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Estimating the cost of school sealant programs with minimal data

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Abstract

Objective: Develop methodology to estimate the annual cost of resources used by school sealant programs (SSPs) and demonstrate its use.

Methods: We used existing literature and expert opinion to identify SSP cost components and the most appropriate units for their measurement (e.g., per operator) and collection frequency (e.g., per day). For equipment and reusable instruments, costs were sufficiently homogenous across SSPs that we could provide default per unit cost estimates (2016 US$) that SSPs can use in lieu of collecting their own data. We also provide default costs for supply items such that SSPs can estimate total supply costs with program-specific information on sealant material used, as well as number of: sealant stations, operators, service delivery days, children screened/sealed, and number of teeth sealed. For the remaining three categories (labor, mileage, and administrative), costs

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article.

APPENDIX

Section 1. Tips on accessing and using the dental services consumer price index

Section 2. Logs to collect program-specific data

Section 3. Other costs that may be incurred by school sealant program

Section 4. Price of sealant station components and annuity factors (3% annual discount rate) to estimate annual cost of sealant station for different values of useful life

Section 5. Costs for different types of sealant materials

varied substantially by SSP and required us to develop and pilot collection logs for program-specific data.

Results: The annual cost per sealant station ranged from $584 to $797 depending on program characteristics. For a hypothetical SSP that staffed each of two stations with two operators (hygienist and assistant) compensated at the national rate, hourly labor costs would equal $77.97. Assuming this SSP used disposable instruments, light-cured sealants and delivered sealants (3 per child) to 60 percent of the 3,390 children screened over 100 service days, infection control/supply costs per child would equal $5.30.

Conclusion: This methodology allows SSPs to estimate costs with minimal data collection and time.

Keywords

pit and fissure sealants; schools; cost analysis

Introduction

US data indicate that 28.3 percent of children, aged 6–11 years living in poverty, have at least one permanent tooth with untreated or treated caries (1). By adolescence, this value is over 65.5 percent (1). About 90 percent of dental caries in the permanent teeth of children occur in the occlusal surfaces of the posterior teeth (2,3). There is strong evidence that dental sealants are effective in preventing caries initiation and progression (4,5) in these teeth. A Cochrane review found that among children at risk for tooth decay, sealed teeth had 81 percent fewer caries at 2-year follow-up than did non-sealed teeth (4).

Despite the strong evidence for sealant effectiveness, only 39 percent of low-income children have received sealants (6). School sealant programs (SSPs) often target schools attended by a large number of low-income children [e.g., 50 percent or more of students enrolled in free/reduced meal program; (7)]. The Community Preventive Services Task Force highly recommends SSPs based on evidence that these programs increase the number of schoolchildren receiving this effective intervention (7). Many US schools attended by a large number of low-income children, however, do not have sealant programs. In 2013, 35 states and the District of Columbia reported that less than half of their low-income schools had an SSP (8).

To attract increasingly scarce funding dollars, it is necessary to document that SSPs offer good value. The Division of Oral Health (DOH) at the Centers for Disease Control and Prevention is developing tools that allow SSPs with minimal data to generate accurate estimates of their impact [i.e., averted caries: (9)] and cost; the latter is the focus of this paper.

Data on the current costs of SSPs are limited. The 2014 economic review of SSPs for the Community Preventive Services Task Force only located one study that reported complete cost information for SSPs (10). To obtain a sufficient number of studies, this review included studies published prior to the inclusion criteria start data of 2000. Among the included studies there was great variation in reported costs (US$) per child receiving sealants – costs

for 10 programs ranged from $33.36 to $163.16 [median = $76.09; (10)]. The variation in costs may have been due to actual differences in use of resource and/or differences in how costs were estimated.

In this paper, we present a methodology to estimate the annual cost of resources used by SSPs. We describe how we obtained standardized cost estimates for certain resource categories that SSPs may use as proxies for their own costs. For the remaining resource categories that tend to vary across similarly structured SSPs, we describe data collection logs designed to garner necessary program-specific information with minimal data collection on the part of the SSP. Finally, we demonstrate the methodology for a hypothetical SSP.

Methods

This methodology was for public health practice and did not need IRB approval as it did not use person-level data. Staff in the DOH with expertise in clinical dentistry and economics, two academic health economists, school sealant coordinators in four states, and five local SSP administrators provided input for this methodology. Based on previous studies (10) and work with funded states, DOH staff, one academic dentist, and two academic economists (hereon referred to as “we”) identified six resource categories – equipment, instruments, infection control (IC) items and supplies [non-durable items (i.e., consumed within the school year)], labor, mileage, administrative – used to deliver sealants in schools. We next met with state SSP coordinators and local SSP administrators (hereon referred to as “SSP experts”) to document the logistics and processes in sealant delivery as well as the types, quantities, and vendors of items used in each resource category and, when available, the prices SSPs paid for these items. We classified resources as durable (useful life exceeds 1 year and thus must be amortized to obtain annual cost) and non-durable. For the latter, we worked with the SSP experts to identify the most appropriate units (i.e., per SSP, per sealant station, per operator, per child, or per tooth) and frequency (i.e., once per year, school, or day) at which to collect data. We also identified program characteristics that, all other things being similar, would affect resource usage. These characteristics included the number of operators per sealant station (1 or 2), type of sealant material (light-polymerized or auto-polymerized), type of instruments (reusable or disposable), and whether a program screened and sealed children at the same time or at separate times. Finally, we identified those resource categories for which we could provide standardized per-unit cost estimates after taking program characteristics into account. For these resource categories – equipment, instruments, and supplies – SSPs could use either their own data to estimate per unit cost or standardized default values provided below. To assist SSPs in the estimation of costs for the remaining resource categories, we developed data collection logs.

Costs were estimated from the societal perspective. All costs are presented in 2016 US$. For cost data collected before 2016, we used the dental services consumer price index (DCPI; http://www.data.bls.gov) to convert costs to 2016 US$. Tips on how to locate the DCPI on the Bureau of Labor Statistics (BLS) website are provided in the Appendix.

Standardized (default) cost estimates

Durable items: equipment and reusable instruments—We obtained information on the following:

- Costs and useful life of equipment from two manufacturers of portable sealant equipment;
- Cost of instruments (i.e., mirror and explorer/probe) from the websites of five vendors of reusable instruments;
- Cost of equipment to sterilize instruments from the website of one vendor and two SSP experts; and
- Useful life of instruments and sterilization equipment from the SSP experts.

We used a 3 percent discount rate to amortize the costs of all durable items (11).

Per the suggestion of both manufacturers of portable sealant equipment, the list price was discounted by 20 percent, the discount typically offered to SSPs. In estimating sealant station costs, we only included equipment necessary for sealant placement. For example, we did not include the cost of a slow-speed hand piece because this is not necessary for sealant placement – using a hand piece to prepare the tooth prior to sealant placement does not increase retention over tooth preparation with a toothbrush (12).

Supplies—We assumed that all SSPs followed the CDC infection control guidelines (13); therefore, resource use for IC should be relatively similar among SSPs after taking into account number of operators, sealant stations, delivery days, children, and schools served. We estimated IC items and their costs from data provided by two SSP experts and confirmed with two national IC experts that these SSP practices were consistent with current recommendations.

We obtained information on the price of disposable instruments from the websites of two vendors (suggested by SSP experts) and one of the SSP experts. Disposal costs were also included in the estimated cost of a set of instruments. Finally, for seven sealant materials commonly used by SSPs (based on SSP expert input), we obtained information on the cost and number of applications per kit from vendor websites.

Costs requiring data collection by SSPs

For the remaining categories (labor, mileage, and administrative), we worked with the SSP experts to develop logs to standardize and minimize the data collection burden. SSP experts piloted these logs at 23 schools.

Labor and mileage—We developed daily logs for SSPs to record mileage, labor hours for each type of worker (e.g., dentist, hygienist) and clinical services delivered (Appendix Log 1). The log items included the following: mileage to transport equipment (questions 4–5), reimbursed labor mileage (questions 6a–9a), reimbursed labor travel hours (6b–9b), time spent at school (questions 6c–9c), number of children receiving each category of service (questions 10–13), and number of teeth sealed (question 14).

Only labor time spent on delivering sealants should be considered in estimating the cost of sealants. For SSPs delivering other services (e.g., topical fluoride), the amount of labor time spent on these services should be subtracted from total labor hours. We first assigned 100 percent of the time spent on travel, setting up/breaking down equipment, sterilizing reusable instruments, and wait time between students to sealant delivery because these hours would be incurred for sealant delivery even if the SSP were not providing other services. Equivalently, we assumed the only additional time for other services was the chair time spent in delivering them. To estimate these chair times, SSPs can collect data on the number of workers and time per child to provide each of these other services for a small number of students at different schools that together are representative of their program.

SSPs can estimate total daily hours for each category of worker from questions 6–9 on the daily labor/mileage log (Appendix Log 1). Daily hours for each labor category spent on sealant delivery can be obtained by netting out the time spent on non-sealant services (number of other services from questions 11 and 12 in Log 1 multiplied by the respective labor time to deliver each service).

To estimate annual clinical labor hours, total daily labor hours spent on delivering sealants for each category of dental worker can be summed over total days SSPs delivered services. Annual hours for each worker category are then multiplied by the hourly compensation for that worker category to obtain annual costs per worker category. To obtain total labor costs, annual costs per worker category are summed across all categories. SSPs can use the actual hourly compensation they pay unless personnel are volunteers (or are paid a token honorarium). To estimate hourly compensation for volunteer workers, SSPs can use data from the BLS. We converted 2015 values, the most recent year data were available, for dentists (14), dental hygienists (15), and dental assistants (16) to 2016 values using the DCPI. The resulting hourly wages were $75.51 for dentists, $35.76 for dental hygienists, and $17.79 for dental assistants. For nonclinical volunteers, the median wage for all categories of workers (17) may be used, and equaled $17.89 in 2016 dollars. To obtain total hourly compensation, these values can be multiplied by 1.456 to account for additional employer benefit costs beyond wages (18).

Because most employees are not compensated for travel time to their place of work, SSPs can consider only including travel costs for paid workers if they are reimbursed for travel, and for volunteers if they travel to schools from a central site. Travel costs per worker can include compensation for time, fuel, and vehicle wear and tear (depreciation). For SSP personnel who are compensated for mileage, SSPs can use these actual values and for volunteers, SSPs can multiply their total mileage by the state or federal mileage rate; the latter equaled 54 cents in 2016 (19). Depreciation costs associated with SSP-owned vehicles that transport equipment can also be estimated by multiplying total SSP vehicle mileage by this rate.

Administrative and other costs—Administrative costs may be more appropriately expressed as per year or per school served. We developed a log (Appendix Log 2) for SSPs to record their annual costs for items such as office equipment, office space, utilities, mileage for administrative activities, and labor costs for administrative functions such as

outreach and grant writing as well as employee trainings (e.g., to ensure compliance with Occupational Safety and Health Administration rules or to standardize examiners). The log also includes sections for SSPs to complete after each school sealant event regarding labor time spent on scheduling and distributing/collecting consent forms as well as follow-up administrative activities including billing.

To estimate automobile depreciation for administrative activities, SSPs can again multiply total administrative mileage by the state or federal mileage reimbursement rate. To estimate administrative labor costs, SSPs can multiply total labor hours for each worker category by actual compensation paid, or if the worker is a volunteer, use estimates from the BLS as described in the previous section.

We include an “other” category to remind SSPs that they should account for other resources costs unique to their program that we have not specified. Some items that can be considered when estimating “other” costs are included in the Appendix (Section 3).

Demonstration of methodology

We demonstrate how to estimate the annual costs of a hypothetical SSP called ABCSeals. Please note that information provided is solely to illustrate how to use the model and is not meant to be representative of an average SSP. We assume ABCSeals:

- Uses four-handed technique (one dental hygienist and one assistant per station) and screens and seals children at the same time.
- Has two sealant stations less than 15 years old.
- Spends 6 hours per school day to set up/break down equipment and deliver services.
- Provides 3,390 fluoride applications at 1 minute per child.
- Serves 58 schools over 100 days.
- Provides 3,390 screenings, using disposable instruments.
- Provides 60 percent of screened children with three sealants each and thus 2,034 children receive 6,102 light-cured, fluoride release resin sealants.
- Uses two vehicles to transport equipment and miles driven to and from schools totaled 2,500 per van.

In addition:

- Administrative tasks are performed by one dental hygienist. The average time spent handling consent forms, inputting data, and billing is 6 hours per school; an additional 40 hours per year are used for grant writing and other miscellaneous administrative tasks. Each provider spends 5 hours on training activities per year. Annual expenses on office supplies and printing equal $1,695.

Results

Standardized (default) cost estimates

Durable items: equipment and reusable instruments—The reported useful life for a basic sealant station was 15 years. The portable equipment included in a station is itemized in Note 1 of Table 1. The annual cost of a basic sealant station was $665.29 or $583.71 depending on manufacturer. The annual default cost of a sealant station with added equipment based on various program characteristics is provided in Table 1. The reported useful life of an instrument set was 7 years. The annual cost per set varied from $2.95 to $7.80 (Table 2A). The annual cost for sterilization equipment, using the reported useful life of 15 years was $186.70; additional sterilization costs incurred per school, per day and per child can be found in Table 2B. If the default values for useful life (15 years for sealant stations, 7 years for instruments) do not accurately describe an SSP's experience, annual costs of these durable items can be estimated using purchase price (or default purchase prices for instruments found in Table 2A and for sealant stations in Appendix, Section 3, Table 1) divided by the annuity factor (Appendix, Section 3, Table 2) for the desired useful life.

Supplies—Having addressed sterilization costs with reusable instruments, we refer to the remaining infection control costs as IC costs. Once-per-year SSP fixed costs (those that do not vary by number of stations or operators) for IC were $151.37 (Table 3A). Once-per-year IC costs that vary by number of sealant stations (includes waterline quality testing and child protective equipment) were $57.75 per station; costs that vary by number of operators were $4.78 per operator for personal protective equipment.

SSPs also incur IC costs for each service delivery day (Table 3B). These include fixed costs for general cleaning supplies ($1.54), costs to sanitize station water lines ($1.81 for waterline treatment + $3.29 for evacuation/vacuum system cleanser) that vary by number of stations, and costs for protective clothing ($2.78) that vary by number of operators. Because costs are presented as per program, per station, or per operator, as well as per year, per school, or per day, the overall total costs of these resources can be calculated by multiplying per unit costs by relevant number of units/frequency (e.g., days, operators) and summing all resulting dollar amounts.

Delivery supply costs measured per child per seating included disposable instruments (if used) and other screening/sealant delivery supplies. We estimated the cost per set of disposable instruments to be $1.59 – this included the disposal costs of $0.18 (a sharps container that holds 300 explorers is priced at $54.80). The cost of supplies for a child who is screened but not sealed during a seating is $1.15 (itemized in footnotes of Table 3C); because only one operator requires personal protective equipment to screen children, this cost does not vary between the two- and four-handed technique. For children receiving sealants during a seating, the cost of supplies are $1.63 for two-handed technique, and $2.09 for four-handed technique.

The cost of sealant material is calculated per tooth sealed (recorded in Log 1, question 14; Appendix, Section 2). The cost of seven materials commonly used by SSPs (Appendix, Section 5) ranged from $0.44 to $1.69.

Costs requiring data collection by SSPs

Calculation of these variable costs requires input from programs and is further described in the demonstration of the methodology below for a hypothetical program.

Demonstration of methodology

The calculations for each cost category for the hypothetical ABCSeals program are shown in Table 4.

Durable items—We assume that ABCSeals purchased sealant stations from manufacturer 2 (Table 1). Costs for durable items would only include sealant stations ($743.01 × 2 = $1,486.02) since the program uses disposable instruments.

Supplies—Total once-per-year IC costs (Table 3A) for ABCSeals included fixed costs (= $151.37), variable station costs (=$115.50), and variable operator costs (=$19.12). The IC supply costs measured per day (Table 3B), when multiplied by relevant units translate to annual costs of $154.00 (fixed), $1,020.00 (station), and $1,112.00 (operator). Total screening/sealant supplies (Table 3C) costs included the cost of supplies for children who were only screened ($1,559.40), for children receiving sealants ($4,251.06), and disposable instruments ($5,390.10). Sealant material costs were $4,210.38. Summing, total supply costs are $17,982.93.

Labor—Total dental hygienist hours were 1,200 hours (=2 chairs × 6 hours × 100 days). After netting out 56.5 hours spent on fluoride varnish (=3,390/60), sealant-related hours were 1,143.5 hours. The cost of dental hygiene time for sealant services is $59,542.05. Dental assistant clinical hours are the same as those for dental hygienists, thus, the costs for dental assistant time is $29,616.65. Total labor costs are $89,158.70.

Mileage—Total mileage for the two vans transporting equipment is 5,000 (=2 × 2,500); multiplying this value by the mileage rate of $0.54 yields total mileage costs of $2,700.00.

Administrative—Dental hygienists spend 398 hours for administrative tasks – 348 hours for billing/coordination activities (=6 hours × 58 schools), 40 hours for grant writing, and 5 hours each for training. Total costs for dental hygienists' administrative tasks equal $20,723.86. Dental assistants' training costs are $259.00. Including office expenses, total administrative costs are $22,677.86. Total annual SSP costs are $134,005.51. Their cost per child sealed is $65.88.

Discussion

We present a methodology to streamline SSP annual cost estimation that should be generalizable to most SSPs. Providing SSPs with standardized (default) cost estimates for resource categories where appropriate can reduce the amount of data an SSP must collect

and analyze. In addition, many SSPs may lack the expertise to amortize the costs of durable items. For resource categories that cannot be standardized, we provide logs designed to help SSPs obtain critical information with minimal data entry and time.

Accurately measuring resource costs is important for: a) monitoring program efficiency over time; b) comparing costs and cost components across programs to identify feasible benchmarks; c) combining cost information with estimated health impact to demonstrate program value; and d) modeling the impact of various practices and policies on program efficiency. Understanding costs is also a key to sustainability. An efficient SSP may be able to operate on Medicaid/ private insurance reimbursement alone. As provider reimbursement moves from fee per procedure to fee per patient, accurate estimates of costs becomes increasingly important for allocating the capitated fees among the various health professionals providing care.

Although many SSPs now deliver multiple preventive services (20), we confined our estimates of costs to sealant delivery so that SSPs could combine these findings with averted treatment costs to estimate their cost effectiveness. There is strong evidence for the effectiveness of other clinical services to prevent dental caries (i.e., fluoride varnish) but sealants are the only intervention currently recommended by the Community Preventive Services Task Force for delivery in school settings. In addition, there is limited evidence on how much additional caries other clinical preventive dental services would prevent in the presence of sealants. The information regarding the provision of other services in the labor/ mileage log was collected so that the labor time associated with their delivery could be deducted from total hours at the school to obtain a more accurate estimate of labor time dedicated to sealant delivery.

Because this methodology allows users to accept default cost values for some resource categories it does not provide an exact estimate of SSP resource costs. Another limitation of this methodology is that the logs to estimate administrative costs were piloted over a few school days, not the entire school year. As a result, we may have not specified all types of administrative costs in the log. If this were the case, SSPs can still include these costs in the section for “other” costs (Appendix, Section 3).

In conclusion, we have presented a methodology that simplifies cost estimation from the SSP’s perspective. An Excel workbook incorporating this methodology can be obtained from the corresponding author.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Default Annual Costs (2016 US$) of Sealant Stations* by Program Characteristics (Manufacturer 1 Top, Manufacturer 2 Bottom of Each Pair)

	Two-handed technique	Four-handed technique†
Non-light-cured sealant material	$665.29	$716.13
	$583.71	$661.76
Light-cured sealant material‡	$746.56	$797.40
	$664.96	$743.01

*All sealant stations include: a sealant unit, patient chair with case, operator stool with case, light, tray stand, instrument tray, instrument and supplies case, dolly/cart, and power cord. Itemized price for each component in the Appendix, Section 4, Table 1.

†Programs with two operators require additional operator stool and carrying case.

‡Programs using light-cured sealant material require an additional curing light.

Table 2A

Default Annual Reusable Instrument Costs (2016 US$)

Reusable mirror/explorer set	Purchase price	Annualized per-set cost (3% discount rate; 7-year life)
Manufacturer 1	$17.59	$2.95
Manufacturer 2	$19.07	$3.20
Manufacturer 3	$27.22	$4.57
Manufacturer 4	$35.63	$5.98
Manufacturer 5	$46.48	$7.80

Table 2B

Default Annual Reusable Instrument Sterilization Costs (2016 US$)

Sterilization items used per year	**Annualized cost (3% discount rate; 15-year life)**
Autoclave	$107.18
Ultrasonic cleaner	$64.80
Metal tray	$14.72
TOTAL	$186.70
Sterilization items used per year	Cost per year
Three pairs of utility gloves *	$20.34
Sterilization items used per year per school	Cost per school
Spore testing (one kit)	$6.73
Sterilization items used per day	Cost per day
Sterilizer cleaner/ultrasonic cleaner solution †	$0.34
Sterilization items used per child ‡	Cost per child
Instrument bag	$0.06

* Assumes program would require 3 sets of nitrite gloves at $6.78 per pair.

† Assumes 1 gallon costs $40.49, has 120 applications, and that 1 application will last the entire school day. If a program uses cleaner in individual packet then cost increases to $0.90 per day.

‡ Assumes program screens and seals children at same seating. If program screens and seals separately then unit is not child but sum of children screened plus children sealed. This estimate also includes internal/external indicator.

Table 3A

Default Cost (2016 US$) for Once-Per-Year Infection Control (IC) Items

Items used per year	**Per year cost**
Eyewash station	$35.37
Bloodborne pathogen spill kit	$10.71
Chemical hazard spill kit	$72.87
First aid kit	$26.79
Sharps container	$5.63
TOTAL	$151.37
Items used once per year per station	**Per year cost**
Waterline quality testing (two tests annually)	$51.70
Protective eyewear for child	$4.15
Alligator/bib clips for child	$1.90
TOTAL	$57.75
Items used once per year per operator	**Per year cost**
Protective eyewear for provider	$4.78

Table 3B

Default Cost (2016 US$) for Infection Control Items Incurred Per Day

Items used per day per program	Per day cost
Trash liners	$0.48 *
Hand sanitizer	$0.66
Hand washing Soap	$0.40
TOTAL	$1.54
Items used per day per station	**Per day cost**
Waterline treatment	$1.81 †
Evacuation/vacuum system cleanser ‡	$3.29
TOTAL	$5.10
Items used per day per operator	**Per day cost**
Protective clothing	$2.78

*Assumes a program uses 2 liners per day at a cost of $0.24 per liner.

†Assumes a program uses 1 gallon of distilled water ($1.17) and 1 tablet where a box of 50 tablets cost $31.97.

‡Note, if at same school for multiple days, this cost is incurred every 3 days.

Table 3C

Default Per Child Costs (2016 US$) for Screening/Sealant Delivery Supplies Per Seating by Two-Handed and Four-Handed Technique

	Cost per child screened only, at a given seating*	**Cost per child sealed†**
Two-handed technique	$1.15	$1.63
	(see *Note 1* below)	(see *Note 2* below)
Four-handed technique	$1.15	$2.09
	(see *Note 1* below)	(see *Note 3* below)

*For programs that screen and seal separately, this is simply number of children screened (Appendix, Section 2, Log 1, question 10). For programs that screen and seal in one seating, this is the number of children screened/sealed (Appendix, Section 2, Log 1, question 10) *minus* the number that received (a) sealant(s) (Appendix, Section 2, Log 1, question 13).

†Number of children sealed is collected in Appendix, Section 2, Log 1, question 13.

Note 1: Estimate includes cost of provider gloves (two pair: one for screening and one for cleaning) ($0.31), mask ($0.31), tray cover ($0.03), head rest cover ($0.06), air water syringe tip ($0.19), barrier tape and clear lens wipe ($0.07) and paper towels and disinfectant ($0.18). Only one operator is wearing mask and gloves. Add $1.59 if disposable instruments used.

Note 2: Estimate includes cost of supplies in *Note 1* plus patient bib ($0.07), saliva ejector ($0.06), dri-angles ($0.08), cotton ($0.04), and toothbrush ($0.23). Add $1.59 if disposable instruments used.

Note 3: Estimate includes cost of supplies in *Note 2*, plus an extra mask ($0.31) and pair of gloves ($0.15) for second operator. Add $1.59 if disposable instruments used.

Table 4

Annual Cost Calculation (2016 US$) for ABCSeals

Item	Cost per unit	Number of units per annum	Annual cost
Durable items			
Sealant stations (Table 1)	$743.01	2	$1,486.02
Reusable instruments (Table 2A)	n/a		
TOTAL DURABLE			$1,486.02
Supplies			
Once per year costs (Table 3A)			
Fixed	$151.37	1	$151.37
Per station	$57.75	2	$115.50
Per operator	$4.78	4	$19.12
Per day costs (Table 3B)			
Fixed	$1.54	100 (=1 × 100)	$154.00
Per station	$5.10	200 (=2 × 100)	$1,020.00
Per operator	$2.78	400 (=4 × 100)	$1,112.00
Per child per seating (Table 3C)			
Per child screened only at a seating	$1.15	1,356	$1,559.40
Per child sealed	$2.09	2,034	$4,251.06
Disposable instruments	$1.59	3,390	$5,390.10
Sealant material	$0.69	6,102	$4,210.38
Per tooth sealed (Appendix, Section 5)			
TOTAL SUPPLIES			$17,982.93
Labor (clinical) (Appendix, Section 1, Log 1)			
Dental Hygienist	$52.07	1,143.5	$59,542.05
	(=$35.76 × 1.456)	(=2 × 6 × 100 – 56.5)	
Dental Assistant	$25.90	1,143.5	$29,616.65
	(=$17.79 × 1.456)	(=2 × 6 × 100 – 56.5)	
TOTAL LABOR			$89,158.70
Mileage (Appendix, Section 2, Log 1)	$0.54	5,000 (=2 × 2,500)	$2,700.00
Administrative (Appendix, Section 2, Log 2)			

Item	Cost per unit	Number of units per annum	Annual cost
Administrative labor			
Dental Hygienist	$52.07	398 (=6 × 58 + 40 + 2 × 5)	$20,723.86
Dental Assistant	$25.90	10 (=2 × 5)	$259.00
Office supplies and printing	$1,695.00	1	$1,695.00
TOTAL ADMINISTRATIVE			$22,677.86
TOTAL ANNUAL PROGRAM COST			$134,005.51