Using the Bizoglou Article on the Impact of Colorado EFDAs to Quantify the Impact of Expanded Function Assistants on Dental Clinic Productive Capacity

The following analysis of the above referenced article is provided by Guy Deyton, DDS:

It is true that there are not good peer reviewed articles quantifying the positive impact of Expanded Function Dental Assistants (EFDA) on the productive capacity of dental clinics. I'll take part of the blame. It's an article I've always intended to write, when I had the time to mine data from Missouri dental practices. That being said, I'm not going to get it done in the next 48 hours, so let's look at the data as presented in the 2012 article[1] written by Beazoglou and company about the productive impact of Colorado expanded function dental assistants.

1. This is an article published in a peer reviewed journal addressing the productive impact of EFDAs (view PDF).
2. I thought, when I originally read the article that if I could get my hands on the raw data, there would be a lot more helpful information that could be culled. For example, they did a lot of work weighting delegation of each specific procedures as a component of the overall service mix of a dental practice, but they didn't report on the impact of delegation of specific types of procedures had on clinic productivity. That information could be gleaned from their raw data set, but we don't have it.
3. What we do have is Table 6, which I have copied below:

Table 6. Impact of delegation on gross billings and net income per practice

Delegation Level	Patient Visits	Percent Difference	Gross Billings	Percent Difference	Net Income	Percent Difference
Zero	3,670	N/A	$598,679	N/A	$154,504	N/A
20%	4,139	12.9%	$661,642	10.5%	$236,414	53.0%
40%	4,666	27.1%	$731,228	22.1%	$318,324	106.0%
60%	5,261	43.4%	$808,131	34.9%	$400,234	159.0%
80%	5,931	61.6%	$893,123	49.1%	$482,144	212.1%
100%	6.688	82.2%	$987,054	64.8%	$564,054	265.1%

4. Of particular note is the impact of increasing delegation to an EFDA on clinic productivity as measured by office visits and gross billings. The first three rows are the most relevant consideration. They would represent a reasonable estimation of the initial impact of starting to delegate a portion of a hygienist's procedure set to an EFDA. It also represents a reasonable estimation of the impact an Oral Preventive Assistant might have when charged with caring for healthy patients and patient that have reversible gum inflammation (gingivitis). The reason that the 0 - 40% delegation levels are a good estimate is that it mirrors the percent of the population that either is healthy or has reversible gingivitis (see below).
5. In a recent study by Relvas, et al published in the *Journal of Clinical Medicine*[2], his group analyzed data from clinical records of 941 patients aged 18-85. Of a total of 941 patients

included, 457 (48.6%) had periodontitis, 253 (26.9%) had gingivitis and the remaining 231 (24.5%) were healthy patients. In this example, 51.4% of the population could be treated by an Oral Preventive Assistant freeing the dentists and hygienists to treat a greater percentage of the more serious cases.

6. A review of scientific literature on the periodontal health of children 16 and under reveals that over 95% are either healthy or have gingivitis, a form of gum inflammation that is reversible with a good tooth cleaning followed by better oral hygiene habits by the child. The range of reported gingivitis in children 16 is wide, from a low of 14% to a high of 86%. In a large 2021 study published by Fan et al in *BMC J Oral Health*[3], 7680 adolescents age 12-15 were evaluated. 29.6% had gingivitis. There was no report of more serious gum infections.
7. In another large study published by Jeevanandan, et al. in the *International Journal of Dentistry and Oral Science* in 2021[4], 1596 patients age 6-12 were evaluated to determine the prevalence of periodontal disease in children: 6% of 6-year-old children had gingivitis; the rate increased to a high of 19% in 10-year-olds and declined slightly after that. No incidence of periodontitis was reported in this age group.
8. The point of items 5-7 is that an Oral Preventive Assistant could collaborate in the treatment of more than 50% of adults and 90-95% of the children, under the supervision of either a dentist or a hygienist and free the hygienist to treat more serious cases.
9. Returning now to Beazoglou's study of Colorado EFDAs, Table 6 indicates that in Colorado practices that increased their delegation to an EFDA from 0% to 20% of the procedures had an increase in productive capacity of 12.9% as measured by number of patient visits. Practices that increased their delegation to an EFDA from 0% to 40% increased their productive capacity by 27.1% as measured by patient visits. A case could be made that up to 60% of a hygienists existing case load could be assisted with an Oral Preventive Assistant. That would according to Beazoglou, result in approximately an approximate 43.4% increase in productive capacity. Those are very realistic scenarios considering the breakdown of patients by diagnostic category. If an Oral Preventive Assistant could contribute to the care of children and adults who are healthy or gingivitis reversible with a good tooth cleaning and oral hygiene instruction, we are talking about 20-50% delegation and a commensurate increase in productive capacity.
10. Beazoglou's reported increase in productive capacity is similar to what has been anecdotally reported to me by Missouri dentists who trained and employed EFDAs. Anecdotally, they reported approximately a 15% increase in productive capacity with the first EFDA and approximately a 25% increase in productive capacity with two EFDAs.

About The Author

Guy Deyton, DDS is a general dentist in Kansas City, Mo. He is a former Missouri Dental Association president and Missouri Dental Board member. Between 2020-21 he was the Director for the Missouri Department of Health and Senior Services Office of Dental Health. Dr. Deyton was one of the original authors and trainers for the Missouri Expanded Functions Dental Assisting program curriculum first

produced in the mid-1990s, and has since trained and supervised numerous expanded function dental assistants. He has continued to be a steward and visionary for the program and for workforce and access to care solutions for the State of Missouri.

References

1) Beazoglou TJ, Chen L, Lazar VF, Brown LJ, Ray SC, Heffley DR, Berg R, Bailit HL. Expanded function allied dental personnel and dental practice productivity and efficiency. J Dent Educ. 2012 Aug;76(8):1054-60. PMID: 22855591. https://pubmed.ncbi.nlm.nih.gov/22855591 (view PDF)
2) Relvas M, López-Jarana P, Monteiro L, Pacheco JJ, Braga AC, Salazar F. Study of Prevalence, Severity and Risk Factors of Periodontal Disease in a Portuguese Population. Journal of Clinical Medicine. 2022; 11(13):3728. https://doi.org/10.3390/jcm11133728 (view PDF)
3) Fan W, Liu C, Zhang Y, Yang Z, Li J, Huang S. Epidemiology and associated factors of gingivitis in adolescents in Guangdong Province, Southern China: a cross-sectional study. BMC Oral Health. 2021 Jun 16;21(1):311. doi: 10.1186/s12903-021-01666-1. PMID: 34134691; PMCID: PMC8207589. https://bmcoralhealth.biomedcentral.com/articles/10.1186/s12903-021-01666-1 (view PDF)
4) Jeevanandan, Ganesh. (2021). Prevalence Of Gingivitis and Periodontal Diseases in Children Aged Between 6-12 Years. International Journal of Dentistry and Oral Science. 2889-2893. 10.19070/2377-8075-21000586. https://www.researchgate.net/publication/353709914_Prevalence_Of_Gingivitis_And_Periodontal_Diseases_In_Children_Aged_Between_6-12_Years (view PDF)