Economic Viability of Dental Therapists

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Disclaimer

The views and opinions expressed in this presentation are those of the presenter’s and do not reflect any policy or position of American Association of Public Health Dentistry.
Objectives

• Provide some background regarding dental therapists in Alaska and Minnesota

• Present findings

• Conclusions
Background

• Limited data is available regarding the economic viability of including new dental team members

• Currently two states, Alaska and Minnesota, employ dental therapists in dental clinics
Background

- The Alaska Native Tribal Health Consortium (ANTHC) along with partner tribal health organizations, developed the Alaska Dental Health Aide Initiative.
  - Dental Health Aide Therapists (DHAT) with two years of post-high school education
  - Limited scope of care and scope of practice is set by federal regulations
Background

• The Alaska Native Tribal Health Consortium (ANTHC) along with partner tribal health organizations, developed the Alaska Dental Health Aide Initiative.
  – Dental Health Aide Therapists (DHAT) with two years of post-high school education
  – Limited scope of care and scope of practice is set by federal regulations

• Minnesota became the first state to establish an avenue to license dental therapists (DT) and advanced dental therapists (ADT) in 2009
  – Practice settings: community and public health clinics serving low-income, uninsured and underserved populations
  – DTs: 3-4 year Bachelor’s dental therapy degree plus demonstration of competency and licensure exams
  – ADTs: licensed DTs, completed a Master’s advanced dental therapy program, 2000 hours of clinical practice under direct and indirect supervision, and have passed MN Board of Dentistry certification exam.
  – Primary difference is the scope of practice and the level of supervision
Aims

• To provide an overview of the types of procedures carried out and revenue (total net reimbursement) generated by DTs, ADTs, and DHATs

• To examine the economic viability of DHATs, DTs, and ADTs as part of the dental team
Methodology

• Productivity data of DHATs, DTs, and ADTs was obtained from 4 employers in Alaska and Minnesota

• The data request included
  – the amount of time employed
  – full-time equivalent (FTE) status
  – average salary for provider
  – clinic setting where providers practiced (e.g. urban, rural, other)
  – information on the procedures and amount of revenue generated for each procedure
  – age group of and payor types (e.g. Medicaid, insurance, other) for patients seen by the therapists
Methodology (cont.)

• Data were available from August 2011 through December 2012
  – 8 DHATS (8.0 FTEs)
    • one of whom is a registered dental hygienist
  – 2 ADTs and 4 DTs (5.3 FTEs)
    • two of whom are dually licensed dental hygienists/dental therapists who completed a Master’s degree program and currently working towards their ADT license.

• The dental procedures and services carried out by the DHATs, DTs, and ADTs as well as the amount of revenue generated were combined to look at distributions of procedures and services
Methodology (cont.)

• The economic viability of DHATs, DTs, and ADTs as part of the dental team was assessed separately
  – The FTE status, average hourly wage, and the amount of time employed for the DHATs, DTs, and ADTs were used to estimate the salaries for all of the providers

• DHATs, DTs, and ADTs were considered to be economically viable if the total net revenues from their practice exceeded the total cost of providing care
Findings

• The DHATs, DTs, and ADTs are employed by non-profit organizations as well as a private dental group that serves a wide range of patients.

• The clinical settings in which they practice are in urban areas designated as Dental Health Professional Shortage areas and urban and rural areas in low-income communities.

• The majority of patients seen by DHATs, DTs, and ADTs were publically insured and were generally children less than 21 years old.
Dental Procedures

Types of procedures

- Evaluation, Assessment: 28.2%
- Preventive: 32.8%
- Restorative: 23.7%
- Pulpotomies, Pulpal therapies: 0.4%
- Scaling and root planing*: 3.8%
- Extractions: 0.1%
- Palliative care: 0.03%
- Nitrous oxide: 1.6%
- Other: 9.4%

*Scaling and root planing: under the scope of practice for DHATs and DTs who are dually licensed hygienists
Dental Procedures

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- Pulpotomies, Pulpal therapies: 0.4%
- Scaling and root planing*: 0.1%
- Extractions: 9.4%
- Palliative care: 1.6%
- Nitrous oxide: 3.8%
- Other: 0.03%

Revenue

- Evaluation, Assessment: 21.3%
- Preventive: 20.5%
- Restorative: 46.7%
- Pulpotomies, Pulpal therapies: 0.8%
- Scaling and root planing*: 0.3%
- Extractions: 2.3%
- Palliative care: 0.03%
- Nitrous oxide: 1.2%
- Other: 6.8%

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Evaluation & Assessment

Types of procedures

- Clinical oral examination: 56.1%
- Radiographs: 41.2%
- Pulp vitality test: 0.3%
- Other procedures*: 2.4%

*Other procedures: included basic screening surveys
Evaluation & Assessment

Types of procedures

- Clinical oral examination: 56.1%
- Radiographs: 41.2%
- Pulp vitality test: 0.3%
- Other procedures*: 2.4%

Revenue

- Clinical oral examination: 68.8%
- Radiographs: 31.1%
- Pulp vitality test: 0.1%
- Other procedures*: 0.0%*

*Other procedures: included basic screening surveys
Preventive Procedures

Types of procedures

- Fluoride treatment (child & adult): 43.0%
- Fluoride varnish: 44.1%
- Sealant: 0.8%
- Prophylaxis*: 3.6%
- Placement/removal of space maintainer: 7.5%
- Other preventive procedures†: 1.0%

*Prophylaxis: treatment rendered by DHATs where it is within their scope of practice and DTs who are also licensed registered dental hygienists
†Other preventive procedures: oral hygiene instruction, tobacco counseling and preventive resin restorations (see footnote for definition)
Preventive Procedures

Types of procedures

- Fluoride treatment (child & adult) 44.1%
- Fluoride varnish 43.0%
- Sealant 7.5%
- Prophylaxis* 3.6%
- Placement/removal of space maintainer 1.0%
- Other preventive procedures† 0.8%

Revenue

- Fluoride treatment (child & adult) 27.9%
- Fluoride varnish 47.4%
- Sealant 6.3%
- Prophylaxis* 3.4%
- Placement/removal of space maintainer 12.1%
- Other preventive procedures† 2.9%

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†Other preventive procedures: oral hygiene instruction, tobacco counseling and preventive resin restorations (see footnote for definition)
Restorative Procedures

Types of procedures

- 34.2% Amalgam restorations
- 41.6% Composite restorations
- 3.5% Prefabricated stainless steel crown
- 20.6% Protective restoration*
- 0.2% Recement crown

*Protective restorations: (formerly sedative filling) direct placement of a temporary restorative material to protect tooth and/or tissue form. This procedure may be used to relieve pain, promote healing, or prevent further deterioration. Not to be used for endodontic access closure, or as a base or liner under a restoration.
Restorative Procedures

**Types of procedures**

- Amalgam restorations: 41.6%
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**Revenue**

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Other dental procedures

Types of procedures

- Pulpotomies and pulpal therapies: 36.0%
- Scaling and root planing*: 1.0%
- Extractions: 24.6%
- Palliative care: 2.3%
- Nitrous oxide: 0.2%
- Other procedure (revenue generating): 10.2%
- Other procedure (non-revenue generating): 25.7%

*Scaling and root planing: treatment rendered by DHATs where it is within their scope of practice and DTs who are also licensed registered dental hygienists.
Other dental procedures

Types of procedures

- Pulpotomies and pulpal therapies: 36.0%
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- Other procedure (non-revenue generating): 1.0%

Revenue

- Pulpotomies and pulpal therapies: 59.3%
- Scaling and root planing*: 20.4%
- Extractions: 10.9%
- Palliative care: 0.0%
- Nitrous oxide: 0.0%
- Other procedure (revenue generating): 6.6%
- Other procedure (non-revenue generating): 2.5%

*Scaling and root planing: treatment rendered by DHATs where it is within their scope of practice and DTs who are also licensed registered dental hygienists.
Assessment of Economic Viability

Dental Health Aide Therapists
- Combined salaries of DHATs: 27%
- Remaining revenue*: 73%

Dental Therapists & Advanced Dental Therapists
- Combined salaries of DTs and ADTs: 29%
- Remaining revenue*: 71%
Summary

• Over 50% of the total number of procedures performed by DHATs, DTs, and ADTs were preventive and evaluative in nature.

• Suggests that these providers provide
  • definitive treatment (restorations)
  • access to evaluation of oral health needs, early intervention and prevention.

<table>
<thead>
<tr>
<th></th>
<th>Percent of total number of procedures</th>
<th>Percent of total amount of revenue generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams, Radiographs, Pulp test</td>
<td>28.2%</td>
<td>21.3%</td>
</tr>
<tr>
<td>Preventive</td>
<td>32.8%</td>
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<td>1.6%</td>
<td>1.2%</td>
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<tr>
<td>Other revenue generating</td>
<td>3.9%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Other non-revenue generating†</td>
<td>5.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Summary (cont.)

• The combined salaries for the Alaska DHATs was 27% of the revenue generated
  – ~66% were <21 years old
  – Patient population served by practicing DHAT is American Indian and Alaska Native people living in mostly isolated villages
  – Over 40,000 people who previously only had intermittent dental care now have improved access to care from a DHAT living in their area (M. Williard, personal communication)
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• The combined salaries for the Minnesota DTs and ADTs was 29% of the total revenue
  – ~67% were <21 years old
  – 78% of the patients had public insurance
  – Practices are experiencing a positive financial performance
Conclusions

• The practice of DTs and ADTs in Minnesota is relatively new and should continue to be assessed as their practice matures.
  – MN Board of Dentistry will be evaluating the impact of therapists on delivery of dental services and access to care

• Future studies to further assess cost-effectiveness of dental therapists
  – Examine the practice’s production before and after the addition of therapists to the dental team
  – The distribution of procedures among dental therapists and dentists could be evaluated

• Given that DHATs, DTs, and ADTs are productive in the various clinic settings, there is the potential that they can be cost-effective members of dental teams and improve access to care, especially for traditionally hard to reach and underserved populations.