists many times there was no documented periodontal probing or standard periodontal assessment was noted.[129]

133. **Patient 81's** initial exam 4/23/18 reported heavy calculus but no periodontal assessment was documented (NDCS 094249). He requested a cleaning 6/9/18 and was advised that "[y]ou have a year to have a cleaning. Due 4/19/18 (NDCS 093953). Inadequate diagnosis of periodontal disease combined with the 1-year quarantine to place him at risk of advancing periodontal disease.

134. **Patient 44** was examined at intake 3/4/16 (NDCS 264817, NDCS 264819). He was assessed as having chronic periodontal disease; however, there is no documented periodontal probing to identify the specific sites of the disease despite periodontal probing having been mentioned in the progress note (NDCS 264819). While gross debridement and SRP (scaling and root planing) were prescribed and the gross debridement was performed, there is no documentation that SRP was performed at his 5/18/16 (NDCS 264819), 11/5/18 (NDCS 264819), or 11/29/18 (NDCS 264819) appointments. Moreover, the 11/29/18 progress note states "Tx. Completed" which I take to mean that the dentist felt that no further treatment was indicated.

135. Despite Patient 44's having been diagnosed with chronic periodontal disease, none of his care providers documented periodontal probing. Furthermore, while scaling and root planing was prescribed, there was no indication that it was performed. This reflects the 2016 change in Medical Protocol 18 that classified periodontal diagnosis and treatment as excepted services.

[129] The note at a 3/19/15 dental hygiene visit for a prophy stated" PI mod, BI mod" might possibly be shorthand for Plaque Index and Bleeding Index (NDCS 086771); however, these are not appropriate measures to monitor periodontal disease.

136. **Patient 57** was diagnosed with periodontal disease at Lincoln Regional Center[130] and was prescribed an antibiotic and what is likely a topical antimicrobial solution (Chlorhexadine) according to IIRs submitted 5/11/17 and 5/14/17 (NDCS 265463, NDCS 265464). He complained of painful teeth 6/10/17 (NDCS 265463). He was seen by a dental hygienist 7/11/17 who performed a gross debridement and classified his periodontal disease as Class 3 Moderate Chronic Periodontal Bone loss (NDCS 265454). While a debridement was performed 7/11/17, a history of his treatment at Lincoln Regional Center nor periodontal probing depths were documented (NDCS 265454), While he was seen by a dentist 8/8/17 for a filling (NDCS 265454) and 7/18/18 for an extraction (NDCS 265454) – the last dental progress note, no periodontal treatment was documented. The failure of the Dental Service to treat Stevens's periodontal disease is below professional standards, although lamentably consistent with Medical Protocol 18 that classifies periodontal treatment and diagnosis as excluded services.

137. **Patient 58** received a prophy 10/15/18 and the dental hygienist noted that there was periodontal pocketing in the upper right with moderate bleeding; however, neither the specific tooth and site at issue nor the actual pocket (probing) depth was documented (NDCS 265472). This is below professional standards; however, it is consistent with Medical Protocol 18 that classifies the diagnosis and treatment of periodontal disease as excluded services.

138. **Patient 60** was examined at intake 7/22/09 and was assessed as periodontal Class 2 or 3; although np periodontal probing is documented (NDCS 265581). While he was seen by a dental hygienist for a prophy 6/22/12 (NDCS 265594), 2/17/14 (NDCS 265626), 2/19/15 (NDCS 265626), and 11/6/17 (NDCS 265626), no periodontal assessment was performed. Moreover, there was no documented periodontal probing.

[130] "The Lincoln Regional Center, a 250 bed, Joint Commission-accredited state psychiatric hospital, is operated by the Nebraska Department of Health and Human Services." http://dhhs.ne.gov/behavioral_health/pages/beh_rc_lrcserv.aspx visited February 6, 2019.

139. **Patient 61** was seen by a dental hygienist 10/23/17 who noted that he had Class 2 periodontal disease with bone loss; however, neither the location of the bone loss nor periodontal probing was documented (NDCS 265655). He was seen by a dental hygienist for a prophy 2/12/18 and there was no follow-up on the bone loss and no documented probing (NDCS 265655). Furthermore, while he was seen by dentists 2/3/17, 9/25/17, 10/2/17 (NDCS 265655), 11/1/18, 2/2/18, 3/12/18 (NDCS 265654), 10/25/18, 10/29/18, and 11/1/18 (NDCS 265650), there was no mention of his periodontal condition. This willful ignorance is consistent with Medical Protocol 18's classification of periodontal diagnosis and treatment as excluded services.

140. To summarize, failure to timely diagnose, treat, and monitor periodontal disease can lead to gratuitous pain, loss of bone that supports the tooth, and eventually tooth loss.

B. Delay / Denial of Routine Care

1. Opinion: 1-Year Restriction (Quarantine)

141. In my opinion, based on a reasonable degree of dental certainty, the quarantine policy for Priority III (routine) services set forth in Protocol #18 (beginning in 2016) is pernicious and contravenes the canons of dental science.[131] Its effects are latent, cumulative, and pose a substantial risk of serious harm to all NDCS prisoners by delaying routine treatment; thus, increasing the likelihood of preventable and progression of caries and periodontal disease**.** A policy that puts prisoners at risk of harm notwithstanding the canons of dentistry is, simply put, cruel.

142. **Patient 63** received a dental examination at intake 3/17/17 that included a panoramic and bite wing x-rays (NDCS 086972) and was found to have eight decayed teeth

[131] In my career as a dental educator, I have taught these principles of oral epidemiology to successive cohorts of dental students. These principles are black letter dentistry.

(NDCS 086968). The record reports that he had medium stain and tartar (calculus)[132]; however, neither a periodontal assessment nor PSR was documented. Although he was identified with eight decayed teeth at intake, per NDCS policy, he was ineligible to receive routine fillings for one year. This delay provided time for the decay to progress. While three teeth were eventually filled (#2 – 5/9/18, #15 - 6/14/18, #3 – 7/22/18), the remaining five teeth were not treated. He complained of tooth grinding and requested a "mouth piece" (night guard) 8/28/18 and was informed that they were available in the canteen (NDCS 087039). He should have been scheduled for a dental examination to identify the cause of his tooth grinding.[133]

143. **Patient 65** was examined 8/14/17 using panoramic and BWX radiographs. No periodontal assessment was performed (NDCS090437). A charting (9/14/17) identified teeth # 18, 19, and 30 as having decay (NDCS090433); however, due to the 1-year quarantine, he was not eligible for routine care (e.g., fillings) for a year (NDCS090433). He reported a toothache 8/15/18 and when he finally saw a dentist, the tooth (#30 – that was identified with decay 9/14/17) was not restorable and was indicated for extraction. Moreover, given that he was taking three medications that have day mouth as a side effect (NDCS 090435)[134], his decay would likely advance faster than if he were not taking them.

144. **Patient 8** submitted an IRR 7/3/18 ("I need to get meds for my tooth".) (NDCS 119838) and was seen by an RN 7/4/18 who explained that per patient dental policy is only

[132] Stain is cosmetic while tartar (calculus) is a potential cause of gingival inflammation. These categories should not be conflated.

[133] The non-dentist who responded to this kite made a clinical decision (that a dental examination is unnecessary despite a reported symptom). This is reckless.

[134] See Jeske AH, Mosby's Dental Drug Reference. Eleventh Edition. Elsevier, 2014. Clonidine (p. 318), Sertraline (p. 1190), and Trazodone (p. 1315). All have frequent day mouth as potential side effects.

eligible for having teeth pulled until Sept 18, 2018 and after that, if tooth is restorable, could have dental work (fillings). This was a de facto extraction only policy.

145. **Patient 19** was examined at intake 9/21/17 and 5 teeth that needed fillings and light calculus. No periodontal assessment was documented (NDCS 120015). He submitted an IIR to have cavities filled 12/5/17 and was advised that he would not be eligible until 9/14/18 (NDCS 120020). He submitted an IIR for a cleaning and to have cavities filled 6/4/18 and was told that he would not be eligible until 9/21/18 (NDCS 120019). He submitted another IIR 9/18/18 and was placed on the cleaning list (NDCS 120017). By the time the chart was duplicated (more than a year from his admission) he received neither fillings nor a prophy. This is especially problematic since the record reports that he is taking Mirtazapine (NDCS 12627), a medication that has dry mouth as a possible side effect (Jeske p. 873).[135]

146. **Patient 69** was examined at intake 4/13/17 and was found to have light stain and tartar but a periodontal assessment was not documented (NDCS 08779). He requested a cleaning 2/1/18 and was advised that he would not be eligible until April (NDCS 08784). While he was seen 6/1/18 and 6/8/18 (NDCS 08779), however there is no documented periodontal assessment. Since neither the initial exam nor the subsequent treatment notes document a periodontal assessment it is not possible to determine if his periodontal health deteriorated during his quarantine.

147. **Patient 70** submitted an IIR for a dental appointment 2/11/17 (NDCS 228482) and the 3/15/17 clinical note states that he does not qualify for a restoration and should re-kite in June (NDCS 089266).

[135] See discussion on the relation of dry mouth to caries progression *supra*.

2. Delayed Scheduling for Routine Care

148. In my opinion, based on a reasonable degree of dental probability, NDCS's dentist shortage has resulted in prisoners receiving untimely routine care even after their quarantine period. Delayed treatment of asymptomatic dental disease can result in disease progression that that can cause pain, make the tooth more difficult to repair, or cause the tooth to be unsalvageable. Such delays can be a de facto extraction only policy.

149. As discussed *supra,* routine care should be sufficiently timely that asymptomatic issues do not develop into problems that cause pain, make the tooth more difficult to repair, or cause the tooth to be unsalvageable.

150. **Plaintiff Zoubek/Rena** submitted an IIR 8/13/15 for an examination and a filling and was advised that she was on the schedule for fillings (NDCS 015757). She followed up 10/20/15 and was told that she was still on the list and it is a long list (NDCS 015756). She submitted IIRs 2/22/16 (NDCS 015754) and 2/13/16 for a painful tooth (NDCS 015755). She was examined 2/25/16 and was a temporary restoration was placed in tooth #18 (NDCS 015748-9). From the time of her 8/13/15 IIR until she was seen for a toothache 2/25/16, 196 days passed, and she still had not been appointed for fillings. In fact, it was not until 5/5/16 (NDCS 015749) - 70 days later – and 266 days after her initial request for fillings that she had asymptomatic teeth filled.

151. To summarize, even though the 8/3/15 treatment plan identified several teeth that needed fillings, and Plaintiff Zoubek's persistent requests for routine care, her treatment comprised almost exclusively episodes of urgent care – culminating with extractions. As discussed *supra*, untreated caries generally progresses, and over time can jeopardize the prognosis of the tooth.

C. Untimely Urgent Care

152. In my opinion, based on a reasonable degree of dental certainty, the NDCS's policy and practice of providing untimely treatment for prisoners who complain of dental pain is not minimally adequate and subjects them to gratuitous pain.

153. NDCS defines urgent care as comprising the extraction of non-restorable, symptomatic teeth, the placement of sedative restorations in grossly decayed teeth, performing a pulpotomy or pulpectomy, the prescription of medications as appropriate, and gross scaling and debridement of calculus.[136] However, it does not specify treatment timelines; that is the minimum waiting for a prisoner who states dental pain to be seen by a dentist, mid-level, or other advanced lever provider when the dental clinic is closed or dentists are otherwise unavailable. As discussed *supra*, prisoners who submit IIRs stating or implying a dental pain should be seen within 24 hours after the IRR is received by Nursing and the patient is seen by a mid-level or advanced lever provider for assessment and prescription of antibiotic (if clinically indicated). If the provider was not a dentist, the prisoner should be examined by a dentist within 72 hours to plan treatment.

154. **Plaintiff Norris** submitted an IRR 7/6/17 ("Tooth pain on bottom right. Having trouble eating. Please see me as soon as possible") and was advised 7/11/17 that she was on the list for evaluation (NDCS 011652). She was not seen until 7/25/17 (NDCS 011634). Approval to be seen by an off-site specialist was obtained (NSCS 011650); however, the tooth was not extracted until 8/30/17 (NDCS 011634). Her care was untimely for several reasons. First, while the initial IIR was dated 7/6/17, it was not processed until 7/11/17 – a delay of 4 days. Second, while the record reports that she was placed on the list for an evaluation 7/11/17, she was not seen by a dentist until 7/25/17 – 19 days from her IIR and 14 days from the time she was placed

[136] Protocol #18 (2018), A 2(b)2;(NDCS 078390).

on the evaluation list. [137] Finally, the tooth was not extracted until more than a month later – a delay of more than a month after the consultation request was approved.

155. **Plaintiff Cardeilhac's** x-rays (NSCS 000022–23) and initial charting (NSCS 000022) indicate that his principal issue was partially erupted third molars. He submitted a kite to Medical 2/11/16 (written by another individual) stating that, "Cardeilhac is on paper restriction but would like to know if he can see the dentist (NDCS 000013). The stamped response dated 2/14/16 was, "your name has been added to the dental waitlist" (*id*.). There is no evidence in the dental chart that was seen. He submitted a kite 7/10/17 ("My wisdom teeth are popping out of my gums and they hurt real bad. Can I get them pulled out ASAP please") and was advised that "you have been added to the TSCI dental list 7/14" (NDCS 00011). He kited 8/29/17 ("I put in a kite to see the dentist and you approve me and said I'm on the list and that was July 10th, 2017. That was about 2 months ago"). [NDCS 000004]. He was seen 8/30/17 and painful wisdom teeth were removed - 566 days after the initial kite and 51 days from the second kite. His treatment was untimely since the teeth were not extracted until 8/30/17 – after 51 days (from the date on the request form).

156. **Plaintiff Reeves** submitted an IIR 1/8/15 for a painful tooth and the response noted that he was seen 1/13/15 (NDCS 015371). However, there are no progress notes for that date (NDCS 074127). In fact, the next note was for a comprehensive examination 3/20/15 (NDCS 014142) – after 71 days.

157. **Plaintiff Reeves** was seen 8/22/18 for pain associated with #17 and the note stated, "will schedule for extraction" (NDCS 074127). While the record does not contain the IIR

[137] As discussed in the section on treating dental pain, she should have been seen by a qualified health care provider within 24 hours to provide pain medication and determine if she required immediate care.

which I presume he submitted to generate this appointment (so I cannot determine how long he waited to be seen). Furthermore, the 8/22/18 note is the last note in the chart. Since the records were duplicated 10/22/18, he was not seen for that extraction for at least 76 days.[138]

158. **Patient 26** kited for wisdom pain (NDCS 123619) and was not seen by a dentist by the time the chart was copied (at least 10/22/18) – a delay of at least 104 days for a painful condition. This is untimely access to urgent care that subjected him to gratuitous pain.

159. **Patient 40** kited for a painful wisdom tooth 10/14/18 and was placed in the extraction list (NDCS 123825). He was not seen by the time the chart was copied (10/22/18) – at least 8 days. This is untimely access to urgent care.

160. **Patient 42** kited for problems with his back teeth that 'needs to be pulled bad 9/17/18 (NDCS 123855) and was not examined by a dentist until 10/11/18 (NDCS 123856) – a delay of 35 days. This is untimely access to urgent care.

161. **Patient 43** kited for "teeth that needed to be pulled bad" 9/17/18 (NDCS 123855) and was not examined by a dentist until 10/11/18 (NDCS 123856) – a delay of 35 days. This is untimely access to urgent care.

162. **Patients 17** reported a toothache with swelling 5/30/17 (a Tuesday) and was advised that he was on the list and would be scheduled next week (NDCS 119991). She was not scheduled until 6/9/17 -- after 10 days (NDCS 119984). Five days later four teeth were extracted (*id*). She kited for a toothache 4/3/18 and was not appointed until 4/11/18 – after 8 days (NDCS 119984). She submitted an IIR 10/1/18 stating that a filling fell out and the tooth was painful (NDCS 119963) and was not seen by the time the chart was duplicated (10/22/18) – after 21 days.

[138] His wait would be longer depending on when he submitted the IIR.

163. **Patient 16** submitted an IIR 9/19/18 for a painful broken tooth (NDCS 120012) and was not appointed until 9/25/18 – a delay of 6 days - when the dentist diagnosed an infection and prescribed an antibiotic (NDCS 120009).

164. **Patient 3** submitted an IIR 12/7/16 stating that he needed teeth pulled (NDCS 119730).[139] He was seen 12/13/16 (after 6 days) and #15 was deemed to be infected (for which a 10-day course of Amoxicillin was prescribed) and the record reports that #15 was scheduled to be extracted (NDCS 119732). The tooth was extracted 12/30/16 – 17 days after the Amoxicillin was prescribed. This care was untimely because 1) he was not seen by a dentist for six days despite an IIR that implied pain and 2) the tooth should have been extracted within 10 days (the therapeutic window of the antibiotic. This is below accepted professional standards (see discussion of odontogenic infections *supra*).

165. **Patient 65** complained of a toothache 8/15/18 (NDCS090441) and was seen in "Medical" (by an RN). He was advised to purchase analgesics in the canteen (NDCS090442). The record does not document a dental referral. He complained again 8/22/18 (NDCS090440) and was seen again in medical by an RN who prescribed a five-day course of Tylenol (NDCS090439), He was seen by a dentist 8/31/18 (16 days after his initial complaint) and tooth #30 diagnosed with "cracked tooth syndrome" (NDCS 090437).

166. **Patient 12** submitted an IIR for a painful tooth 7/11/18 (NDCS 119890) and was not seen by a dentist until 7/24/18 – 13 days later (NDCS 119886).

167. **Patient 22** submitted an IIR 5/8/18 complaining of a painful broken tooth as well as chewing problems (NDCS 120062). He was told that he was not eligible for partial dentures; however, he was not scheduled an appointment to evaluate his painful tooth (*id.*). He repeated his

[139] Note that tooth # 15 (as well as his other maxillary teeth) was marked for extraction at his initial exam 9/27/16. He was not placed on a serial extraction list. Failure to schedule a timely extraction allowed an infection to develop exposing him to gratuitous pain.

complaint about the painful tooth 5/15/18 and the response was "extract" (NDCS 120061). There is no progress note indicating that he was seen for this problem – a delay of at least 5 months.

168. **Patient 14** submitted an IIR 6/16/17 to have a painful tooth extracted and was advised that he was on the dental list (NDCS 119915). He was seen by a dentist 6/27/17 – after 11 days for a "limited oral evaluation; at which he was advised that he must submit an IIR if he has any dental problems at DEC (NDCS 119903). No treatment was provided for his toothache (*id*.). He was finally seen 7/7/17 (21 days after his initial IIR) (NDCS 119903). He was prescribed a 7-day course of Amoxicillin, an antibiotic, and the record notes that "Patient to return after antibiotic [course] for ext. [extraction of] [teeth #] 3, 5, 6 (*id.).*[140] The next chart entry was 4/10/18 – after 277 days. The standard of care is to extract an infected tooth within the therapeutic window of the antibiotic (see discussion *supra*); however, there is no documentation that such an appointment was scheduled.[141]

169. **Patient 70** submitted IIRs for tooth pain 8/17/16 and 8/23 was advised that he was on the list (NDCS 228487, NDCS 228486). He was not seen until 8/26/16 (NDCS 089266) – a delay of 9 days.

170. **Patient 67** submitted an IIR ("I have a number of teeth that are hurting …") 3/15/17 and was scheduled for a cleaning, exam and treatment plan (NDCS 080761). He was not seen until 4/26/17 – after 42 days when an infection was diagnosed, and an antibiotic was prescribed (NDCS 087057). This untimely care for this condition subjected him to gratuitous pain and an untreated infection.

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[140] It appears that the dentist left it to the patient to kite for an extraction appointment; however, since the standard of care is to extract the tooth within the therapeutic window of the antibiotic, the clinic should have scheduled the appointment.

[141] I presume that since there is no notation, Rodriguez failed to attend such an appointment.

171. **Patient 71** submitted an IIR 2/22/14 for painful teeth and sore gums and was advised that he would be added to the dental list, but the list was long (NDCS 228474). He was not seen until 3/4/14 – after 10 days (NDCS 090259). He submitted an IIR for dental pain 12/23/15 and was advised to submit a request when out of the SNF (NDCS 228472).[142] He repeated his request 4/14/16 (teeth still hurting) (NDCS 228471) and was appointed for 4/18/16 (NDCS 090259) – a delay of 117 days.

172. He submitted an IIR 8/23/17 (front teeth hurt all the time) and was put on the list for a consult and an exam (NDCS 228470). He was not appointed until 9/15/17 – after 19 days when he was diagnosed with a dental infection and placed on an antibiotic (NDCS 090259). He submitted an IIR 2/14/18 for painful teeth and was advised that he would be scheduled "in a couple of weeks" (NDCS 090261). He was not seen until 2/23/28 – after 9 days (NDCS 090258). His treatment for four episodes of dental pain was untimely subjecting him to gratuitous pain.

173. **Patient 76** complained of a toothache 9/11/15 ("sensitive to hot and cold and they ache when I bite down on them") (NDCS 092715) and was not seen until 10/21/15 – after 50 days (NDCS 092708).

174. **Patient 44** submitted an IIR for a painful tooth 3/3/17 (NDCS 2648230 and was not seen until 3/13/17 (NDCS 264819) when two teeth were extracted – a delay of 10 days.

175. **Patient 51** submitted an IRR for a toothache 7/1/18 (tooth causing headaches and shooting pain)" and was informed that he would be seen "as soon as possible" (NDCS 265168). He was seen 7/11/18 – after 10 days and a tooth was extracted (NDCS 265165).

176. **Patient 53** submitted an IIR 9/17/18 for a toothache (("I have 2 teeth w/ exposed roots. I need to be seen immediately") (NDCS 265383) and did not receive an appointment until 10/1/18 (NDCS 265379) – a delay of 14 days.

[142] The record reports that he went to the SNF 1/5/16 (NDCS 090259)

177. **Patient 59** submitted an IIR for a painful tooth 1/5/15 (NDCS 265530) and was not seen until 1/27/15 (NDCS 265523) – a delay of 22 days.

178. Patient 59 submitted an IIR for a chipped tooth that was cutting into his cheek 1/18/17 and was advised to send request when he was out of seg (NDCS 265520). He repeated his request 2/8/17 and received the same response (NDCS 265519). The effect of this policy or practice of denying dental treatment to prisoners in seg was 22 days of gratuitous pain.

179. **Patient 56** submitted an IIR 1/21/18 to have a dental appliance (mouthpiece) made because his previous appliance was lost when his property was packed up when he was moved to seg. (NDCS 265449).[143]

D. Inadequate Treatment of Chewing Difficulty

1. Two-year Quarantine

180. In my opinion, based on a reasonable degree of dental certainty, NDSC's policy of delaying Priority IV (prosthetics) services can result in an unnecessarily long period of pain and chewing difficulty. In addition, while NDCS policy provides for exceptions, this not communicated to prisoners.

181. **Plaintiff Gunther**[144], a diabetic (NDCS 228501), was examined at intake 4/15/05 and was assessed as having Type 3 periodontal disease and his treatment plan was full-mouth extractions and complete upper and lower dentures (NDCS 228500). This plan was not implemented. This is particularly problematic given the association between diabetes and periodontal disease described *supra*.

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[143] While this is not exactly an urgent care issue, the effect of taking the appliance from him when he was moved to seg was to deny him a device that was prescribed to prevent pain. As a rule, prisoners should not be deprived of dental prostheses or prescribed devices without consulting a dentist absent an exigent security concern. To do otherwise is gratuitous cruelty.

[144] NDCS reports that there were no dental records between June 2017 and October 25, 2017. Gunther 61937 Dental Records June 2017 to October 25, 2017 (no Bates number).

182. He was fitted for a mandibular partial denture 4/12/14 (NSCS 089799) and an immediate maxillary complete denture 4/30/14 (NSCS 089799)[145] after his remaining maxillary teeth were extracted. He complained of pain associated with the dentures and they were adjusted on several occasions over a 305-day period: 5/5/14 (NSCS 089799), 5/28/14 (NSCS 089799), 7/3/14 (NSCS 089799), 8/29/14 (NSCS 089799), 9/30/14 (NSCS 089799), 11/24/14 (NSCS 089799), 11/23/14 and was placed on the list (NDCS 006718), and 3/6/15 (NDCS 089797).

183. His remaining teeth were extracted 6/20/16 (NDCS 089797) and anterior teeth were added to his existing partial denture and clasps were removed 4/6/18 (NDCS 089810, NDCS 089809).[146] On 5/4/18 he complained that the dentures were cutting his gums and that there was a quarter of an inch difference between top and bottom dentures (NSCS 089808).

184. NDCS treated Plaintiff Gunther's chewing difficulty inadequately causing gratuitous pain and eating difficulty. First, given the persistent pain associated with both dentures a reasonable and prudent dentist would have concluded that the dentures should be remade since they were beyond adjustment. His maxillary (upper) denture was an immediate denture and because bone resorption and shrinkage of the healing soft tissues occur at a greater rate compared to already well-healed tissues, it is often necessary to reline the denture to maintain a well-adapted fit.[147] The dentist failed to do so. Second, Given the persistent pain associated with both dentures, the lower partial denture should have been remade.

185. The delay between the extraction of the lower teeth (6/20/16) and the revision of the lower partial denture to add teeth and remove clasps (1/16/18) - 19 months is unreasonable

[145] A denture is inserted immediately after the extraction of teeth.

[146] The chart I was provided showed no clinical entries between 6/20/16 and 1/16/18 – approximately 19 months.

[147] Kiernan D and Plummer K. Overview of single dentures, overdentures, and immediate dentures. In Rahn AO Textbook of Complete Dentures. McGraw Hill, 2009, p. 273

and subjected Plaintiff Gunther to gratuitous pain and eating difficulty. Finally, the decision to delay a dental appoint to re-make his maxillary denture until he gets out of seg is an unreasonable deprivation of care.

186. The 7/2/18 clinical note reports that Plaintiff Gunther reported that his upper denture was broken when he was moved to seg and "will wait until we hear about the upper denture" (NDCS 074407). He inquired whether his top denture was approved, and was told, "[w]e will get you scheduled when you are out of seg. Please sent kite" (NDCS 089787).[148]

187. **Plaintiff Galle** received a partial denture 10/8/15/15 (NDCS 002321). He requested adjustments 10/21/15 (NDCS 228531), 11/13/15 (NDCS 228530), 12/1/15 (NDCS 228529), and 4/6/15 (NDCS 228528), and 12/29/16 (NDCS 228527). Finally, he complained that his partial denture split in two 9/15/17 (NDCS 088882). In my experience, a partial denture that cannot be fitted adequately after four adjustments suggests that either there were significant changes in the patient's mouth, or it was poorly designed or fabricated and should be remade.

188. **Patient 17's** treatment illustrates several problems with NDCS's inadequate treatment of prisoners with chewing difficulty. First, it was apparent at intake 5/4/17 that her maxillary teeth were not salvageable. NDCS 119962. Rather than scheduling her for serial extractions and timely denture construction NDCS policy is to restrict prosthetics to prisoners who have served two years. Second, the request for a policy waiver was denied because she had not demonstrated weight loss.

189. Figure 6 is a representation of Valerie Thorpe's teeth based on the dental chart available to me. She had no maxillary teeth and no mandibular molars. In a normal mouth, the maxillary teeth act as vertical stops – preventing the mandibular teeth from damaging the tissue on the maxillary ridge. Without vertical stops (as in the case of Patient 17), it is not uncommon

[148] This is the most recent data available to me.

for the teeth to cut into the maxillary ridge. In fact, Patient 17 reported such a problem in a 6/28/18 IIR ("[w]as wondering if I could get like ambusol [a topical anesthetic] or something to help the gums on the top where my teeth dig into where my top teeth used to be. NDCS 119970. Other reasons for the denture aside, a maxillary denture would cover the vulnerable tissue since the mandibular teeth would contact the denture's teeth.

Figure 6. Representation of Valerie Thorpe's Mouth as of 7/6/18

190. **Patient 3** was examined by a dentist 3/1/18 and was told that he should return 10/2018 to start process start process on C/P [complete maxillary / partial mandibular dentures] (NDCS119741). He was not called for an appointment. He submitted an IIR 3/24/18 ("I need to get dentures so I can eat") and he was advised that he was on the list (NDCS 119720). He submitted another IIR 4/23/18 **("**I need to know if I am eligible to get dentures. I don't have to have surgery and have no top teeth so I have a very difficult time chewing food". He was told he would be eligible 9/20/18 (NDCS 119718) since per Protocol 18 there was a 1-year quarantine period for routine care that began 9/28/17 (NDCS 119737). He submitted IIRs 7/5/18 **(**NDCS 119717), 7/20/18 (NDCS 119716), 8/8/18 (NDCS 119715), and 10/1/18 (NDCS 119714) and was told that he was "on the list". As of 10/3/18 the denture process had not been started. Due to

the quarantine and inadequate staffing he was forced to endure preventable pain and eating difficulty.

2. Five-Year Denture Fabrication Restriction

191. In my opinion, based on a reasonable degree of dental probability, NDCS's policy of requiring prisoners to wait five years before being eligible for replacement dentures without a clear clinical exception is unreasonable since there may be changes in the mouth over time. NDCS's failure to have such a policy has the potential to subject prisoners to gratuitous pain and chewing difficulty.

192. **Patient 9** had dentures made by NSCS approximately three years earlier but lost the bottom denture [NDCS 119705]. He requested a replacement10/14/18 and the reply to his kite (signed by a dentist) was that "you don't qualify for dentures" [NDCS 119707]. The dentist did not schedule an examination to see if there was a clinical basis for an exception to NDCS policy.

E. Inadequate Record Keeping

193. In my opinion, based on a reasonable degree of dental certainty, NDCS's record keeping system for dental charts is inadequate. While the form used for the charting has fields for periodontal depth, NDCS policy and practice is not to use it. Moreover, policy and practice does not prescribe the use of Periodontal Screening and Recording or a similar system to screen for periodontal disease.

194. The chart does, however, provide an opportunity to document periodontal probing and tooth mobility – although I have seen it used in only a handful of the charts I reviewed.[149]

[149] Patient 4 (NDCS 119742)

195. Most of the charts I reviewed had no periodontal assessment in the initial exam and rarely was there a periodontal assessment associated with clinical encounters. Consequently, periodontal disease is inadequately diagnosed and monitored.

196. Dr. Deol testified that NDCS's record keeping system is very archaic which makes ensuring that intake central examinations occur within 14 days (an ACA requirement). Deol Tr. 34:19-36:17. NDCS has requested information from vendors about an electronic health record, however it has yet to be funded by the legislature. Deol Tr. 36:18-37:9.

197. **Patient 9** was examined at intake and the chart was stamped "PANO and 2 BITEWINGS TAKEN" (emphasis in original) [NDCS119708]. However, he was edentulous and bitewing x-rays cannot be taken on him. The chart entry was signed although the name and degree of the signer are illegible.

198. In my opinion, based on reasonable degree of dental certainty, progress note entries are difficult to read because a consistent format is not used. This is particularly problematic for entries related to urgent care. This is compounded by handwriting that is often inscrutable.

199. As discussed *supra*, the use of a structured entry system (such as SOAPE) is particularly important in an institutional setting[150] because it is another clinician's ability to understand a patient's clinical history can be a patient safety issue. In addition, the current record keeping system lacks an adequate system to track patients to ensure that they receive appropriate care.

[150] For example, the military, Department of Veterans Affairs, Public Health Service, large clinics, and correctional systems.

200. As Dr. Deol testified that the current system is archaic, and he has been trying to get an electronic health record since the existing system is all manual (Deol Tr. 34:25-35:3).[151]

F. Inadequate Dental Staffing

201. In my opinion, based on a reasonable degree of dental certainty, NDCS has too few dental personnel to provide adequate and timely treatment to its prisoners.

202. The untimely care provided to MDCS plaintiffs and other prisoners identified is typically the result of inadequate staffing.[152] Starting in 2016, to compensate for its inadequate staffing, the NDCS imposed a 1-year quarantine for Priority III care, a 2-year quarantine for dentures, and classified periodontal diagnosis and treatment as non-covered services. As discussed *supra*, these pernicious changes redounded to the detriment of its prisoners.

VIII. CONCLUSION

203. Based on the findings and opinions described herein, all my opinions contained herein are based upon my review of the pertinent records and my training, education, and experience, and are offered to a reasonable degree of dental probability.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that this declaration is executed on February 14, 2019 at Dallas, Texas.

Jay D. Shulman, DMD, MA, MSPH

[151] In my experience, the use of an electronic health record ensures standardized progress note entries and eliminates the issue of poor legibility.

[152] Shulman JD, Makrides N, Lockhart, p. 8-4

Glossary

- IIR - Inmate Interview Request (sometimes referred to as a "kite")
- Dental anatomy
  - Interproximal – the area between two teeth
  - Periapical – the area around the root tip or apex of a tooth
- Odontogenic pain (toothache)
  - Pulpitis – an inflammation of the living tissue (or pulp) inside the tooth
- Oral epidemiology – the study of the determinants and distribution of oral diseases; primarily, caries, periodontal disease, and cancer
- Periodontal disease - an inflammatory **disease** that affects the soft and hard structures that support the teeth. In its early stage, called gingivitis, the gums become swollen and red due to inflammation, which is the body's natural response to the presence of harmful bacteria.
- Periodontitis inflammation of the tissue around the teeth, often causing shrinkage of the gums and loosening of the teeth.
  - Early
  - Moderate
  - Advanced
- Gingivitis - is a common and mild form of gum disease (periodontal disease) that causes irritation, redness and swelling (inflammation) of your **gingiva**, the part of the gum around the base of the teeth.
- Periodontal ligament - connective tissue fibers that attach a **tooth** to the alveolar bone within which it sits.
- Alveolar bone - the thickened ridge of bone that contains the tooth sockets (dental **alveoli**) on the jaw**bones** that hold teeth.
- PSR – Periodontal Screening and Recording
- Periodontal probe – a long, thin probe with a blunt end designed to measure pocket depths around a tooth in order to establish the state of health of the periodontium.
- Dental caries (caries or decay) - an infectious condition that produces acids that deteriorates the structure of **teeth**. The most common result of **dental caries** is a cavity—a hole or space in the **teeth**.
- Cariogenic – promoting the development of caries

- Oral cancer - also known as **mouth cancer**, is a type of head and neck **cancer** and is any cancerous tissue growth located in the **oral** cavity. ... **Oral** or **mouth cancer** most commonly involves the tongue. It may also occur on the floor of the **mouth**, cheek lining, gingiva (gums), lips, or palate (roof of the **mouth**).

- Code on Dental Procedures and Nomenclature Dental procedures[153]

  - Oral prophylaxis (cleaning or prophy) - **D1110 prophylaxis – adult** Removal of plaque, calculus and stains from the tooth structures in the permanent and transitional dentition. It is intended to control local irritational factors.

  - Gross debridement - **D4355 full mouth debridement to enable comprehensive evaluation and diagnosis -** gross removal of plaque and calculus that interfere with the ability of the dentist to perform a comprehensive oral evaluation. This preliminary procedure does not preclude the need for additional procedures.

  - Scaling and root planing - **D4342 periodontal scaling and root planing - one to three teeth per quadrant** This procedure involves instrumentation of the crown and root surfaces of the teeth to remove plaque and calculus from these surfaces. It is indicated for patients with periodontal disease and is therapeutic, not prophylactic, in nature.

  - Root planing is the definitive procedure designed for the removal of cementum and dentin that is rough, and/or permeated by calculus or contaminated with toxins or microorganisms. Some soft tissue removal occurs. This procedure may be used as a definitive treatment in some stages of periodontal disease and/or as a part of pre-surgical procedures in others.

  - Oral hygiene instruction - **D1330 oral hygiene instructions.** This may include instructions for home care. Examples include tooth brushing technique, flossing, and use of special oral hygiene aids.

- Pharmacologic terms

  - Xerostomia (hyposalivation or dry mouth)

  - Xerogenic causing a dry mouth

  - Obesogenic – tending to cause weight gain

  - Polypharmacy - he simultaneous use of multiple drugs by a single patient, to treat one or more conditions.

- Immediate Denture - An immediate denture is defined as any removable dental prosthesis fabricated for placement immediately following the removal of a natural tooth or multiple teeth.

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[153] Definitions based on federally approved industry-standard American Dental Association Dental Procedure Codes.