

IMPACTS OF DENTAL THERAPISTS ON THE EFFICIENCY AND CAPACITY OF DENTAL TEAMS: A CASE STUDY

Presented by:

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The Effect of Teams and Provider Types on Care and Access



Acknowledgements and Disclaimer

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- *The content and conclusions of this presentation are those of OHWRC and do not necessarily represent positions or policies of Pew, SUNY, or ATD*

Background

- Dental therapists are a **mid-level workforce** in dentistry
 - Trained to provide **preventive services** traditionally performed by a dental hygienist
 - Trained in **basic restorative services** traditionally performed by a dentist
- Dental therapy regulation often requires a certain percentage of **practice within underserved communities or for low income populations**
- Dental therapists practice in more than 50 countries worldwide but the model is relatively new in the US
- 13 States have passed legislation allowing for practice but currently dental therapists **only practice statewide in Minnesota**
 - Limited number of education programs
 - Some states allow practice only in native communities

Introduction

- Interest exists in understanding how the introduction of the **dental therapy workforce** has impacted oral health *service mix, quantity & quality of care*, and *capacity* of the delivery system
- **Apple Tree Dental**, in MN is a large non-profit community dental provider that was among the first employers of dental therapists (DTs) in early 2012
- **Patients** at Apple Tree Dental consist of all age groups, many of whom have special health care needs; the vast majority of patients are low-income and Medicaid beneficiaries
- **Our study examined** patient encounter data to describe and compare the *type* and *quantity* of services provided by dentists *before* and *after* introduction of dental therapy to the dental teams at Apple Tree Dental

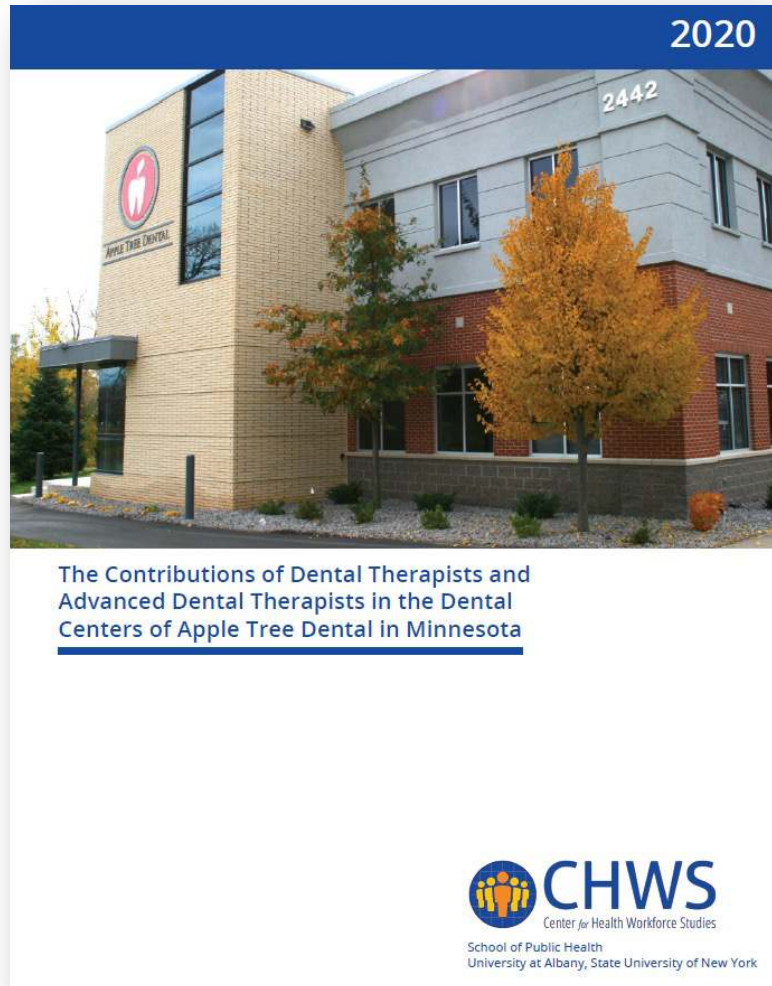
Methods: Data Source

- This study used **10 years of encounter data (2009-2019)** that included more than 250,000 visits by 76,342 patients at one of the 7 dental centers operated by Apple Tree Dental
- The **main analytics** were derived from the 2 dental centers with 3 years of encounter data *prior* to introduction of dental therapy and 7 years of *continuous experience with* a dental therapist

Methods: Outcome Measures

- **Types of dental services** performed by dentists *before* and *after* introduction of DTs at Apple Tree Dental in early 2012
- **Changes in intensity and distribution of services** described in terms of Relative Value Units (RVUs):
 - RVUs are numbers that are sums of values attributed to various aspects of a dental procedure including *the extent of professional training, complexity of the skills necessary, and costs of resources*
 - Commonly used by health insurance companies to determine payment for health services – not common in dentistry
- **Economic impact** of dental therapy on organizational revenue using dental fees (adjusted to 2018 fee levels):
 - Standardized fee schedule for commonly performed dental procedures from the American Dental Association

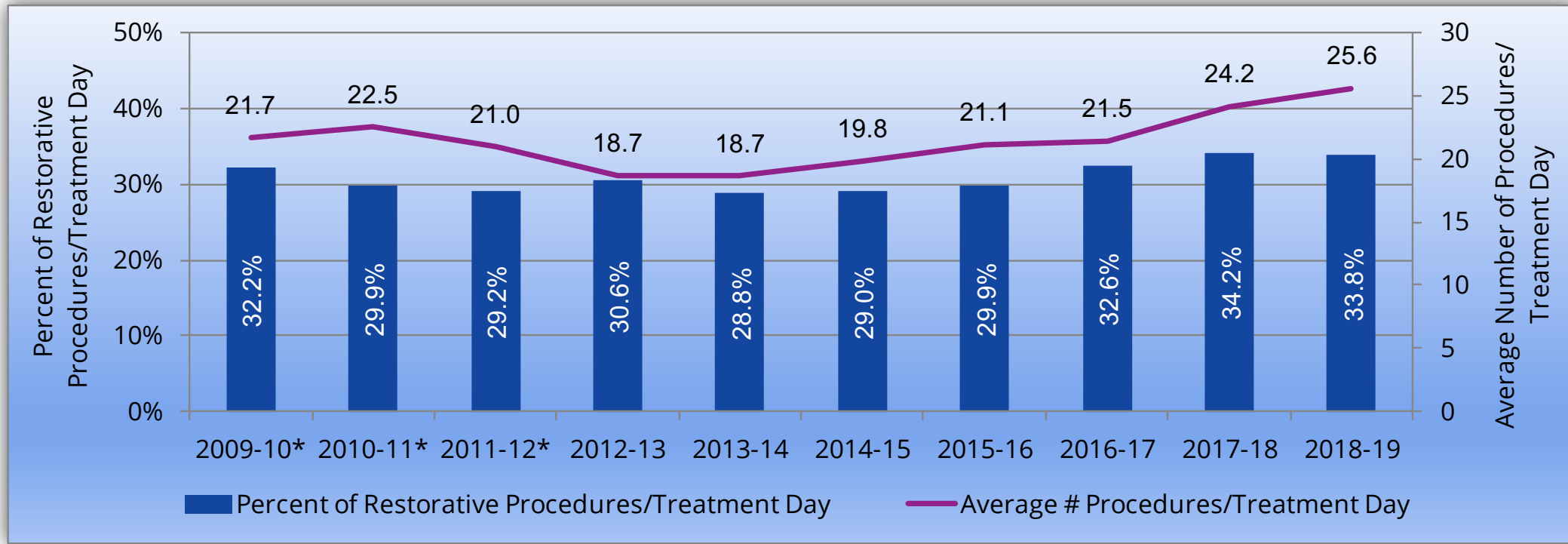
Key Findings



- During the 10-year study period, 15 dental therapists were employed by the Apple Tree Dental along with more than 30 dentists and 30 dental hygienists

Trends in Procedures by Dentist Per Treatment Day, 2009-2019

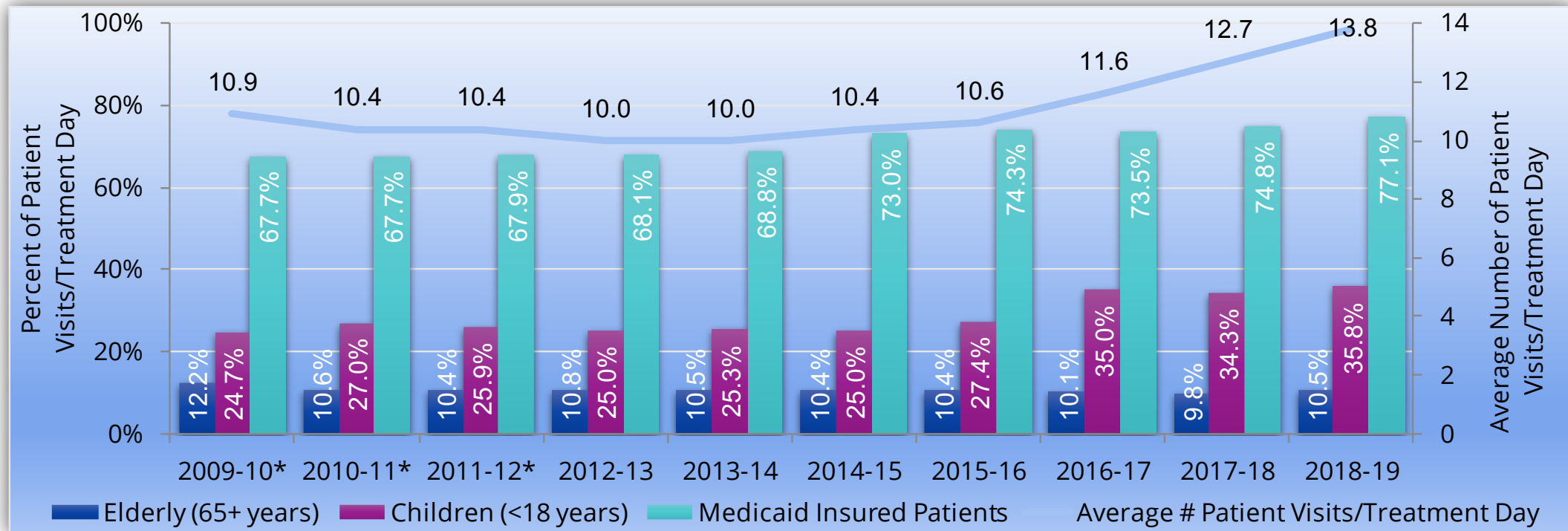
- There was a statistically significant increasing trend in the average number of procedures per treatment day by a dentist *after* introduction of DTs (from 18.7 to 25.6; $P < .001$) as well as in the % of restorative services (from 30.6% to 33.8%; $P = .004$)



* Represents 3-year period preceding introduction of dental therapy.

Trends in Patient Visits Seen by a Dentist Per Treatment Day, 2009-2019

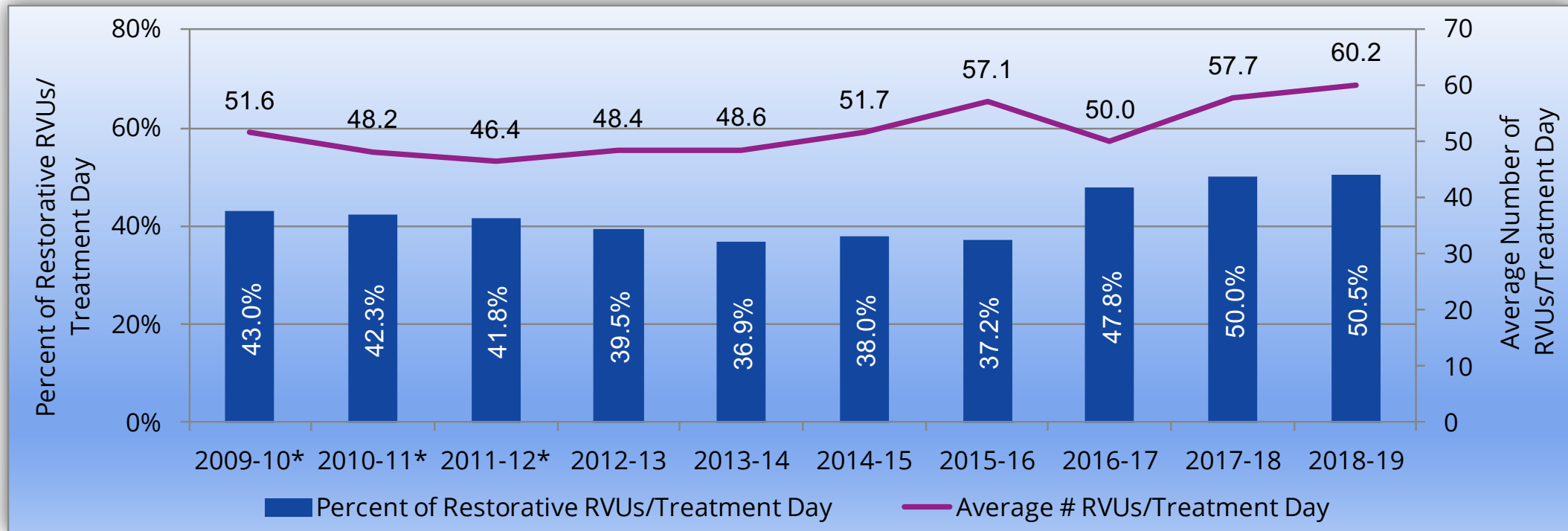
- The average number of patient visits per treatment day by a dentist increased *after* introduction of DTs (from 10.0 to 13.8; $P=.001$) as well as % of children patients ($P=.009$) and Medicaid beneficiaries ($P=.002$)



* Represents 3-year period preceding introduction of dental therapy.

Trends in Relative Value Units (RVUs) Produced by a Dentist Per Treatment Day, 2009-2019

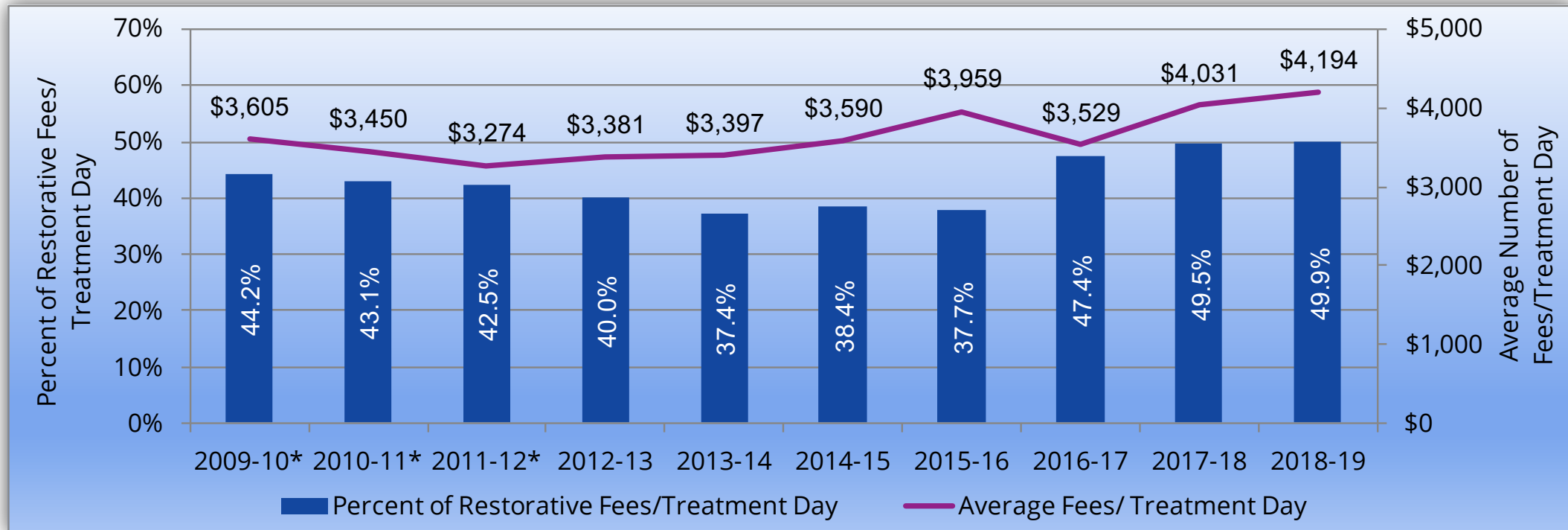
- Dentists' production of RVUs per treatment day showed an *increase in service intensity after* introduction of DTs (from 48.4 to 60.2; $P=.010$). Restorative services generated the highest proportion of RVUs, particularly in the last 3 years of study.



* Represents 3-year period preceding introduction of dental therapy.

Trends in Schedule Fees by Dentist Per Treatment Day, 2009-2019

- Average fees produced by a dentist per treatment day increased *after* introduction of DTs (from \$3,381 to \$4,194; $P=.010$). There was a positive trend in the % of fees from restorative services provided by dentists ($P=.048$), particularly in the last 3 years.



* Represents 3-year period preceding introduction of dental therapy.

Conclusions and Implications

- Study findings indicated that both the **number** and **complexity of procedures provided by dentists** increased in the years *subsequent* to introduction of DTs to dental teams, particularly *after they were fully integrated*
- In addition, the **number of total patients** as well as **Medicaid beneficiaries** increased with the introduction of dental therapy, *reflecting organizational expansion*
- Our study suggests that introduction of DTs to clinical teams enhanced **capacity** and **productivity**, enabling Apple Tree Dental *to meet increasing demand from the patient population*

Thank You

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