

Quality Assessment of Dental Treatment Provided by Dental Health Aide Therapists in Alaska

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Background

- **Alaska Native caries rate 2.5X the national rate**
- **Dentist vacancy rate 25%**
- **Annual turnover rate 30%**
- **85K/120K AN live in 200 villages with no road access**
- **Mid-level providers needed in these unique circumstances**

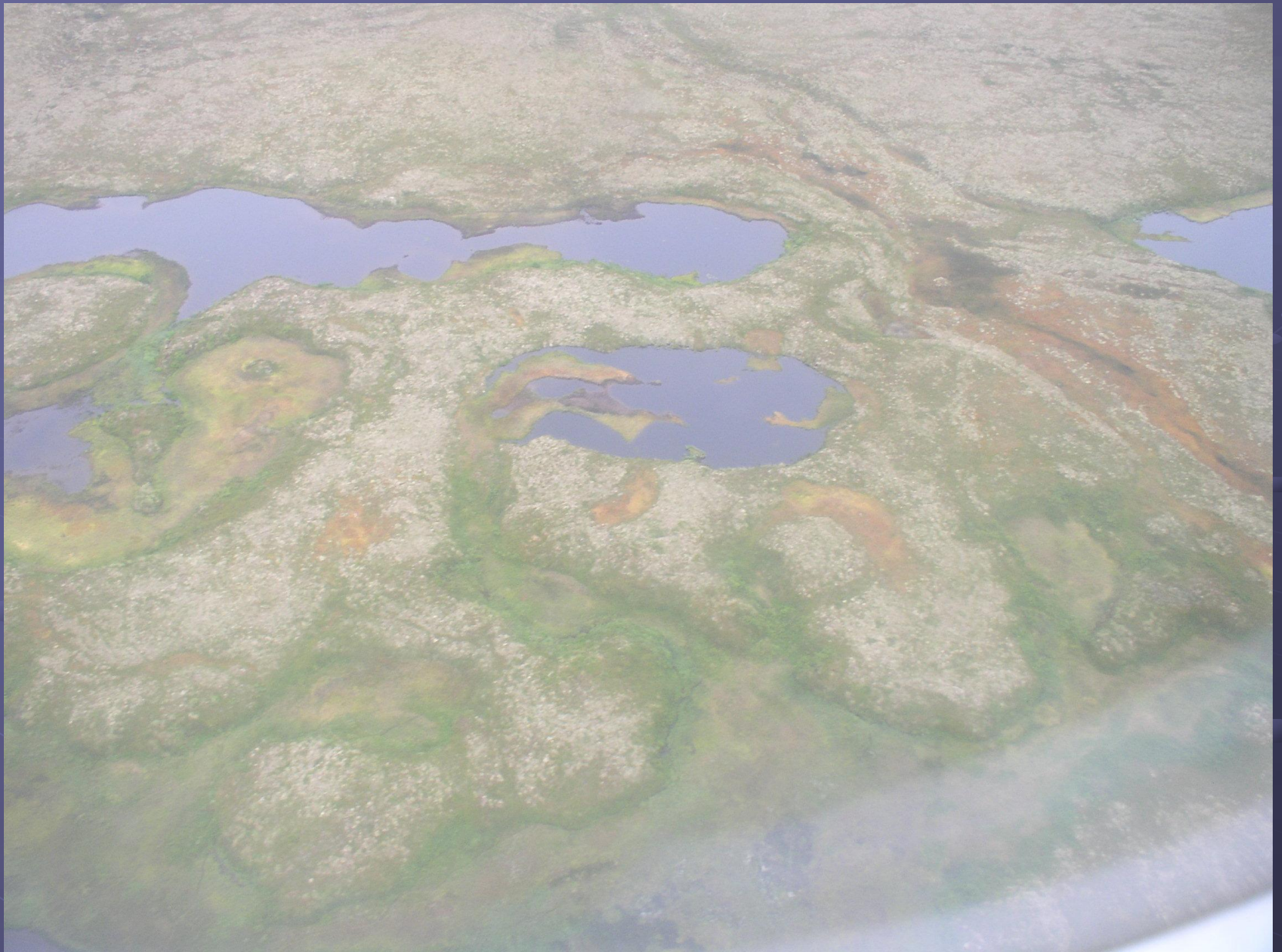


















Objectives

- **Determine by chart review if the DHATs currently practicing in rural Alaskan communities are delivering dental care within their scope of training**
- **Determine any recorded adverse outcome or complication resulting from the treatment**
- **Compare to entries from patient charts treated by dentists during the same period**

Methods

- **Chose 3 health corporations with DHATs employed**
 - Yukon-Kuskokwim
 - Norton Sound
 - Maniilaq
- **Two regional hub clinics**
 - Bethel
 - Nome
- **Three remote village clinics**
 - Toksook Bay
 - Aniak
 - Shungnak

Methods

- **Chart entries/radiographs were examined**
 - Electronically when available
 - Paper records when electronic not available
- **Objective to compare similar procedures of similar complexity**
- **Only procedures which are considered irreversible were counted for analysis**
- **Three categories for analysis**
 - DHAT under direct supervision
 - DHAT under general supervision
 - DDS as a control group

Provider Type

	Frequency	Percent	Cumulative Percent
DDS	171	26.7	26.7
DHATDirectSupervision	218	34.1	60.8
DHATIndirectSupervision	251	39.2	100.0
Total	640	100.0	

Methods

- **SOAP notes present**
- **Radiographs present/adequate**
- **Antibiotic prophylaxis when indicated**
- **Operative procedures recorded**
- **Diagnosis consistent with treatment**
- **Complications recorded either during or subsequent to procedure(s)**

Results

- 640 procedures performed
- 406 unduplicated patients
- SOAP notes present—99.7%
- Treatment code recorded consistent with Diagnosis—98.4%
- Radiographs present/adequate—86.1%
- No complications reported—97.7%

Radiographs

	Frequency	Percent	Cumulative Percent
Present/Adequate	551	86.1	86.1
Present/ Inadequate	8	1.3	87.3
Absent	81	12.7	100.0
Total	640	100.0	

Age Groups vs. Radiographs

		Radiographs	
		Present and Adequate	Not present or Inadequate
1-6 years	Count	47	41
	Expected Count	75.8	12.2
Between 6 and 18 years	Count	293	28
	Expected Count	276.7	44.3
Over 18 years	Count	209	19
	Expected Count	196.5	31.5

$X^2: p < .001$

Provider Type vs. Mean Age

● Dentists

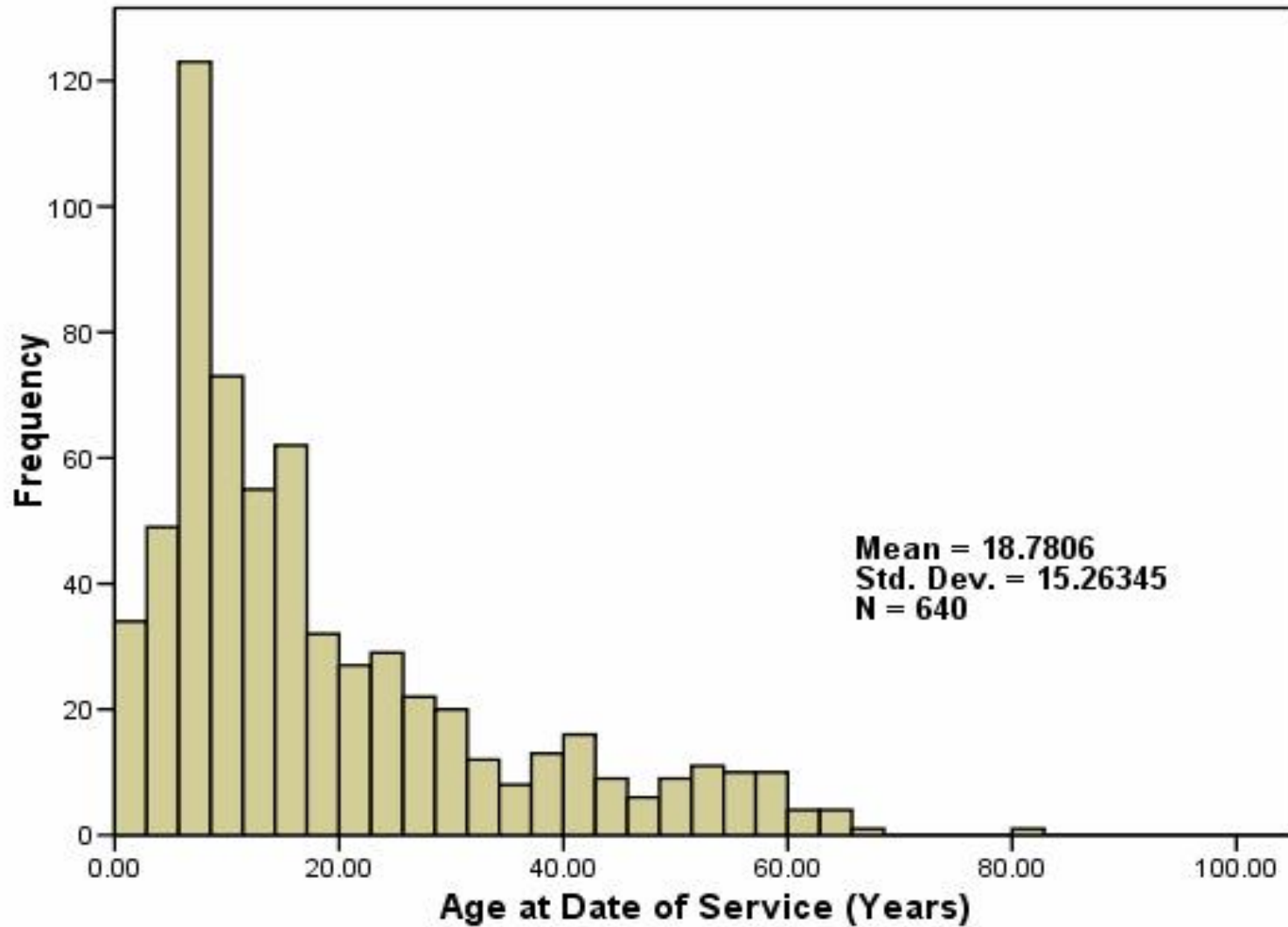
- Patient Mean Age 24 yrs

● DHATs

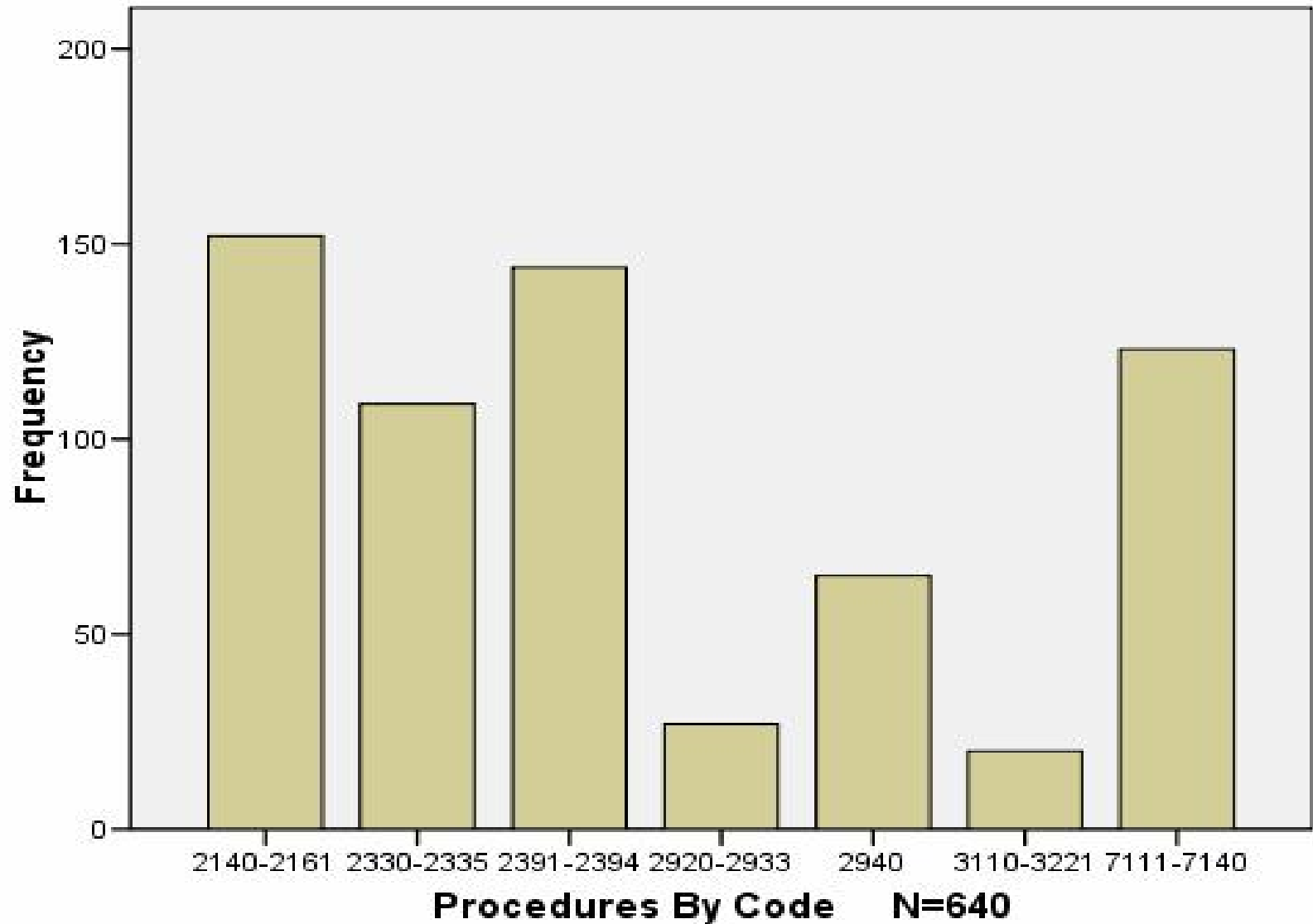
- Patient Mean Age 16.9 yrs

● Independent Samples t-test: $p=.002$

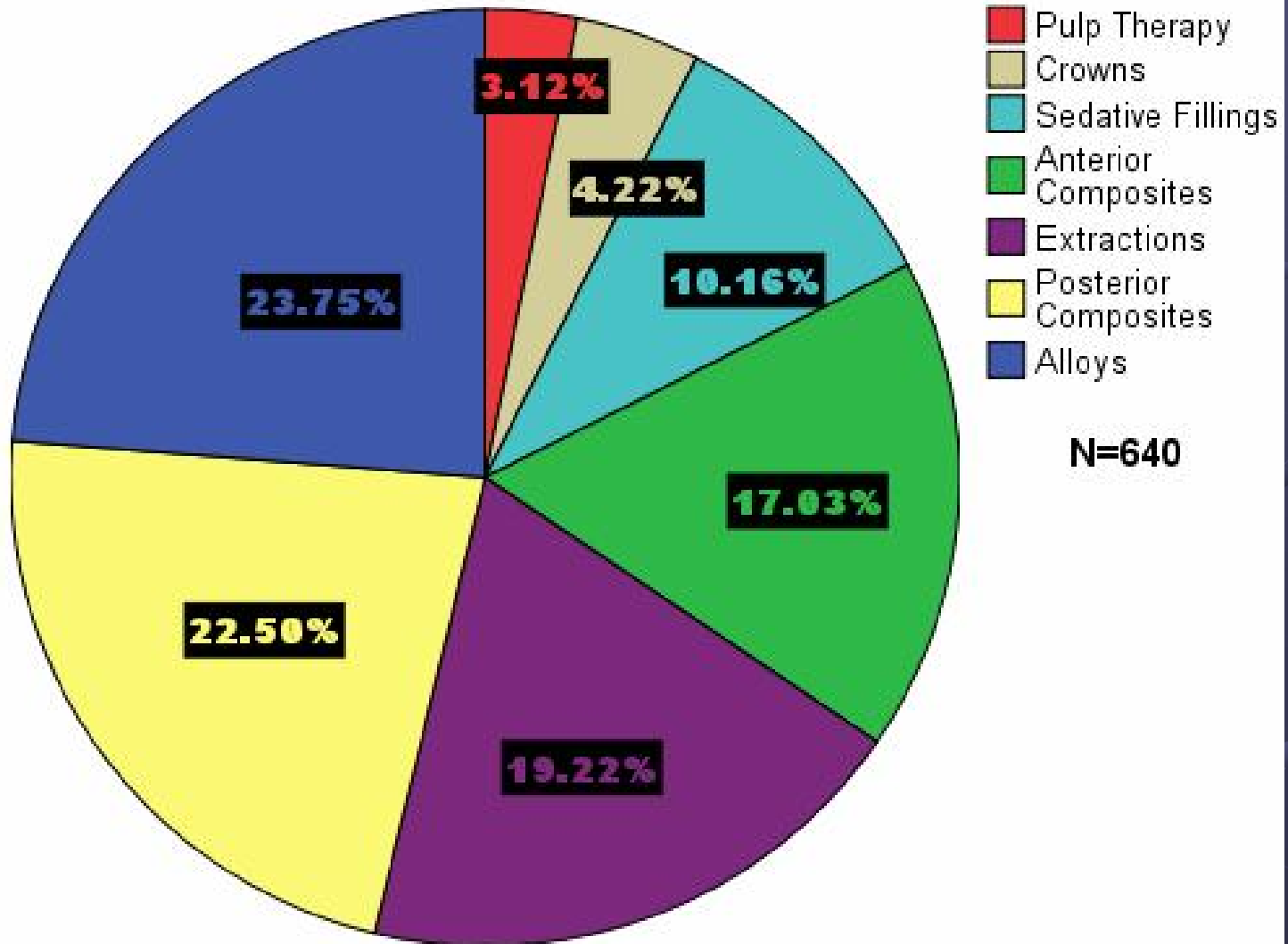
Procedures By Age



Procedures By Code Families



Distribution of Treatment Types



Treatment/Diagnosis vs. Provider Type Crosstabulation

Count

	Provider Type		Total
	DDS	DHAT	
Tx Code Consistent with Diagnosis	168	462	630
Tx Code not Consistent with Diagnosis	3	7	10
Total	171	469	640

Fisher's Exact Test (two sided) $p = 0.73$

Post-op Complications vs. Provider Type Crosstabulation

Count

	Provider Type		Total
	DDS	DHAT	
No Complications	168	457	625
Complications	3	12	15
Total	171	469	640

Fisher's Exact Test (two sided) $p = 0.77$

Limitations of Study

- There were a limited number of patient records to choose from in the DHAT group
- Record selection for DHAT group was virtually a census selection due to short history of practice
- Different chart storage methods and radiograph accessibility varied widely depending on location

Conclusions

- There were no significant differences in treatment rendered by DDS vs DHAT
- Mean ages of patients treated by the two groups were significantly different
- Complications were not significantly different between the groups
- Future studies should include larger sample size to increase power

