

# **Simplifying Estimation of Resource Costs for School-based Sealant Programs (SBSP)**

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# **Why Cost Information is Important to SBSPPs**

- **Assess efficiency**
- **Monitor and improve process of delivering sealants**
- **Justify funding in current competitive environment**

## **SBSPs Have Limited Time and Expertise to Estimate Costs**

- **Wide variation in resource costs reported by local SBSP in some states**
  - Likely due to differences in accounting/calculations
- **Some CDC-funded states have requested technical assistance in estimating SBSP costs**

# Objective

**To describe a methodology to simplify estimating resource costs for school-based sealant programs (SBSP).**



# METHODS



# Data Sources

- **CDC-funded states (CDC)-13 States**
- **Manufacturers/vendors (MFG/V)**
- **Bureau of Labor Statistics (BLS)**

# Resources: Labor

- **Labor involved in delivering sealants**
  - For each category of worker
    - Time to deliver sealant (CDC)
    - Per hour compensation (CDC and BLS)
- **Labor travel time (CDC)**

# Resources: Equipment and Instruments

## Equipment (CDC and MFG/V)

- Type (manufacturer and model #)
- Number of units
- Age

## Instruments (CDC and MFG/V)

- Disposable or reusable
- Type (manufacturer and model #)
- Number of sets





# Resources: Consumables

## Consumables (CDC and MF/V)

- **Sealant material**
  - Product type, name, and vendor
  
- **Soft goods: PPE (e.g., gloves, masks, gowns), single-use devices (e.g., saliva ejectors) (CDC)**
  - List of soft goods used in sealant delivery was provided
  - Suggested per child cost was provided based on
    - Number of operators (2 vs. 4-handed delivery)
    - Whether child was screened and sealed at separate times (affects # barrier changes)

# Resources: Administrative and Other

## Administrative (CDC)

- Staff
- Hours involved

## Other (CDC)

- Miscellaneous such as mileage, office rent, office supplies, phone etc.

# Assumptions in Amortizing Equipment and Reusable Instruments

- **Annual discount rate is 3%**
- **Useful life**
  - Equipment - 15 years
  - Reusable instruments - 5 years

# Cost Analysis

- **Only resources used to deliver sealants were included**
- **Costs reported in 2013 US\$**

# RESULTS



# Labor

- **Hourly costs for clinical labor consistent with BLS estimates**
  - Dental Hygienist, \$33.99 per hour
  - Dental Assistant, \$16.86 per hour
- **Average time to screen and seal a child (total hours at school/# of children) varied across programs**
  - Ranged from 23→60 minutes
  - Median average time was 45 minutes to screen and seal a child
    - If 4-handed delivery is used, the labor cost per child would be \$38.72
- **Travel time varied across programs**

# Equipment

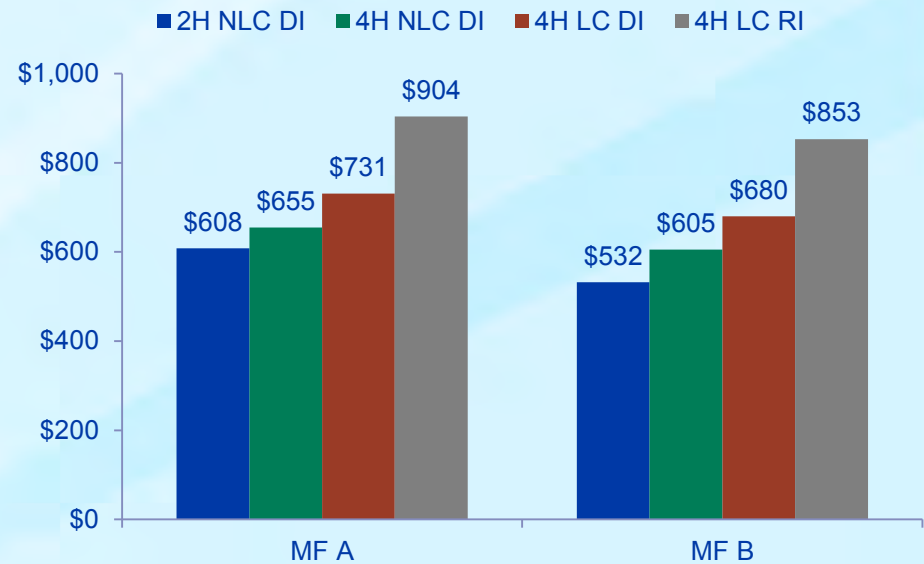
- **Basic equipment in sealant station:**
  - Portable sealant unit (without handpiece)
  - Portable patient chair and operator stool with carrying case
  - Light and carrying case; 2 instrument trays (1 with wheels)
- **Annual cost of sealant station (2 MFG): \$608 or \$532**
  - 2-handed delivery

**Components of sealant station and costs consistent across programs**

# Additional Equipment

- **If 4-handed delivery is used**
  - Portable assistant stool with case: \$47 or \$72
- **If light-cured sealant material is used**
  - Curing light: \$75
- **If instruments are reusable**
  - Ultrasonic cleaner, autoclave, and tray: \$173

**Annual Sealant Station (excluding instruments)  
Cost based on Different Characteristics**



2H= 2-handed, 4H= 4-handed, NLC= Non light cured sealant material ,  
LC= Light cured sealant material, DI= Disposable instruments, RI=  
Reusable instruments

**Components of sealant station and costs consistent across programs**



# Instruments

## ■ Disposable

- Contains mirror and double end probe and explorer
- \$1.30 per set (per child)

## ■ Reusable

- Contains mirror and explorer/probe
- \$7.55 per set (annual)



**Type of instruments used were consistent across programs**

# Consumables: Sealant material

- Programs reported using 6 different sealant materials
- Average number of teeth sealed per child: 3
- Cost of sealant material to seal 3 teeth ranged from \$1.23–\$4.72
  - Resin-based (\$1.23–\$2.21)
  - Glass ionomer (\$4.72)

# Consumables: Soft goods

Programs agreed that the per child cost of soft goods that we provided was representative of their actual costs

	Screen/seal same time	Screen/seal separately
2-handed delivery	\$2.71	\$3.65
4-handed delivery	\$4.08	\$4.80

# Administrative and Other Costs

**Administrative and other costs  
varied widely across programs**

# CONCLUSIONS



# Key Findings

- **Costs for equipment, instruments, and consumables were consistent across programs**
  - Possible for methodology to provide default values for these categories based on program characteristics
- **Large variation across programs in reported labor hours, administrative, travel and other costs**
  - It will be necessary for programs to collect these data in systematic way

# Strength and Limitations

- **Cost estimates for some resource categories were consistent across SBSP**
- **Data is from limited number of states**
- **Quantity/bulk discounts were not included**

# What's Next

- **Develop electronic spreadsheet to estimate cost for categories consistent across programs**
  - Programs can input actual values OR select from menu of default values
- **Develop logs for programs to track costs for categories that varied**
- **Develop tool for programs to estimate costs in a simplified and accurate way by combining the above two items**



# Thank you





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