UNITED STATES DISTRICT COURT

DISTRICT OF ARIZONA

Victor Parsons; Shawn Jensen; Stephen Swartz; Dustin Brislan; Sonia Rodriguez; Christina Verduzco; Jackie Thomas; Jeremy Smith; Robert Gamez; Maryanne Chisholm; Desiree Licci; Joseph Hefner; Joshua Polson; and Charlotte Wells, on behalf of themselves and all others similarly situated; and Arizona Center for Disability Law, Plaintiffs, v. Charles Ryan, Director, Arizona Department of Corrections; and Richard Pratt, Interim Division Director, Division of Health Services, Arizona Department of Corrections, in their official capacities, Defendants.	No. CV 12-00601-PHX-DJH

SECOND SUPPLEMENTAL EXPERT REPORT OF:

JAY D. SHULMAN, DMD, MA, MSPH
9647 HILLDALE DRIVE
DALLAS, TEXAS 75231
TELEPHONE: (214) 923-8359

REGARDING
DENTAL CARE AT THE ARIZONA DEPARTMENT OF CORRECTIONS

SEPTEMBER 29, 2014

JAY D. SHULMAN, DMD, MA, MSPH

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I. BACKGROUND

I was provided dental records of ADC prisoners who were treated after December 1, 2013, and the corresponding dental reports and other documents produced by Defendants relating to dental services at ADC prisons between September 27, 2013 and April 1, 2014. For the reasons set forth below, these additional documents confirm my opinions as stated in my other reports.

II. ADC'S FAILURE TO MONITOR THE DENTAL PROGRAM

I discussed the October 2013 Oral Care MGARs in my Supplemental Report dated February 24, 2014 ("February Supplemental Report" or "First Supplemental Report"). [February Supplemental Report at 1] Oral Care has not been evaluated using the MGARs up through March 2014 (the most recent reports before the close of discovery on April 1, 2014)—a lag of at least six months. The October MGAR was the first time that oral care had been monitored in nine months. As I explained in my February Supplemental Report (at 1):

> This itself is inadequate care because a well-functioning dental system needs consistent, comprehensive, and reliable monitoring to be successful. Further, without consistent monitoring, the quality of dental care is likely to decline and any positive inertia that might have been gained can be lost easily. That ADC might monitor dental care periodically does little to alleviate the risks I identified in my previous reports.

[*Id.*] Not only has the frequency of monitoring been grossly deficient, but the MGAR measures themselves are largely unhelpful in ensuring a well-functioning dental system. The MGARs are merely clerical reviews to the exclusion of any clinical measures that must be evaluated by a dentist. As I previously explained, "the October MGARs do not indicate that ADC has eliminated the substantial risks of serious injury I previously identified. ADC's inadequate monitoring, therefore, continues to be a serious problem with ADC dental care." [*Id.*]

Compounding the inadequacies of the MGAR process, Smallwood Prison Dental Services ("SPDS") does not report wait times for urgent care as it does for intake exams and routine care. ADC's oversight of urgent care wait times needs to amount to more than ad hoc statements. Further, the non-dentist monitors are not clearly asked to monitor urgent care, and, even if they were, they lack the training to determine if a dental assistant's decision not to assign a prisoner to urgent care is appropriate, or indeed to assess what qualifies as urgent care. The result is a situation where ADC has no insight into actual urgent care wait times.[1]

[1] The MGAR asks whether "911s" are seen within 24 hours. Based on emails and some MGARs, there appears to be confusion regarding whether 911 corresponds to "urgent" or "emergency." The contract requires that emergency care be seen within 24 hours and urgent care within 72 hours, but dental emergencies, as defined under the contract, are extremely rare. The sheer number of "emergencies" identified by the monitors suggest they are looking at what are actually urgent care HNRs. [*E.g.*, AGA_Review_00103735-6]

III. THE RECENT SAMPLE CONFIRMS MY FINDINGS REGARDING SYSTEMIC PROBLEMS WITHIN ADC

A. Methodology

When Defendants sought permission to rely on dental wait times and utilization reports between October 2013 and March 2014, I requested a sample of the underlying reports and medical records in order to assess the policies, treatment, and wait times during that time period. In responding to Dr. Dovgan's December 2013 report, I previously assessed records involving treatment in October and November 2013 in my Rebuttal Expert Report. Accordingly, to capture the remainder of the relevant time period, I requested the routine care list as it existed on the last day of the relevant time period (March 31, 2014) and a list of all patients seen between December 1, 2013 and March 31, 2014. From the second list, I chose 80 names and requested that Defendants produce the underlying medical records.[2] I chose names from each facility, looking for a mix of (a) patients seen for pain; (b) patients seen for routine care; (c) patients seen early in the relevant period (to observe follow-up care); and (d) patients seen late in the relevant period (to observe the most recent available information).

Defendants have emphasized their declining wait times under SPDS. The lists I requested—the routine wait list as of March 31, 2014 and an appointment list with fields including both date of request and date seen—would have allowed me to directly evaluate their reported wait times using what would logically be all the underlying data. However, I was told that neither of these lists was available in the format I requested. In other words, SPDS has no ability to look back in time to recreate a routine care list, and cannot generate a report that includes both date of request and date seen. That SPDS cannot or will not produce such lists makes it impossible for SPDS to audit its own data and for ADC to perform due diligence in monitoring SPDS.

Because of ADC's and SPDS's shortcomings in the ability to report data, this report focuses instead on the underlying records produced by Defendants. I ultimately received 85 records containing both HNRs and corresponding progress notes.[3]

For each record, I followed the procedure I used previously in recording each prisoner's treatment over time. [*See* Expert Report of J. Shulman, dated Nov. 8, 2013 ("Expert Report") at 9-10] But because the purpose of this report is to assess more recent treatment, I recorded only treatment that would be reflected in SPDS reports, that is, treatment since March 4, 2013. Although my specific purpose is to assess the system during the expanded discovery period

[2] This number of records and the facilities were negotiated with Defendants based on available time and resources. In my experience as an auditor in correctional and institutional care, as well as my previous review of approximately 360 ADC records, I feel that reviewing wait times based on paired HNRs and clinical notes from 80 dental records is sufficient to obtain a useful estimate of access to care.

[3] I did receive some additional dental records, but most were missing all the HNRs since at least December 1, 2013, and I was told that there were no HNRs in the records. Because there were progress notes in the dental records, and dental visits are nearly always occasioned by an HNR that suggests that the HNRs have simply been lost.

(September 27, 2013 to April 1, 2014), care provided in earlier months is helpful context for assessing treatment provided later. Moreover, in assessing Defendants' claim that their wait times have improved over time, it is useful to have as much information about SPDS's entire tenure as possible.

In addition to reviewing dental records, I analyzed the procedures recorded in the Dental Appointment Lists for December 2, 2013 through April 1, 2014 for Perryville [ADC366218-650], Safford [ADC366766-855], Eyman [ADC365549-766], Lewis [ADC365977-366217], and Yuma [ADC367186-367403]. Those reports should describe the specific procedures (by code) performed at each patient visit, and should reflect the underlying data used to create SPDS's utilization reports.

Wait Time Computations

I reviewed the 85 newly provided dental records with analyzable data,[4] and combined those with the 134 records from my previous record set where treatment was provided in response to HNRs submitted after March 3, 2013. I computed (as I did in my opening and first supplemental reports) the median (50th percentile) and other key percentile wait times for patients who submitted HNRs stating pain or requesting routine care.[5] The following table shows these calculations as well as those from my earlier reports (in gray):

Wait Times (in days) for Patients Submitting HNRs				
	Expert Report (N=293)	**First Supplemental Report (N=366) Combined Dataset**	**Records of Recent Treatment (N=224/89[6])**	
Date Range	1/1/10 – 7/31/13	1/1/10 – 11/30/13	After 3/3/13	After 9/27/13
HNRs Stating Pain				
50th Percentile[7]	6	6	7	7
75th Percentile	12	12	10	12
90th Percentile	23	25	26	31

[4] The 85 records contained 80 HNRs stating pain with corresponding clinical entries and 125 HNRs for routine care with corresponding clinical entries for March 3, 2013 to approximately July 28, 2014. There were 62 pain HNRs and 81 HNRs for routine care with corresponding clinical entries from October 1, 2013 to July 28, 2014.

[5] My methodology for calculating wait times is found in my Expert Report at 9-10.

[6] This includes the 85 newly received records with HNRs and corresponding clinical entries, plus 134 records from my previous reviews where HNRs were submitted after March 3, 2013. Of the 134 earlier records, there were 5 records where HNRs were submitted after September 27, 2013.

[7] All medians are rounded to the nearest whole number.

Wait Times (in days) for Patients Submitting HNRs				
	Expert Report (N=293)	**First Supplemental Report (N=366) Combined Dataset**	**Records of Recent Treatment (N=224/89[6])**	
HNRs for Routine Care				
50th Percentile	78	83	74	71
70th percentile	116	117	89	82
75th Percentile			95	87
90th Percentile	210	196	124	102

With regard to records of recent treatment under SPDS, the median wait time of 7 days for HNRs stating pain is **greater** than the 6 days reported in my original and supplemental reports. These records also show that 25 percent of prisoners waited 10 or more days and 10 percent waited 26 days or more to be seen. The most recent records, since October 1, 2013, show the same or slightly worse numbers, but are still nowhere near the 72 hours required for urgent care under the Corizon contract. A significant reason for the increased median wait times is that prisoners are assigned to routine care rather than urgent care. But even if I exclude the inappropriately triaged HNRs from my sample, the median wait time for HNRs that were properly triaged as urgent care is still 6 days for the most recent patients, with 25% of patients waiting over 9 days and 10% of patients waiting over 19 days in pain.[8]

For routine care, I originally reported the median wait time for a routine care appointment was 78 days; a full 42 percent of prisoners waited longer than the contractually-required 90 days, 30 percent waited were over 116 days, and 10 percent waited were over 210 days. [*Id.* at 24] Median wait time based on the combined dataset is 83 days, with 45 percent of prisoners waiting over 90 days, 30 percent over 117 days, and 10 percent over 196 days. The recently provided records reveal that median wait times declined somewhat to 74 days for records since March 2013 and 71 days for records since October 2013. However, 29% of patients since March 2013 and 22% of patients since October 2013 waited more than 90 days for care.

[8] Dr. Smallwood testified that in Correctional Data Software ("CDS"), the wait time for urgent care requests starts when SPDS gets the request from nursing staff. [Smallwood 4/17/14 Dep. at 14:21-15:1] To the extent that nursing staff does not timely provide HNRs to dental staff, CDS will understate waiting time for urgent care. While this method may be reasonable for determining whether SPDS is in compliance with its contract, it is inappropriate for evaluating whether inmate care is provided in a timely manner. Moreover, to the extent dental assistants misclassify HNRs stating pain as routine care, wait times will be artificially deflated.

Routine Wait Times (in months) as Reported by Smallwood (2013-2014)								
	Oct.	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Mar.**	**Apr.**	**Average**
Douglas	1	1	1.2	1.2	1.2	1.2	1.5	1.2
Eyman	1.1	1.3	1.5	1.4	1.1	1.3	1.2	1.3
Florence	1.4	1.5	1.5	1.2	1.4	1.3	1.0	1.3
Lewis	1.3	1	1.6	1.4	1.3	1.2	1.1	1.3
Perryville	1.5	1.4	1.7	1.3	1.2	1.0	1.1	1.3
Phoenix	1.3	1.5	1.6	1.5	1.5	1.4	1.4	1.5
Safford	1.7	1.7	1.7	1.3	1.3	1.5	1.1	1.5
Tucson	1	1.1	1.3	1.0	1.0	1.1	1.0	1.1
Winslow	0.4	0.1	0.3	0.4	0.7	0.6	0.4	0.4
Yuma	1.3	1.3	1.2	0.9	0.7	0.7	0.6	1.0
Total	1.2	1.2	1.4	1.2	1.1	1.1	1.0	1.2

The table above summarizes ADC wait time reports for October 2013 through March 2014. Based on these numbers, the average of the monthly wait times system-wide for this period was 1.2 months, or 36 days. This is in contrast to the 71 days I computed by comparing HNRs to clinical notes.[9] This discrepancy arises in large part because of the way CDS calculates wait times. As Dr. Smallwood testified, CDS computes routine care wait times at a given point in time as "the average of everyone who is in the system who hasn't been seen." [Smallwood 4/4/14 Dep. at 73:22-25] To illustrate exactly what this means, he was asked in his deposition how he would calculate wait times in a situation where five patients are waiting for care, one is seen each day, and one was added to the list each day. On the morning of day 6, the list would look like this:

[9] My calculations are not directly comparable to the overall wait times, since I do not have enough records to evaluate month by month, facility by facility, but they strongly suggest that wait times are not in fact anywhere near 36 days. Since Dr. Smallwood's database contains the date of the HNR and the date of treatment, it is capable of calculating **actual** wait times as well as their distribution, or I could have performed such calculations had SPDS been able to provide the underlying data.

	Date of Request	Days waiting
Patient 1	Day 1	5
Patient 2	Day 2	4
Patient 3	Day 3	3
Patient 4	Day 4	2
Patient 5	Day 5	1

The actual amount of time each patient waits for care is five days in this situation. But CDS would say that the current wait time in this situation is three days. That is, add up the amount of time each patient has been waiting and divide by the number of patients:

$$\frac{1+2+3+4+5}{5} = 3$$

This idiosyncratic methodology is not specified in the DSTM or Corizon contract. Worse, it is counterintuitive and inaccurate. It does not address how long it takes for inmates to get treatment—presumably the metric the contracts intend to be monitored—rather, it expresses only the current experience of those who have not yet been treated and may not be treated for weeks or months. Determining how long people must wait to be seen requires looking not at how long people who are currently waiting ***have been waiting on average***, but how long those who were ultimately treated ***actually had to wait***. This is the calculation that I made and described above.[10]

Moreover, flawed methodology aside, the reported wait times also fail to take into account that when an inmate on the routine care list is seen for urgent care, the original HNR is taken out of the system. [*Id.* at 75:23:25] Furthermore, SPDS wait times do not provide a distribution, so ADC auditors cannot know the proportion of inmates whose care deviates markedly from the reported wait times. Ultimately, the true time it takes an inmate to receive care is far longer than what Dr. Smallwood's novel wait time calculation would suggest.

B. Examples of Systemic Problems

I reviewed the recently provided records focusing on care provided by SPDS from March 3, 2013 through approximately July 29, 2014. They show that the practices I described in my opening and supplemental reports persist, notwithstanding reported reductions in wait times.

[10] While SPDS was unable to provide a routine care list as it existed during the discovery period, it did provide a "current" routine care list as of June 19, 2014. A basic read of this list appears to show that the wait list at each facility was approximately three months long—that is, the patients at the top of the list, barring the outliers (those out to court, etc.) had been waiting about 75 to 90 days, even though reported wait times at most facilities were just over a month.

Assigning Prisoners Stating Pain to Routine Care

My calculations show that patients complaining of pain are often seen a week or more later rather than the 72 hours required by contract. As I explained in my original report, some part of these lengthy delays likely results from insufficient staff to treat prisoners who are properly categorized as needing urgent care. But most of the longer delays were caused by dental assistants who incorrectly triaged HNRs describing pain as routine care. [Expert Report at 22] Evaluation of dental HNRs at ADC is primarily the responsibility of dental assistants,[11] a practice that puts inmates at serious risk of dental injury. [*Id.* at 18] The following examples[12] illustrate this misclassification and the resulting preventable pain:

- **Redacted** submitted an HNR in August 2013, four weeks after his arrival at ADC but before receiving an intake exam, stating that a tooth "was hurting real bad." He was informed that he was placed on "the dental upcoming line" but an intake exam would have to be done first. [ADC421128] Despite his stated pain, he was not seen for an intake exam for another 34 days.[13] He submitted another HNR in February 2014 stating, *inter alia*, that he had "two knots my on upper gum on the left side [and] right side." [ADC421124] A dentist would understand that this may be a lay person's description of a sinus tract (the point of a draining abscess); however, the dental assistant assigned him to "the dental upcoming line." [*Id.*] Although this implies that he was assigned to urgent care, he was not seen until 16 days later when he happened to have a serial extraction appointment.[14]

- **Redacted** submitted an HNR in March 2014 stating that he had pain and difficulty eating. [ADC421250] He was informed, "You have been placed on the dental waiting list as of 1/9/14" (the date of his request for routine care) and was ultimately seen 20 days later, after a second HNR indicating he had been in pain for two weeks. Several weeks later, he submitted an HNR stating (*inter alia*) that he had problems chewing and was informed that he was placed on the waiting list. [ADC421248] Eight weeks later, not having been seen, he submitted another HNR stating that his gums were bleeding and that he was in extreme pain. [ADC421247]

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[11] I reviewed HNRs from more than 400 records and found only a handful were signed by a dentist.

[12] These examples are based on HNRs submitted after March 3, 2013, when SPDS began providing inmate dental care. Since the time between requests for care and treatment often span many months, selecting the records from the entire period provides points of comparison to reports and testimony provided by ADC and SPDS.

[13] Mr. Redacted's Panorex radiograph was taken on July 17, 2013, but he did not receive an intake exam until September 17, 2013. [ADC421117] According to Dental Procedure 770.1 ¶ 3.5, a patient who has not previously seen a dentist should be seen within 30 days after a Panorex is taken, which here would have been August 17, 2013, three days after his HNR. [ADC010583]

[14] Mr. Redacted also experienced a 10 day delay for a ***correctly*** triaged urgent care request in September 2013. [ADC421127, ADC421117]

He was ultimately seen by a dentist for a pain evaluation over two months after his initial HNR.[15]

- **Redacted** submitted an HNR in June 2013 stating that a tooth with a cavity was very sensitive to hot and cold and was assigned to the routine care list. [ADC421378] She was not seen until more than three months later.[16] [ADC421373]
- **Redacted** submitted an HNR in July 2013 stating that he had been waiting almost a year to get two fillings and that it was hard to eat and drink. [ADC421435] He was informed that "he was on the list." His tooth was filled more than seven weeks later at a routine care appointment. [ADC421429] In December, he put in an HNR saying he had a hole in his tooth. Despite two interim HNRs that he was in pain and having difficulty eating, Mr. Lujan was not seen until almost three months later at a routine care appointment.[17] [ADC421428]
- **Redacted** reported that he needed a tooth pulled and was in "lots of pain." [ADC421554] He was informed that he was "added to the dental list." [*Id.*] Over a month later, he submitted an HNR describing pain in a cracked tooth as "unbearable." [ADC421553] He was seen two days later for this tooth, but the chart suggests that the original issue was with a different tooth that was not, and still has not been, addressed.
- **Redacted** reported in May 2013 that he needed dentures since he "ha[d] no teeth on top" and "4 on the bottom" and was informed that he needed an exam first and was "on the list." [ADC421583] He was examined more than a month later at his intake exam.[18] [ADC42157-8] A dentist would have realized that a patient with an edentulous maxilla and four mandibular teeth will have difficulty eating and should be "fast-tracked" for treatment. Unfortunately, a dental assistant, not a dentist, triaged the patient.
- **Redacted** reported in June 2013 that he had a tooth that was chipped and needed a filling. The cleaning was done six weeks later, and he filed another HNR indicating that his chipped tooth was sensitive to hot and cold, but was placed on the routine care list. [ADC421393] The tooth was filled almost two months later. [ADC421390]

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[15] Although his HNRs mentioned problems chewing, Mr. **Redacted** was not assigned to urgent care or asked if he wanted a soft diet. The notes on the second HNR indicate that he was seen by nursing, but there is no note in the dental chart, and no medical notes were produced.

[16] Ms. **Redacted** also suffered an 8 day delay waiting for treatment following a ***correctly*** triaged urgent care HNR explaining that her gums were bleeding and very painful.

[17] Following this filling appointment, Mr. **Redacted** submitted an HNR stating that "the fill was not in … it hurts & bleeds real bad. It hurts so bad I don't sleep or drink." [ADC421430] He was not seen for six days. [ADC421428-30]

[18] Mr. **Redacted**'s intake exam was not done within 30 days of intake. Mr. **Redacted**'s Panorex radiograph was taken on April 2, 2013, but the intake exam was not performed until June 12, 2013. [ADC421578]

- **Redacted** stated that he had a tooth that was sensitive to hot and cold that "hurts on occasion." [ADC421368] Rather than scheduling an urgent care appointment, the dental assistant assigned him to routine care. [*Id.*] One month later, he submitted an HNR stating that a tooth has a major cavity that "started to hurt badly each time I eat and drink." [ADC421367] He refused to be seen by nursing because he "wanted to wait for dental," [ADC421362] but he was not seen by a dentist for another six weeks, and only after he submitted an HNR stating his painful tooth had "pussed up once getting swollen."[19] [ADC421366]

Several of the above inmates had teeth that were sensitive to hot and cold, but were assigned to the routine care list. Dentinal (tooth) sensitivity is pain brought on by such stimulating factors as heat, cold, sweet, sour, acid, or touch. [Am. Ass'n of Endodontists, *Endodontics: Colleagues for Excellence* (Fall 2013) at 3] Typically, the initial stages of dentinal sensitivity from decay or a lost filling are transient (and reversible) and are due to changes in temperature (i.e., sensitivity to hot and cold). If left untreated (that is, the tooth is not filled), dentinal sensitivity may progress to an irreversible pulpitis. In other words, 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 practice of placing broken or missing fillings on the routine care list is similarly problematic. When a filling falls out or fractures, the filling must be replaced in a timely manner to protect the pulp of the tooth from the effects of dentinal sensitivity and to protect the structural integrity of the tooth from becoming impaired, making it vulnerable to fracturing during normal chewing. Unfortunately, this often does not occur.[20] Consequently, even a tooth in which the pulp is not exposed may develop irreversible pulpitis if the filling is not timely replaced or repaired.

ADC's practices, in addition to rarely placing temporary restorations at pain evaluations, and removing patients from the routine care list when they are seen on a pain evaluations, are unsurprising reactions to a system that does not have enough staff to both properly address urgent care issues and timely address the patients' other dental needs. Unfortunately, ADC compounds the problems created by inappropriate dental assistant triage, resulting in preventable pain, tooth morbidity and mortality.

Dental Assistant Evaluations

My previous reports described a policy that allows dental assistants to "review the inmate health history, perform an oral evaluation, and take dental radiographs, to assist in determining the severity of the dental condition." [Dental Procedure 787 § 5.2] In each of my record reviews, I found dental assistant evaluations in a small but significant percentage of encounters.

[19] The tooth was finally filled on this visit, but the filling fell out, leaving a hole in the tooth that was "extremely sensitive and hurts." [ADC421365] He was seen eleven days later. [*Id.*]

[20] For example, my analysis of the Appointment Lists from January through March 2014, found that only 48 temporary or sedative restorations (procedure code 2940) were placed in approximately 10,000 dentist visits (Lewis=9; Safford=0; Eyman=16; Yuma=1; and Perryville= 22). This is an exceptionally small number given the large number of HNRs for lost or broken fillings.

[Expert Report at 19] I opined that this policy gives far too much discretion to a dental assistant who is not a licensed provider—an opinion shared by Dr. Chu.[21] [*Id.* at 20]

In my Expert Report (at 20), I documented 10 dental assistant evaluations that occurred after Dr. Chu recommended discontinuing the practice in December 2012. Consistent with these past findings, I found five other instances of dental assistant evaluations in the records I recently reviewed.[22]

- **Redacted** complained of a toothache and swelling around his eye and blurry vision [ADC42128] and was seen by a dental assistant in December 2013 who performed an examination, took an x-ray of #4, and concluded that there was extensive decay, an inflamed gum, some sensitivity to percussion, and no visible swelling. Per telephonic order by a dentist, the dental assistant dispensed 30 Penicillin tablets.[23] [ADC421283]

- **Redacted** complained of a toothache and was scheduled for a pain evaluation. [ADC421540] He was seen by a dental assistant in October 2013 who performed an examination, communicated the results to a provider, and received authorization to dispense Penicillin and Ibuprofen. [ADC421537] In my opinion, the dentist who prescribed antibiotics based on the examination of an unqualified person failed to exercise independent professional judgment.

- **Redacted** complained of a problem in a recent extraction site in July 2014 and was examined by a dental assistant who took an x-ray sua sponte, concluded that the "gum looks good," and advised the prisoner to submit an HNR if the problem persisted. [ADC421598] Because there is no indication that a dentist was ever consulted, the dental assistant apparently interpreted the x-

[21] Dr. Chu recommended in December 2012 that even a basic assessment was inappropriate because "dental assistants are not qualified to diagnose conditions and most importantly have difficulty accurately describing symptoms." [AGA_Review_00090609 at ¶ 4] In January 2013, she recommended that triage be completed by nurses—"dental assistants are not qualified and can cause more harm than good." [AGA_Review_00094915]

[22] It is perplexing that the recommendations of ADC's only dental advisor have been ignored by ADC, Corizon, and Dr. Smallwood.

[23] The dentist relied on the dental assistant's examination and interpretation of the x-ray and concluded that there was a dental infection that warranted prescribing an antibiotic. In my opinion, in relying on the examination and radiographic interpretation of an unqualified person, the dentist failed to exercise independent clinical judgment. This is particularly problematic since Mr. Redacted's HNR stated swelling around the eye and blurred vision—symptoms consistent with a canine fossa (infra-orbital space) abscess [*see* F.D. Fragiskos, *Oral Surgery*, Ch. 9 (Odontogenic Infections) 221-22 (Springer-Verlag 2007)]—and the inmate should have been examined by a dentist that day. Left untreated, the infection could have progressed into adjacent fascial spaces, which is a potentially life-threatening condition. [*See* J. Craig Baumgartner, et al., *Ingles Endodontics*, Ch. 21 (Treatment of Endodontic Infections, Cysts, and Flare-ups) 2 (6th ed. 2008) (stating that infections of the midface are of special concern because of the possibility that they may result in a cavernous sinus thrombosis)]

ray and concluded (that is, made a clinical decision) that it was not necessary to consult a dentist. The record also does not indicate that a dentist reviewed and acknowledged the dental assistant's clinical entry as required by Dental Procedure 787 § 5.3. In my opinion, this constitutes the unlawful practice of dentistry and should be reported to the Arizona Board of Dental Examiners.

- **Redacted** complained of a toothache in December 2013 [ADC421673] and was examined by a dental assistant who performed an examination, reviewed radiographs, reported sensitivity to percussion and no palatal swelling but slight buccal swelling, and diagnosed "deep DO caries approaching the pulp chamber." [ADC421671] The dental assistant dispensed Penicillin and Ibuprofen. The record does not indicate that she received a provider's authorization to dispense medication.

As noted in the table below, in these five dental assistant evaluations, dental assistants took x-rays sua sponte for two prisoners, interpreted x-rays for four prisoners, performed percussion tests on three prisoners, dispensed medications to four prisoners, and made a diagnosis for four prisoners. Contact with a provider was documented in only three cases.

Inmate	Date	Page	*Sua sponte* x-rays	Tests Performed	Diagnosis	Provider Contact	Medication Dispensed	Acknowledged within 1 business day
Redacted	11/26/13	ADC421283	Yes	Percussion x-ray review	#4 Toothache	Yes	Penicillin per verbal order	Signed by dentist but not dated
Redacted	10/1/13	ADC421537	No	Mobility Percussion x-ray review	#8,10 toothache	Yes	Penicillin per verbal order	Yes
Redacted	7/29/14	ADC421598	Yes	x-ray review	"gum looks good"	No	No	No
Redacted	12/5/13	ADC421671	No	Percussion x-ray review	Pulpitis Deep caries	No	Penicillin Ibuprofen	Signed by dentist but not dated
Redacted	1/30/14	ADC425298 -300, ADC421769	No	None	None	Yes	Yes	Not signed by dentist

In my January rebuttal report, I found a noncompliance rate of 86 percent with ADC Procedure 787 § 5.3, which requires that records and x-rays of those inmates who received a dental assistant evaluation be reviewed and acknowledged by a dentist within 24 hours. ADC Procedure 787 § 5.3 is both substantively flawed and almost universally not complied with. [*E.g.*, Rebuttal Report at 12, 26-28] With respect to the five occurrences of dental assistant evaluations described above, all clinical notes were noncompliant, three (60%) had no signature, one was signed but not dated, and the other was dated five days after the note. This consistent

noncompliance with its own policy is but one illustration of ADC's indifference to monitoring the dental program.

In the cases summarized in the Table above as well as in all dental assistant evaluations documented in my previous reports, I found that dental assistants wrote and signed clinical notes. But Dr. Smallwood testified—consistent with Arizona law—that dental assistants are not allowed to add clinical notes and sign charts. [Smallwood Dep. at 139:16-24; Ariz. Rev. Stat. § 32-1281(B) (only a licensed dental hygienist or dentist may perform "recording of clinical findings" and "examining the oral cavity and surrounding structures")]

The Prisoner's Dilemma

The widespread practice of removing inmates from the routine care list when they are seen for an urgent care appointment magnifies the delay in receiving routine care while simultaneously deflating reported wait times. This practice appears nowhere in the DSTM and is not always explicitly stated when it occurs; however, it is widely applied and Dr. Dovgan defends it in his most recent report and declaration. [Dovgan Supplemental Report at 2] If the inmate attends the pain appointment, but refuses an offered extraction, he must go back on the routine care list to get a filling. Dental assistants will sometimes refuse to schedule pain evaluations in response to HNRs stating pain, advising prisoners to request a pain evaluation appointment only if "the tooth needs to be pulled." This is what I call the Prisoner's Dilemma: whether to request an urgent care appointment for pain at the risk of losing his or her place on the routine care list. I found several examples in more recent records:

- **Redacted** was told she was on the routine care list after requesting a cleaning and two cavities to be fixed in September 2013. [ADC421472-77] In November, with no intervening dental visit, she submitted an HNR regarding a toothache and was seen for a pain evaluation. In December, she submitted another HNR for fillings and a cleaning, noting in the HNR that the dentist had requested the HNR form before she could be scheduled. A subsequent HNR indicates she was not placed on the routine care list until this December HNR was filed, and she was ultimately seen in March, more than six months after the initial HNR in September 2013.

- **Redacted** had been on the routine care list for over two months when she was seen on a pain evaluation for a cracked tooth. Several days later, she submitted another HNR for routine care that was not addressed until September [ADC421527-32]—six months after the initial HNR.

- **Redacted** was on the routine care list since July 18, 2013. [ADC421756] Between July and early December, she was seen for three pain evaluations [ADC421757, ADC421755, ADC421754] and submitted three additional HNRs requesting fillings [ADC421753, ADC421752, 421756], but was not seen for routine care. The response to her fourth HNR for routine care was that she was "on the list as of 12/3/13 (the date of her recent HNR)." [ADC421751] It appears that she was removed from the routine care list because of her earlier pain evaluations.

Avoidable Extractions

ADC's policies and practices lead to avoidable extractions for several reasons. First, unqualified individuals (i.e., dental assistants) triage HNRs and, as a result, prisoners who need treatment for pain may be assigned to routine care where the wait time is several months, rather than urgent care where treatment at least generally occurs within a week, if not within the contractually-required 72 hours. Further, the practice of removing prisoners who request an urgent care appointment from the routine care list (see, the Prisoner's Dilemma, *supra*) may further delay treatment. Depending on the initial condition of the tooth, the extent of the delay, and individual factors such as rate of disease progression, teeth that could have been restored relatively simply may become more complex or may not be restorable at all. Moreover, because ADC provides no priority level for treatment in between "urgent" and "routine" and does not require any documentation in patients' charts of the extent or pace of decay, it has no way of tracking which patients are most at risk from delay.

These triage issues are compounded by dental staff's willingness to make patients choose between an immediate extraction of a painful tooth or a filling in several months. Dentists should attempt to protect a patient's teeth whenever possible. It fundamentally violates basic standards of dental care to encourage patients in pain to accept a lesser alternative of a tooth extraction by telling them that it will take "months" to be scheduled for the clinically acceptable treatment of a filling. This occurs because of the scheduling and triaging policies of ADC as well as ADC's failure to exercise oversight and prevent such conduct.

Among the records I reviewed for this report, I found a clear example of this conduct. **Redacted** was seen for a pain evaluation in November 2013. The clinical note states "needs restorations; offered to extract #29," and the plan states, "I/M signed refusal to ext. #29; I/M told to put in another HNR for filling." [ADC421472-73] The reason for the refusal was that she would "[r]ather have the tooth filled." [ADC421473] That the inmate was asked to sign a refusal form makes it clear that extraction was the recommended treatment, despite the tooth being restorable according to the dentist's contemporaneous clinical judgment. These policies and practices are below the professional standard of care in the community and put inmates at a substantial risk of dental injury, in particular the loss of teeth.

Treatment of Periodontal Disease

In my Rebuttal Report, I opined that ADC's staffing is inadequate to treat moderate to advanced periodontal disease, which puts inmates at substantial risk of dental injury, including preventable pain and loss of teeth. [Rebuttal Report at 19] This is consistent with Dr. Chu's statement that the treatment commonly employed to treat periodontal disease, "scaling and root planing ["SRP"]," is rarely done. [AGA_Review_00094915]

The appointment lists and SPDS utilization reports provided an opportunity to review the periodontal care SPDS provides to ADC prisoners.[24] My analysis of the procedures recorded in

[24] While the utilization reports track patient visits and numerous other metrics, they do not track scaling and root planing, despite Dr. Chu's concern over the issue. I did compare my findings from the appointment list regarding the frequency of other procedures with the

the recent Dental Appointment Lists for December 2, 2013 through April 1, 2014 for Perryville [ADC366218-366650], Safford [ADC366766-366855], Eyman [ADC365549-365766], Lewis [ADC365977-366217], and Yuma [ADC367186-367403] demonstrates that this deficiency in SRP persists through March 2013.[25] This analysis is summarized in the Table below.

Procedure	Yuma	Lewis	Safford	Eyeman	Perryville	Total
Dentist visits[26]	2083	1203	716	1277	2034	9,456
Dental hygienist visits	0	607	16	741	836	2819
Total visits	2083	1810	732	2018	2870	12,275
Scaling / root planing	1	98	5	4	58	166

Of 12,275 clinic visits over a three month period, SPDS documented only 166 quadrants of SRP—substantially lower than I (and Dr. Chu) would expect.[27] Strikingly, Yuma, Eyman, and Safford performed SRP procedures on only 1 (0.48 per 1,000 visits), 4 (1.98 per 1,000), and 5 (.68 per 1,000) quadrants, respectively.[28] Even Lewis, which documented 98 quadrants in 1,810 patient visits (54.14 per 1000; or 112 times that of Yuma), performed far fewer SRP procedures than I would expect based on my experience managing institutional care and auditing correctional systems.

Addressing the periodontal treatment needs of ADC prisoners will require more dentists and dental hygienists. SPDS does not have sufficient staffing to perform such treatment and keep dental wait times under control. [Expert Report at 14] One consequence of insufficient staffing is the inability to provide an appropriate scope of care. In my opinion, ADC's current level of staffing is inadequate to treat moderate to advanced periodontal disease, which is below the standard of care and puts inmates at a substantial risk of dental injury, including preventable pain and loss of teeth.

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utilization reports, and found them consistent. As the two reports are from the same database, this is to be expected and validates my methodology with respect to the root planning procedure.

[25] In the process of converting a pdf file to an Excel spreadsheet, a small amount of data was lost; however, given the large number of data points, I believe the loss is not material to my analysis. I analyzed treatment codes from 11,530 appointments and 9,991 visits. Taking into account no shows and refusals, there were 9,991 actual patient visits.

[26] Dentist and dental hygienist visits are based on January, February, and March 2014 reports.

[27] Since the mouth has four quadrants, these numbers likely overstate the number of patients treated.

[28] While it is not unusual to see variations in productivity over short periods, the length of the period (three months and 12,275 patient visits) and the striking difference between clinics (one SRP at Yuma and 98 at Lewis) is beyond peradventure.

Treatment of Chewing Difficulty

In my opening report, I opined that ADC policy does not address timing or monitoring of prisoners waiting to receive dental devices, thus permitting inappropriate delays and problems in receiving a proper diet. [Expert Report at 32] This deficiency persists. ADC policy towards prisoners with chewing difficulty remains unchanged. This is further exacerbated by an inadequate number of dentists, which results in narrowing the scope of services provided to prisoners (*see, e.g.*, discussion of inadequate treatment of periodontal disease, *supra*).

The Table below shows the narrowed scope of services with respect to dentures. First, given the number of extractions performed (2,462 over a 3-month period),[29] the number of dentures provided to prisoners is quite small. This is most striking with partial dentures—where Yuma provided only one in 2,083 visits (0.5 per 1000 visits) compared to Lewis (9.1 per 1,000 visits).[30] Yuma and Safford also provide the smallest number of dentures—11.0 and 14.0 per 1,000 dentist visits. This is consistent with inadequate staffing.

Procedure	Yuma	Lewis	Safford	Eyman	Perryville	Total
Dentist visits	2,083	1,203	716	1,277	2,034	9,456
Dental hygienist visits[26]	0	607	16	741	836	2,819
Total visits	2,083	1,810	732	2,018	2,870	12,275
Dentures	23	29	10	40	57	159
Dentures per 1000 dentist visits	11.0	24.1	14.0	31.3	28.0	16.8
Partial dentures	1	11	5	8	30	55
Partial dentures per 1000 dentist visits	0.5	9.1	7.0	6.3	14.7	5.8
Extractions	188	352	904	388	630	2,462

[29] I assume that the number of extractions (as well as other procedures performed) is generally representative of previous months' productivity.

[30] It is interesting that Yuma provided virtually no SRPs and partial dentures. Moreover, Yuma reported no dental hygienist visits.

The records below illustrate ADC's failure to address prisoners with chewing difficulties by offering a soft diet and expediting the fabrication of dentures for those whose chewing problems are substantial. This is illustrated by the following cases:

- **Redacted** submitted HNRs on three separate occasions stating pain and difficulty chewing and eating. [ADC421250; ADC421248; ADC421246] Despite having serial extractions, there is no documentation that he was informed that soft diet was available.

- **Redacted** submitted an HNR in May 2013 shortly after his admission stating that he needed dentures since had no teeth on the top and 4 on the bottom. He was informed that he had to be examined first [ADC421583], but it was another five weeks until his intake exam.[31] [ADC421578] At that time, he was told that he could have complete dentures made after his extractions. [*Id.*] However, he was not placed on the serial extraction list and was next seen after submitting an HNR for a toothache six months later. [ADC421578] Although he had only one remaining tooth, he still was not placed on the serial extraction list or prepared for dentures, and has not been seen since.[32]

Staffing

Understaffing is a consistent theme of my findings in this report and my other reports. Staffing is the basic input for a functional dental system. Without adequate staffing, there simply is not enough capacity to see all inmates in a timely manner or give all inmates needed care. When prison dentists and staff are overworked and lack needed resources and assistance, it is inevitable that inmates are placed at a substantial risk of serious dental injury. What is more, to compensate for the lack of staffing, institutions with inadequate staffing often establish formal or informal practices as shortcuts. These practices, however, in turn exacerbate the problems of low staffing. Based on ADC's documents and the records I reviewed, including Dr. Chu's findings, ADC does this by permitting dental assistants to perform HNR triage and in-person triage of patients to compensate for the lack of dentists, who should be performing those tasks.

In my opening report, I opined that staffing was insufficient to provide timely care. In fact, dentist staffing largely declined from 1996 through 2013. [Expert Report at 11-12] I reviewed Corizon's staffing reports from September 2013 to March 2014. [ADC382964-77, ADC231854-64, ADC231867-77, ADC231878-88, ADC261802-12, ADC263357-67, ADC267354-64] As a preliminary matter, even ADC's and Corizon's own employees have had difficulty interpreting similar staffing reports and determining whether the information contained in them is as useful as it could be. [*See* AGA_Review_00107026] In any event, any recent staffing increases by Corizon do not negate my opinions about dental staffing. For one, recent

[31] Mr. Redacted's intake exam was not done within 30 days of intake. His Panorex was taken on April 2, 2013 [ADC421578], but the intake exam was not performed until June 12, 2013 [ADC421578].

[32] Mr. Redacted last submitted an HNR in May 2014 stating he needed his last tooth pulled on an emergency basis because he had a bad toothache, but there are no clinical entries indicating he had been seen by late July when the record was copied. [ADC421581]

staffing increases make all the more clear how wholly deficient staffing was when the complaint was filed. Those staffing deficiencies placed inmates at a substantial risk of serious harm. Further, the contract does not require a sufficient number of contracted dental positions, nor does it ensure that those staff are utilized appropriately and trained and supervised effectively. So while a failure to meet contract standards is evidence that ADC falls *far* below needed staffing levels; meeting or approaching contract levels alone does not indicate that staffing is sufficient. Moreover, SPDS has not filled all the contracted positions for dental directors, dental hygienists, and dental assistants. And based on ADC's representative witness, the situation is even worse when considering hours ***actually*** worked [Jansen Dep. at 28:8-16]. The percent of contracted FTEs (operating fill rate) is substantially lower. For example, for September 2013, the Corizon contract authorized 20 dentists and 21.25 FTEs were hired, resulting in a percent fill of 106%. But the hours the 21.25 dentists yielded only 15.01 FTEs—for an operating fill rate of 75%. [Jansen Dep. at 44:10-16] So based on hours worked (a partial surrogate for productivity), the dentist positions are understaffed despite the number of positions filled. By failing to maintain the contracted number of dental providers during this period, Corizon exacerbated the problems I attributed to inadequate staffing.

Seeing prisoners who complain of pain or have other dental issues in a timely manner requires an adequate number of dentists on staff—and more important, an adequate number of hours available to see patients. As described above, my record review documented a consistent pattern of delay in treating inmates consistent with inadequate staffing levels: SPDS is either unable to see the patients in a timely manner, or unable to keep track of all incoming requests and patients fall through the cracks. It may be that the recent focus on routine care has reduced capacity to address urgent care, which is not tracked or monitored by SPDS or ADC. Either way, by failing to timely treat urgent care, inmates with both urgent and routine needs have treatment deferred to the point that disease progression may make restoration problematic or infeasible. As a result, inmates suffer avoidable pain, tooth morbidity, and tooth mortality. While wait times have improved since March 2013, current staffing is still insufficient given the untimely care and limited scope of services I documented.

IV. CONCLUSION

Reviewing the recently provided records reinforces the opinions I have expressed in my prior reports.

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ADDITIONAL MATERIALS REVIEWED

	Routine Care List
	Transcript for Dr. Smallwood's second deposition 4/7/14
ADC421029-1805	Dental Records
ADC405666; ADC261688; ADC406132	Wait times and utilization reports from October 2013 to March 2014
ADC231878-88; ADC231867-77; ADC231854-64; ADC382964-77; ADC263357-67; ADC261802-12; ADC267354-64	Staffing Reports from September 2013 to March 2014