

## Evidence supporting the shortened dental arch for under-privileged South Africans

### Background

Global evidence suggests that shortened or posteriorly reduced dental arches (SDA or PRDA) are adequate for functioning and may benefit resource-restrained communities. This concept has been embedded within the National Oral Health Policy of South Africa since 1994, though no contextual evidence guided its inclusion to inform this policy. The teachings and clinical practices also lack explicit reference to such a beneficial concept.

### Objectives

To provide evidence that support a functional dentition represented by a shortened dental arch, minimizing expensive prosthodontic interventions for South African communities

### Methods

A step-wise approach in study designs was implemented amongst a South African cohort. A *systematic review*, followed by an *overview of systematic reviews* was conducted to guide researchers with the literature and provide a scaffold for the *cross-sectional questionnaires* and *cross-sectional clinical study* for this cohort. These studies were completed with general dental practitioners, clinical teachers and dental students to determine what was currently taught and clinically practiced. A follow-up *randomized controlled trial* was subsequently conducted to determine patient satisfaction and quality of life with a SDA or PRDA.

### Results

Studies completed were from the top end of the hierarchical evidence pyramid; thus their results provided improved evidence related to reliability and validity and in support of the benefits of the SDA or PRDA. The generalizability of outcomes obtained related to settings, subject, intervention, results and costs which were acceptable for this cohort. Aspects of knowledge translation (KT) such as *diffusion* (creating awareness) and *dissemination* (publishing and conference presentations) were fulfilled.

### Conclusions

This step-wise approach predominantly highlighted the absence of the *implementation* aspect of KT; that is the application of the SDA or PRDA concept to clinical practice which could positively impact patients' treatment costs, satisfaction and oral health-related quality of life within the SA context.