Missouri Oral Preventive Assistant EFDA Pilot Project

FINAL ANALYSIS & REPORT

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Introduction

Pursuant to the provisions of section 332.325, RSMo (Medically underserved populations, Pilot Project), the Missouri Dental Board collaborated with the Office of Dental Health (ODH) within the Missouri Department of Health and Senior Services (DHSS) to create a Pilot Project designed to train and deploy a new oral healthcare worker, an **Oral Preventive Expanded Function Dental Assistant (OPA-EFDA)** to address oral healthcare workforce shortages. As detailed in Section 1 of this report, the workforce shortages were most acute in rural Missouri and in clinics serving Medicaid-eligible patients and had resulted in long waits for appointments and access to care issues.

The OPA-EFDA Pilot Project has three objectives:

1. Assess the treatment outcomes of this new worker, an OPA-EFDA, for healthy and gingivitis patients from a clinical and patient perspective.
2. Determine if OPA-EFDAs can increase clinic capacity and access to care as measured by total services, attended appointments, exams delivered and new patients.
3. Evaluate if incorporating OPA-EFDAs in the dental workforce can enhance access to care for patients with more serious or urgent periodontal needs by allowing hygienists and dentists to reallocate time previously spent on periodontally healthy patients to those with more pressing periodontal requirements.

Executive Summary

- **OPA-EFDAs proposed scope of practice:** Is to assist dental hygienists and dentists in the triage of new patients and the care of healthy and gingivitis patients to create more appointment opportunities, improve access and reduce appointment wait times, especially in rural areas and in clinics that serve Medicaid-eligible patients.
- **OPA-EFDAs are well trained:** During the Pilot Project clinical study, OPAs were supervised and observed delivering care in 1,626 patient visits in 7 clinics. Clinical supervisors were required to evaluate OPA-EFDA performance on 8 scales that mirrored the educational objectives of the OPA-EFDA training curriculum. The average rating for global clinical performance of OPAs by clinical supervisors was 9.6 out of 10, which is interpreted as 'Excellent, strongly exceeds expectations'. A detailed account of OPA-EFDAs performance reviews is available in Section 6: *OPA-EFDA Evaluation of Performance by Clinical Supervisors*.
- **OPA-EFDA patient ratings of care were excellent**: A total of 977 patients evaluated the care they received from OPA-EFDAs immediately after treatment. The average patient evaluation score was 9.8 out of 10, which is interpreted as 'Excellent, strongly exceeds expectations.' That compares favorably with a 9.7 average patient evaluation score from

695 patients for care by doctors and hygienists. Further details on the patient evaluation protocol are in Section 5 of this report, and a full account of 148 patient comments are available in the addendum.

- **OPA-EFDAs caused no adverse incidents or complaints**: There were no reported adverse incidents, patient injuries or patient complaints during the 8-month OPA-EFDA Pilot Project study. However, one participant did request a private conversation with the project supervisor without specifying a reason. That call was to thank the state of Missouri for developing the project.[13] Details of that call can be found in Section 7: *In Their Own Words*. Details on the federally certified Institutional Review Board's (IRB)-approved process of defining and reporting adverse incidents are contained in the addendum.

- **OPAs impact on clinic capacity:** The Pilot Project study data did NOT demonstrate a significant increase in clinic capacity or improved access for more serious periodontal patients because the OPA-EFDA Pilot Project design artificially limited the deployment of OPA-EFDAs.

    - Simply put, because this is a Pilot Project, OPA-EFDA applications were limited to existing employees of participating clinics.

    - Those employees already had full-time clinical responsibilities. After their OPA-EFDA training, they only practiced as OPA-EFDAs in segments of time they could be spared from other duties.

    - Across all participating clinics, OPA-EFDAs were only involved in 2.4% of the appointments in their clinics during the study, a small fraction of what they would be involved with as a full-time OPA-EFDAs.

    - A review of dental literature estimates that OPA-EFDAs, assisting hygienists and dentists in treating healthy and gingivitis patients, would be eligible to be involved in between 21%-33% of all clinic appointments[5,6,7,8].

    - Three clinics in the study with the highest deployment levels of OPA-EFDAs averaged a 7.3% deployment rate of the total clinic appointments. Those clinics demonstrated capacity gains and offer a glimpse of the OPA-EFDAs potential contribution to clinic capacity and access improvement. Refer to Sections 10 and 11, for OPA-EFDA impact on clinic capacity and access.

- **A previous study done by Johns Hopkins University for the Indian Health Service demonstrated that periodontal EFDA's increase services delivered by 12.1% and access by 25%.**[9] More details are available in Section 16*: Analyzing and Assimilating Previous Similar Studies*.

- **The Pilot Project solicited feedback from patients, OPA-EFDAs and clinic supervisors regarding OPA-EFDA care. Representative examples are below:**
    - **Patient: "**I enjoyed my visit today. The level of knowledge and professionalism was wonderful. Will Recommend!"
    - **OPA-EFDA**: "Even though it's been a long and sometimes overwhelming journey, it's clear how necessary this role is especially when patients are waiting so long just for basic cleanings. This feels truly groundbreaking for our state, and I'm proud to have been part of something that can make such a meaningful impact."
    - **Clinical Supervisor**: The OPA-EFDA position has provided care to a significant number of patients who would have had to wait 12 months or longer otherwise … I fully intend to continue to use OPA-EFDA's as a major access to care for the benefit of my patients.

    While we recognize this is a lengthy report, we encourage you to read Section 7: *OPA-EFDA Evaluation – In Their Own Words*, as we believe these firsthand perspectives are essential to provide the real story behind the pilot's success and offer compelling anecdotal evidence of how the OPA-EFDA contributes to safe, effective patient care and improved access. A complete catalog of all patient comments received is available in the addendum.
- This study was approved by an Institutional Review Board certified by the U.S. Department of Health and Human Services Office for Human Research Protections. Refer to ***OPA-EFDA Pilot Project IRB Review and Study Bias Control*** in the addendum for a discussion of implemented IRB recommendations.

Conclusions

Based on the results of the OPA-EFDA Pilot Project study:

- There is a need to address long-standing oral healthcare workforce shortages in specific geographical areas and specific clinical settings in most states. In Missouri, those areas are rural clinics and clinics serving Medicaid-eligible patients.
- OPA-EFDAs are well trained and rated highly by both clinical supervisors and patients.
- OPA-EFDAs practicing in their proposed scope under the direct supervision of dentists and hygienists are a safe addition to the oral healthcare workforce.
- OPA-EFDAs will create more available appointments in dental clinics and significantly improve access to care based on the conclusions of the higher deploying clinics in this study and the Indian Health Service Study on periodontal EFDAs.

- Missouri and other states and territories should consider amending their dental practice acts to allow OPA-EFDAs to contribute to the care of patients under the supervision of dentists and hygienists to help address the prevalent oral healthcare workforce shortages.
- The curriculum developed to train OPA-EFDAs is well constructed with adequate testing and quality assurance and should be considered for approval in Missouri for training OPA-EFDAs and serve as a model for other states and territories.

Report Sections

1. **Reasons for this Pilot Project:** Details the current oral healthcare workforce shortage and resulting access problems in rural areas and Medicaid clinics.
2. **OPA-EFDA Project Design:** Discusses the study design, vetted and approved by Governor Mike Parson, the Missouri Dental Board (MDB) and a federally certified Institutional Review Board (IRB).
3. **OPA-EFDA Curriculum and Training:** Explains curriculum based on the Indian Health Service curriculum for a similar worker that has been successfully deployed since 1977and has resulted in a 12.5% increase in clinical services.
4. **OPA-EFDA Clinical Study Overview:** Discusses the three objectives of the study.
5. **OPA-EFDA Evaluation of Care by Patients:** Reviews the process of collecting patient evaluations approved by the IRB and the outcomes of the patient evaluations.
6. **OPA-EFDA Evaluation of Performance by Clinical Supervisors:** Discusses performance evaluation of OPA-EFDAs by clinical supervisors to assess adequacy of the OPA-EFDA curriculum and resulting competency of the OPA-EFDAs as observed by their supervisors.
7. **OPA-EFDA Evaluation – In Their Own Words:** Provides direct quotes from patients, OPA-EFDAs, Clinic Supervisors and previous similar studies.
8. **Assessment of OPA-EFDA Clinical Outcomes Treating Gingivitis Patients:** Summarizes evaluation of OPA-EFDA care of gingivitis patients, as compared to treatment outcomes for gingivitis patients treated by doctors and hygienists.
9. **Definitions for Clinic Capacity and New Patient Characteristics:** Definitions to further understand assessments in Sections 10 and 11.
10. **Assessment of OPA-EFDA Impact on Clinic Capacity with High Deployment:** Includes case studies of 3 clinics with higher deployment rates (4%-9%), with complete data reports as prescribed by the study protocol. The data demonstrates the promise OPA-EFDAs, including summary analysis and comments from participating clinics.
11. **Assessment of OPA-EFDA Impact on Clinic Capacity with Low-Deployment:** Includes case studies of 4 clinics with lower deployment rates (< 4%), with complete data reports as prescribed by the study protocol. Even when data points trended positively for clinics in this group, analysis could not definitively associate the positive trend with OPA-EFDA contributions.
12. **New Patient Characteristics of Participating Clinics:** Describes the new patient profile for the clinics participating in the OPA-EFDA Pilot Project.

13. **Selection and Characteristics of Participating Clinics:** Describes evaluation criteria to intentionally select a wide range of clinics for the OPA-EFDA Pilot Project.
14. **Obstacles, Solutions, and Limitations of the OPA-EFDA study:** Discusses the three major obstacles in the execution of this Pilot Project.
15. **Confounding Factors and Statistical Analysis:** Discusses confounding factors associated with secondary outcomes and statistical analysis of this study.
16. **Adverse Incidents Protocol and Reporting:** Describes the study protocol for defining and reporting adverse incidents and itemizes requested contacts by study participants with the study oversight committee and outcomes.
17. **Analyzing and Assimilating Similar Studies:** Reviews the findings of the Johns Hopkins University Study of the IHS Perio EFDA-1 with the OPA-EFDA study to draw conclusions.
18. **Conclusions:** Provides summary of oval study conclusions.
19. **References:** Provides summary of citations in this report.
20. **Addendum:** Contains relevant reference documents for this report.

Section 1: Reasons for this Pilot Project

Like all healthcare sectors, the oral healthcare workforce has diminished, and the COVID-19 pandemic exacerbated the decline. The Missouri Office of Dental Health statewide survey of oral healthcare workers and the most recent re-licensure data provided by the Missouri Dental Board indicated an exit of between 1% and 10% of the oral healthcare workforce: 1% administrative staff, 6% dentists, 8% dental hygienists and 10% dental assistants. The survey also indicated that 20% of the workforce is considering retirement in the next 5 years due to age or job stress. *A summary page from Office of Dental Health Workforce Survey Report is included in Addendum for reference.*

The result is significantly understaffed clinics that are operating at 60%-80% of their capacity. The workforce shortages have more severely impacted rural clinics and clinics that serve the Medicaid-eligible population, with wait times for appointments in many Federally Qualified Health Centers of weeks or even months long. The Office of Dental Health used license and permit data to determine where providers are located and where they are needed. *Provider distribution maps by county are included in Addendum for reference.*

The main takeaways are:

- All but a few metropolitan counties have significant oral healthcare workforce shortages. Rural areas are the most severely impacted.
- There is a shortage of dentists and dental hygienists in rural Missouri: 44% of clinics that had an opening for a dental hygienist were unable to fill that opening.
- In 1995 Missouri developed the Expanded Function Dental Assistants (EFDAs) provider category to increase the productive capacity of dental clinics and address access to care issues. EFDAs (dental assistants with additional approved training and permitting) can help dentists with many functions including fillings, crowns, dentures and orthodontics. This program has been extremely successful, increasing productive capacity of clinics by 15%-25% with little or no complaints about quality of care. However, there is no EFDA provider category to assist dentists and hygienists with periodontal care.
- The absence of a periodontal EFDA in areas of workforce shortages severely limit a clinic's ability to intake new patients and maintain existing patients at check-ups because both require periodontal data collection and evaluation.
- Currently the Missouri Dental Board has issued the following number of licenses and permits to oral healthcare providers with Missouri addresses: 2,647 dentist licenses, 3,705 dental hygienist licenses and 7,399 EFDA permits.
- The provider distribution maps in the addendum illustrate that EFDAs are distributed more evenly throughout the state, especially in rural areas where hygienists are scarce.

- One logical solution to acute workforce shortages is to create an EFDA to assist dentists and hygienists with periodontal care. This provider role was developed by the U.S. Indian Health Service (IHS) in 1977. More than 1,200 Perio-1 EFDAs have been successfully trained by IHS and deployed in workforce shortage areas where IHS found it difficult to recruit an adequate number of hygienists. A study by Johns Hopkins University comparing IHS clinics using Perio-1 EFDAs with IHS clinics without Perio-1 EFDAs demonstrated Perio-1 EFDAs increased access to dental care by 25% and total services by 12.1%.[9]

Section 2: OPA-EFDA Project Design

One Purpose, Three Phases, Three Objectives

One Purpose: The OPA-EFDA Pilot Project design is focused on addressing one central problem: Poor access to dental care caused by long-standing workforce shortages for patients attending rural clinics and clinics serving Medicaid-eligible patients.

A proposed solution in Missouri is to adopt a program that has been used widely and successfully by the U.S. Indian Health Service: Training and deploying Periodontal Expanded Function Dental Assistants (OPA-EFDA) to help dentists and hygienists see and treat more patients.

Three Phases: The project has 3 phases.

1. **Learning phase**: Consisting of didactic coursework and clinical instruction in a simulated clinical training facility. This phase was executed January 3 – September 27, 2024.
2. **Practice phase**: A closely supervised clinical practicum with structured mentoring. This phase was executed January 3 – February 20,2025.
3. **Clinical study phase:** When OPA-EFDAs deliver care to patients and are evaluated by their supervising clinicians and by patients. This phase was executed March 3 – October 28, 2025.

Three Objectives: The clinical study has 3 objectives.

1. Assess the treatment outcomes of OPA-EFDA from a clinical and patient perspective.
2. Determine if OPA-EFDAs can increase clinic capacity and access to care.
3. Determine if OPA-EFDAs increase access to care for patients with more serious periodontal problems.

This Pilot Project plan was submitted and approved by the Missouri Dental Board, the office of Governor Mike Parson, and then an Institutional Review Board duly registered with the federal Office for Human Research Protections (OHRP). Details follow in Sections 3 through 12.

Section 3: OPA-EFDA Curriculum and Training

January 3 – September 27, 2024

The OPA-EFDA curriculum was conceptually based on the skill set of the Indian Health Service Periodontal EFDA-1 program. It was developed by a committee drawing on 30 years of experience in delivering expanded function dental assisting education in Missouri's extremely successful EFDA program. The OPA-EFDA curriculum was approved by the Missouri Dental Board before instruction began. The following is a synopsis of the curriculum/training program:

1. **Prework (18 hours):**
   The OPA-EFDA candidate completed online didactic training consisting of 11 learning modules prior to the clinical session. Modules use written didactic material, illustrations, photographs, and videos. Intra-module quizzes were strategically placed to ensure comprehension and required satisfactory completion to progress to the next module. Passage of a final exam was required to proceed to the hands-on clinical sessions.

   Modules Include:
   - Introduction: Course Overview (including Infection Control and Positioning)
   - Module 1: Anatomy, Physiology and Morphology
   - Module 2: Periodontal Etiology and Classification
   - Module 3: Armamentarium Identification and Implementation
   - Module 4: Instrument Maintenance and Sterilization
   - Module 5: Oral Hygiene Instructions
   - Module 6: Infection Control and Patient Positioning
   - Module 7: Patient Assessment and Data Collection
   - Module 8: Periodontal Probing – Principles and Techniques
   - Module 9: Supragingival Scaling – Principles and Techniques
   - Module 10: Coronal Polishing – Principles and Techniques
   - Module 11: Placement of Glass Ionomer Sealants, Fluoride Varnish and Silver Diamine Fluoride

2. **Simulated Clinical Lab**
   Hands-On Clinical Sessions (32 hours total, across 4, 8-hour sessions). The OPA-EFDA candidates attended in-person, hands-on clinical training sessions with dentists and/or hygienist trainers. Clinical sessions included lectures and skill development training in simulated dental operatories. Hands-on training and skills performance were completed first on typodonts and then on assistant partners.

3. **Competency Exam**

   OPA-EFDA candidates were required to pass a written exam and a hands-on competency skill test to receive a certificate of course completion from the Missouri Dental Association, an EFDA course provider approved by the Missouri Dental Board. A certificate of satisfactory course completion was a pre-requisite to matriculate to the Clinical Practicum Phase.

4. **OPA-EFDA Clinical Practicum**
   Time Frame: January 3 – February 28, 2025

   The purpose of a clinical practicum is to enable a newly trained OPA-EFDA to gain experience in treating patients and developing their skills in a closely supervised environment. The OPA-EFDA Pilot Project required highly structured evaluation and mentoring (E&M) sessions to be conducted and documented by supervising clinicians. Supervising clinicians were required to block their schedules at least twice a day for a minimum of 10-15 minutes each time to facilitate direct observation of OPA-EFDA performing specific tasks. The clinical supervisors were required to complete an evaluation form that mirrors the task execution skill subset as taught in phase 1. Specific grading criteria are outlined in each form. Specific written recommendations for improvement were required to be annotated for each E&M session. Documentation of passing evaluations on 49 E&M sessions, according to the following schedule, was required for OPA-EFDAs to be eligible to matriculate to the clinical study portion of the project:

   - Periodontal Probing (20)*
   - Supragingival Scaling (20)*
   - Coronal Polishing (3)**
   - Application of Fluoride Varnish/SDF (3)**
   - Application of Glass Ionomer Sealants (3)**

   *Mirrors mentoring requirements of the Indian Health Service Curriculum for Perio EFDA 1 (their version of OPA-EFDA).

   **Represents skills currently within the scope of dental assistants. Three required E&M sessions were included to clearly establish skill set standards for these functions.

Section 4: OPA-EFDA Clinical Study Overview

March 3 – October 28, 2025

Objective 1: Determine if treatment outcomes of OPA-EFDAs for healthy and gingivitis patients meet expectations from a clinical and patient perspective.

Metrics Used:

- Patient Evaluation of OPA-EFDA Care
    - Outcome: Refer to Section 5 for a comprehensive discussion.
- Supervising Clinician's Performance Evaluation of OPA-EFDA Care
    - Outcome: Refer to Section 6 for a comprehensive discussion.
- Assessment of OPA-EFDA Clinical Outcomes Treating Gingivitis Patients
    - Outcome: Refer to Section 8 for a comprehensive discussion.

Objective 2: Determine if OPA-EFDAs can increase clinic capacity and access to care.

Metrics Used:

- Compare clinic capacity data points March-October 2025 (with OPA-EFDA) to same period in 2024 (without OPA-EFDA).
    - Total services value in dollars
    - Number of attended appointments
    - Number of exams delivered
    - Number of new patients

Outcome: Refer to two case study discussions (Sections 10 and 11) for analysis and discussion.

Objective 3: Determine if OPA-EFDAs access to care for patients with more serious periodontal problems.

Metrics Used:

- Compare the aggregate total of the following periodontal service March-October 2025 (with OPA-EFDA) to same period in 2024 (without OPA-EFDA).
    - Number of gross debridement appointments
    - Number of scaling in the presence of gingivitis appointments
    - Number of scaling and root planing appointments
    - Number of periodontal surgery appointments
    - Number of periodontal maintenance appointments
    - Number of periodontal referrals

Outcome: Refer to two case study discussions (Sections 9 and 10) for analysis and discussion.

Section 5: OPA-EFDA Evaluation of Care by Patients

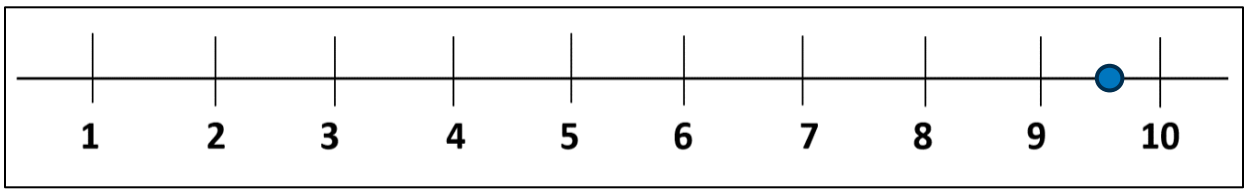
Patient evaluation of OPA-EFDA care of healthy and gingivitis patients was one of the primary endpoints of the study. The patient evaluation of OPA-EFDA care was compared to patient evaluation of care by doctors and hygienists. Both sets of patients were given a Likert Scale (from 1 to 10) patient evaluation instrument at the end of care appointments. Copies of the instruments are

identical, except for the reference to the caregiver, and are contained in the appendix to this report. To minimize bias, protocol was as follows:

- Patients were told in advance that part of the study included them providing a confidential evaluation of the care they received.
    - In 2024, healthy and gingivitis patients consenting to participate in the study were treated by either doctors or hygienists.
    - In 2025, healthy and gingivitis patients consenting to participate in the study were treated by OPA-EFDAs if they were available.
- Immediately after patients received care, they were asked to evaluate their level of satisfaction for the care using a tablet that displayed a Likert Scale (from 1 to 10). They were instructed that 1 was a very low level of satisfaction and 10 was a very high level of satisfaction. They were instructed on how to select their score and record it on the tablet, but not to select it until the staff person left the room.
- Due to published studies indicating that a positive bias may occur if subjects believe their reviews may be read by the service providers, tablets using REDCap data management software were used to collect patient survey data. This enabled patients to submit the review confidentially, with the screen reverting to the homepage after submission. Patients were advised of this in advance.
- It should be noted that two of the eight clinics had difficulty incorporating tablets into their digital environment in the first two months of data collection of the control group (care delivered by doctors and hygienists). In those clinics, paper forms were used initially for two months, and patients were advised to fold the forms and pass them to the receptionist as they exited. This may have increased the risk of positive bias in the collection of reviews of care by doctors and hygienists in those clinics before the technical issues with tablets were resolved. In simpler terms, in two clinics, patient reviews of doctor and hygienist care for the first two months may have been slightly skewed toward a higher, more positive, score.

The results of the patient evaluation of care surveys are as follows:

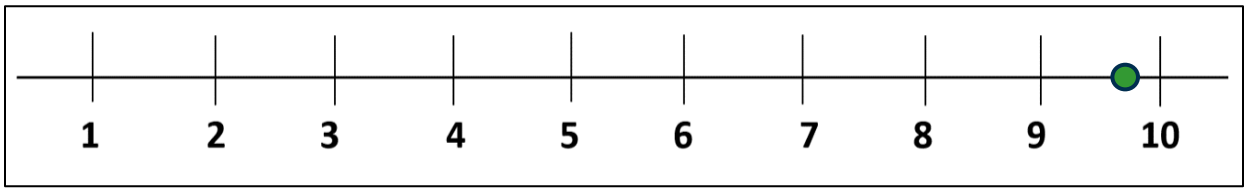
Healthy and Gingivitis Patient Evaluation of Care Provided by <u>Doctors and Hygienists</u>



N= 695

Mean Score: 9.7/10

Healthy and Gingivitis Patient Evaluation of Care Provided by OPA-EFDAs



N= 977

Mean Score: 9.8/10

Discussion: A total of 1,672 patients with healthy gums and those with gingivitis rated the care they received in the participating clinics very highly for doctors and hygienists, as well as for OPA-EFDAs. In fact, 977 patients rated OPA-EFDA care slightly higher, at 9.8 out of 10, versus 9.7 out of 10 for doctors and hygienists 695 patients. These are exceedingly lofty ratings, ranking in the "Excellent, strongly exceeds expectations" descriptive category.

Score	Interpretation	Description
10	**Outstanding / Exceptional**	Far exceeds expectations; rare, top-tier performance; role model level.
9	**Excellent**	Strongly exceeds expectations; high-quality and consistent performance.

Refer to the article "Using Likert Scale Evaluations in Performance Assessments and Customer Satisfaction Surveys" in the Addendum for details regarding the use and analysis of Likert evaluations.[1,2,3,4,9]

Section 6: OPA-EFDA Evaluation of Performance by Clinical Supervisors

Performance evaluation of OPA-EFDAs by clinical supervisors was a secondary endpoint of the OPA-EFDA study, intended to assess the adequacy of the OPA-EFDA curriculum in preparing OPA-EFDAs to deliver care and the resulting competency of the OPA-EFDAs as observed by their supervisors in their daily practice.

The study protocol instructed supervisors to evaluate OPA-EFDAs twice during the study: once at approximately the midpoint and once at the conclusion. The evaluation instrument requires supervisors to assess the OPA-EFDAs' performance on eight specific criteria that align with the educational objectives of the OPA-EFDA curriculum, using a Likert Scale with opportunities for comments. The final assessment instrument was distributed to clinical supervisors on October 21, 2025, and returns were requested by October 29, 2025. The instructions were to complete the evaluation candidly. If there were more than one supervisor, the supervisors could collaborate. To

ensure the anonymity of individual OPA-EFDAs, supervisors were instructed to code the evaluation using a number, rather than the OPA's name, before communicating the results. *A copy of the performance review instrument is contained in the Appendix*.

The following is an aggregate summary of the OPA-EFDAs' performance evaluations submitted by their clinical supervisors:

Category: <u>Asepsis Technique and Infection Control</u>

N=15

Mean Score: 9.9/10

Category: <u>Dental Charting & Diagnostic Imaging</u>

N=15

Mean Score: 9.3/10

Category: <u>Periodontal Probing</u>

N=15

Mean Score: 8.9/10

Category: Supragingival Scaling

N=15

Mean Score: 9.3/10

Category: Coronal Polishing

N=15

Mean Score: 10/10

Category: Placement of Sealants & Fluoride

N=15

Mean Score: 9.6/10

Category: Delivery of Oral Hygiene Instructions

N=15

Mean Score: 9.7/10

Category: Global Performance Assessment

N=15

Mean Score: 9.6/10

Discussion: OPA-EFDAs final performance rankings as evaluated by their clinical supervisors ranged between 8 (Exceeds expectations) and 10 (top tier performance) with an average ranking of 9.67 ("Excellent, strongly exceeds expectations"). It is clear their clinical supervisors were very satisfied with their performance.

Score	Interpretation	Description
10	**Outstanding / Exceptional**	Far exceeds expectations; rare, top-tier performance; role model level.
9	**Excellent**	Strongly exceeds expectations; high-quality and consistent performance.
8	**Very Good**	Exceeds expectations; above average; reliable and commendable.

Refer to the article "Using Likert Scale Evaluations in Performance Assessments and Customer Satisfaction Surveys" in the Addendum for details regarding the use and analysis of Likert evaluations.[1,2,3,4,9]

Sampling of Supervisor's comments:

- **Asepsis & Infection Control:** "____ uses standard precautions on all patients. She maintains her equipment using an intricate disinfection/sterilization process with multiple indicators that are tracked and logged. She practices excellent hand hygiene before and after patient care. She wears all appropriate PPEs. She cleans her rooms prior to seating patients and uses all appropriate barriers.
- **Periodontal Probing:** "____ charts accurately and thoroughly. She is always + 1/-1 to my perio charting and very accurate. She records bleeding as necessary with minimal discomfort to the patient."

- **Supragingival Scaling:** "____ is very precise when removing deposits above the gum. She uses the appropriate angulation and instruments when scaling. She knows how to position herself to get appropriate access. She is able to identify fine deposits and understands how to utilize the air/water syringe to reveal spots of calculus that need to be removed."
- **Supragingival Scaling:** "Excellent instrumentation skills. Provides thorough removal of deposits while maintaining patient comfort and efficient time management."
- **Oral Hygiene Instruction**: "Provides clear, engaging education customized to each patient's age and understanding. Reinforces positive behaviors and preventive habits effectively."
- **General Comment**: "____ has been instrumental in increasing access for our patients. She is able to create rapport. Many of the patients she has seen [as an OPA] had very acute needs due to [poor] appointment availability and they were able to get in sooner.
- **General Comment:** "Overall, with the OPA we have been able to see more patients. We have received excellent feedback from the patients."

Section 7: OPA-EFDA Evaluation – In Their Own Words

This section includes direct quotes from patients, OPA-EFDAs and Clinic Supervisors (dentists and hygienists) who participated in the Pilot Project. While the section is lengthy, we believe these firsthand perspectives are essential — they provide the real story behind the pilot's success and offer compelling anecdotal evidence of how the OPA-EFDA contributes to safe, effective patient care and improved access. Patients had the opportunity to submit comments when they filled out their evaluations for treatment.

The evaluations and comments were input on a tablet and sent to the online servers at the State Department of Health, where it was stored until this report was written. The ODH data analyst provided the comments, which are verbatim in this section and in the patient comment section in the addendum. The only exception is patient PB's contribution: that is a reconstructive transcription of a telephone call done immediately afterward. You'll see why.

Patient: "Wonderful! My son has autism; you did great with him. He didn't get upset at all. Thank you so much."

Patient: "I used to come every 3 months and that stopped with the short staffing with hygienists. It was once or twice a year. Now I get to go back to my routine cleaning every 3 months with ____. She is the best!!"

PB (Patient): At the conclusion of her appointment with [KR], an OPA-EFDA, after PB had confidentially evaluated her care, PB told KR she wanted the head of the project to call her and said,

"Give them my phone number." KR obliged, but worried, because everything seemed to go so well. Per the project's adverse event protocol, PB's request was forwarded to Dr. Guy Deyton, the primary investigator, who promptly called PB and asked how he could help. PB responded:

> "I just wanted to talk to the head of this state project to tell you 'thank you!' Thank you and whoever else is involved for starting this project so I don't have to wait so long to have my dental appointments. It got to the point where I was only getting in every year to year-and-a-half because the office I go to lost their hygienist. I've been twice to [KR] and she's great, and I've got another appointment. I just thought somebody ought to know." (Used with PB's permission.)

If you want to read more patient comments, all 148 received are in the ***OPA-EFDA Patient Comments*** in the addendum.

SP (OPA-EFDA): "I think being part of this study has been really important because it highlights just how much our state needs Oral Preventative Assistants … Even though it's been a long and sometimes overwhelming journey, it's clear how necessary this role is especially when patients are waiting so long just for basic cleanings. Having OPAs also helps free up the hygienist's schedule, allowing care to be delivered more efficiently overall. This feels truly groundbreaking for our state, and I'm proud to have been part of something that can make such a meaningful impact."

KH (OPA-EFDA): "I want to express my deepest gratitude for the opportunity to complete Missouri's Oral Preventive Assistant Pilot Program. This experience has been truly transformative for me — not only as a dental assistant, but as someone who cares deeply about the health and dignity of every patient who sits in our chair. Through this program, I have gained skills and knowledge that have strengthened my confidence and expanded my ability to serve. More importantly, it has reaffirmed why I chose this profession in the first place: to make a real difference in people's lives. Being able to provide preventive care, comfort, and education to patients — many of whom have gone far too long without help — has been an incredibly meaningful part of my journey. I am excited and honored to carry this training forward. I am committed to using everything I've learned to support our dentists, uplift our community, and help ensure that every Missourian has access to compassionate, preventive oral care. This program has opened the door to serving patients in a deeper and more impactful way, and I am truly thankful for that opportunity. Thank you for believing in this initiative, and for believing in the dental assistants who step forward to grow, learn, and serve. With sincere appreciation, KH"

OPA-EFDA (Clinic 2): "Being an OPA has only caused positive outcomes for our dental office and that we would love to utilize it even more than we already are. Being an OPA has expanded my abilities and education to provide to our patients on top of all of my other EFDA licenses I am able to do in the office. This has helped gain insight as well to what our hygienists see on the daily and has made it easier to have our hygienists see the cleanings that need their detailed attention compared to a patient who has stayed consistent with their cleanings that I can easily give my full attention to. I

only hope to further use my OPA license to continue getting more patients seen and get everyone back on a 6-month schedule rather than being overdo for cleanings. OPA has been a major benefit for our rural office, and I only see it continuing to soar."

Clinic 5 Supervisor: "As a practicing general dentist in St. Louis, I feel the OPA-EFDA pilot program has been an enormous success in our office. For over two years we have employed only one hygienist as opposed to our usual three due to labor shortage. The OPA-EFDA position has provided care to a significant number of patients who would have had to wait 12 months or longer otherwise. Most importantly, we were able to guarantee our veterans and active military members that they would be seen within a week when needed. I fully intend to continue to use OPA-EFDA's as a major access to care for the benefit of my patients. Without this position, patients will continue to face barriers to seek care and suffer as a result. I see OPA-EFDA's as the best immediate solution to a longer-term problem and look forward to utilizing it for my patients."

Clinic 1 Staff (Joint Statement): "Having an OPA-EFDA in our clinic has made a significant impact on patient access and experience. It allows our clinic to increase availability for patients who need immediate care, most notably those who are losing access to their Medicaid benefits. By integrating this role into our team, we are able to reduce wait times, open up more chair time for providers, and ultimately help more patients receive care when they need it most. What's been especially meaningful is the patient feedback. Many patients who have had negative experiences in the past with dental care have shared how positive, comfortable and respected they've felt with our OPA-EFDA. This role not only expands capacity but helps to build trust and improve overall patient satisfaction."

Clinic 6 Supervisor: "Our office was chosen to participate in the pilot program of the OPA-EFDA. We began with obstacles, but soon found our 2 dental assistants who were ready to help move the hygiene workforce forward in Missouri. Both of our assistants are more than needed in their respective jobs as an office manager and a lead dental assistant. We knew we would have to make adjustments in our clinic workflow. We have been searching to hire a RDH for over 3 years with very little success plus our current RDH already has a 5-6 month waiting list. We want to continue delivering high quality care to our patients and also decrease their wait time. The OPA-EFDA pilot program has decreased our RDH wait time by having our OPA-EFDAs see perio type I patients (lower maintenance/minimum scaling/low health risk) daily to open times for our RDH to tend to their more difficult needs. Our OPA EFDAs have also increased their probing and supra-gingival skills since this pilot program began and their working relationship with our RDH has greatly improved. Our RDH continues to praise this pilot program because she is able to treat our patients that require more of her time and maintenance. We have also been allowed to re-assign many of our younger, healthier adult patients to the OPA EFDAs for treatment. Having an OPA-EFDA has kept our office from allowing patients to fall behind on routine periodontal maintenance and prioritize S & RP much sooner. Would I hire an OPA-EFDA full-time at our practice? Absolutely! The information above is just

a few points on how this has positively impacted our office and allowed us to maintain adequate oral health care to all patients in our practice and help serve more in our area."

Clinic 7 Supervisor: First, I would like to say that each of my OPA's took extreme pride in being able to participate in the study and took the position very seriously. Their clinical skills were exceptional including accuracy of pocket depths, removal of supragingival calculus, and explaining to patients the importance of preventative care. While there is truth in numbers, I would like to share my personal observations from the study. Patient satisfaction was excellent from the skillsets completed by the OPA. The utilization of the OPA in my office, even as a study, showed increased efficiencies to patient visits including more access to care of my non-OPA patients. This efficiency is even with the extra paperwork involved for patients being part of this study. While I continue to look for help having more hygienists in my office, the OPA has helped keep my healthy patients healthy while continuing to treat my entire patient population. While the OPA is helpful, it is not a substitute for a hygienist in the office. I could have 10+ OPAs in my office and I would still be looking for another hygienist. I firmly believe the inclusion of the OPA in statute would benefit Missourians oral health.

Clinic 4 Supervisor: *This final "comment" is a longer, but valuable commentary on the OPA-EFDA, with a structured analysis for ease of reading.*

> **Case Study – Why We Need OPAs:** In 2025, the clinic recorded a 7% increase in examinations delivered and a 1.4% increase in attended appointments compared to the same period in 2024, after adjusting for scheduling and staffing differences. Despite these gains, several key service areas declined:
>
> - Total Clinic Services: −19%
> - New Patients: −7.5%
> - Periodontal Services: −38%
>
> **Drivers of Declining Service Volume:** Clinic leadership attributed these declines primarily to the ongoing shortage of full-time hygienists. Over the past two years, the clinic has been unable to hire a single additional full-time hygienist, leaving the clinic with 35,000+ active patients, 4 full-time doctors, and only 1 full-time hygienist. The unreliable availability of temporary hygienists further limited capacity, requiring doctors to redirect significant time toward providing hygiene services rather than focusing on procedures within the middle and upper ranges of their clinical scope. This shift also resulted in more patients receiving limited, problem-focused care instead of comprehensive care. The clinic attempted to compensate for the hygiene shortage by hiring an additional doctor, which increased doctor days but further reduced the relative availability of hygiene days. As a result, the majority of operations have shifted toward doctor-provided care, and the hygiene department is now largely surviving through the support of Oral Preventive Assistants (OPAs).

Role and Challenges of OPAs: The clinic participated in the OPA pilot with three OPAs, one of whom was lost during the study due to a health issue. None of these OPAs were full-time; they volunteered because they recognized the high need. Given their competing responsibilities, OPAs estimate that they were able to function in the OPA role for only 10% of their total clinic time. To stabilize the workforce, the clinic intends to hire OPAs at scale once fully approved — specifically, two OPAs for every hygienist and one to two OPAs for each doctor. With 16 existing operatories and 18 more opening in January 2026, staffing plans for six doctors and one hygienist call for the hiring of 10 OPAs. Currently, 6-8 full-time hygienist positions remain unfilled, underscoring the depth of the workforce shortage.

Strategic Considerations and Future Direction: The clinic strongly believes in the long-term value of OPAs and plans to pair OPAs with every doctor and hygienist to better serve patients. Doctor-assigned OPAs would focus on providing care to healthy and gingivitis new patients, since all new patients see a doctor first in the clinic, and to existing patients who are past due on doctor's treatment schedule. Hygiene-assigned OPAs would work in tandem with hygienists as a team to increase the capacity of each hygienist and allow hygienist to focus on patients with poor or deteriorating periodontal status. The clinic also notes that competition from suburban areas has accelerated the loss of hygienists from the city, resulting in an even more limited hygiene workforce for the underserved population compared to the broader regional market.

Conclusion: Despite growth in examinations and appointment attendance, the clinic's decreasing hygiene capacity — and the resulting shift toward doctor-centric care — has significantly constrained comprehensive service delivery. Expanding the OPA workforce is viewed as a critical strategy to restore balance, improve access and support both doctors and hygienists in meeting the needs of the clinic's large and diverse patient population.

Section 8: Assessment of OPA-EFDA Clinical Outcomes Treating Gingivitis Patients

Evaluation of OPA-EFDA care of gingivitis patients, as compared to treatment outcomes for gingivitis patients treated by doctors and hygienists, was one of the secondary endpoints of the study.

For any non-dental lay readers of this report, the following definition of gingivitis may be helpful:

Gingivitis is a reversible inflammation of the gums with usual symptoms of redness, swelling, and tendency to bleed easily when eating, toothbrushing, or when gum pockets are measured. It is different than more serious gum infections in that there has been no damage to underlying support of teeth and gingivitis is reversible with a good cleaning and improved home hygiene.[10, 11]

The protocol for developing the comparison was as follows:

- New patients seen in each participating clinic between March and October 2024 and the same period in 2025 were periodontally diagnosed as healthy, gingivitis or periodontitis, using the 2018 American Academy of Periodontologists/European Federation of Periodontology (AAP/EFP) diagnostic protocols.
- To avoid any hint of diagnostic controversy and to make re-evaluation outcomes very clear and easy to assess, we raised the inclusion criteria for treating gingivitis patients in this study to ≥ 30% bleeding points.
- Patients with a diagnosis of gingivitis were provided education about their diagnosis and offered gingivitis therapy consisting of scaling in the presence of gingivitis (that may or may not have been preceded by a general debridement depending on their accumulated plaque), oral hygiene education and a re-evaluation appointment 2-4 weeks after active treatment.
- If patients consenting to participate in the Pilot Project accepted treatment in March – October of 2024, the treatment was provided by either hygienists or dentists (control group). If patients consenting to participate in the Pilot Project accepted treatment in March – October of 2025, treatment was provided by OPA-EFDAs if available (interventional group).
- Re-evaluation used 2018 AAP/EFP diagnostic protocol: health (< 10% bleeding points), localized inflammation (10%-29% bleeding points), or generalized inflammation (≥ 30% bleeding points).
- On re-evaluation, patients with generalized inflammation were deemed NOT to have improved, and healthy patients or those with localized inflammation were deemed to have improved.
- In 2024, there were 12 patients who accepted gingivitis therapy, kept their treatment appointments, and returned for re-evaluation when treated by dentists or hygienists. Upon re-evaluation, 100% were improved.
- In 2025, there were 10 patients who accepted gingivitis therapy, kept their treatment appointments, and returned for re-evaluation when treated by OPA-EFDAs. Upon re-evaluation, 80% were improved and 20% were not improved.

- **One important limitation to this study:** was the inclusion criteria for participating clinics, which required the clinics to accept Medicaid-eligible patients and have at least 20% of their patient population be comprised of Medicaid-eligible patients. Because gingivitis therapy is not a covered benefit for Medicaid patients in Missouri other than pregnant or 1-year post-partum mothers, there was a financial disincentive for patients to accept treatment. Treatment acceptance was very poor in that population. Appointment failure rate for the re-evaluation appointment was high.

Section 9: Definitions for Clinic Capacity and New Patient Characteristics

To make the clinic assessment summaries more readable (in Sections 10 and 11), an editorial decision was made to provide definitions for these charts in a section rather than replicating them below each clinical chart. The definitions are as follows:

New Patient Characteristics

1. **Health**: absence of inflammation; probing depths (PD) ≤4 mm; bleeding on probing (BOP) ≤10% of sites; no clinical attachment loss (CAL) or Bone Loss (BL).*
2. **Gingivitis**: inflammation of the gingiva characterized by erythema, edema, or other visible signs of inflammation; PD ≤4 mm; BOP ≥10% of sites; no CAL or BL.*

   * Source: Chapple ILC, et al. (2018). *Periodontal health and gingival diseases and conditions on an intact and a reduced periodontium: Consensus report of workgroup 1 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions*. Journal of Periodontology, 89(Suppl 1): S74–S84.
3. **Periodontitis**: an inflammatory disease of the periodontal attachment apparatus resulting in CAL of two or more non-adjacent teeth not caused by trauma, caries, malpositioned teeth, endodontic lesions, or root fractures.**

   ** Source: Papapanou PN, Sanz M, Buduneli N, et al. "*Periodontitis: Consensus report of Workgroup 2 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions*." Journal of Clinical Periodontology. 2018; 45 Suppl 20:S162-S170.
4. **Adult**: Age ≥ 13 (Missouri Medicaid Definition)
5. **Child**: Age < 13 (Missouri Medicaid Definition)
6. **No Periodontal Dx for NP Problem-Oriented Examinations**: Patients that enter the clinic seeking a diagnosis and emergency or palliative care receive a problem-oriented examination and do not receive a full periodontal exam or a definitive periodontal diagnosis. Therefore, the number of patients with a periodontal diagnosis may not match the number of new patients each month or in cumulative analysis.

Clinic Capacity

1. **Clinic Workdays**: 1 full clinic day = at least 8 hours of patient access for treatment. Increments of less than 8 hours are reported as fractional days.
2. **Doctor Workdays**: 1 full doctor day = at least 8 hours of doctor-patient time availability. 3 doctors working 1 full day = 3 doctor days. Increments of less than 8 hours are reported as fractional days.
3. **Hygiene Workdays**: 1 full hygiene day = at least 8 hours of hygienist-patient time availability. 3 hygienists working 1 full day = 3 hygiene days. Increments of less than 8 hours are reported as fractional days
4. **Total Periodontal Services**: the aggregate number of the following periodontal services performed in each clinic is used in this study to determine the clinic's actual capacity to serve patients with periodontal diagnoses more serious than health: gross debridement, scaling in the presence of gingivitis, scaling and root planing, periodontal surgery, periodontal maintenance, and periodontal referrals.
5. **Expected 2025 Production**: To account for confounding variations of clinic schedules, doctor schedules, and hygienist schedules between 2024 and 2025, Expected 2025 Production calculations were used to compare with actual production to assess the impact of OPA-EFDAs. Expected productivity is calculated by multiplying the 2024 average productivity in each capacity category against the actual days worked in 2025. This calculation was applied for total clinic production, doctor production, hygiene production, number of new patients, number of examinations delivered, and number of periodontal services delivered.

Section 10: Assessment of OPA-EFDA Impact on Capacity in Clinics with Higher Deployment

Case Studies of 3 Clinics with Higher Deployment Rates (4%-9%)

Three with the highest OPA-EFDA deployment rates (4%-9% of total clinic appointments) illustrate the promise OPA-EFDAs. Clinics 2, 5 and 7 averaged a 7.3% deployment rate as a percentage of total appointments. Each demonstrated clinic capacity gains and has a unique story to tell. The next three pages contain all the required clinic capacity data and analysis as it relates to the impact of OPA-EFDAs.

Clinic 7 Description: The majority of patients in this **rural practice** (1 full-time doctor, 2 part-time doctors, 1 hygienist, 4 OPA-EFDA, 9 dental assistants) are Medicaid-eligible. The clinic director states it has been very difficult to recruit hygienists to this rural, predominantly Medicaid clinic. General anesthesia (GA) services have been statistically removed from analysis because OPA-EFDAs cannot contribute to GA procedures.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		√September		√October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024**
Total Clinic Production ($) [1,2]	471000	502596	451999	542891	384169	455700	437885	382893	549449	415553	488061	522714	444050	482573	501,815	484,573	$ 3,728,428	$ 3,789,493
Total Clinic Production (Appts)	807	772	773	846	777	721	719	504	873	390	837	849	790	775	785	765	6361	5622
Total New Patients	142	131	129	139	116	102	142	112	161	106	150	134	104	114	113	92	1057	930
Total Examinations	435	374	308	373	328	354	507	360	555	484	509	566	314	377	408	326	3364	3214
Clinic Workdays	19	18	22	20	22	21	18	17	20	20	21	21	18	19	20	20	160	156
Doctor Workdays	27	31	32	29	26	30	25	20	32	20	29	27	20	25	26	28	217	210
Hygienist Workdays [3]	9	0	9	0	9	0	9	0	11	0	9	0	10	0	5	0	71	0
Total Periodntal Services	35155	35213	31525	33629	28605	27570	33000	23730	41905	32235	34360	36640	31322	27694	40067	34535	275939	251246
Doctor Production [1,2]	450575	502596	434027	542891	366719	455700	420505	382893	524989	415553	469210	522714	426649	482573	484233	484573	3576907	3789493
Hygiene Production	20425	0	17972	0	17450	0	17380	0	24460	0	18851	0	17401	0	17582	0	151521	0
General Anesthsia Revenues [1,2]	79650	107280	86361	82440	24845	117025	46440	144670	66965	74400	100632	87020	54125	85325	65155	86725	$ 524,173	$ 784,885
Total Clinic Production - GA Revenue [2]	391350	395316	365638	460451	359324	338675	391445	238223	482484	341153	387429	435694	389925	397248	436850	397848	$ 3,204,445	$ 3,004,608
Doctor Prod-GA Revenue [2]	370925	395316	347666	460451	341874	338675	374065	238223	458024	341153	368578	435694	372524	397248	419078	397848	$ 3,052,734	$ 3,004,608

Analysis: In March-October 2025, this multi-practitioner, 4 OPA-EFDA, rural clinic serving predominantly Medicaid-eligible patients experienced a

- 10.3% increase in attended appointments, a
- 10.8% increase in new patients, a
- 7.1% increase in periodontal services delivered, and a
- 2.1% increase in examinations when compared to the same period in 2024, after adjusting for scheduling and staffing differences.

During this same period, the total amount of services declined slightly (−.4%). When asked about the increase in new patients and new patient services, the clinic director stated that the combination of a hygienist and OPA-EFDAs significantly increased their capacity to see more new patients. In addition, the OPA-EFDA/hygienist team allowed more time to discuss with/educate patients about more serious periodontal problems. The doctor added that treatment acceptance for gum infections in adult Medicaid patients is relatively low because it is only a covered benefit for expectant and 1-year postpartum mothers.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($) [1,2]			
Total Clinic Production (Appts)	5766	595	10.3%
Total New Patients	954	103	10.8%
Total Examinations	3296	68	2.1%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays [3]			
Total Periodntal Services	257688	18251	7.1%
Doctor Production [1,2]			
Hygiene Production	113139	38383	33.9%
General Anesthsia Revenues [1,2]			
Total Clinic Production - GA Revenue [2]	$ 3,217,900	$ (13,455)	-0.4%
Doctor Prod-GA Revenue [2]	$ 3,104,762	$ (52,028)	-1.7%

Clinic 2 Description: This **small, inner-city practice** (1 full-time doctor, 1 part-time doctor, 1 OPA-EFDA, 1 dental assistant) serves many Medicaid-eligible patients. The clinic lost its only hygienist in April 2025 to a suburban clinic that does not take Medicaid patients. In August 2025, the senior doctor took medical leave for a serious health issue that appears to require a practice transition sale. The second doctor and the OPA-EFDA, fully credentialed in additional EFDA functions, have maintained the practice and cared for the patients since August 2025.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		September		October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024
Total Clinic Production ($)	63499	59669	82547	63297.43	53175	53177.19	71960	46166	70123	69015	62808.78	66418	66287	67695	78189.93	61508	548589.7	486945.6
Total Clinic Production (Appts)	291	242	271	287	227	317	266	231	262	297	275	271	115	263	279	278	1986	2186
Total New Patients	31	39	19	26	9	40	15	30	15	43	16	27	15	26	7	14	127	245
Total Examinations	134	111	111	128	90	118	124	94	126	134	100	115	95	109	99	117	879	926
Clinic Workdays	17	16	18	18	16	17	14	12	18	18	12.5	23	15	16	18	18	128.5	138
Doctor Workdays	17	16	26	23	14.5	27.75	14	18	17	38	12.5	28	15	27	18	19	134	196.75
Hygienist Workdays	15	16	0	12	0	12	0	10	0	7	0	8	0	5	0	10	15	80
Total Periodntal Services	38	41	44	39	30	50	52	36	42	46	31	65	44	49	51	58	332	384
Total Doctor Production [2]	40350	39368	68329	52325.44	45643	43649.83	52872	31915	51983	52390	40704	43381	66286	55666	57366.93	41227.68	423533.9	359923
Total Hygiene Production	8130	11029		10972		9527.36		10451		7004		8386		5670.98		9914	8130	72954.72
Total EFDA Production	10269	7736	8106	3384	3626	3916	11137	2599	11026	9036	13305	13532	13596	4048	20823	9163	91888	53414.08

Analysis: The second doctor (who became full time) and the fully credentialed OPA-EFDA, have maintained the practice and cared for the patients from August – October of 2025.

- In 2025, doctor and hygienist treatment time was reduced by 32% and 81% respectively compared to 2024.
- However, dental services delivered to patients actually increased by 12% due to the hard work and dedication of the second doctor and the OPA-EFDA.
- After adjusting for scheduling and staffing differences between 2025 and 2024, this represents a 112% increase in delivered services over expected production.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual %Difference
Total Clinic Production ($)	258811	289779	112.0%
Total Clinic Production (Appts)	2036	-50	-2.4%
Total New Patients	228	-101	-44.3%
Total Examinations	862	17	1.9%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays			
Total Periodntal Services	358	-26	-7.1%
Total Doctor Production [2]	335146	88388	26.4%
Total Hygiene Production	117184	-109054	-93.1%

- The effort to maintain the practice and support existing patients was made at the expense of new patients and periodontal services, which decreased compared to 2024 (−44.3% and −7.1% respectively), accounting for differences in schedule and staffing levels.
- Most importantly, the patients were cared for, and the practice was maintained while the search for a new dentist to take over was underway.
- The clinic is currently aggressively recruiting a new dentist and hygienist. Given the difficulty Medicaid clinics are experiencing in recruiting hygienists, having a trained OPA in this practice was an important factor in maintaining the clinic's viability and patients' access to care due to the medical disability of the doctor.

Clinic 5 Description: This 1-doctor, 1-hygienist **metropolitan clinic** sees a significant number of Medicaid-eligible patients. They state that they have lost two hygienists in the last 3 years to suburban practices that do not serve Medicaid patients. They were having difficulty keeping up with existing patient recall appointments and were not able to serve deploying military personnel and disabled veterans as the supervising doctor intended.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		September		October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024
Total Clinic Production ($)	87711	94400	97045	91486	84318	94517	78111	71090	68235.29	83129	36114	64051	81669	79350	65936	66246	599140	644269
Total Clinic Production (Appts)	287	355	289	307	224	304	264	269	202	238	151	211	268	214	249	250	1934	2148
Total New Patients	21	34	23	12	22	21	18	26	25	13	15	14	50	10	22	24	196	154
Total Examinations	184	232	185	164	150	175	151	177	134	156	71	111	185	164	145	145	1205	1324
Clinic Workdays	17	16	18	18	16	17	17	16	18	18	12	13	17	16	18	18	133	132
Doctor Workdays	16	16	18	14	16	15	15	16	15	15	7	11	16.5	15.5	13	15	116.5	117.5
Hygienist Workdays	17	23	18	21	16	19	16	16	10	18	10.5	13	17	16	18	18	122.5	144
Total Periodntal Services	30	40	41	39	21	22	25	5	14	44	19	25	38	16	23	24	211	215
Doctor Production	59001	66060	66693	64920	58766	71281	50331	51214	47572	61324	19730	50688	48814	58804	36769	45774	387675	470065
Hygiene Production	28710	28339	30353	26566	25552	23236	27780	19877	20664	21806	16384	13363	32720	20546	29168	20472	211330	174205
Military & VA New Patients Served	15	0	7	7	10	16	3	0	9	0	9	0	28	0	7	9	88	32

Analysis: In March-October 2025, this 1-doctor, 1-hygienist metropolitan clinic experienced a 26.3% increase in new patients when compared to the same period in 2024, after adjusting for scheduling and staffing differences. This significant increase in new patients resulted from an intentional decision to utilize OPA-EFDAs to provide care to deploying military personnel and disabled veterans, a project that had been previously deferred due to difficulty recruiting hygienists. The total services, periodontal services, examinations and attended appointments declined by 2.5%, 2.6%, 9.7% and 10.6% respectively. When asked about the decline in some aspects of care, staff in this small clinic stated that no additional staff were added during the study, and the work of the study itself reduced their patient care time. The clinic decided to utilize OPA-EFDAs to care for backlog of existing patients needed to be seen for continuing care and extend services to deploying military personnel and disabled veterans.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($)	614259	-15120	-2.5%
Total Clinic Production (Appts)	2164	-230	-10.6%
Total New Patients	155	41	26.3%
Total Examinations	1334	-129	-9.7%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays			
Total Periodntal Services	217	-6	-2.6%
Doctor Production	414868	-27193	-6.6%
Hygiene Production	148195	63135	42.6%

New Patient Data Category		Periodontal Analysis 2024+2025 #	%
New Patient Periodontal Diagnosis		165	
Health [1]		87	52.7%
Gingivitis [2]		36	21.8%
Periodontitis [3]		42	25.5%
Age Group:	Adult [4]	237	86.5%
	Child [5]	3	1.1%

Section 11: Assessment of OPA-EFDA Impact on Capacity in Clinics with Low Deployment

Case Studies of 4 Clinics with Lower Deployment Rates (< 4%)

This section contains the complete data reports as prescribed by the study protocol from 4 clinics with the lowest OPA-EFDA deployment percentage. This group demonstrates some capacity data points increased and some capacity data points decreased. When we discussed this as a group, the following reasons were commonly expressed:

- OPAs are new and it takes a while for people to change old habits.
- It took participating clinics a while to understand that they needed to schedule OPA-EFDAs like hygienists: assigning them an operatory and pre-scheduling patients.
- Participation in the study took a considerable amount of time, taking time away from patient care to perform tasks like explaining the study to patients, obtaining additional consents, documenting patient data in 2 software programs and collecting patient treatment evaluations.

In these clinics, with lower deployment rates, the data analyst was not confident we could ascribe positive trends to OPAs even when capacity data points trended positively.

Clinic 1 Description: In August 2024 this **metropolitan clinic** utilized 7 full-time dentists, 2 full-time hygienists, 1 part-time hygienist and 1 OPA-EFDA. In August 2025 that changed to 6 full-time dentists, 1part-time dentist and 5-full time hygienists.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		√September		√October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024**
Total Clinic Production ($)	259341	234876	261461	229980	187525	233513	190170	160323	215431	217627	196472	208026	211457	186515	229,743	236,808	1751599.9	1707668
Total Clinic Production (Appts)	670	662	642	666	486	619	518	494	570	610	501	571	516	544	590	614	4493	4780
Total New Patients	45	56	33	42	28	53	62	51	76	74	36	37	19	22	33	37	332	372
Total Examinations	414	373	389	363	300	355	312	330	331	348	290	348	324	301	370	389	2730	2807
Clinic Workdays	17.4	16.5	20	20	20	21	20	19	21	20	17.5	18	21	18	22	22	158.9	154.5
Doctor Workdays	50.4	48.5	55	56	43	52	40	33	54	55	46	52	42	46	48	49	378.4	391.5
Hygienist Workdays*	17.4	16.5	40	26.5	25	22	29	25	25	23	21	18	23	25	26	27	206.4	183
Total Periodntal Services	19	30	28	34	20	36	36	25	31	22	36	13	25	12	37	20	232	192
Doctor Production	201983	188159	193772	182921	132493	191414	124062	128902	173237	182153	153425	179038	159908	148186	203916	194819	1342796.3	1395592
Hygiene Production	57358	46717.3	67,689	47059	55,032	42099	66108	31421	42194	35474	43047	28988	51549	38329	25826.7	41,989	408803.55	312076

Analysis: In March-October 2025, this multi-practitioner metropolitan clinic experienced a 3% increase in clinic services and a 17.5% increase in periodontal services delivered when compared to the same period in 2024 after adjusting for scheduling and staffing differences. The number of examinations, attended appointments, and new patients declined by 5.4%, 8.6% and 13.2% respectively. OPA-EFDAs appeared to allow this clinic to increase access for patients with more serious periodontal conditions based on the 17.5% increase in periodontal services. When questioned about the changes in capacity indicators, both positive and negative, staff suggested the increase in periodontal services could have been due to collaboration between the OPA-EFDA and hygienist. They also indicated that some of the decline was probably due to the participation in the study which took a considerable amount of time and took time away from patient care with tasks like obtaining additional consents, documenting patient data in 2 software programs, and collecting treatment evaluations. Staff also indicated they focused their OPA-EFDA's efforts first on resolving a backlog of patients needing continuing care. After consulting the data analyst, it was decided that deployment under 4% of total appointments was not going to result in a statistically significant impact on capacity with a high degree of certainty, considering that hygiene services typically represent 30%-40% of total clinic appointments.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($)	1700875	50725	3.0%
Total Clinic Production (Appts)	4916	-423	-8.6%
Total New Patients	383	-51	-13.2%
Total Examinations	2887	-157	-5.4%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays*			
Total Periodntal Services	197	35	17.5%
Doctor Production	3418071	-2075274	-60.7%
Hygiene Production	351981	56822	16.1%

New Patient Data Category		Periodontal Analysis 2024+2025 #	%
New Patient Periodontal Diagnosis [6]		2101	
	Health [1]	376	17.9%
	Gingivitis [2]	715	34.0%
	Periodontitis [3]	1010	48.1%
Age Group:	Adult [4]	2090	99.5%
	Child [5]	11	0.5%

Clinic 3 Description: This 4-doctor, 6-hygienist, 4 OPA-EFDA, 20-dental assistant **rural clinic** cares for a large Medicaid-eligible population (34% of their patients). They aggressively recruit hygienists but struggle to keep up with re-care.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		√September		√October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024**
Total Clinic Production ($)	740308	744171	839505	782284	686272	720196	710579.03	756207.92	786957	601128	686124	788651	682170	731101	749345	793686	5881260.03	5917425
Total Clinic Production (Appts)	2678	2278	2290	2283	3640	2092	2454	2281	2569	2222	2315	2112	2159	2636	2589	1521	20694	17425
Total New Patients	174	188	187	184	144	149	214	188	174	224	158	216	142	143	184	225	1377	1517
Total Examinations	886	1029	930	1080	888	988	1173	825	1132	937	1081	1145	895	1215	1240	569	8225	7788
Clinic Workdays	19	18.5	20	21	18.5	19.5	19.5	17.5	20.5	19.5	18.5	19.5	19	19	20.5	23	155.5	157.5
Doctor Workdays	76	91	118	98	90	96	94	86	75	70	65	68	64	72	74	109.5	656	690.5
Hygienist Workdays*	130	126	141	136	129	141	132	122	100	87	95	82	87	101	102	90.5	916	885.5
Total Periodntal Services	134	176	162	170	138	160	98	156	102	130	79	141	109	125	64	155	886	1213
Doctor Production	594939	579995	687968	611685	531423	561894	612501	599206	625335	496545	570052	573540	557311	553122	610529	682070	4790058	4658057
Hygiene Production	145369	164176	151537	170599	154849	158302	98077.91	157002	161622	104583	116072	215111	124859	177979	138816	111616	1091202	1259368

Analysis: In March-October 2025, this multi-practitioner rural clinic experienced a 2.7% increase in clinic services, a 20.3% increase in attended appointments and 7% increase in examinations delivered compared to the same period in 2024, after adjusting for scheduling and staffing differences. New patients and periodontal services delivered declined by 8.1% and 26% respectively in 2025 compared to the same period in 2024, after adjusting for differences in scheduling and staffing. When questioned about the decrease in periodontal services, staff suggested that there was a preference to relieve the backlog of re-care appointments for existing patients rather than focusing on new patients. Primary investigator's note: It is quite possible that the increase in attended appointments and exams delivered was a direct result of the addition of 4 OPA-EFDAs because OPAs contributed to 375 patient visits over the 8 months of the clinical study and in this clinic OPAs were focused primarily on serving recall patients. Because 375 visits were less that the 4% (of total visits) minimum threshold, we could not confidently ascribe the capacity increase to OPAs with a high level of confidence.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($)	5728068	153192	2.7%
Total Clinic Production (Appts)	17204	3490	20.3%
Total New Patients	1498	-121	-8.1%
Total Examinations	7689	536	7.0%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays*			
Total Periodntal Services	1198	-312	-26.0%
Doctor Production	4598907	191151	4.2%
Hygiene Production	221154	870048	393.4%

New Patient Data Category		2025 Totals #	2025 Totals %	2024 Totals #	2024 Totals %
tient Periodontal Diagnosis [6]		388		439	
Health [1]		289	84%	362	82.5%
Gingivitis [2]		12	3%	20	4.6%
Periodontitis [3]		43	13%	57	13.0%
Age Group:	Adult [4]	196	59%	278	63.3%
	Child [5]	134	41%	161	36.7%

Clinic 4 Description: This **urban clinic** (4 full-time doctors, 1 full-time hygienist, 3 part-time temporary hygienists, 3 OPA-EFDA, 16 dental assistants) sees 80%-90% Medicaid-eligible patients. They state they have great difficulty recruiting hygienists competing with suburban clinics that do not see Medicaid patients, and their temporary part-time hygienists cannot be scheduled dependably due to a high demand for temporary dental hygienist services.

Clinic Capacity Data

Data Category	March		April		May		June		July		August		September		October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024**
Total Clinic Production ($)	$1,106,046	$1,071,700	$1,213,395	$1,216,857	$1,167,174	$ 987,322	$1,114,660	$1,044,869	$1,207,878	$1,175,219	$1,024,760	$1,092,766	$ 937,438	$1,202,274	$ 920,059	$1,430,242	$8,691,411	$9,221,248
Total Clinic Production (Appts)	2,682	2,571	2,914	2,798	2,501	2,281	1,756	1,677	1,943	1,849	1,798	1,754	1825	1828	2118	2434	17537	17192
Total New Patients	297	371	338	351	307	288	305	302	363	354	341	388	329	377	403	452	2683	2883
Total Examinations	2,811	3,000	2,916	3,198	2,946	2,535	2959	2749	3,040	3,154	4,746	4982	1825	1475	1643	946	22886	22039
Clinic Workdays	21	21	22	22	21	20	20	19	22	22	21	22	22	21	21	22	170	169
Doctor Workdays	62	51	67	55	66	44	62	47	65	56	62	55	55	56	72	73	511	437
Hygienist Workdays*	26	37	32	33	27	22	62	47	32	23	17	15	16	16	30	30	242	223
Total Periodntal Services	113	114	89	112	81	101	46	173	66	156	227	337	166	357	189	221	977	1571
Doctor Production	$1,049,379	$1,005,153	$1,164,536	$1,153,434	$1,112,866	$930,263	$1,061,706	$964,594	$1,156,991	$1,089,114	$976,219	$1,029,975	$891,885	$1,138,627	$878,663	$1,330,614	$8,292,244	$8,641,773
Hygiene Production	$56,667	$66,547	$48,860	$63,423	$54,308	$56,959	$52,955	$80,275	$50,877	$86,105	$48,541	$64,791	$45,553	$63,647	$41,396	$99,628	$399,157	$581,374

Analysis: This multi-practitioner inner city clinic struggled with implementation of OPA-EFDAs in the first half of the study due to workforce shortage. They aspire to 5-8 hygienists each paired with an OPA-EFDA. In March-October 2025, the clinic experienced a 1.4% increase in clinic services, a 3.2% increase in examination delivered compared to the same period after adjusting for scheduling and staffing differences. Total clinic services, new patients and periodontal services declined by 19%, 7.5%, and 38% respectively. When questioned about the decrease in the latter three services, staff suggested that difficulty in recruiting full-time hygienists and the unreliable availability of temporary hygienists were the primary reasons, resulting in doctors having to provide dental hygiene services rather than procedures in the middle and top of their scope of practice. They also contributed that no OPA-EFDAs in this pilot are full-time: current staff volunteered because they felt the need was great. Because OPA-EFDAs in their clinic have many other responsibilities, they estimate they only operated as OPA-EFDAs 10% of their clinic time. Once OPA-EFDAs are approved, they stated they would hire and train an OPA-EFDA to work with every hygienist. See clinic 4 supervisor's comments in Section 7: '*In Our Own Words*'.

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($)	10736048	-2044637	-19.0%
Total Clinic Production (Appts)	17294	243	1.4%
Total New Patients	2900	-217	-7.5%
Total Examinations	22169	717	3.2%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays*			
Total Periodntal Services	1580	-603	-38.2%
Doctor Production	8692908	-400664	-4.6%
Hygiene Production	443200	-44043	-9.9%

Clinic 6 Description: This 3-doctor, 1-hygienist, 2-OPA-EFDA, 2-dental assistant **metropolitan clinic** serves a significant number of Medicaid-eligible patients. They report increasing difficulty recruiting hygienists, competing with clinics that do not serve Medicaid patients. They need help providing continuing care for existing patients and providing new patient appointments.

Clinic Capacity Data

Data Category	√March		√April		√May		√June		√July		August		√September		√October		Cumulative Totals	
	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024	2025	2024**
Total Clinic Production ($)	259341	234876	261461	229980	187525	233513	190170	160323	215431	217627	196472	208026	211457	186515	229,743	236,808	1751600	1707668
Total Clinic Production (Appts)	670	662	642	666	486	619	518	494	570	610	501	571	516	544	590	614	4493	4780
Total New Patients	45	56	33	42	28	53	62	51	76	74	36	37	19	22	33	37	332	372
Total Examinations	414	373	389	363	300	355	312	330	331	348	290	348	324	301	370	389	2730	2807
Clinic Workdays	17.4	16.5	20	20	20	21	20	19	21	20	17.5	18	21	18	22	22	159	155
Doctor Workdays	50.4	48.5	55	56	43	52	40	33	54	55	46	52	42	46	48	49	378	392
Hygienist Workdays*	17.4	16.5	40	26.5	25	22	29	25	25	23	21	18	23	25	26	27	206	183
Total Periodntal Services	19	30	28	34	20	36	36	25	31	22	36	13	25	12	37	20	232	192
Doctor Production	201983.07	188158.7	193772	182921	132493	191414	124062	128902	173237	182153	153425	179038	159908	148186	203916.23	194819	1342796	1395592
Hygiene Production	57357.85	46717.3	67,689	47059	55,032	42099	66108	31421	42194	35474	43047	28988	51549	38329	25826.7	41,989	408804	312076

Analysis: In March-October 2025, this multi-practitioner metropolitan clinic experienced a 3% increase in clinic services provided, and periodontal services increased by 17.5% compared to the same period in 2024 after adjusting for scheduling and staffing differences. During the OPA study, this clinic focused on reducing the backlog of existing patients who needed re-care appointments. During the study, the number of attended appointments, new patients and examinations declined by 8.6%, 13.2% and 5.4% respectively. Periodontal services delivered declined by 8.1% in 2025 compared to the same period in 2024, after adjusting for differences in scheduling and staffing. When questioned about the decline in some clinic capacity statistics, staff suggested that there was a preference to relieve the backlog of re-care appointments for existing patients rather than focusing on new patients. They also pointed out that the two staff who trained/received OPA-EFDA certification had full-time responsibilities in addition to their efforts to participate in the pilot, which significantly limited their time to practice as OPA-EFDAs. In addition, they stated that the study itself consumed clinic time away from patient care, requiring extra informed consents, formal evaluations from every OPA patient, and inputting data into the specialized software used in the study. The clinic supervisor volunteered that both patients and staff were very happy with OPA-EFDA training and care and would certainly hire one or more FT OPAs when they are approved. See clinic 6 supervisor's comment in Section 7: *In Their Own Words*

Data Category	Expd. 2025 Prod	2025 Actual (-) Expected	2025 Actual % Difference
Total Clinic Production ($)	1700875	50725	3.0%
Total Clinic Production (Appts)	4916	-423	-8.6%
Total New Patients	383	-51	-13.2%
Total Examinations	2887	-157	-5.4%
Clinic Workdays			
Doctor Workdays			
Hygienist Workdays*			
Total Periodntal Services	197	35	17.5%
Doctor Production	1435337	-92540	-6.4%
Hygiene Production	270978	137826	50.9%

New Patient Data Category		Periodontal Analysis 2024+2025 #	%
tient Periodontal Diagnosis [6]		97	
Health [1]		44	45.4%
Gingivitis [2]		35	36.1%
Periodontitis [3]		18	18.6%
Age Group:	Adult [4]	78	80.4%
	Child [5]	19	19.6%

Section 12: New Patient Characteristics of Participating Clinics

The study protocol reviewed and approved by the Institutional Review Board requires the OPA-EFDA Pilot Project to describe the new patient profile for the clinics participating in the Pilot Project. The following is a description of the age and periodontal diagnostic classification of new patients based on reports of 5 of 7 participating clinics. See Section 14: *Obstacles and Solutions During the OPA-EFDA Study.*

- **Age Characteristics of New Patients** in Clinics Participating in the OPA-EFDA Pilot Project:
    - 10.4% are classified as children using the Missouri Medicaid definition of less than 13 years old.
    - 89.6% are classified as-adult using the Missouri Medicaid definition: 13 years or older.

- **Periodontal Diagnostic Classification of New Patients** in Clinics Participating in the OPA-EFDA Pilot Project:
    - 47.7% - Healthy
    - 36.6% - Gingivitis
    - 14.7% - Periodontitis

- **Periodontal Classification of OPA-EFDA Patients** in Clinics Participating in the OPA-EFDA Pilot Project:
    - 61.8% - Healthy
    - 38.2% - Gingivitis

Section 13: Selection and Characteristics of Participating Clinics

The selection of the clinics participating in the OPA-EFDA Pilot Project was managed by a selection committee comprised of then current director of the Office of Dental Health, Dr. Jackie Miller, a Past Director of the Missouri Office of Dental Health, Dr. John Dane, and a retired Community Health Professor at UMKC Dental School, Dr. Michael McCunniff. Clinics were invited to apply by the publication of a detailed Request for Applications (RFA). Interested clinics submitted written applications answering detailed eligibility requirement questions. The applications were reviewed by the committee using the evaluation criteria below:

1. **Dental Hygiene Shortage Areas**: Only clinics located in areas with significant dental hygienist workforce shortages were eligible for participation.
2. **Dental Medicaid Clinic**: Only clinics that were currently enrolled in the Dental Medicaid Program and actively serving the Medicaid population were eligible. In a 2022 workforce

survey conducted by the Office of Dental Health, clinics serving Medicaid patients and those in rural areas were most severely impacted by oral healthcare workforce shortages.

3. **Adequate Clinic Site Infrastructure**: The site infrastructure and staffing were evaluated to ensure they were adequately equipped and staffed to collect and report the clinical data associated with the OPA-EFDA clinical study, assessing the impact on access and quality of care.
4. **Geographic and organizational diversity**: The committee attempted to select clinics that represented diverse profiles (rural vs. urban; single doctor vs. multi doctor; with existing hygienists vs. without) to assess how an OPA-EFDA will perform in various settings.
5. **Absence of History of Disciplinary Action**: The names of all applicants who passed the first level of committee review were forwarded to Missouri Dental Board Executive Director, Brain Barnett to ensure there was no history of disciplinary action attached to the licenses of the clinical providers.

After provisional selection, the clinic names and locations were submitted to Governor Mike Parson's office for review and approval.

The following is a roster of clinics participating in the OPA-EFDA Pilot Project:

Participating Clinic	Location	Rural	Metro	Urban	# Drs	# Hygienists	# OPA-EFDA	# Non OPA-EFDA Assistants
Clinic 1(C)	Mid-Missouri		√		9	5	1	20
Clinic 2 (H)	Eastern Inner City			√	1	1	1	1
Clinic 3 (M)	Northwest Missouri	√			7	7	4	13
Clinic 4 (PL)	Eastern Inner City			√	4	1 FT; 3 PT	3	16
Clinic 5 (P)	Eastern Missouri		√		1	1	1	0
Clinic 6 (SV)	Western Missouri		√		3	1	2	2
Clinic 7 (W)	South Central Missouri	√			1FT; 2 PT	1	4	9
Clinic W (E)*	Eastern Missouri		√		4	5	1	4

*Clinic W withdrew after the OPA-EFDA clinical trial began. Their only OPA-EFDA left their employ to work in a dental lab, reportedly for a higher compensation package.

OPA EFDA Candidate Recruitment: This was limited to existing employees of participating clinics because of the nature of a Pilot Project evaluating the role of a proposed healthcare provider. Although ideal to have tested full-time OPA-EFDAs, it would have been unfair to the participating clinics to require adding one or more full-time staff, put the new employee through OPA-EFDA training and employing them for 1 year, with no certainty they would be able to practice as an OPA-

EFDA when the Pilot Project concluded. Therefore, recruitment was limited to existing employee dental assistants who had passed all the pre-requisites established by the Missouri Dental Board to be eligible to take Expanded Function training courses. That was accomplished by publishing a memorandum of understanding (MOU) to eligible employees of participating clinics, detailing their opportunity for an expanded scope of practice, educational commitments, and role in the OPA-EFDA clinical study. All OPA-EFDA candidates signed the OPA-EFDA MOU.

Section 14: Obstacles and Solutions During the OPA-EFDA Study

There have been **three major obstacles** in the execution of this Pilot Project. For each, data analysts were consulted, and we were advised to make notes of the circumstance, and they would consider the implications as the examined the data.

Problem 1: *2-Factor Database Searches*. Some data was much more difficult to obtain than originally envisioned. Specifically, data search of patient's electronic records using two-factor search was not possible with any of the practice management software utilized by participating clinics.

- Examples of planned 2 factor searches
    - New Patients + Age < 13
    - New Patients + Age ≥ 13
    - New Patients + Dx Health
    - New Patients + Dx Gingivitis
    - New Patients + Dx Periodontitis

Problem 1 Solution: Manual Chart Audits. Very time-consuming, but the only alternative.

Problem 2: *Software Platform Switch in Mid Project*. Two clinics switched practice management software at the end of 2024. That resulted in the control group data on one software platform and the interventional group data on a second software platform.

Problem 2 Solution: Heroic diligence and flexibility and persistence on the part of administrators in both clinics allowed them to provide the needed data.

Problem 3: *Medical Leave and Employment Change*. Two OPA-EFDAs and one doctor had medical leaves ranging from 1 month to 3 months. 1 OPA-EFDA left a participating clinic to work in a dental laboratory.

Problem 3 Solution: Pray for health and recovery and consult data analysts. Two individuals recovered and returned to work. One is still managing their situation.

Section 15: Confounding Factors and Statistical Analysis

Ronald Coase, Nobel-winning economist, once defined statistics as the art of torturing numbers until they confess – in strange tongues. This section will alternate between the data analysts explaining in their own language the relationships they found in the pilot project data and an attempt to explain what they said in plain English.

Primary Outcome

Data Analyst: One primary endpoint of this study was to evaluate the outcomes of OPA-EFDA treatment from a patient's perspective compared to patient's evaluation of treatment performed by doctor's and hygienists. The sample mean Lickert scores for these groups were 9.69 and 9.77 for the dentist/hygienist group and the OPA group, respectively. The null hypothesis – that mean satisfaction scores for an OPA are lower than those for dentist/hygienist – was assessed using a two-sample t-test with an assumption of equal variance for the two groups.

This null hypothesis was rejected with a p-value of p=0.0021, and strong evidence was found that mean satisfaction scores for the OPAs is as good as that for the dentist/hygienist group. As the assumption of normality is not satisfied for this data, the null hypothesis was also assessed using a permutation test with a total of 10,000 simulated permutations; the test yielded a p-value of p=0.0023, again providing strong evidence that mean satisfaction scores for the OPA group are as good as those for the dentist/hygienist group.

One limitation of this study and associated analysis is the confounding of the group effect with the effect of time (2024 vs 2025). However, because no major changes in care delivery occurred during this period at the practices in this study, it seems reasonable to believe that the effects seen are due to the group and not the changing of the calendar.

Plain English: The data demonstrates that patients regard care provided by OPA-EFDAs to be equivalent, or slightly better, than care provided by doctors and hygienists.

A second primary endpoint of this study was to evaluate the clinical performance of OPA-EFDAs using Likert-style performance evaluations by supervising clinicians and by comparing outcomes for gingivitis therapy by doctors and hygienists (control group) to OPA-EFDA treatment (interventional group).

The performance evaluations of OPAs, like the patient evaluations of care, are very high, indicating clinical supervisors are quite satisfied with OPA-EFDA clinical outcomes. Because there is no comparison group, statistical analysis is not necessary, except to say it would be unlikely that a comparison group of clinicians would obtain aggregate performance ratings that were meaningfully higher than OPA-EFDAs.

The gingivitis therapy outcome comparisons demonstrate that treatment outcomes for OPA-EFDAs were similar to treatment outcomes by doctors and hygienists, albeit a small sample size.

104 patients were recorded as receiving gingivitis therapy in 2024 from doctors and hygienists. 104 patients were recorded as receiving gingivitis therapy in 2025 from OPA EFDAs. Only 22 patients were recorded as returning for revaluation: 12 treated by doctors and hygienists and 10 treated by OPA-EFDAs. 100% of gingivitis patients treated by doctors and hygienists improved. 80% of patients treated by OPA-EFDAs improved. Anecdotally, clinics volunteered that Medicaid patients have a higher 'no-show' rate than other populations. Per study protocol, the evaluation appointment had to occur within two months of the treatment to minimize the confounding factor of poor oral hygiene. The best reporting method in small sample sizes is a direct report of outcomes.

Secondary Outcomes and Accounting for Confounding Factors

A secondary outcome of this study was to determine if OPA-EFDAs could contribute to an increased clinic capacity thereby improving access to care. Raw analysis of data indicated that impact of OPA-EFDAs on clinic capacity was related to the deployment of OPA-EFDAs expressed as a percentage of total clinic appointments after confounding factors were accounted. In deployments of less than 4% of total clinic appointments, the impact on clinic capacity was quite variable with some positive and some negative results. In a subset of higher deploying clinics, 4%-9% of total clinic appointments, there was increased evidence of positive impact on clinic capacity after confounding factors were accounted, best described in case study presentations.

Confounding Factors

A confounding factor in a scientific study is a variable that distorts or hides the relationship between two things you are trying to understand, like OPA-EFDAs and increased clinic capacity.

The following data points were used to assess clinic capacity:

- Total monthly clinic services ($)
- Total monthly clinic appointments attended
- Total monthly new patients
- Total monthly patient examinations delivered

After analyzing the moth-to-month differences in 2025 data when compared to 2024 data, the following circumstances were deemed to be confounding factors that needed to be statistically accounted for to gain a clearer picture of the impact of OPA-EFDAs:

- Clinic schedules sometimes varied.
- Staffing of doctors sometimes varied.
- Staffing of hygienists sometimes varied.
- In clinics that offered general anesthesia (GA) services, the month-to-month revenues for those procedures fluctuated widely independent of the presence of OPA-EFDAs. The fluctuations of GA procedures and revenues were considered a confounding factor.

Expected Productivity as a Method to Minimize Confounding Factors: When comparing data for specific months of 2025 compared to the same month of 2024, the following methods were used to account for confounding factors to gain a clearer understanding of the impact of OPA-EFDAs on clinic capacity.

Expected Clinic Capacity: To minimize the risk of mistakenly attributing changes in clinic capacity data points to OPA-EFDA contributions, expected clinic capacity values were computed to reflect differences in the number of scheduled clinic days, doctor days and hygienist days for each month in 2025 compared to 2024. This was accomplished by using the 2024 average productivity data values for each unique clinic to adjust for the differences in scheduling and staffing between individual months in 2025 compared to 2024.

- **Tracked Clinic Data:** The following data was tracked for the months of March through October in 2024 and 2025 for each unique clinic:
    - Total Clinic Services ($)
    - Total Number of Appointments Attended
    - Total Doctor Services Provided ($)
    - Total Hygienist Services Provided ($)
    - Number of New Patients
    - Number of clinic days* of operation per month
    - Number of doctor days** contributed per month
    - Number of hygienist days*** contributed per month

    *Clinic days: 1 full clinic day = at least 8 hours of patient access for treatment. Increments of less than 8 hours are reported as fractional days.

    **Doctor days: 1 full doctor day = at least 8 hours of doctor-patient time availability. 3 doctors working 1 full day = 3 doctor days. Increments of less than 8 hours are reported as fractional days.

    ***Hygiene days: 1 full hygiene day = at least 8 hours of hygienist-patient time availability. 3 hygienists working 1 full day = 3 hygiene days. Increments of less than 8 hours are reported as fractional days.

- **Average Productivity Per Day Data**: To account for changes in clinic schedules, doctor staffing levels, and hygienist staffing levels, average values for the following data points for each unique clinic were derived from their 2024 practice data:
    - Average doctor production/doctor day
    - Average hygienist production/hygiene day
    - Average number of new patients/clinic day
    - Average number of appointments/clinic day
    - Average number of examinations/clinic day

- **Expected Productivity Computation:** Expected productivity values for 2025 were calculated for each unique clinic by multiplying the 2024 average productivity values and

the respective clinic days, doctor days, and hygiene days. For example, calculations for the expected monthly productivity data for the month of March 2025 would be:

- **Expected 2025 March Doctor Production** =
  (March 2025 # of Doctor Days) x (2024 Average Doctor Production / doctor day)
- **Expected 2025 March Hygiene Production** =
  (March 2025 # of Hygiene Days) x 2024 Average Hygiene Production / hygiene day)
- **Expected 2025 March Total Office Production** =
  (March 2025 Expected Doctor Production) + (March 2025 Expected Hygiene Production)
- **Expected 2025 March New Patients** =
  (March 2025 # of Clinic Days) x (2024 Average New Patients / Clinic Day)
- **Expected 2025 March Total Appointments** =
  (March 2025 # of Clinic Days) x (2024 Average Appointments / Clinic Day)
- **Expected 2025 March Examinations** =
  March 2025 # of Clinic Days x 2024 Average Examinations / Clinic Day

- **General Anesthesia Services:** One clinic provided a significant amount of general anesthesia services for patients. GA revenues sometimes accounted for a significant portion of this clinic's monthly revenues: ranging from a low of 5.5% to a high of 38% of total monthly revenues during the study period. Wide fluctuations in GA revenues were observed in both 2024, prior to OPA-EFDAs, and in 2025 when OPA-EFDAs were contributing to care. Assisting in GA requires special training and credentialling beyond OPA-EFDA training and credentialling. Because OPA-EFDAs could not participate in GA procedures and because the fluctuations associated with GA obfuscated OPA-EFDA impact, it was decided to consider this clinic's revenues as a capacity metric after extracting GA revenues for both 2024 and 2025.
- **Actual 2025 Productivity compared with Expected Productivity.** To glean the impact of OPA-EFDAs on clinic capacity the actual 2025 clinic productivity was compared with the expected 2025 clinic productivity once the identified confounding factors were statistically managed.

Plain English: The OPA-EFDA Pilot Project demonstrated anecdotal evidence that deployment of OPA-EFDAs over 4% of total clinic appointments had an increased positive effect on clinic capacity data. The Pilot Project study data, taken as a whole, did NOT demonstrate a significant increase in clinic capacity or improved access for more serious periodontal patients because the OPA-EFDA Pilot Project design artificially limited the deployment of OPA-EFDAs.

Section 16: Analyzing and Assimilating Previous Similar Studies

A review was conducted of the Johns Hopkins University Study of the Indian Health Service (IHS) Perio EFDA-1 published in 2017. The findings of that study were combined with findings of the Missouri OPA-EFDA study to draw conclusions.

The primary findings of the Johns Hopkins/IHS Perio-EFDA-1 study in 12 IHS clinics were:

IHS Clinics utilizing Perio EFDA-1s versus clinics not using Perio EFDA-1s.

- achieved a 12.1% increase in procedures delivered.
- achieved a 25% increased rate of access to dental care.
- increased their preventive dental sealants delivered by 79.7%.
- increased their delivery of preventive fluoride varnish by 66.6%[9]

Missouri's Oral Preventive Assistant EFDA is conceptually modeled after the Indian Health Service Perio-EFDA-1 program. Taken together, the OPA-EFDA Pilot Project and IHS clearly demonstrates:

- There is a long-standing need to address oral healthcare workforce shortages where it is difficult to recruit hygienists. The IHS found it difficult to recruit an adequate number of hygienists in many underserved areas in all of its 12 districts and developed the Periodontal EFDA program in 1977 directed by Dr. Greg Smith, a periodontist.[14, 15] In Missouri, rural clinics and clinics that serve Medicaid-eligible patients have acute workforce shortages and difficulty recruiting hygienists as outlined by the Missouri Office of Dental Health Report on Workforce and the Office of Dental Health Survey of Oral Healthcare providers.[16]
- Periodontal EFDAs trained in the OPA-EFDA Pilot Project and in the IHS system are well trained.
- Both dentists and patients rate Missouri's OPA-EFDA care very highly.
- Periodontal EFDAs are a safe addition to the healthcare workforce. There were no adverse events nor were there any patient complaints in the Missouri study.
- Periodontal EFDAs do add to clinic's productive capacity and increase access to care.

Section 17: Study Limitations

- The OPA-EFDA Pilot Project study's major limitation was that the first cohort of graduates were already full-time employees with full-time responsibilities, which significantly limited their deployment. Fortunately, there is a study of the impact of the full-time IHS Perio EFDA-1s done by Johns Hopkins University for the Indian Health Service that can assist us in envisioning the impact of full time OPAs.

- A second limitation was the unexpected deficiencies of all 4 practice management software platforms employed by the 7 clinics to run 2-factor search and reports. The inability to run and report 2-factor searches led to retrospective manual chart audits to mine the information required by the study. Five of the seven participating clinics were able to 'muster' the task. Two clinics did the lion's share of manual review but didn't have the manpower.to complete the review for characteristics of new patients.
- A third limitation was medical leave involving 3 clinicians. In the case of the compromised lead doctor in Clinic 2, the part-time associate transformed into a full-time doctor, who with the OPA-EFDA assistant performed heroic work maintaining the practice. They also introduced an unknown variable: a different clinical team with unknown historical productive capacity.

Section 18: Conclusions

1. There is a need to address long-standing oral healthcare workforce shortages in specific geographical areas and in specific clinical settings in most every state and territory. In Missouri, those areas are rural clinics and clinics serving Medicaid eligible patients.
2. The Indian Health Service (IHS) and Missouri have developed similar, but slightly different approaches to educating a Periodontal EFDA to attempt to address workforce shortages and improve access to care.
3. Periodontal EFDAs in both systems seem to be well trained, OPA-EFDAs in Missouri's program received extraordinarily high ratings by both doctors and patients.
4. Periodontal EFDAs are a safe addition to the healthcare workforce. There were no adverse events nor were there any patient complaints in the Missouri study that included 1626 patient visits.
5. Periodontal EFDAs do add to clinic's productive capacity and increase access to care as evidenced by the Indian Health Service study and foreshadowed in the higher deploying clinics in the Missouri study.
6. Missouri and other states and territories should consider adapting their dental practice statutes and rules to allow the addition of periodontal EFDAs to the oral health treatment team.

Section 19: References

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15. IHS Periodontal Treatment Initiative EFDA Fact Sheet. IHS Division of Oral Health, 2015
16. Missouri Oral Healthcare Report on Workforce. Missouri Office of Dental Health. February, 2023.

Section 20: Addendum

The addendum attached to this report contains the following key documents associated with the OPA-EFDA Pilot Project:

1. OPA-EFDA Patient Comments Regarding Treatment
2. Missouri Office of Dental Health Summary of Workforce Survey of Oral Healthcare Providers
3. Dental Hygienist Shortage Areas by County, Missouri Office of Dental Health
4. Expanded Function Dental Assistant Shortage Areas by County, Missouri Office of Dental Health
5. Dentist Shortage Areas by County, Missouri Office of Dental Health
6. Consent for Control Group Participation in OPA-EFDA Pilot Study (Dr & Hygienist Tx)
7. Consent for Interventional Group Participation in OPA-EFDA Pilot Study (OPA-EFDA Tx)
8. OPA-EFDA Assent Form (Age 7-17)
9. Guidelines for Conducting an Assent Discussion with a Minor
10. Patient-Guardian Treatment Assessment Form for Doctor and Hygienist Care (Control Group)
11. Patient-Guardian Treatment Assessment Form for OPA-EFDA Care (Interventional Group)
12. Supervising Clinician's Final Assessment of OPA-EFDA Performance Form
13. Missouri OPA-EFDA Pilot Project Adverse Incident Protocol
14. Missouri OPA-EFDA Pilot Project Adverse Incident Reporting Form
15. Evaluating the Effectiveness of IHS Periodontal Expanded Function Dental Assistants
16. OPA-EFDA Pilot Project IRB Review and Study Bias Control Recommendations
17. OPA-EFDA Project Report Bibliography
18. Using Likert Scale Evaluations in Performance Assessments and Customer Satisfaction Surveys
19. Data De-identification and Integrity Attestation

OPA EFDA Pilot Project Patient Comments

A Complete Catalog

To avoid potential concerns that patient comments might have been 'cherry picked', <u>all comments associated with ratings below 8</u> out of 10 are listed first.

- (7) first appt here. Went well for first time.
- (7) A little sloppy with water spray, overall a good experience
- (7) A little painful at the beginning.
- (7) A little rough at the beginning of the treatment. Other than that it was very smooth and easy to go through.

The remaining 144 patient comments are associated with ratings of 8 of 10 or higher.

- Wonderful! My son has autism, you did great with him. He didn't get upset at all. Thank you so much
- _____ was excellent, my severe anxiety did not trigger at all with her or the dentist. My mouth feels really clean. I will be back to see her in 6 months.
- I enjoyed my visit today and really enjoyed _____ . The level of knowledge and professionalism was wonderful. Will Recommend!
- _____ was great, my son loved the attention to detail! Keep up the amazing work!!
- From beginning to the end, was amazing, and made my son feel comfortable. Polite, explained things in a very understanding way, answered any questions that I had. she was great!
- KVC appreciates what you all do for our kids. Your patience and kindness is amazing. Thanks for taking care of them :
- best service I've ever received!
- She explained things in an easy way to understand, and didn't make me feel stupid or bad about the work I will need.
- Appreciate - care, attention to detail, and thoroughness. Very pleased.
- I used to come every 3 months and that stopped with the short staffing with hygienists. It was once or twice a year. Now I get to go back to my routine cleaning every 3 months with _____ . She is the best!!
- Always a pleasure. Staff has always went above and beyond. Very satisfied.

OPA EFDA Pilot Project Patient Comments

A Complete Catalog

- Very caring and did a great job! She explained what she was doing and I appreciate that. Very professional and caring!
- She was very professional and made me feel very comfortable. "Excellent experience" is my evaluation in a nutshell.
- Very informative and do a very professional job with care treatment and answering questions.
- '10', she was very gentle. Both dental assistants were very nice and polite. Loved my experience. :)
- Very knowledgeable and gentle, thank you!!
- Awesome care! Very thorough!
- Was super professional and made me feel comfortable and updated on the entire cleaning so I knew what was going on. Thank you so much. Im extremely greatful I found you!
- Needed extreme cleaning and it was almost pain free. Thanks _____**!**
- Never feel my mouth more clean.
- Awesome, very good job. very great job.
- Very gentle and very informative on what she was doing!
- 10+++ Very thorough, told me what she was doing and very polite. Knew exactly what she was doing.
- Appointment was easy. She communicated clearly. I am satisfied with the services.
- Very professional. Thank you so much. Awesome job.
- I would give a 12 out of 10. Excellent. Dr. _____ was mean to me and he told me to open my mouth and shut-up! KIDDING!! Everything was excellent.
- Very nice and gentle. Kendra has a great sense of humor. I love how she told me each time she about to do something. Continually check with me for my comfortability Love _____!
- Very thorough! No difference from the previous hygienist.

- Always kind and helpful. Suggested a mouthwash that helped with a problem I had. Even though I get anxious coming to the dentist Kim is always kind and supportive.
- Welcoming and professional. Walked me through what she was doing ,did well and continued to make sure I was okay.
- very verbal & explaining everything being done. very nice.
- _____ explained everything & did a great job!
- _____puts me at ease from start to finish.
- Made me very comfortable. Reduced anxiety by explaining what was happening.
- Best dentist experience!
- Great job, _____ put me at ease and answered all of my questions!
- Very satisfied, clear detail explanation of procedure, gentle and patient, very professional and knowledgeable. Answered all my questions. Great care!
- _____ is phenomenal! The best there is !
- Excellent rapport. Very through. very knowledgeable and exemplary and gentle. Highly recommend!
- Cleaning session was great. Is what I expected. During cleaning was very comfortable. I appreciated how the process was explained throughout.
- _____ did a great job cleaning my teeth and very professional.
- Super great, professional, kind, and patient.
- Was very satisfied with the process that was done
- Great communicator. Put me at ease. I usually get nervous.
- _____ was brilliant very thorough and great job. I prefer not using water tool and she accommodated that for me. She was skilled, professional and met my needs. Outstanding!
- She was very communicative letting me know what she is about to do before starting..really love that. Great services. Thank you. :-)

- Very thorough, did an excellent job, A++++! I feel that my comments are honest because I used to be a dental assistant/ orthodontics assistant.
- She did great with my very fidgety son and had a lot of patience with him
- Great, I had some sensitivity but overall my teeth feel clean and she listened to me when I needed her to change according to my sensitivity.
- Very patient and kind
- Very thorough and accommodating to some of my request/needs
- She did a very good job getting my teeth cleaned.
- You were really nice and kind and very good to my teeth. Thank you so much
- No complaints. Very satisfied with her professional work.
- Absolutely Amazing!
- Very nice, took her time and did an amazing job! I would highly recommend Alyshia to do all my dentist needs! Thank you so much!
- Very friendly and trustworthy.
- She did a great job.
- very thourough and left feeling cleaner
- Awesome work and team.
- Very patient, kind, professional & thorough, really appreciated the time and patience with me
- very professional and courtesy
- Excellent Work!
- no suggestions, very satisfied =)
- Very good at explaining what is happening and why we are doing it. Great with people!
- He loved his teeth cleaning.

- Has gentle hands. Good cleaning.
- She did a great job. Glad to see this program. We need more dental care in rural areas. :)
- It was fabulous, great care!
- love the care that's given, office is clean and comfortable. staff is very friendly and professional
- _____ was very professional and knowledgeable. keep KIM!
- very clear and consistent, explained operations and instructions, really great
- gentle touch , helped address my lack of flossing, she was alot of fun made my appointment enjoyable
- explained everything very well showed me with a mirror as well
- _____did a great job cleaning my teeth!!
- she was able to navigate around my brackets easily and helped educate me on better flossing
- girls were super super kind & made me feel very comfortable.
- No complaints at all.
- Very friendly and gentle
- my son has anxiety, this made it better
- so nice!
- loved her!
- did great with kids
- Great at checking in and so gentle!
- ‘10’ Plenty of warnings if any pain or discomfort
- _____ was very patient and efficient. Used simple and easy directions

- Very well pleased with how she spoke to me and helped me understand what she was doing.
- Very thorough, Good job.
- Very nice and professional.
- Great, Gental, and Kind.
- Great, quick, and friendly
- '9' It was the actual machine that kept it from being a 10.
- Did great!
- Very thorough with a great demeanor.
- Was very professional.
- good job, made my anxiety not as bad
- funny gal great job
- very good cleaning
- liked the fact that she discussed how to properly brush and showed pictures too.
- loved her!
- great work
- Made sure to explain everything she was doing, and in a timely manner
- She did so good with my daughter and did a great job!
- she was very good. extremely knowledge and had a delicate touch
- _____ did a fantastic job
- very good at explaining everything. she did great
- She was super nice and gave no pain when cleaning. She can clean me any day!
- everything was perfect, was expecting it to hurt worse. Maybe suction more

- good job, very efficient, very thorough
- very thorough and communicated well
- gentle, quick, thorough
- did very well
- very personable and caring regarding the patient's experience. With continued experience, she will be successful and preferred hygienist
- all went well
- did great
- amazing experience
- Everything perfect!
- Always very nice & pleasant
- they did a good job
- Always a great experience. Ya'll are very careful & I never feel much. Great job!!! Thank ya'll.
- Awesome staff.
- amazing Dr and Assistants :)
- They always take excellent care of me. I just need insurance to cover that crown I need but can't afford. :)
- Dr. & staff are outstanding
- Very kind & friendly staff who makes my son feel much better about coming to the dentist.
- '10' Today visit went very well. Me and my daughter would rather have a dental hygienist, than an assistant.
- They answered all the questions I had and explained everything they were doing with my child. Also told my child what they were doing before doing so. She felt very relaxed and prepared. Kept checking if everything was okay

- They answered all my questions and broke down everything they were doing with my child. Also told my child what they were doing before doing it so she was prepared.
- wonderful work, loved it, great job (heart)
- wonderful team
- Outstanding staff & DDS
- Great experience.
- Friendly; attentive staff. Also, knowledgeable.
- Everyone is amazing and does a great job. My 3 kids have been coming to Compass Point for the past 8 years. They are doing regular clean ups every 6 months and I can definitely see the difference it makes on their oral hygiene, it's much better.
- Great dr. and assistants but long wait.
- Absolutly wonderful. explain well
- Great dentist and wonderful staff. Feels like family when we come. My son is very comfortable here.
- Enjoy the feeling when teeth are clean & a good report goes w/ it.
- very friendly & helpful
- Great service and attention
- Excellant.
- great place to get a cleaning and check up done
- Wonderful dentist and staff! :)
- I would've given a 10 but had to wait in waiting room longer than expected.
- Great Clinic - Very Professional
- They're incredible! love the provider & the hygienist
- GREAT

- Excellent
- very sweet, staff is super cleanly, and love the help!
- Had a wonderful experience
- they are all so good with my child and keep up with his needs
- Really friendly & helpful
- Good Place
- Amazing workers ladies are fabulous w/parents and the children are super comfortable with the staff. Thank you for all you do for all our kids.
- very easy, thank you!
- I have always had an outstanding experience at this office.
- Care delivered with extra dental professionalism
- very good care very personable
- Great Visit
- LOVE THE STAFF
- very good experience
- great to know i have a provider who cares about my teeth.
- _____ is great she takes care of me very well!!

MISSOURI ORAL HEALTH CARE

Report of COVID-19 impact on workforce

Introduction

Establishing the need for a workforce survey

Awareness of Covid-19 in the United States began in December 2019. In 2021, it was evident the oral health care workforce was steadily decreasing. The Missouri Primary Care Association (MPCA) polled the 28 Federally Qualified Health Care Centers (FQHC) on staffing issues and current wait times.

The results of the survey were as follows:

- A total of 18 of the 28 FQHCs responded to the survey
- All but three had staffing issues
- Seven FQHCs had stopped accepting new patients because existing care demands exceeded their workforce capacity
- The remaining 11 FQHCs had an average new patient appointment wait time of 9.3 weeks, with a range from 5 weeks to 36 weeks
- The wait time for a remedial care appointment for existing patients ranged from two months to 6 months

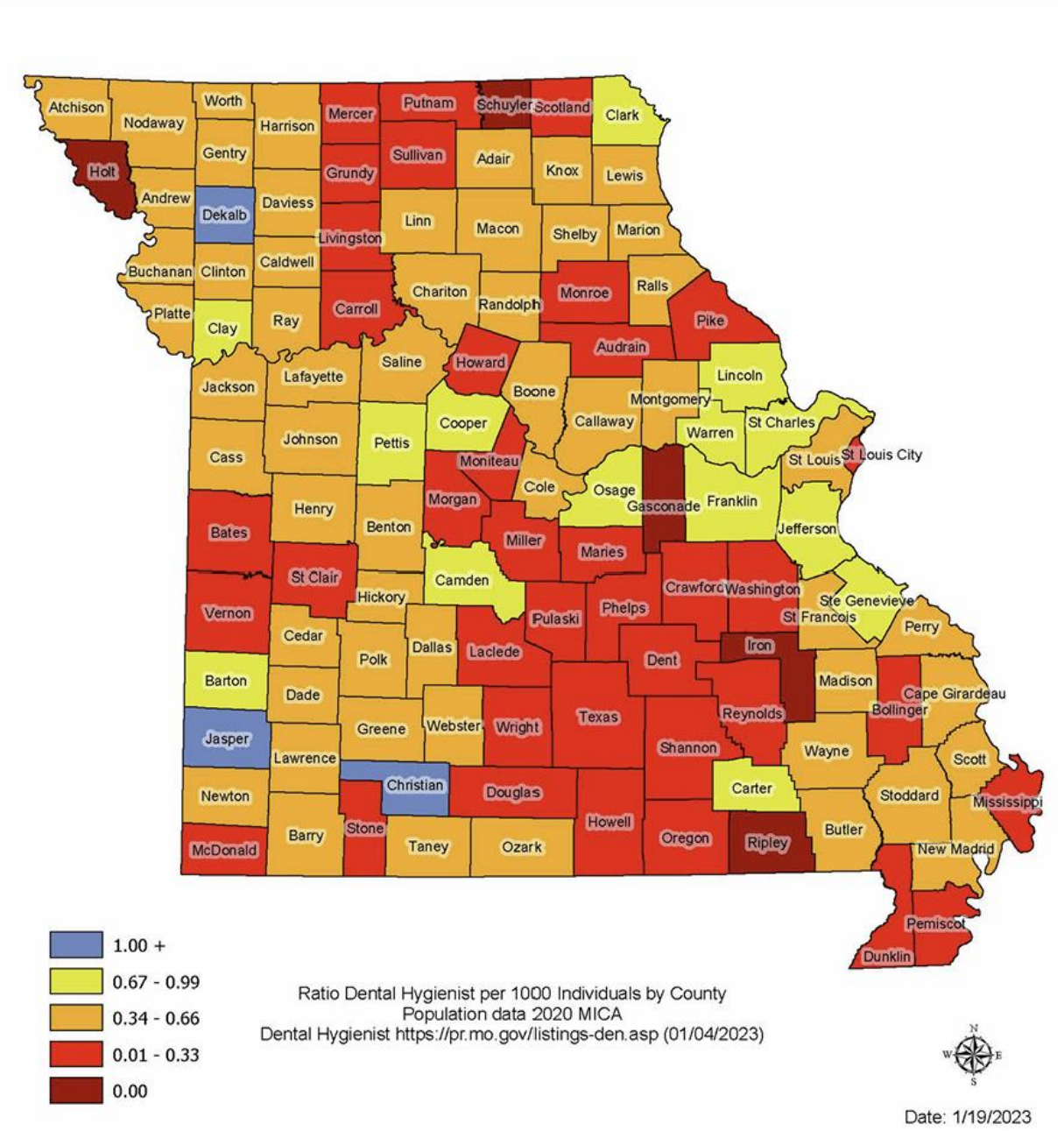
In 2022, a more in-depth survey was sent by the Missouri Office of Dental Health (ODH) to 3,200 Missouri dentists and hygienists with an approximate response rate of 27%.

MAIN TAKEAWAYS

- **Pre-pandemic workforce was already strained.** The pandemic resulted in an estimated exit of 1-10% of our oral health care workforce, depending on the role.
- **Staff left dental clinics for many reasons.** Some left because of COVID-19 stress. Others left for reasons that developed prior to the pandemic, like staff burnout.
- **Some may return to the oral health care workforce, but many may not.**
- **The result is short-staffed oral health care facilities** that are not only struggling to see all patients in need of care, but also stressed and frustrated about where they can find the staff they need.

Addendum – Figure 5: Dental Hygienist Shortage Area

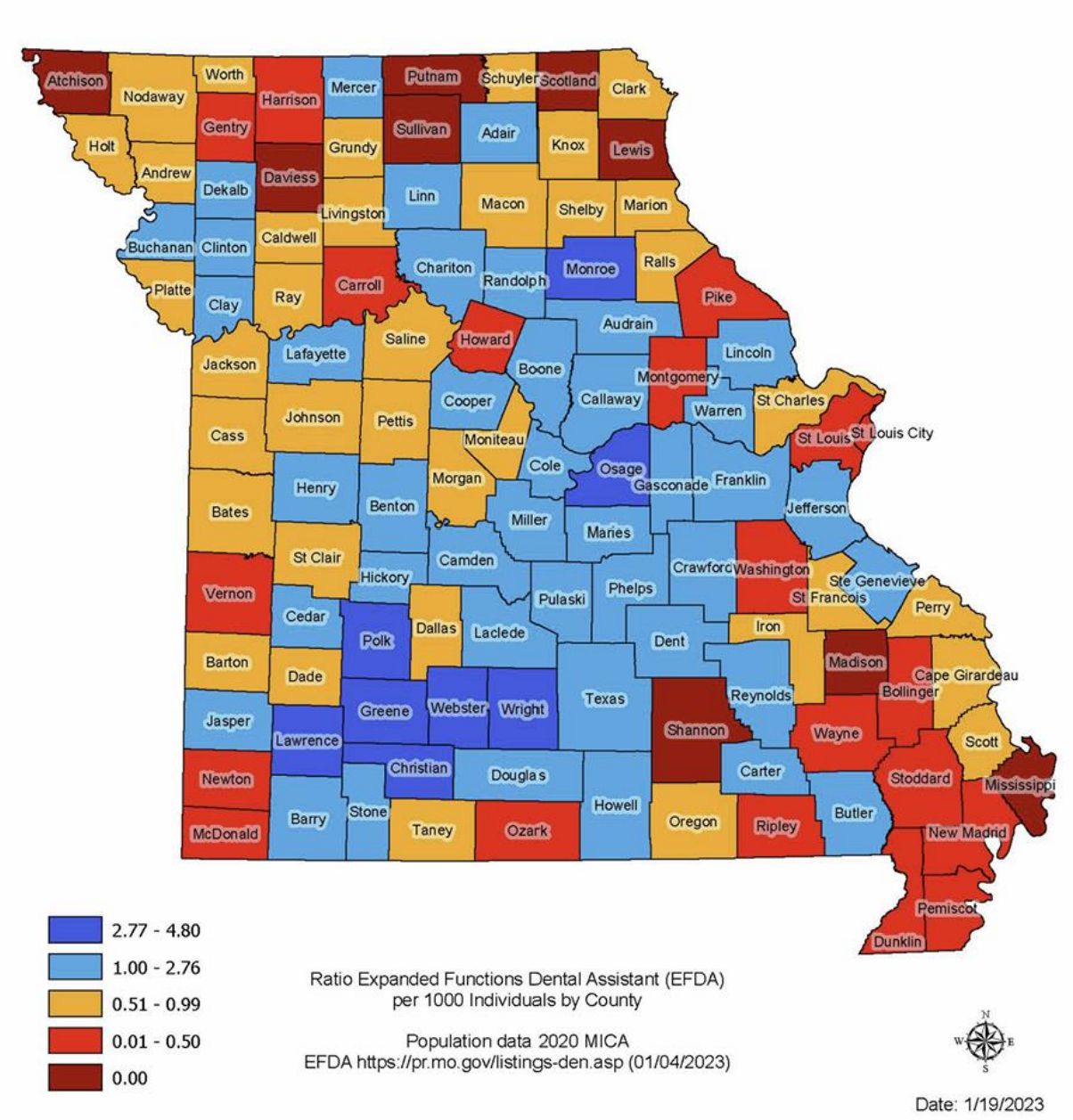
All counties not colored in blue



MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES
Office of Dental Health

Addendum – Figure 6: Expanded Functions Dental Assistant (EFDA) Shortage Areas

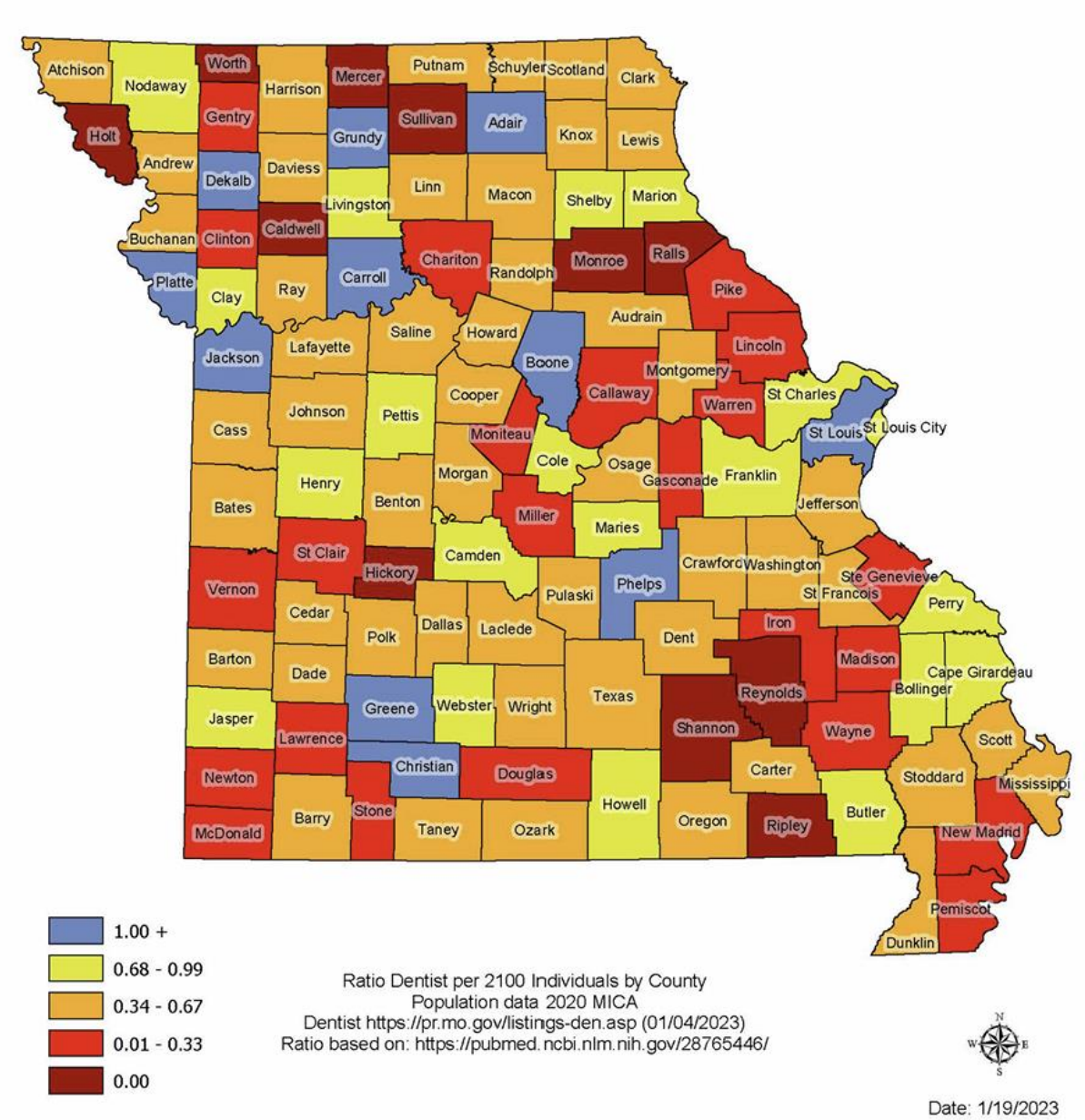
All counties not colored in blue



MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES
Office of Dental Health

Addendum – Figure 4: HRSA Dentists Shortage Area

All counties not colored in blue



De-Identified Participant ID:_____ *(to be completed by dental provider)*	**Consent Signed:** _____ *Yes / No*

Informed Consent to Allow Communication of Anonymous (De-Identified) Treatment Outcome Information

1. **Pilot Project:** This clinic, in collaboration with the Missouri Office of Dental Health and the Missouri Dental Board is conducting a pilot project studying the use of a new specially trained dental care provider, an Oral Preventive Assistant (OPA). The new worker will assist dentists and hygienists in treating children and adults who are healthy or who have gingivitis. In order to determine if this new healthcare worker would benefit patients, treatment outcomes will be compared with the outcomes of dentists and hygienists.
2. **Considerations**: This consent is to allow your clinic to share anonymous (de-identified) treatment outcomes delivered by dentists and hygienists with the Missouri Office of Dental Health.
   - Each clinic will collect information about outcomes of care for healthy check-ups and gingivitis therapy delivered by dentists and hygienists, so there is a standard to measure the care of the new worker (OPA-EFDA).
   - Information will be de-identified by substituting numbers for names so that no information can be linked to any person.
   - Most study data reported will be group results, combining your results with the results of other patients participating in this study.
   - If you choose to participate in the study:
     - You will receive treatment normally by your dentist or hygienist.
     - At the end of your appointment, you will receive an evaluation form with a number which will allow you to anonymously rate your level of satisfaction on a 1 to 10 scale. You will deposit that information in a box as you leave. That information will be sent to the Missouri Office of Dental Health.
     - Your periodontal diagnostic classification, the treatment and outcome will be assigned an anonymous number and reported to the Missouri Office of Dental Health.
3. **Participation is Optional**: You can choose not to participate and have your normal appointment.
4. **Consent Decision: I consent to allow this clinic to share de-identified patient information with the Missouri Office of Dental health for the future evaluation of a proposed new healthcare worker.**

Signature of Participant or Authorized Healthcare Representative	Date	Time	Printed Name
			Authorized Representative Description (Parent/Healthcare Proxy)
Witness	Date	Time	Printed Name

De-Identified Participant ID:_____	**Consent Signed:** _____
(to be completed by dental provider)	*Yes / No*

Informed Consent for Participation in Pilot Project for Oral Preventive Assistant (OPA-EFDA)

1. **Pilot Project Purpose:** This clinic is working with the Missouri Office of Dental Health and the Missouri Dental Board to try to bring more care to people who need it. We are testing a new dental care provider, an Oral Preventive Assistant (OPA). They have received specialized training. The new worker will help dentists and hygienists in treating children and adults who are healthy with check-ups. OPAs will also help patients who have gingivitis. Gingivitis is a gum infection that gets better with a good cleaning and better care at home. The pilot project will check if the new healthcare worker helps more patients get excellent care. We will compare OPA treatment outcomes with those of dentists and hygienists. We are asking patients if they would take part in this pilot project.

2. **Considerations**: Here are some things that might be helpful to know:

   - **Other states use similar care providers**: Similar workers have been trained and deliver care in places like Illinois, Kansas, and for the Indian Health Service in many states.
   - **OPA-EFDA Training**: All OPA-EFDA candidates are experienced dental assistants and must complete the required coursework and pass a qualifying exam before they join this pilot project.
   - **In this study, some patients have a regular appointment with a dentist or hygienist. Others will see an OPA-EFDA**. Those who see an OPA-EFDA will see a dentist or hygienist first, then an OPA-EFDA, and then a dentist or hygienist again before they leave. The purpose of the final check is to make sure that everything is OK, and all your needs have been met.
   - **OPA-EFDA care will be like your regular appointment.** The appointment will include x-rays if needed, a tooth polishing, tartar removal above the gums, fluoride if you wish, and advice on oral hygiene. The dentist or hygienist will check after the OPA-EFDA treatment. They will look for tartar below the gums and do a full inspection and talk to you.
   - **Anonymous Evaluation**: Patients will complete a very short care evaluation (2 questions) on a paper form or on a tablet. A number will be used rather than your name.
   - **Gingivitis Re-evaluation:** All patients treated for gingivitis, either by dentist, hygienist, or OPA-EFDA, will be asked to return in 2-4 weeks to make sure the gingivitis has resolved.

3. **Confidentiality**

   - **Your Information is Private**: Your health records are secure and private. This study will not use any information that can be directly linked to you.
   - **Numbers Replace Names**: Treatment information and outcomes will be de-identified. We will use numbers to replace names. No one can link the information to any person.
   - **Grouped Results** : Study data will be reported as "aggregate" results. This means it will combine your results with results of other patients in this study.

4. **Benefits and Risks**

   - **Benefits:** The biggest benefit is that you would be contributing to an effort to provide more care for more people.
   - **Risks:** The only risk is that your appointment might be a couple of minutes longer to allow for the checks built into the study and to allow you to fill out the short evaluation. Gingivitis patients might have sore gums for a day or two regardless of who delivers care.

5. **Alternatives and Options**: ***Participation is optional***. You can choose not to take part and keep your regular appointment. No one will say anything or be disappointed.

6. **Patient Questions and Concerns**: This is an opportunity for the patient and their advisors to ask questions or get more information about concerns.

   _____

   _____

7. **Consent Decision:**

   _____ I consent to take part in the OPA-EFDA Pilot Study. I have been able to ask any questions I have and get answers.

   _____ I decline to take part in the OPA-EFDA Pilot Study.

_____	_____	_____	_____
Signature of Participant or Authorized Healthcare Representative	Date	Time	Printed Name
	_____		
	Authorized Representative Description (Parent/Healthcare Proxy)		
_____	_____	_____	_____
Witness	Date	Time	Printed Name

De-Identified Participant ID:_____ *(to be completed by dental provider)*	**Consent Signed:** _____ *Yes / No*

Pilot Project for Oral Preventive Assistant (OPA-EFDA)

Assent to Participate Age 7-17

1. My name is [insert your name]. I am a [insert your role: i.e. dentist]

2. We would like to know if you would feel comfortable taking part in a project testing a new way to train people who clean teeth and help with dental check-ups. We hope that this new way to train people will make it easier for more people to be able to get their teeth and gums healthy.

3. If you agree to be in this study, you will have your teeth cleaned by someone that has been trained in this new way. You may also have some x-ray pictures of your teeth. This person has had special training for check-ups and cleanings.

4. Afterwards you will also see either a dentist or a hygienist to check to make sure everything went well and to make sure that you don't need any follow-up care like fillings at another appointment.

5. At the end of your appointment, you will be asked to grade your appointment on a tablet or paper. You won't have to put your name on the grading. No one will see your grade, and no one will know who gave the grade.

6. The only difference you may notice is your appointment may take 5 minutes longer than normal to give you time for the grading.

7. You will still get everything you normally get at a dental check-up and cleaning.

8. Please talk this over with your parents before you decide. **You don't have to take part in the study project if you don't want to**. We will also ask your parents to give their permission for you to take part in this study. But even if your parents say "yes" you can still decide not to do this.

9. You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me [insert your telephone number].

10. Signing your name at the bottom means that you feel OK about being in this study. You and your parents will be given a copy of this form after you have signed it.

_____ _____

Name Date

Guidelines for Conducting an Assent Discussion with a Minor (Age 7-17)

Regarding their Participation in the OPA-EFDA Study

Circumstance: Assent discussions with minors are required in human research.

Purpose: To have a supportive talk with a young person about a part they might have in a research project and let them ask questions so they can decide if that feels right.

Guidelines:

1. **Create a Comfortable Environment**
   - Ensure the setting is welcoming and free of distractions.
   - Use child-friendly language and tone.
2. **Introduce Yourself**
   - Clearly explain your role and how you will assist the child during their visit.
3. **Use Simple Language**
   - Avoid medical jargon; use age-appropriate terminology.
   - Break down information into manageable pieces.
4. **Explain the Procedure**
   - Describe what will happen during the dental visit in a way the child can understand.
   - Highlight the purpose and benefits of the procedure.
5. **Encourage Questions**
   - Invite the child to ask questions and express their feelings.
   - Be patient and address their concerns seriously.
6. **Assess Understanding**
   - Check for understanding by asking open-ended questions.
   - Adjust your explanations based on their responses.
7. **Respect Their Feelings**
   - Acknowledge any fears or anxieties the child may have.
   - Validate their feelings and provide reassurance.
8. **Seek Assent**
   - Ask the child if they are comfortable proceeding with the treatment.
   - Ensure they feel a sense of control over their decision.
9. **Involve Parents or Guardians**
   - Encourage parental support, ensuring they are part of the discussion as needed.
   - Provide a brief overview to the parents while respecting the child's perspective.
   - Remember, you also need parental or guardian consent
10. **Document the Discussion**
    - Make a note of the child's understanding and assent in their dental records.
    - Record any concerns or preferences expressed during the discussion.

By following these guidelines, you can help ensure a positive and supportive experience for the child during their dental care.

Office of Dental Health Oral Preventive Assistant Pilot Project

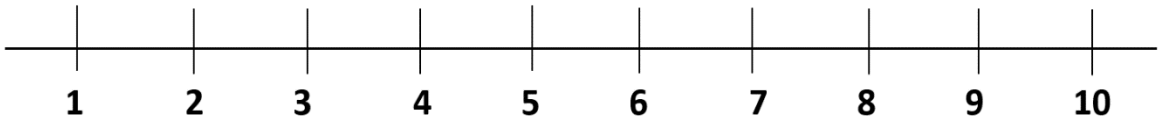
Sample Patient / Guardian Assessment of Doctor and Hygienist Care

Individual Responding (please circle) : Patient Family Member Health Advisor

Month/Year: _____

On a 1 to 10 Scale rate your level of satisfaction with the care provided by the care your doctor and or hygienist contributed to your cleaning or gingivitis treatment. Use the scale below in which:

- **1 indicates a very low level of satisfaction**
- **10 indicates a very high level of satisfaction.**



Comments / Suggestions: _____

_____

_____

_____

_____

If you would like to be contacted so we could discuss how we might improve our care efforts, please leave your name and telephone number:

Name: _____ **Telephone: _____**

Office of Dental Health Oral Preventive Assistant Pilot Project

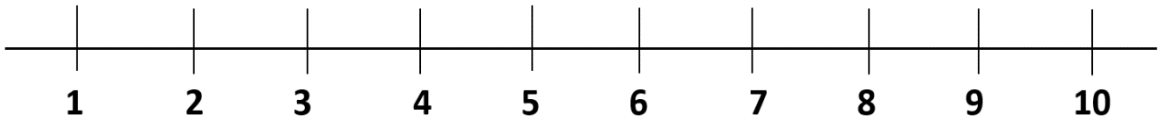
Patient / Guardian Assessment of Oral Preventive Assistant Care

Individual Responding (please circle) : Patient Family Member Health Advisor

Month/Year: _____

On a 1 to 10 Scale rate your level of satisfaction with the care provided by the Oral Preventive Assistant that contributed to your cleaning or gingivitis treatment. Use the scale below in which:

- **1 indicates a very low level of satisfaction**
- **10 indicates a very high level of satisfaction.**



Comments / Suggestions: _____

_____

_____

_____

_____

If you would like to be contacted so we could discuss how we might improve our care efforts, please leave your name and telephone number:

Name: _____ **Telephone: _____**

Due
October 29th

Oral Preventive Assistant Pilot Project

Supervising Clinician Final Assessment of OPA-EFDA Performance

Clinic Site: _____ **OPA-EFDA Name:** _____

Reviewing Supervising Clinician (√): _____ **Dentist** _____ **Hygienist** **Date:** _____

Directions: To ensure the best opportunity for growth, please complete this form candidly. **On a 1 to 10 Scale circle your level of satisfaction with the care provided by your OPA-EFDA**. **1 indicates a very low level of satisfaction. 10 indicates a very high level of satisfaction.** Please refer to the companion article ***Using Likert Scale Evaluations in Performance Assessments and Customer Satisfaction Surveys*** for a more detailed explanation of scoring. If there is a dentist and hygienist supervising the OPA-EFDA, please have each supervising clinician complete a separate performance assessment. Use comments for elaboration**.**

Category: Asepsis Technique and Infection Control

Comments: _____

Category: Dental Charting & Diagnostic Imaging

Comments: _____

Category: Periodontal Probing

Comments: _____

Oral Preventive Assistant Pilot Project

Supervising Clinician Final Assessment of OPA-EFDA Performance

Page 2

Clinic Site: _____ **OPA-EFDA Name:** _____

Category: Supragingival Scaling

Comments: _____

_____

_____

_____

_____

Category: Coronal Polishing

Comments: _____

_____

_____

_____

_____

Clinic Site: _____ **OPA-EFDA Name:** _____

Category: Placement of Sealants & Fluoride

Comments: _____

_____

_____

_____

_____

Oral Preventive Assistant Pilot Project

Supervising Clinician Final Assessment of OPA-EFDA Performance

Page 3

Clinic Site: _____ **OPA-EFDA Name:** _____

Category: Delivery of Oral Hygiene Instructions

Comments: _____

_____

_____

_____

Category: Global Performance Assessment

Comments: _____

_____

_____

_____

General Comments: _____

_____

_____

_____

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_____

Important: We encourage you to share this assessment with your OPA-EFDA. Congratulate your OPA-EFDA for performance evaluations of 8 or above. For performance evaluations below 8 we recommend additional training using the appropriate evaluation and mentoring forms provided with OPA-EFDA training.

Please scan and email form to (clark.Oelrichs@health.mo.gov) and (guydeyton@gmail.com)

Missouri OPA-EFDA Pilot Project

Reporting Adverse Events in Research Projects

(Reference: "***Reviewing and Reporting Unanticipated Problems Involving Risks to Subjects or Others and Adverse Events: OHRP Guidance*".** **https://www.hhs.gov/ohrp/regulations-and-policy/guidance/reviewing-unanticipated-problems/index.html#Q2)**

Introduction:

Even with the best planning, well considered participant screening, and protocols to protect participants and minimize risk, adverse events do occur in human research projects. The two questions study directors are often asked are:

- When does a study participant's negative experience in a research project cross the threshold to qualify as an adverse event that must be reported?
- What exactly is an investigator suppose to do in responding to an adverse event?

What is an Adverse Event?

According to the Office for Human Research Protections (OHRP) an adverse incident is defined as:

> *"Any untoward or **unfavorable medical occurrence** in a human subject, including any abnormal sign (for example, abnormal physical exam or laboratory finding), symptom, or disease, **temporally associated with the subject's participation** in the research, **whether or not considered related to the subject's participation in the research**.Adverse events **encompass both physical and psychological** harms."*

So basically, an adverse event is either a negative or unfavorable physical reaction or a negative or unfavorable psychological reaction in a participant in a research study, whether or not one thinks it is related to the person's participation in the research.

What to Do When an Adverse Event Occurs

1. **The first rule is to try to understand what the person perceives is happening**. Show concern. Ask: "Help me understand what is going on."
2. **If you think you might have a solution, ask the person for permission to apply the solution**. For example, if the person says their gums are burning, ask: "Would you like me to rinse your mouth?"

3. **Seek help, if you need it**. If the immediate care provider does not feel competent or confident in helping the person recover, seek help. Don't just leave. Tell the person you are going to get the doctor to take a look.
4. **Show empathy** throughout efforts to make things better.
5. **Never try to justify any actions that led up to the negative event, even if you didn't do anything wrong.** Justification during another's discomfort is perceived as callous disregard.
6. When the person is stable and recovered, you can move on to the considerations below.

How do You Determine Whether an Adverse Event Should Be Reported?

The key question regarding a particular adverse event is whether it is an "unanticipated problem" as OHRP defines it. To determine whether an adverse event is an unanticipated problem, the following 3 questions should be asked:

- **Is the adverse event unexpected?**
- **Is the adverse event related or possibly related to participation in the research?**
- **Does the adverse event suggest that the research places this subject or others at a greater risk of harm than was previously known or recognized**? It is important to note that a yes answer to this question does not require the risk to others to be a serious or significant risk; just a risk that is not unique to one individual.

If the answer to **all three questions** is *yes,* then the adverse event is an unanticipated problem and must be reported. If you have doubt, report the incident and someone from MDA will help work through whether the incident warrants reporting to the IRB.

Reporting the Adverse Event and Follow-Up

- Adverse Incidents should be reported to MDA within one (1) business day.
- Use the attached form ***Adverse Incident Report***. Write a brief description.
- Email or fax to the embedded contact information.
- The MDA will contact a member of the ***OPA-EFDA Oversight Committee*** to follow-up on your report with a debriefing call within one (1) business day.
- The OPA-EFDA Oversight Committee will review the information and give follow-up guidance within one business day of the debriefing call.

MDA /ODH /MDB Pilot Project:
Oral Preventive Assistant

Adverse Incident Report

Email:

Fax:

Patient #: _____ **Contractor:** _____ **Facility:** _____

Instructions: An adverse incident is defined as a negative physical or psychological event experienced by a patient or participant in a research project. If you have doubts whether an event qualifies for a report, fill this form out and send it in. Someone will call and work through it with you.

Description of Incident: (Include time, date, setting, activity preceding adverse event, description of adverse event, response to adverse event by all parties involved, witnesses, and any follow-up action taken.

_____

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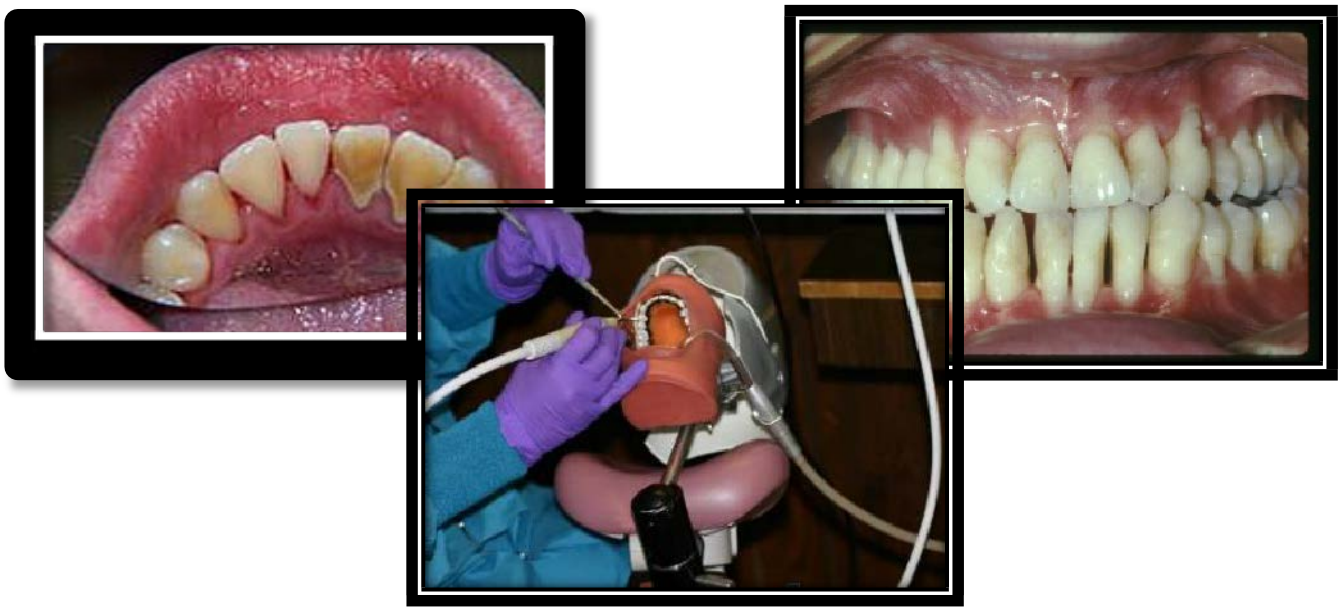
Reporting Individual: _____ **Telephone:** _____ **Email:** _____

Evaluating the Effectiveness of Periodontal Expanded Function Dental Assistants



August 28, 2017

Indian Health Service Division of Oral Health

Timothy L. Ricks, DMD, MPH

Deputy Director

Executive Summary

Oral health disparities in American Indian and Alaska Native people are well known and include caries experience, untreated decay, periodontal disease and missing teeth. Like all disparities in health, oral health disparities exist as a result of unequal distribution of social, economic, and environmental resources. Limited access to and availability of dental services are critical barriers that can limit a person's use of prevention and treatment. A national oral health workforce shortage exists. In contrast to typical medical practice structure, oral health care in the U.S. lacks a robust force of midlevel dental providers. That is, breaking away from the traditional triad of dentist, hygienist, and assistant, alternative dental workforce models can expand the dental workforce.

The Indian Health Service (IHS) has been a pioneer in the use of alternative dental workforce models, and as early as 1961, implemented the use of Expanded Function Dental Assistants. In the past decade, one specific alternative dental workforce model, the periodontal expanded function dental assistant (perio EFDA), has been in widespread use across IHS and tribal dental programs.

Beginning in late 2016 and ending in April 2017, the IHS Division of Oral Health collaborated with the Johns Hopkins University's Bloomberg School of Public Health to measure the effectiveness of multiple alternative dental workforce models, including perio EFDAs. Subsequently, from May to July 2017, the IHS Division of Oral Health conducted its own independent analysis of perio EFDAs, following up on the recommendations of the JHU study.

Overall, programs with periodontal expanded function dental assistants (EFDAs) 1. had significant increases in procedures normally considered within the scope of work of periodontal EFDAs: dental sealants, topical fluoride applications, dental prophylaxis cleanings, and periodontal gross debridements; 2. increased utilization of dental services by patients as measured by total services and services per patient visit, although results varied significantly from site to site; 3. showed an increase in periodontal procedures typically performed by dental hygienists and dentists, presumably because periodontal EFDAs were providing more basic services to allow more time for dental hygienists and dentists to perform these advanced services; 4. did not have positive changes in GPRA performance in the three GPRA dental indicators of access, the proportion of 2-15 year-olds receiving sealants, or the proportion of 1-15 year-olds receiving at least one application of topical fluoride; and 5. showed little overall improvement in terms of total patient visits, relative value units produced, or services provided per patient.

[Guy's Note: Government Performance and Results Act (GPRA). Concentrates on prevention: access (visit in last year), Fluoride (% of pts 1-15 receiving Fl, Sealants (% of pts 1-15 receiving sealants) .]

While there were multiple limiting factors, and while further study is needed to adequately isolate and evaluate programs with alternative dental workforce models, this study showed some positive impacts to access to care and clinical productivity of various alternative dental workforce models.

Background

Traditionally, oral health services have been provided by a licensed dentist, a licensed or registered dental hygienist, and a dental assistant. The dentist, a graduate of a 3-5 year dental school, leads the dental team, diagnoses oral diseases, develops a treatment plan with the patient, and carries out that treatment with chairside assistance by a dental assistant. The dental hygienist, operating under the supervision of a dentist, provides oral hygiene instruction, preventive and periodontal care to the patient.

Alternative dental workforce models are any deviations from the above described traditional model and can be used to expand the workforce and increase access to oral health care with an overall goal of reducing disparities, and ultimately improving oral health outcomes Models can include expanded function dental assistants (EFDAs), dental therapists, and others. The Indian Health Service (IHS) has been among the pioneers in alternative workforce models. In 1961, the IHS spearheaded the training and use of Expanded Function Dental Assistants, the first alternative workforce model used in the IHS. Decades later, in 2004, the Alaska Native Tribal Health Consortium, in collaboration with Alaska's Tribal Health Organizations, developed the Dental Health Aide Initiative.

Historically, access to dental care in IHS, tribal, and urban programs has been lower than the general U.S. population. An estimated 44.5% of persons aged 2 years and older had a dental visit in the past year in the United States,[1] while only 28.7% of American Indians and Alaska Natives (AIAN) accessed dental care in 2016.[2] This low access rate was despite the fewest number of dentist vacancies in the IHS in the past decade.

At the same time, the burden of dental disease in Indian Country continues to loom large. AIAN children under 5 years of age have more than double the caries (tooth decay) experience of U.S. Hispanic children, the next highest minority group, and almost four times as many teeth with caries experience than U.S. white children.[3] Among 6-9 year-old AIAN children, 83% have caries experience and 47% have untreated decay, compared to 45% and 17% in the general U.S. population, respectively.[4] Among adolescents, 80% of 13-15 year-old AIAN youth have caries experience compared to just 44% for the general U.S. population, and almost five times as many AIAN youth (53%) have untreated decay compared to the general U.S. population (11%).[5]

In adults, AIAN dental patients suffer disproportionately not only from untreated tooth decay, but they are more likely to suffer from periodontal disease and missing teeth. In AIAN adults 35-44 years of age, 65% suffer from untreated tooth decay, more than double the U.S. average of 25%, and that trend continues in the 65-75 year-old age group, with 45% of AIAN adults with untreated decay compared to just 15% for the general U.S. population. With regard to periodontal disease, 17% of AIAN adults over the age of 35 have severe periodontal disease compared to 10% for the U.S. overall, and because we know that periodontal disease can adversely affect glycemic control in adults with diabetes and lead to diabetes complications, addressing periodontal disease through every available means in IHS, Tribal, and Urban programs becomes of paramount importance. Moreover, periodontal disease and untreated tooth decay

lead to missing teeth which negatively impacts nutrition, and 83% of AIAN adult dental patients over the age of 40 years have missing teeth compared to 66% in the general U.S. population in the same age group.[6] These facts help make the case for the use of periodontal (and restorative) expanded function dental assistants (perio EFDAs).

Figure 1. Percent of Adults with Severe Periodontal Disease (>5.5mm, CPI=4), U.S. Overall (NHANES 2009-12) vs. AIAN Dental Patients (IHS 2015)[6]

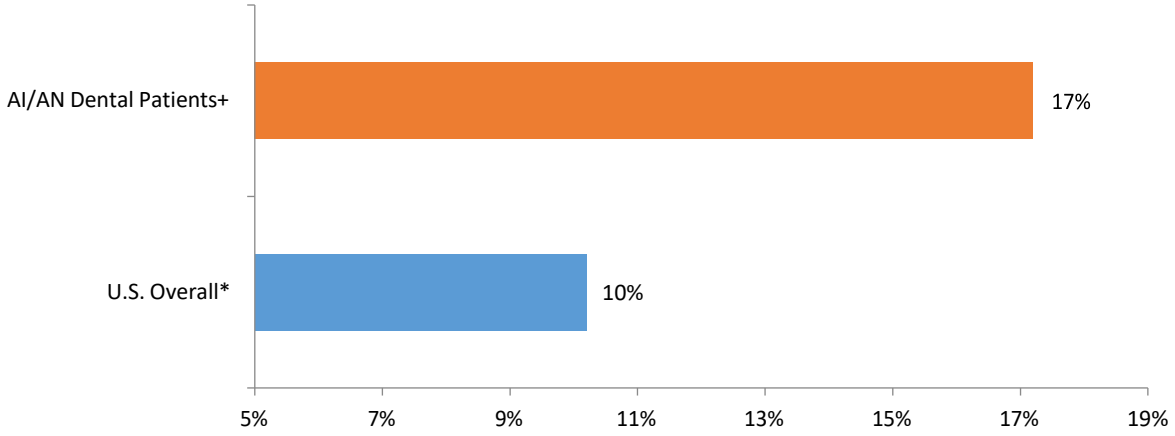
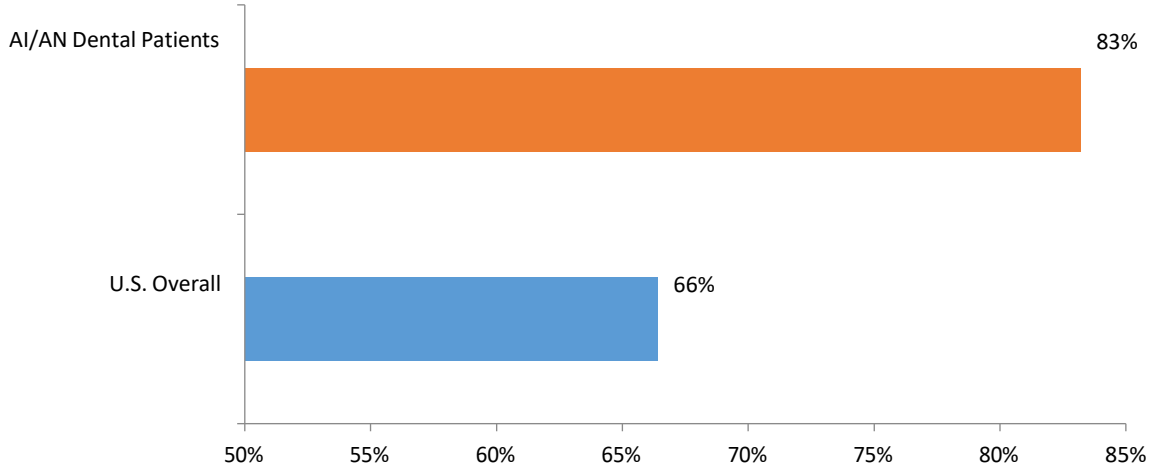


Figure 2. Percent of Adults 40-64 Years with One or More Missing Teeth, U.S. Overall (NHANES 2011-12) vs. AIAN Dental Patients (IHS 2015)[6]



Periodontal Expanded Function Dental Assistant

Definition/Scope of Practice

One specific alternative dental workforce model, the periodontal expanded function dental assistant (perio EFDA), has been in widespread use across IHS and tribal dental programs for at least the past decade. The services that a perio EFDA can provide include:

1. Relating the community periodontal index, a periodontal screening performed by a dentist or dental hygienist, to the need for periodontal therapy;
2. Detecting diseased tissue and the presence of supra- and sub-gingival calculus;
3. Performing an ultrasonic scaling of teeth using ultrasonic equipment (such as a Cavitron), removing all visible plaque and calculus;
4. Providing oral hygiene education to patients, including recommending toothpastes, mouth rinses, and oral hygiene aids to the patient; and
5. Identifying patients at risk for further periodontal breakdown and ensuring those patients receive follow-up care from a dentist or dental hygienist.

In addition, perio EFDAs achieving an "advanced" certification also are able use hand instruments (scalers) to remove visible plaque and calculus. It should be noted that a perio EFDA does not diagnose periodontal disease, does not perform the specific procedure called scaling and root planing, and does not perform any type of periodontal surgery.

Training and Certification

The Indian Health Service offers a standardized continuing dental education curriculum for both the basic and advanced perio EFDA. Prior to either course, dental assistants must take a battery of online training modules design to assess basic knowledge of effective oral hygiene instructions and the use of antimicrobials in prevention of dental disease. Following successful completion of the online course, assistants must complete a one-week basic course; the one-week advanced course requires previous completion of the basic course. The course curriculum for the basic and advanced course is as follows:

- Monday PM: seminars on periodontics and hygiene
- Tuesday: seminar on ultrasonic instrumentation of teeth, then cleaning lab with typodonts rest of the day
- Wednesday AM: Students practice cleanings on each other
- Wednesday PM, Thursday, and Friday AM – Students clean teeth of patients

Following completion of the course, the dental assistant's supervisor at their duty station serves as preceptor, and to become a certified perio EFDA, the dental assistant must successfully complete 20 post-course dental cleanings as graded by the preceptor using standardized grading criteria. Once the supervisor provides documentation that the assistant has completed this post-course requirement, he/she sends an e-mail to the IHS Continuing Dental Education Coordinator who certifies the assistant as a perio EFDA. Currently there is no recertification process in place, but dental supervisors are encouraged to conduct annual competency assessments on their perio EFDAs. In the past six years, the IHS has trained 251 perio EFDAs through 37 different courses.

Figure 3. Periodontal EFDA Training by Year, 2012-17

Fiscal Year	# of Courses	Basic Trained	Advanced Trained	Refresher Trained	Total Trained
2012	5	30	0	0	30
2013	5	20	0	0	20
2014	3	12	0	0	12
2015	5	30	6	0	36
2016	7	49	6	0	55
2017	15	75	13	10	98
Totals	**37**	**216**	**25**	**10**	**251**

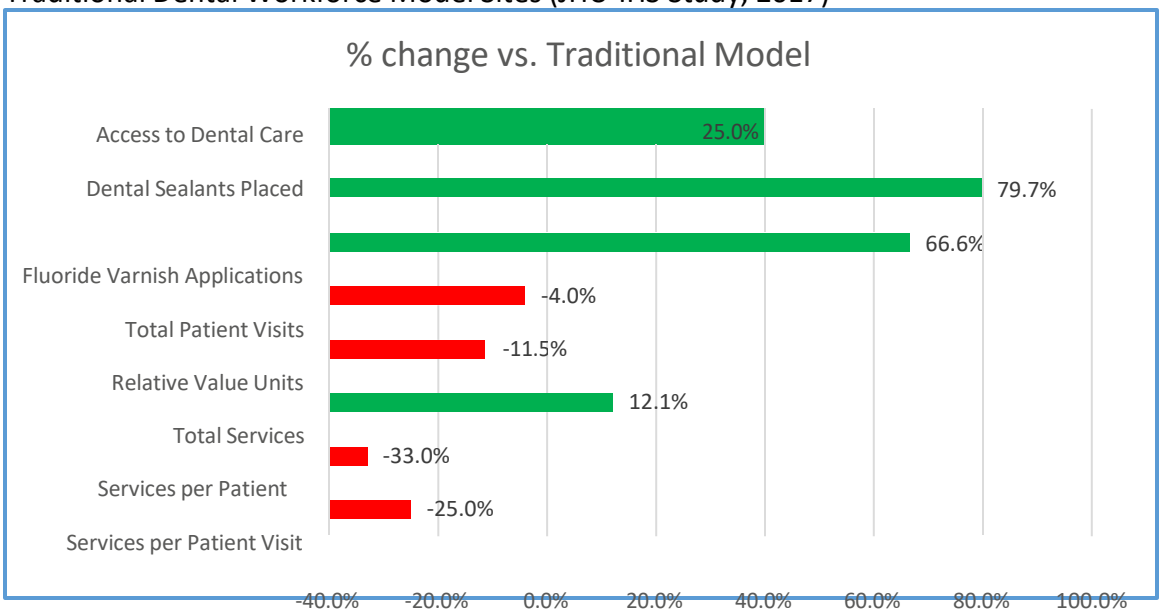
Effectiveness of Periodontal Expanded Function Dental Assistants

Phase I Study: Johns Hopkins University, 2017

Beginning in late 2016 and ending in April 2017, the Indian Health Service Division of Oral Health collaborated with the Johns Hopkins University's Bloomberg School of Public Health to measure the effectiveness of multiple alternative dental workforce models, including perio EFDAs.[7] This study was very limited due to time constraints, financial resources, and the number of IHS, Tribal, and Urban dental programs studied. Limited data restricted a definitive conclusion regarding the impact of alternative dental workforce models on the selected indicators compared to the traditional dental workforce model, and the study concluded that "Further study is needed to adequately isolate and evaluate programs with alternative dental workforce models, but this study shows at least some positive impacts to access to care and clinical productivity of various alternative dental workforce models."

This initial study showed some promising results for perio EFDAs, as shown in Figure 4 below. Eight different indicators were used to measure effectiveness. Perio EFDAs seemed to have the most impact on improving oral access to care, ranking fourth among the various alternative dental workforce models studied; on the provision of preventive dental sealants and topic fluoride applications, ranking third and second, respectively, among the various models studied; and on total services offered by a dental program. This makes sense, because even though their name indicates treatment of periodontal disease as the major component of their work, many perio EFDAs actually spend most of their time providing preventive services such as cleanings (prophylaxis or prophies), sealants, fluoride applications, and oral hygiene instructions. Green bars in the figure indicate an improvement in sites employing perio EFDAs, while red bars indicate a decline in sites employing perio EFDAs (compared to sites using only a traditional model).

Figure 4. Effectiveness of Perio EFDAs: Comparison of Sites Using Periodontal EFDAs vs. Traditional Dental Workforce Model Sites (JHU-IHS Study, 2017)[7]



Phase 2 Study

From May to July 2017, the IHS Division of Oral Health conducted its own independent analysis of perio EFDAs, following up on the recommendations of the JHU Phase I study.

Methodology. A total of 26 different IHS, Tribal, and Urban dental programs were identified based on having dental assistants certified as perio EFDAs between the time periods of July 2016 and November 2016. This period was chosen because the IHS felt like at least nine months of post-certification data (November 2016 – June 2017) was needed in order to validate any measurable effect of perio EFDAs in the dental programs. From these 26 identified programs, 18 programs expressed a willingness to share locally generated data with the IHS Division of Oral Health, a second inclusion criterion. From this group, programs were asked to self-identify as to whether or not they used periodontal EFDAs in that capacity and if so, what percentage of the time they were used as perio EFDAs (perio EFDAs are often used as chairside dental assistants for general dentistry procedures and even as restorative EFDAs at other times). This final inclusion criterion yielded 12 IHS, Tribal, and Urban dental programs, four times the number studied in the JHU study. Of these 12 programs, six were IHS-managed while six were tribally managed. Seven IHS Areas were represented by the 12 programs studied: Alaska Area, Albuquerque Area (three programs), Navajo Area, Oklahoma City Area (three programs), Phoenix Area (two programs), Portland Area, and Tucson Area.

Rather than comparing sites using perio EFDAs with "traditional dental workforce model sites," this study compared the effectiveness of perio EFDAs by looking at data prior to EFDA certification and data post-certification using similar time frames. Data was obtained through three different sources. Data from the three Government Performance and Results Act (GPRA) indicators of access to dental care, the proportion of 2-15 year-olds receiving dental sealants, and the proportion of 1-15 year-olds receiving topical fluoride were obtained from local program

GPRA coordinators. Data for total patient visits, total relative value units, level II relative value units, total services, level II services, services per patient visit, and services per patient were obtained through seven different reports in the IHS National Dental Data Mart, an online database of unduplicated patient data extracted from the National Data Warehouse. Data for the number of dental sealants placed, fluoride applications, prophies, periodontal debridements, and periodontal scaling and root planing procedures were provided by the 12 participating sites based upon the time frame given by the project/study coordinator.

Results/Conclusions

- **Overall, programs with periodontal expanded function dental assistants (EFDAs) had significant increases in procedures normally considered within the scope of work of periodontal EFDAs: dental sealants, topical fluoride applications, dental prophylaxis cleanings, and periodontal gross debridements.**

Based on the data analysis, the total EFDA-scope services (sealants, fluoride, prophies, debridements) increased by 25% when comparing the time period (minimum of 9 months) immediately following certification of one or more periodontal EFDAs to a similar time period prior to that certification, with a range of -3% to 289%. 10 of the 12 sites showed such an increase, while the two that had a decrease were minimal (-3%). For specific procedures, the number of dental sealants placed increased by 25% overall (range of -17% to 183%), with two-thirds of sites showing an increase; the number of topical fluoride applications increased by 32% overall (range of -19% to 385%), with two-thirds of sites showing an increase; the number of dental prophylactic cleanings increased by 15% overall (range of -37% to 191%), with three-fourths of sites showing an increase; and the number of periodontal gross debridements increased by 24% overall (range of -80% to 1915%), with only half of the sites showing an increase.

- **Overall, programs with periodontal EFDAs increased utilization of dental services by patients as measured by total services and services per patient visit, although results varied significantly from site to site.**

Based on the data obtained through the National Dental Data Mart (NDDM) for the 12 studied programs, the average number of services per patient visit provided after certification of periodontal EFDAs was 4.38, compared to 4.07 prior to certification, a 7% increase overall, with more than half of the sites showing an increase. Total services for the I/T/U programs increased by 5% overall (range of -25% to 131%), but with less than half reporting increased services. Similarly, level 2 services, the level for which most periodontal EFDA services would be classified, increased by 7% overall (range of -27% to 218%), but only four of the programs actually had an increase.

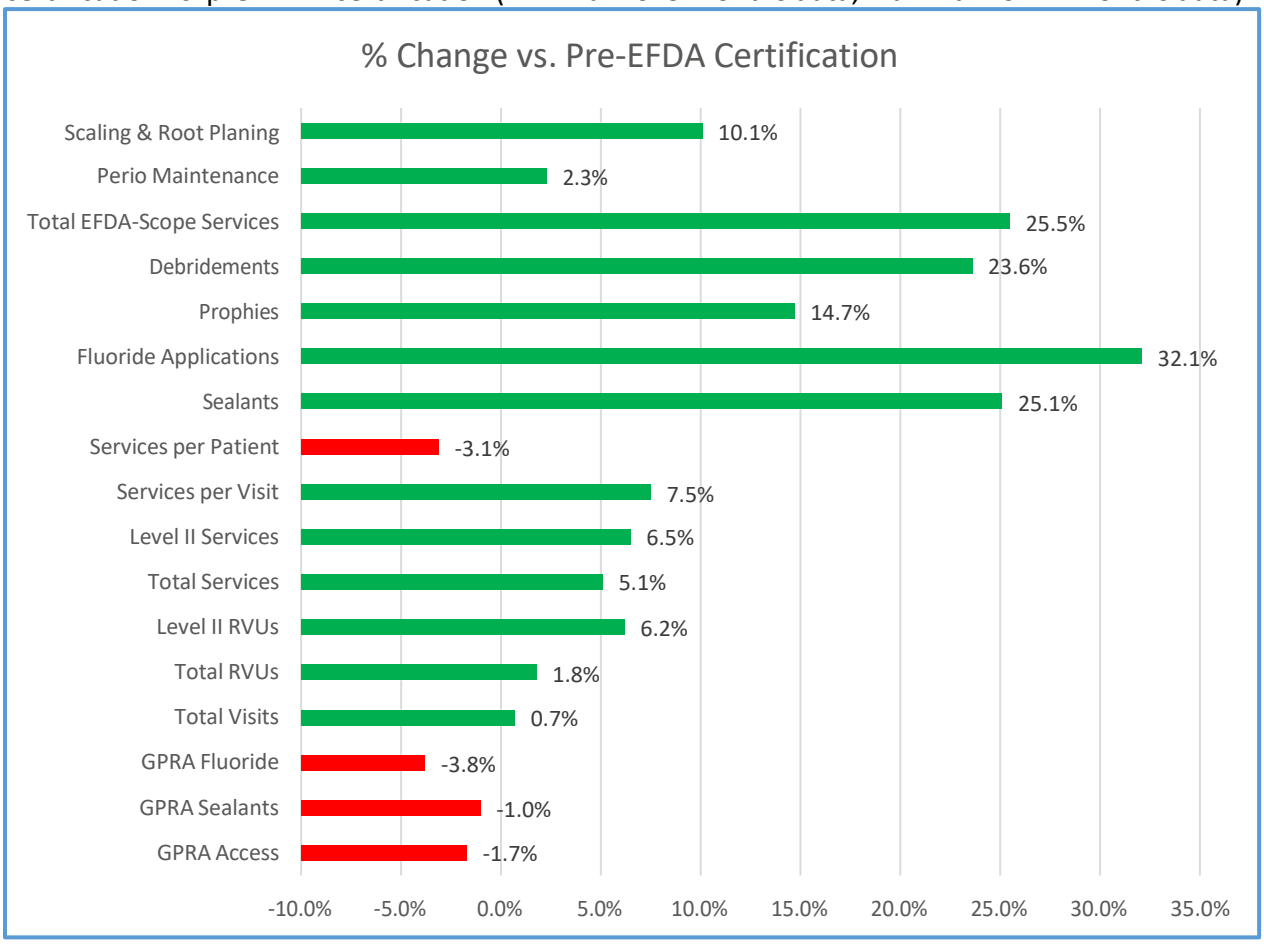
- **Programs with periodontal EFDAs showed an increase in periodontal procedures typically performed by dental hygienists and dentists, presumably because periodontal EFDAs were**

providing more basic services to allow more time for dental hygienists and dentists to perform these advanced services.

Based on the data obtained from the 12 I/T/U dental programs studied, programs reported a 2% increase in periodontal maintenance procedures (range of -55% to 256%), with over half of the sites reporting increases, and programs reported a 10% overall increase in periodontal scaling and root planing (SRP) procedures (range of -71% to 316%), with three-fourths of sites reporting such increases. Of the sites that reported increases in EFDA-related procedures, 80% of these sites also reported an increase in the dentist/dental hygienist-related procedures.

- **Overall, programs using periodontal EFDAs did not have positive changes in GPRA performance in the three GPRA dental indicators of access, the proportion of 2-15 year-olds receiving sealants, or the proportion of 1-15 year-olds receiving at least one application of topical fluoride. Similarly, programs using periodontal EFDAs showed little overall improvement in terms of total patient visits, relative value units produced, or services provided per patient.**

Figure 5. Effectiveness of Perio EFDAs: Comparison of Sites Using Periodontal EFDAs post-EFDA certification vs. pre-EFDA certification (minimum of 9 months data, maximum of 12 months data)



Limitations. This study, too, had limitations that could have affected the conclusions. First, one program in particular, the largest program studied, had more than five certified perio EFDAs and contributed heavily to some of the increases seen. Unlike the JHU study that attempted to weight each program based on services proportionate to the user population, this study did not make such an attempt. If that one program was excluded from the analysis, the results would have been diminished but still followed the same trends. For example, total EFDA services would have still have increased by 16.3% (vs. 25.5%), sealants would have increased by 19.8% (vs. 25.1%), fluoride applications would have increased by 16.6% (vs. 32.1%), prophies would have increased by 10.6% (vs. 14.7%), and periodontal debridements would have increased by 14.4% (vs. 23.6%). A second limitation is how clinics utilized perio EFDAs – some programs used perio EFDAs sparingly, reporting use less than 5% of the time, while others reported use as high as 50% of the time. This study did not take into account the percentage of time the perio EFDA was used in that capacity. A third limitation in the analysis of the programs was the effect of other staff on the results. Significant staffing changes, whether those involved dentists, dental hygienists, or other dental assistants, could and would significantly affect dental productivity indicators, and this was not taken into consideration in this study.

Recommendations/Future

The IHS Division of Oral Health believes that alternative dental workforce models should be utilized to improve access to quality dental care in IHS, Tribal, and Urban dental programs. Periodontal EFDAs are well-trained to provide basic preventive and periodontal services. In programs where dental hygienists are able to meet the preventive and periodontal needs of the population, a perio EFDA can and should still be utilized to provide oral hygiene instructions to patients, provide child toothbrush prophies, and provide child and adult prophies as needed by the program. A perio EFDA can also help set up and maintain an evidence-based preventive and periodontal recall system for the program. In programs where dental hygienists are unable to meet the preventive and periodontal needs of the population, or in programs where there is no dental hygienist, a perio EFDA can be even more valuable in helping the dentist plan periodontal treatment, assisting in recording probing depths, providing periodontal gross debridements, offering customized oral hygiene instructions to patients, and preparing the patient for more extensive periodontal therapy by the dentist (or hygienist), in addition to the perio EFDA providing preventive services to include adult and child prophies and maintaining a preventive and periodontal recall system. How each program utilizes a perio EFDA will perhaps be unique to the needs of that particular program. The IHS Division of Oral Health recommends that perio EFDAs be assessed for competency on an annual basis, and such documentation be maintained in their clinic's personnel records.

This study was the first concerted effort to evaluate the effectiveness of perio EFDAs in IHS and Tribal dental programs. Further study is needed to address some of the limitations of this study. Additional study is also needed to evaluate other alternative dental workforce models in use in the IHS, with a priority being restorative EFDAs that are in widespread use currently in the IHS and Tribal programs.

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OPA-EFDA Pilot Project IRB Review and Study Bias Control

Prior to the start of the OPA-EFDA study, the entire study protocol was submitted to an Institutional Review Board certified by the U.S. Department of Health and Human Services Office for Human Research Protections (OHRP) for review, recommendations, and approval. The process was comprehensive and lengthy. The following were recommendations and observations that might be relevant to the Dental Board oversight considerations:

- The stated objectives of the study and the risk assessment to the participants were deemed to warrant the execution of the study.
- OPA-EFDA consents were reviewed, slightly modified, and deemed to meet OHRP standards.
- Inclusion and exclusion criteria for participants were reviewed and determined to be appropriate.
- The metrics used were reviewed deemed to be appropriate for the adjudication of the study's hypotheses.
- Several modifications in data management were made to reduce the risk of bias and protect the anonymity of participants.
    - Patients and sites are doubly de-identified, first at the site level and then by the ODH Data Analyst.
    - A data management software, REDCap, was utilized to automatically and securely transfer data from the clinical site to the DHSS server, thereby eliminating the risk of selective data inclusion that might confirm study hypotheses.
    - Patient surveys were completed by patients in the absence of care providers, collected using tablets that automatically uploaded to DHSS servers when submitted by patients, and the screen automatically revert to home page after submission to protect the patient's confidential evaluation.
    - The funding agency has no ability to manipulate data; the ODH data analyst maintains the data reservoir.
    - The ODH data analyst will transfer the data an independent data analyst for final analysis and reporting.
    - The ODH data analyst will sign an affidavit attesting that the data chain is pure and the data flowed directly from the clinics to the analyst without opportunity for manipulation or corruption.
- Several IRB recommendations were incorporated into the study:
    - The study needed to be of sufficient duration to reduce seasonal confounding factors. The data collection periods for the control group and

interventional group should mirror each other. Eight months, from March to October, were deemed adequate to meet participant recruitment goals and that period avoided winter months with the greatest risk of weather becoming a significant confounding factor. If participant recruitment failed to meet projected goals, the study could be extended.

- The size of the data pool should be large enough to minimize the impact of eccentric data points. The goal of 750-1,000 participants in each arm was deemed to be minimally adequate. The more participants, the greater the validity.
- Participating clinics should be selected to describe how the hypotheses impact different settings, including urban, metropolitan, and rural areas, as well as small, medium, and large clinics.
- opportunity for corruption.

Bibliography: Report on OPA-EFDA Pilot Project

Using Likert Scale Instruments for Performance Assessments and Customer Service Satisfaction Surveys

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4. **Malik MA, Mustapha MF, Mohamad Sobri N**, et al. Optimal Reliability and Validity of Measurement Model in Confirmatory Factor Analysis: Different Likert Point Scale Experiment. *JCIT*. 2021;11(1):105-112.

Primary investigator summary: Likert Scale evaluations are the most highly validated, most commonly used instruments for both performance assessments and customer service satisfaction surveys. A 1 to 10 scale, with clearly defined poles is the recommended protocol. The assessment category definitions used are based on industry consensus.

Estimating the Percent of Total Clinic Appointments Available to OPA-EFDAs

5. **CareQuest Institute for Oral Health**. (2019). *Safety Net Solutions: Productivity Benchmark Guide*
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Primary investigator summary: In clinics that accept Medicaid eligible patients, according to forensic schedule analysis and industry benchmarks, dental hygiene appointments comprise 30%-41% of total clinic appointments. Analysis of dental hygiene practice mix in those clinics indicate that 20%-31% of dental hygiene appointments are focused on treatment or support of periodontitis patients (either active therapy or maintenance appointments). That leaves 69% -80% of dental hygiene appointments available for healthy or gingivitis patients. That would mean that 21% - 33% of total clinic appointments would be available for OPA-EFDA participation.

Additional Study on Impact of Periodontal EFDAs on Clinic Service Capacity and Access to Care

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Definitions of Health, Gingivitis, and Periodontitis

10. **Chapple ILC, Mealey BL, Van Dyke TE, Bartold PM, Dommisch H, Eickholz P, et al.** Periodontal health and gingival diseases and conditions on an intact and a reduced periodontium: Consensus report of workgroup 1 of the 2017 World Workshop. *J Clin Periodontol.* 2018;45(S20):S68–S77. doi:10.1111/jcpe.12940.
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13. **Telephone Conversation** (11-28-25) between the Study's Primary Investigator, Dr. Guy Deyton, and patient JB from Clinic #2,prompted by a request from the participant, . .

Using Likert Scale Evaluations in Performance Assessments and Customer Satisfaction Surveys

(Reference: Malik MA, Mustapha MF, Mohamad Sobri N, et al. Optimal Reliability and Validity of Measurement Model in Confirmatory Factor Analysis: Different Likert Point Scale Experiment. *JCIT*. 2021;11(1):105-112.

Likert Scale evaluations are the most commonly used instruments in performance evaluations and in customer satisfaction surveys. For example, the following organizations use Likert Scale Performance Assessment Instruments: Google, Deloitte, General Electric, and the U.S. Office of Personnel Management. The following organizations utilize Likert scale customer service surveys: Mayo Clinic, Cleveland Clinic, Johns Hopkins Medicine, Amazon, Apple, Google, and Microsoft. A 10-point Likert scale has been found to optimize reliability and validity.

The following is a commonly used consensus-based interpretation of a 1-10 Likert Evaluation:

Score	Interpretation	Description
10	**Outstanding / Exceptional**	Far exceeds expectations; rare, top-tier performance; role model level.
9	**Excellent**	Strongly exceeds expectations; high-quality and consistent performance.
8	**Very Good**	Exceeds expectations; above average; reliable and commendable.
7	**Good / Satisfactory Plus**	Slightly exceeds expectations; dependable and competent.
6	**Satisfactory / Meets Expectations**	Fully meets job requirements; acceptable performance.
5	**Marginal / Needs Some Improvement**	Inconsistently meets expectations; performance gaps may exist.
4	**Needs Improvement**	Below expectations; requires corrective action or additional support.
3	**Poor**	Significantly below expectations; persistent issues.
2	**Very Poor**	Severely underperforming; major deficiencies; urgent improvement needed.
1	**Unacceptable / Failing**	Complete failure to meet job requirements; may warrant disciplinary action.

DATA DE-IDENTIFICATION AND DATA INTEGRITY ATTESTATION FORM

Study Title: OPA Pilot

Principal Investigator: Dr. Guy Deyton

Study ID / Protocol Number: _____

Date of Data Extraction: 11/13/2025

Section 1 — De-Identification Attestation (Safe Harbor Standard)

I certify that I applied the HIPAA Safe Harbor de-identification standard (45 CFR §164.514[b][2]) to the dataset associated with the above-referenced study. All 18 categories of direct identifiers were removed, masked, or otherwise rendered non-identifiable. I further attest that:

- A unique study ID code replaced direct identifiers;
- The linking file was stored separately in an encrypted, access-controlled location;
- No identifiable data were transferred to the analysis analyst unless permitted under an approved DUA;
- All procedures protected participant privacy.

Name (Printed): Clark Oelrichs

Signature: Clk Oelr

Date: 12/8/2025

Section 2 — Data Integrity and Transfer Attestation

I certify that the dataset used for statistical analyses was received through a secure, access-controlled transfer process and that the data stream remained pure, unaltered, and free from any risk of editing, manipulation, or corruption. I further attest that:

- The dataset received was the finalized de-identified version;
- No modifications were made except approved analytical steps;
- Audit logs or system controls confirm dataset integrity;
- The analytic file is reproducible from the original de-identified extract.

Name (Printed): Christine Spinks

Signature: Christine Spinks

Date: 12/8/2025

Section 3 — Optional: Verification by Principal Investigator

I have reviewed and confirm the accuracy of the statements above to the best of my knowledge.

Name (Printed): Guy DEYTON

Signature: GD Dayton

Date: 12/8/25