

## Creating a Risk-Based Model for Dental Benefit Design

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### Introduction

For generations, Americans have been exhorted to “see your dentist twice a year.” This cultural icon is deeply embedded in the minds of the American psyche. Although the earliest origin is in dispute, this advice was featured in toothpaste advertising in the 1950s and was later adopted by both the dental profession and the dental benefits industry. The influence that this cultural meme continues to exert on the dental profession, the dental benefits industry and the public is profound. Despite advancements in understanding the pathophysiology, epidemiology and systemic implications of oral disease,<sup>1,2</sup> standard dental benefit designs help perpetuate the archetype of the biannual dental visit where many patients receive the same preventive services at the precise frequencies allowed by their dental plan.

Both dental insurers and clinicians benefit from the simplicity of this approach. Patients and dentists tend to “follow the benefits” spelled out in the plan design. Claims submission and processing are simplified when most beneficiaries have the same benefits, helping to control the costs for administration. When the risk for oral disease is not considered, the result can be a trade-off between administrative efficiency and effectiveness in improving oral healthcare outcomes. The “standard” benefit can encourage overtreatment for the healthiest individuals and discourage recommended treatment for those at greater risk.

Strategies for disease prevention and management have been developed based on the concept of individual risk assessment.<sup>3-6</sup> Risk assessment tools use standardized questions to identify factors such as medical history, caries and restoration history, diet, oral hygiene practices, family history, and clinical information such as pocket depth, clinical attachment loss, bleeding, and tooth loss, that influence the likelihood that a person will develop the target condition. The information is weighted based on an estimated value that these factors have as

determinants of future disease, which is then converted to a numerical score or descriptive ranking (e.g. low, moderate or high risk). Most risk assessment tools use paper checklists that guide the user to determine the patient’s risk for oral disease and assist oral healthcare providers in developing prevention-based treatment plans.

Electronic risk assessment technologies have advantages over paper forms including more accurate data entry, automated calculation of scores, customized reports based on each individual’s risk factors, and secure transmission to third party payers. Electronic risk assessment reports can also be stored for later review by the dentist to create a chronological record of an individual’s oral health status. Risk assessment data can be used to create population health reports for employer groups which can reveal whether or not treatment being provided for patients matches a population’s oral health risk profile.

The growing evidence of relationships between oral and overall health and evidence that improving oral health can help employers lower medical claims expenses has encouraged many dental benefit companies to provide additional preventive services, such as prophylaxis and periodontal maintenance for members with medical conditions including diabetes, heart disease and pregnancy. However, providing these services on the basis of a medical diagnosis may miss the chance for primary prevention of dental caries and periodontal disease. Patients should not have to wait until they get sick before they receive benefits for the oral preventive care they need to stay healthy.

Stand-alone dental benefit carriers face a common dilemma: how can they provide wellness programs for purchasers and their insured members that would match the promises made by competing multi-line carriers to reduce medical costs without access to medical claims data

and diagnostic coding? Northeast Delta Dental's choice was to create an oral health and wellness program focused on primary prevention of caries and periodontal disease as opposed to medical diagnoses. We believe that the use of predictive risk assessment for oral disease to authorize guideline-based preventive benefits could encourage the delivery of care matched to individual needs, and actively engage patients and providers to change behaviors and adopt clinical best practices to improve health outcomes.

We developed a set of "enhanced" preventive dental benefits which were mapped as closely as possible to the preventive best practice guidelines from the American Dental Association<sup>7</sup> and the American Academy of Pediatric Dentistry<sup>8</sup> for dental caries; and the American Academy of Periodontology for periodontitis.<sup>9</sup> Eligible patients who have been assessed by their dentist using a standardized electronic risk assessment tool and found to be at moderate to high risk for caries or periodontal disease are pre-authorized for preventive benefits including topical fluoride treatment and sealants without age limitation, up to four prophylaxis and periodontal maintenance visits per year, and oral health counseling. Northeast Delta Dental chose a commercially available clinical risk assessment software platform which provides fully automated risk assessments for caries, periodontal disease and oral cancer for this purpose.<sup>10</sup>

When data is entered by the patient or the dental office, it is uploaded to the risk assessment software company's HIPAA compliant database where the patient's risk and disease severity scores are calculated. Risk profile reports are automatically sent securely to the patient or dental office. The data is also downloaded to a proprietary data integration hub jointly developed by Northeast Delta Dental and the risk assessment software vendor. The data integration hub securely aggregates both self-assessed and clinically generated risk assessment data and can automatically authorize guideline-based enhanced benefits in the dental insurance company claims processing system. To be eligible for enhanced benefits, qualifying members also use the data hub to register for an oral health and wellness score which allows us to engage members to optimize self-management for their oral health.

Employers can also use an online oral health self-assessment tool to gain insights into the population health of their employees and their families by aggregating the risk and disease data into the data hub to create a population oral health report that estimates the prevalence of caries, periodontal disease, and oral cancer risk among the insured population, as well as the number of smokers and persons in the population with chronic disease who also have greater risk for periodontal disease. When dental claims data and population health risk profiles are compared, areas where the treatment being provided does not match a population's oral health risk profile can be determined. These "gaps to fill" can help focus efforts to improve patient self-management and the utilization of preventive benefits by dentists through outreach and engagement.

To gain the most from their dental benefits and achieve optimal oral health, members must be engaged and empowered with personalized, objective and actionable information and resources. The oral health risk assessment data hub also provides a communication module that uses patient-provided data to send individualized, HIPAA compliant text and e-mail messaging to engage individual members based on their unique oral health and personal profile.

## Conclusion

Northeast Delta Dental has developed a comprehensive oral health and wellness program for employer groups based on an understanding that "one size does not fit all" when it comes to dental benefits. The program provides evidence-based preventive dental benefits matched to each patient's individual needs in order to improve oral healthcare outcomes for individuals and populations. The program provides employers with an objective analysis of the oral health status of their covered populations, and recommends strategies to close gaps that may exist between the preventive oral health care their employees are receiving and best practices for oral prevention. The program engages and empowers patients to take steps to achieve their personal best oral and overall health, and encourages dentists to use evidence-based preventive benefits matched to the needs of their patients to deliver evidence-based oral preventive care.

## References

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