# Clinical technical performance of dental therapists in Alaska

**James D. Bader, DDS, MPH; Jessica Y. Lee, DDS, PhD; Daniel A. Shugars, DDS, PhD, MPH; Barri B. Burrus, PhD; Scott Wetterhall, MD, MPH**

## ABSTRACT

**Background.** The Alaska Dental Health Aide Therapist program has matured to the point that therapists have been in practice for up to four years.

**Methods.** A case-study evaluation of the program included assessments of the clinical technical performance of five of these therapists practicing in clinics in small Alaskan villages and towns.

**Results.** The results indicate that therapists are performing at an acceptable level, with short-term restorative outcomes comparable with those of dentists treating the same populations.

**Conclusions.** Therapists' performance when operating within their scope of practice suggested no reason for continued close scrutiny. Further evaluations of therapists should shift their principal focus from clinical technical performance of therapists to effectiveness of the therapist program in improving the targeted population's oral health.

**Clinical Implications.** Therapists are capable of providing acceptable restorative treatment under indirect supervision.

**Key Words.** Dental therapists; restorative dentistry; treatment outcomes.

*JADA 2011;142(3):322-329.*

In 2003 the Alaska Native Tribal Health Consortium (ANTHC) (Anchorage), in collaboration with tribal health organizations, began the Alaska Dental Health Aide Therapist Initiative to train dental health aide therapists (DHATs) for practice in rural villages.[1] This initiative is modeled after a program that began in New Zealand in 1921 and has been successfully emulated in many other countries worldwide.[2,3] These therapists work in a variety of practice settings, including subregional clinics and remote villages. Working under the general supervision of dentists at regional offices, therapists may perform prophylaxes, restorations and uncomplicated extractions. At the time of the study, 10 therapists had been recruited from Alaskan villages and trained in New Zealand.

Five years later, in 2008, the W.K. Kellogg Foundation (Battle Creek, Mich.), in collaboration with ANTHC, the Rasmuson Foundation (Anchorage, Alaska) and the Bethel Community Services Foundation (Bethel, Alaska) initiated support for an independent, detailed and objective evaluation of the initial implementation of the DHAT program.[4] The evaluation, which was conducted by RTI International (Research Triangle Park, N.C.), focused on five programmatic areas:

Dr. Bader is a research professor, Department of Operative Dentistry, School of Dentistry, University of North Carolina at Chapel Hill, CB#7450, Chapel Hill, N.C. 27599-7450, e-mail "jim_bader@unc.edu". Address reprints to Dr. Bader.
Dr. Lee is an associate professor, Department of Pediatric Dentistry, School of Dentistry, University of North Carolina at Chapel Hill.
Dr. Shugars is a professor, Department of Operative Dentistry, School of Dentistry, University of North Carolina at Chapel Hill.
Dr. Burrus is a senior community health psychologist, RTI International, Research Triangle Park, N.C.
Dr. Wetterhall is a senior program director, RTI International, Atlanta.

- patient satisfaction, oral health–related quality of life and perceived access to care;
- oral health status;
- clinical technical performance and practice performance measures;
- record-based process measures and evaluation of clinical facilities;
- implementation of community-based preventive plans and programs.

This evaluation was not the first to focus on the Alaskan therapists; they have been the subject of two previous, more limited evaluations, both of which assessed the therapists' clinical technical performance.[5,6] The first of these involved subjective assessment based on direct observation of record keeping, cavity preparation and restoration, and patient management and safety during brief observations in three clinics involving four therapists over four days.[5] The second was based solely on chart reviews to identify the types of procedures therapists performed, to examine complications arising from treatment, and to compare these outcomes with those for dentists practicing in the same clinics.[6] Both of these evaluations concluded that the clinical technical performance of therapists was satisfactory, but one acknowledged the limited nature of the evaluation and the short length of program operation (less than one year), while the other emphasized the preliminary nature of its findings and recommended that a more comprehensive evaluation of the clinical technical performance of the therapists be undertaken.

The current evaluation addresses a broader range of outcomes overall and, when assessing therapists' clinical technical performance, examines larger samples of the work of a greater number of therapists while using standardized criteria. The purpose of this report is to present the results of the assessment of clinical technical performance that involved five therapists at five sites.

## METHODS

**Sites and samples.** As noted, the evaluation results presented here represent a part of a larger evaluation of the DHAT program conducted in 2009 and 2010.[4] In that evaluation, the implementation of the therapist model was evaluated at five sites, selected from among the 10 sites at which New Zealand–trained therapists with at least two years of clinical experience practiced at the time the project was designed. The sites were selected to represent the variety of possible practice environments, ranging from a large multiprovider clinic to a small one-chair clinic served by an itinerant therapist. Each of the five tribal health organizations operating a DHAT program was represented. Table 1 describes the practice settings, therapist presence and supervision arrangements.

**TABLE 1**

**Therapist arrangements at evaluated sites.**

| SITE | PRACTICE SETTING | THERAPIST PRESENCE | SUPERVISION ARRANGEMENT |
|---|---|---|---|
| A | Hospital-based regional clinic, five dentists, eight operatories | Nearly full-time, limited travel to two villages | Clinic director, on site |
| B | Subregional medical/dental clinic, four operatories | Primary posting, but eight to 12 weeks away at other villages | Dental director, remote |
| C | Village medical/dental clinic, one operatory every two to three months | Itinerant, one week per month | Dental director, remote |
| D | Village medical/dental clinic, two operatories | Itinerant, one week per month | Dental director, remote |
| E | Dental trailer adjoining medical clinic, two operatories | Full time | Dental director, remote |

The data presented here describing aspects of therapists' clinical technical performance were obtained through three separate data collection activities performed at each of the five sites. These activities were a community oral health survey, clinic observation and chart audits. All of these activities were performed by the same two examiners at site A, and then by one of these examiners for the remaining sites. Convenience sampling was employed for both the community oral health survey and clinical observation, and written informed consent was obtained from all adult participants and written parental consent and assent for all minors. Charts selected for audit were identified through stratified random sampling.

The institutional review board (IRB) of RTI International reviewed and approved the study protocol, including all data collection instru-

**ABBREVIATION KEY. ANTHC:** Alaska Native Tribal Health Consortium. **DHAT:** Dental health aide therapist. **IRB:** Institutional review board. **UNC:** University of North Carolina.