

PROPOSAL TO EXTEND PERIODONTAL BENEFITS TO ADULTS WITH DIABETES

Submitted By Dr. Capurro, Nevada State Dental Health Officer

Overview

The link between oral health and overall health has been well established. Numerous studies have identified the association between the oral bacteria and inflammation in dental diseases and overall systemic illness such as cardiovascular disease and diabetes. Oral health is a snapshot of a person's health status as the quality of oral tissues can lead to early detection of systemic conditions.

One chronic disease that is often first identified through an oral examination is diabetes. There are multiple complications associated with diabetes such as cardiovascular disease, neuropathy, nephropathy, retinopathy, and periodontal disease. Periodontal disease is diagnosed through an oral evaluation and radiographic analysis of the bone level surrounding the teeth. Adults with diabetes are twice as likely to develop periodontal disease when compared to adults without diabetes and those with poorly controlled diabetes (HbA1c >9%) are three times more likely to develop severe periodontitis. (Berkey, D. B. and Scannapieco, F. A., Medical considerations relating to the oral health of older adults. *Special Care in Dentistry*; 2013. 33: 164–176.)

Periodontal disease results in inflammation of the gum tissues, radiographic bone loss leading to mobility of the teeth, and development of pathogenic bacterial biofilms which can lead to infections of the periodontal tissues. If left untreated these conditions will significantly affect a patient's systemic health as inflammatory factors, oral plaques, and bacteria are released into the bloodstream.

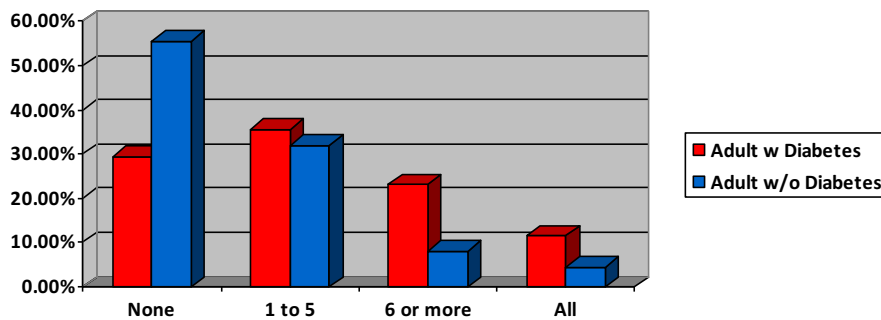
Periodontal treatments are offered to pregnant women under Nevada's Medicaid program as a method to reduce preterm birth by decreasing the proliferation of pathogenic plaque bacteria and the transmission of bacteria via the blood system through inflamed and ulcerated oral tissues. I request an investigation to including adults with diabetes under the dental prophylaxis benefits as the oral and systemic health of this population would benefit significantly and medical costs would decrease as a result of this policy change.

Diabetes and Medicaid

"Periodontal disease is a chronic inflammatory disease, and is linked to other serious health risks." American Academy of Periodontitis

Per the CDC and the Nevada Electronic Death Registry, diabetes is the seventh leading cause of death in the U.S and eighth leading cause of death in Nevada. Anything that can be done to control the symptoms and progression of diabetes should be explored.

According to the pooled 2012 and 2014 BRFSS, Nevada Adults with diabetes had a higher incidence of tooth extraction due to gum disease. See below chart.



While preventative care is not a covered Medicaid service for adults, dental extractions are payable through the current system. Multiple extractions and the associated oral infections and eventual edentulism are not only costly to the Medicaid system but have far reaching implications as the nutritional status, mental health, and chronic disease condition of a patient diminish resulting in higher incidence of hospitalizations and medical expenses. Periodontal therapy reduces bacterial burdens, improves the health of the connective tissue around teeth, reduces oral inflammation, curtails pain caused by infection, and restores longevity to the teeth which improves a patient's self-efficacy, ability to ingest nutritionally rich foods, overall quality of life, and increases the patient's ability to remain a productive member of society.

Periodontal Disease and Diabetes

In non-diabetic patients, periodontitis has been linked to a five times greater increase in HbA1c levels when compared to a baseline patients without periodontitis. (Demmer, R.T., Desvarieux, M., Holtfreter, B., et.al. Periodontal status and A1C change: longitudinal results from the study of health in Pomerania (SHIP). *Diabetes Care*. 2010; 33:1037-1043.)

Patients with Type 2 diabetes were 2.8 times more likely to have periodontal disease defined by clinical attachment loss, and 3.4 times more likely defined by radiographic bone loss. (Kumar, V., Kumar, K., Gafoor, A., Santhosh, V., Evaluation of Subgingival Microflora in Diabetic and Nondiabetic Patients. *J Contemp Dent Pract*. 2012; 13(2): 157-162.)

There is evidence to support periodontal infection/severe periodontitis having an adverse, yet modifiable, effect on glycemic control. (Annals of Periodontology, 2001)

Treatment Options

Below is a list of dental procedures that are currently provided through Nevada Medicaid to adult patients. There are several unknowns in calculating a final cost that may be associated with an individual diabetic patient. Patients may have all or several teeth extracted in a single year. Depending on the presentation of the patient, several radiographs and several examinations may be performed if the patient visits different offices and the hospital's emergency department as symptoms arise.

Dental Procedures Covered for Adults Regardless of Chronic Disease Status		
D0140	Limit Oral Eval Problm Focus	33.24
D0220	Intraoral Periapical First	18.86 (*x)
D0330	Panoramic Image	41.24
D0120	Periodic Oral Evaluation	33.24
D0210	Intraor Complete Film Series	58.94
D5110	Dentures Complete Maxillary	615.00
D5120	Dentures Complete Mandible	615.00
D5410	Dentures Adjust Cmplt Max	40.99
D5422	Dentures Adjust Cmplt Mand	40.99
D7140	Extraction Erupted Tooth/ECR	45.09 (*x)
D7210	Rem Imp Tooth Remov Soft Tiss	87.12(*x)
D7250	Tooth Root Removal	82.00 (*x)

The alternative treatments are listed below. For newly diagnosed diabetic patients, a D1110 may be all that is needed. For more advanced cases, D4355 may be needed before the oral evaluation can be completed which may be followed by D4341/D4342 once a year. D4910 should be completed three times a year following D4341/D4342. Depending on the severity of the patient's diabetic status and oral hygiene, limited extractions of hopeless teeth that are periodontally involved beyond the point of osseous surgery or bone grafts may have to be completed. However, extractions would be limited and would be minimized as the overall goal would be to improve the health of the periodontal tissues and save as many teeth as possible.

Alternative Dental Procedures for Adults with Diabetes		
D0120	Periodic Oral Evaluation	33.24
D0210	Intraor Complete Film Series	58.94
D0270	Bitewings-three images	11.79- may or may not be needed
D1110	Dental Prophylaxis Adult	49.81
D4355	Full Mouth Debridement	74.83
D4341/possibly D4342	Periodontal Scaling and Root per quad	102.91 (*4)
D4346	Scaling in Presence of Generalized Inflammation	Not paid under plan
D4910	Perio Maint Procedure	40.99 (*3)

In addition, the medical MCO contract should include a dental examination as part of the required measures for comprehensive diabetic care. Currently, an eye exam, HbA1c testing, LDL-C screening, attention for nephrophathy, and blood pressure control are included. Why is a simple dental examination not already included when there is such a clear research that demonstrates that periodontal disease is a complication of diabetes?

Potential Cost Savings

Exact cost savings for Nevada are difficult to pin point at this time. Nevertheless, by offering prophylaxis treatments to adults with diabetes, Medicaid would save a portion of the expense incurred for adult examinations, x-rays, extractions, and removable prosthesis. These resources would be available instead to save the patient's dentition through prophylaxis care.

Recent studies have established a link between periodontal services and quantifiable savings in medical care and a reduction in hospital admissions for patients with diabetes. According to a 2012 Cigna study, diabetic patients that received proper periodontal treatment saved the insurance company an average of \$1,292 or 27.6% in annual medical savings. Furthermore, Cigna found that customers that received periodontal services had 67% lower hospital admissions rates and 54% lower emergency room use. (Cigna 2013 National Segment Client Forum).

This study was confirmed by Jeffcoat, M., et al. in 2014 through a study that demonstrated that periodontal treatment in patients with chronic diseases (diabetes, coronary artery disease, and

cerebral vascular disease) and pregnancy resulted in decreased medical costs and hospitalizations. In diabetic patients, a 40.2% or \$2,840 decrease in annual medical costs was seen and in pregnant patients, a 73.7% or 2,433 decrease in annual medical costs was demonstrated. (Jeffcoat, M. K., Jeffcoat, R. L., Gladowski, P. A., Bramson, J. B., & Blumm, J. J. (n.d.). Impact of periodontal therapy on general health: evidence from insurance data for five systemic conditions. American Journal of Preventative Medicine 2014; 47(2), 166-174.)

Furthermore, what is increasingly evident is that by reducing adult dental benefits other medical costs increase. In 2009, California Medicaid removed their comprehensive dental benefits for adults which resulted in an increase of 1,800 emergency department visits. (Singhal A, Caplan DJ, Jones MP, Momany ET, Kuthy RA, Buresh CT, Isman R, Damiano PC. Eliminating Medicaid adult dental coverage in California led to increased dental emergency visits and associated costs. Health Aff (Millwood). 2015;34(5):749-56)

Policy Goals

The overall goal of the policy is to:

- Proactively implement a strategy that would reduce medical expenses for the adult diabetic population which is currently 9.6% of the Nevada population(<http://stateofobesity.org/diabetes/>)
- Increase population based services for those with chronic disease such as diabetes
- Create a partnership between physicians and dentists to improve both oral and systemic treatment by focusing coordination of care
- Improve glycemic control and overall health of diabetic patients through periodontal treatments
- Demonstrate that there is a link between periodontal care/maintenance and a reduction in healthcare costs in adults with diabetes.

Support

Healthy People 2020 Goals

- Diabetes-8
“Increase the proportion of persons with diagnosed diabetes who have at least an annual dental examination.” Goal: 61.2% Baseline: 55.6% of the population aged 2 years and over with diagnosed diabetes had been to the dentist in the past year, as reported in 2008.
- Diabetes-15
“Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education.” Goal: 62.5% Baseline: 56.8% of adults aged 18 and over with diagnosed diabetes reported they ever received formal diabetes education in 2008.

- Oral Health-4
“Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease.” Goal: 68.8% Baseline: 76.4% of adults aged 45 to 64 years had ever had a permanent tooth extracted because of dental caries or periodontal disease in 1999-2004
- Oral Health-5
“Reduce the proportion of adults aged 45 to 74 years with moderate or severe periodontitis.” Goal: 40.8% Baseline: 47.5% of adults aged 45 to 74 had moderate or severe periodontitis in 2009-2010

World Dental Federation and International Diabetes Federation

- In 2007, the World Dental Federation and International Diabetes Federation signed a joint declaration to “include prevention of oral disease and promotion of oral health as an essential component of diabetes management.”

I look forward to speaking with you and answering any questions that you may have regarding this proposal. Thank you for your consideration.

Sincerely,

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