

Nutrition in Dental Education: A Scoping Review of Co-located Program Curricula

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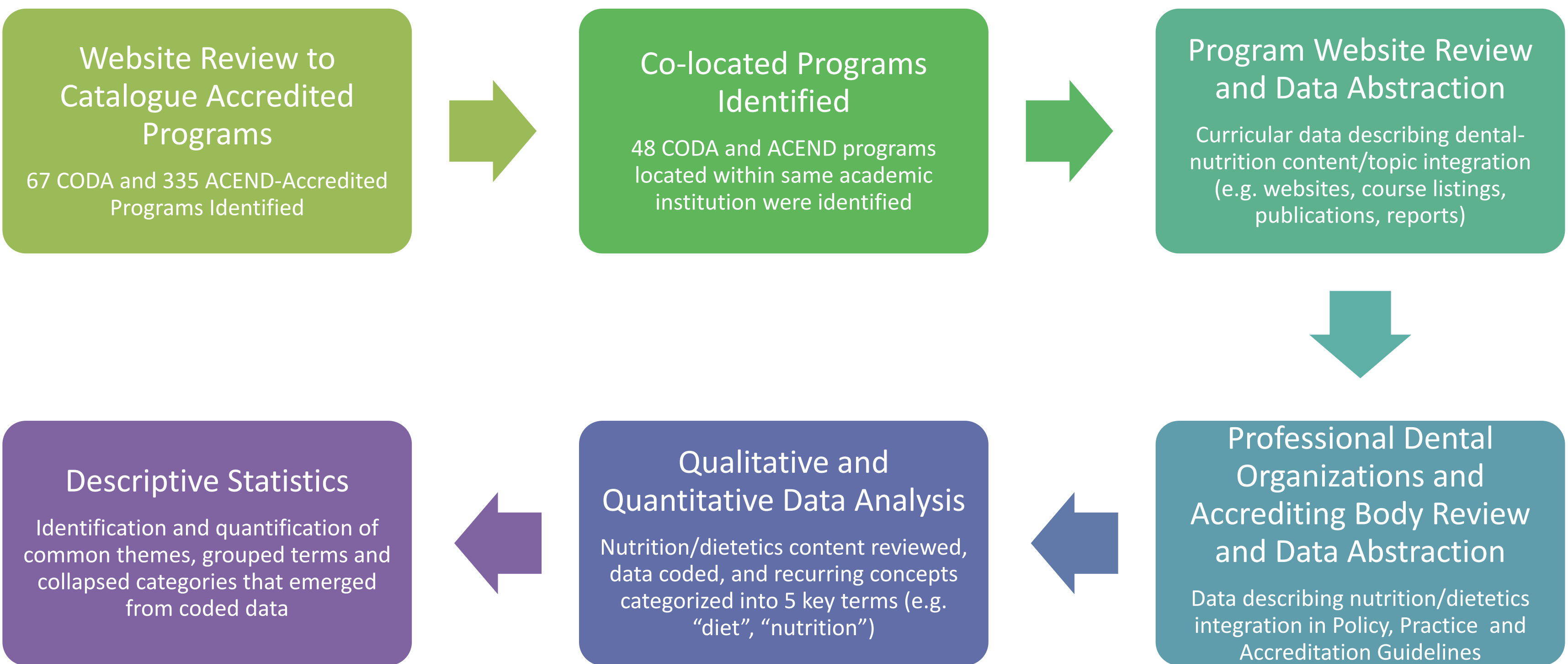
Background

- Despite century-long recognition of synergistic nature of oral health and nutrition in professional literature, the two fields have remained largely siloed in both education and practice (Howe, 1921)
- Diet and nutrition play a tremendous role in oral disease development and progression; likewise, compromised integrity of the oral cavity can influence ability to obtain nutrition (Touger-Decker, 2013)
- The two most prevalent oral diseases, dental caries and periodontitis, are significantly driven by daily dietary behaviors
 - Both mediated by metabolic processes of a variety of bacteria, which accumulate in plaque biofilm on the tooth surface and proliferate when presented with sufficient, often excess, substrates in the form of fermentable dietary carbohydrates (Pitts 2017)
 - Disease prevalence, progression, and recurrence rates remain unacceptably high due to failure to address the underlying behavioral etiology
- To date, there is no singular definition of dental-nutrition education or model for curricular integration
- Needed is an integrated model of dental-nutrition education that could be readily employed within existing academic curricula and clinical training programs

Purpose

To inform the development of a model for academic dental-nutrition integration by describing current integration within: (1) CODA (Commission on Dental Accreditation)-accredited programs co-located within institutions administering ACEND (Accreditation Council for Education in Nutrition and Dietetics)-accredited nutrition programs; and (2) professional dental organizations’ (American Dental Association, American Academy of Pediatric Dentistry) and accrediting body’s (CODA) guidelines.

Methods



Findings

- 48 CODA-accredited dental programs were identified as co-located with ACEND-accredited nutrition/dietetic programs (among 67 CODA-accredited dental programs reviewed)
- Curricular content reviews reveal 19% of programs include a course named “Nutrition”
- Within course descriptions, 50% of the co-located dental programs mentioned “nutrition” (n=24) and less than one-quarter “prevention” (23%, n=11) or “diet” (19%, n=9) (**Figure 1**)
- No course descriptions included terms “snacks”, “sugar”, and/or “sugar-sweetened beverages”
- Nutrition-related curricular content was more frequently identified among 27 programs with larger (≥80 students) versus 21 programs with smaller (<80 students) enrollment (**Figure 2**)

Figure 1. Distribution of Key Nutrition- and/or Diet-related Terms Identified in Curricular Review

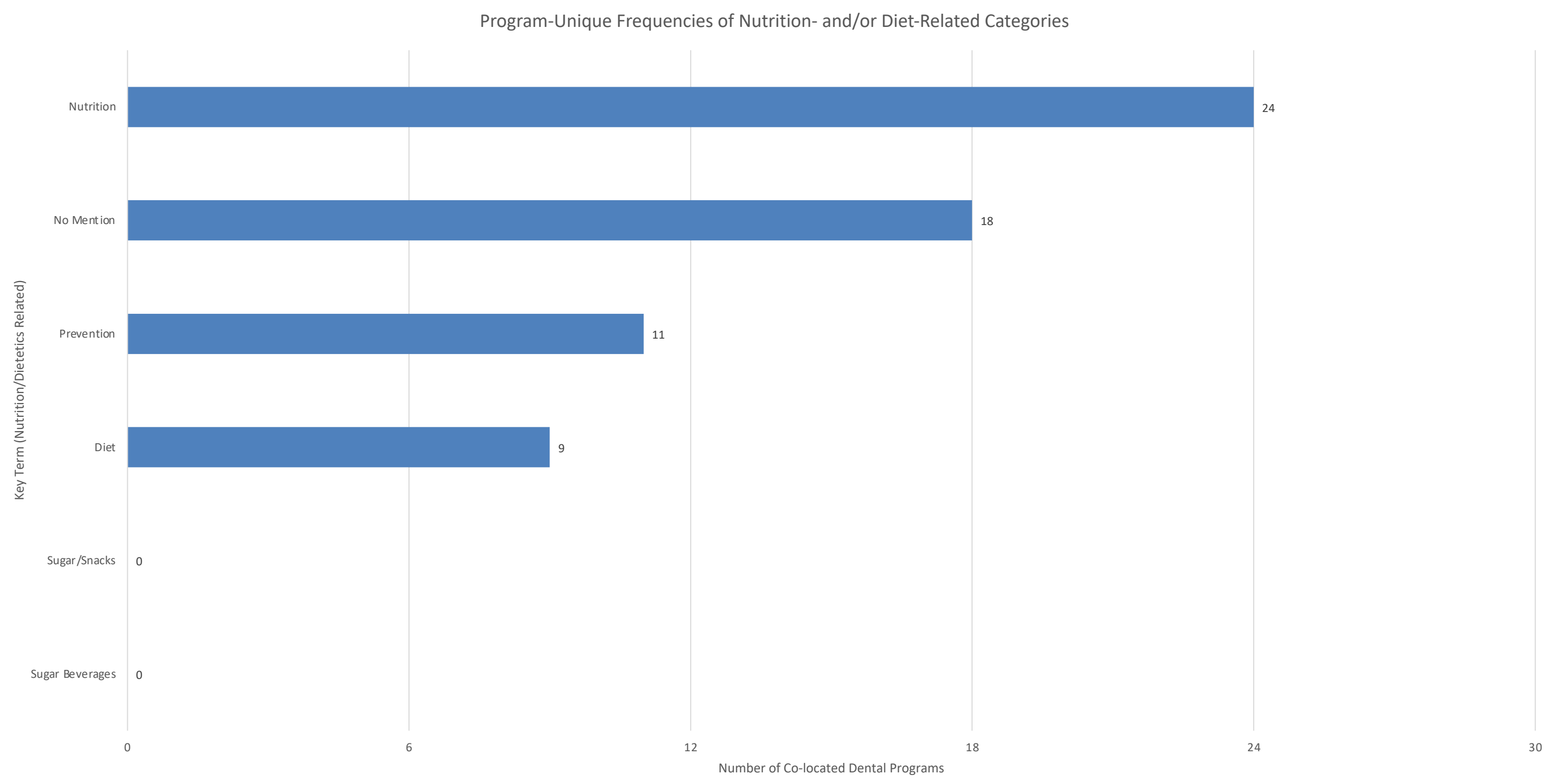
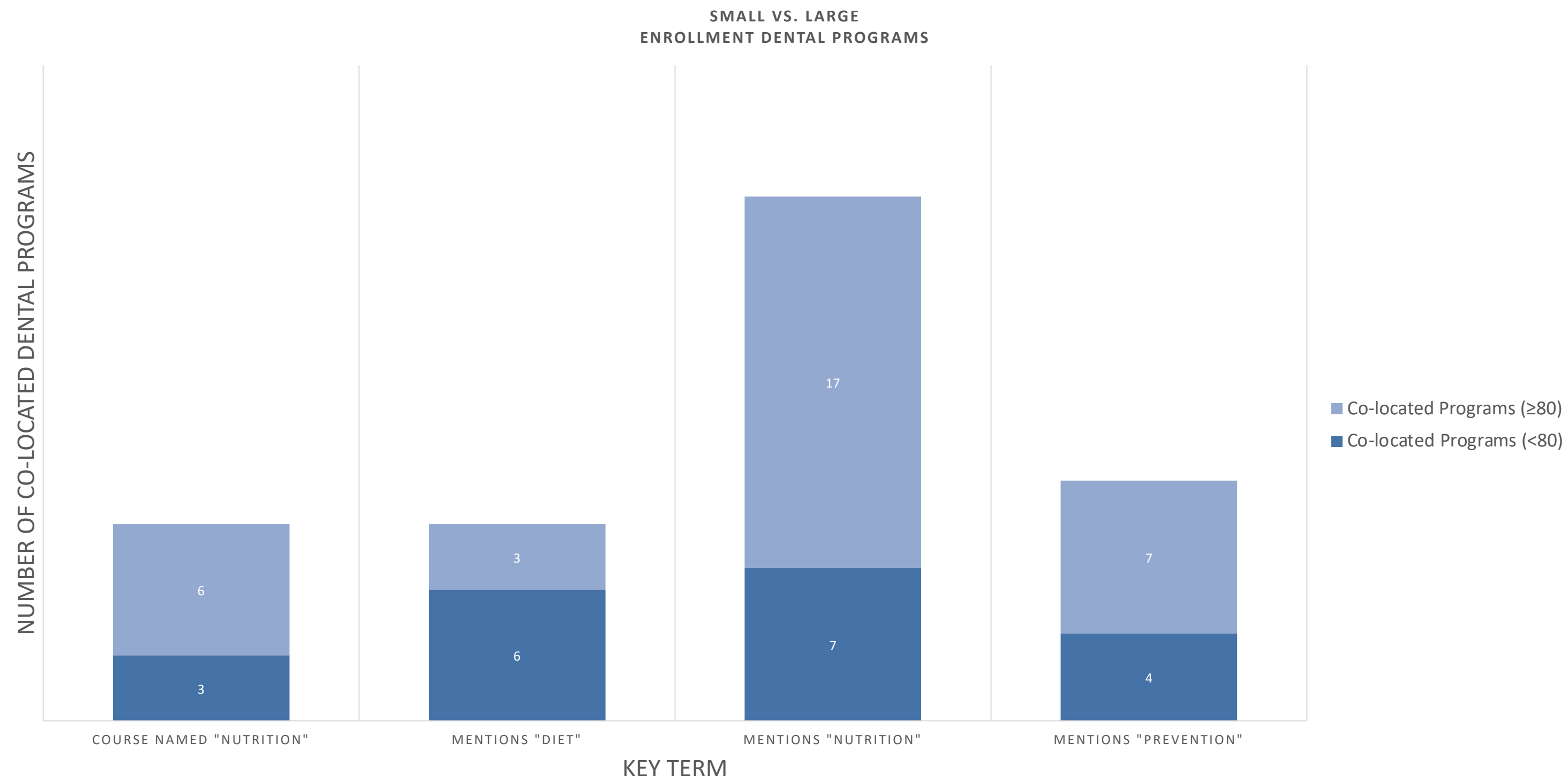
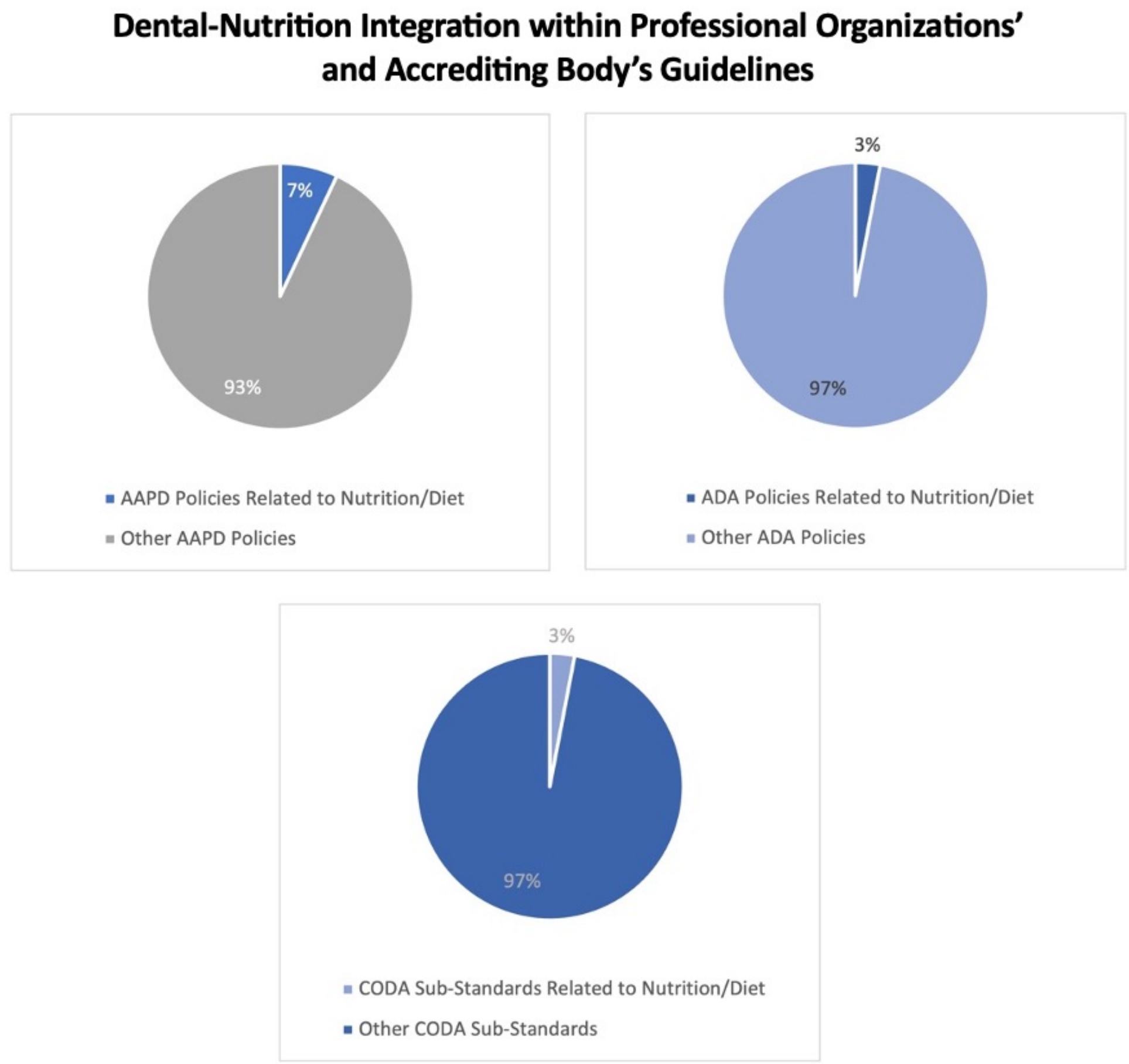


Figure 2. Program-unique distribution of key terms amongst nutrition- and diet-related categories comparing dental schools with small (<80 students) versus large enrollment (≥80 students)



Findings (continued)

Figure 3. Distribution of nutrition- and diet-related policies within professional organizations’ (American Academy of Pediatric Dentistry, American Dental Association) and accrediting body’s (Commission on Dental Accreditation) standards and/or recommendations



- Among policy statements, 3% of the 76 ADA and 7% of 54 AAPD relate to nutrition/diet
 - E.g. ADA’s Policy on Diet & Nutrition recommends “[dental professionals] empower their patients to adopt a healthy dietary pattern of consuming a balanced diet with little to no ultra-processed foods containing sugar”
- Of 29 CODA Accreditation Standards, 3% mention “nutrition” and/or “diet” (**Figure 3**)
 - E.g. Standard recommends core curriculum including dental sciences (nutrition-related content) and biomedical science (diet-related content)

Limitations

- Findings are constrained by accessibility and availability of online curricular data, which may not fully or accurately reflect the full breadth of current curricular content.
- Study did not examine dental-nutrition integration at stand-alone dental programs.
- Inclusion of general terms (e.g., “prevention”) may reflect diet- and/or nutrition-related curricular content, but it is unknown to what extent, if any, they directly relate.
- Multiple diet- and nutrition-related terms (e.g. vitamins, minerals, carbohydrates) were grouped into categorical terms (e.g. nutrition, diet), which limits examination of the specific ways in which dental-nutrition education may be integrated in program curricula

Conclusions

- Available online data suggest limited integration of dental-nutrition education in co-located dental programs, accreditation guidelines and professional policy statements
- A supported model for integration from professional dental organizations and accrediting body may provide structure and strengthen motivation for including nutrition-related content in dental courses
- Forthcoming analysis of key informant interviews with a sample of faculty from co-located dental and nutrition programs will provide further insight into dental-nutrition curricular integration
- Given the interdependent nature of oral health and nutrition, efforts to better integrate dental-nutrition education are warranted