

# **Systematic Screening and Assessment of Workforce Innovations in the Provision of Preventive Oral Health Services**

**Evaluability Assessment Site Visit Summary Report  
Future Smiles  
Las Vegas, Nevada**

**Submitted:**  
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**Dental Providers in Non-Dental Settings**

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## I. BACKGROUND AND PURPOSE OF EVALUABILITY ASSESSMENTS

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Lack of access to preventive dental care for all ages remains a public health challenge. Currently, potentially promising workforce innovations are being used to improve access to preventive oral health care. Examples include improving the diversity of the workforce, enhancing the education of health care professionals, encouraging the participation of non-dental health care professionals, expanding the roles of existing dental professionals, and developing new types of dental professionals. In most cases, these innovations do not have robust outcome data demonstrating their impact on access to care or oral health status.

This project, the *Systematic Screening and Assessment of Workforce Innovations in the Provision of Preventive Oral Health Services*, seeks to identify promising workforce innovations that increase access to and availability of preventive oral health services. This is a collaborative effort led by a team from the Robert Wood Johnson Foundation (RWJF) and ICF International. ICF International serves as the project contractor.

For this project, we are interested in identifying **promising innovations that increase the workforce and capacity of dental and non-dental professionals in the provision of preventive oral health services**, in both typical and atypical settings. We will focus on the following four types of workforce interventions, programs, policies, and models that strive to increase Americans' access to oral health care, as well as prevent the onset of real diseases (e.g., tooth decay, gum disease, cavities):

Throughout this protocol, the following terms are used interchangeably:

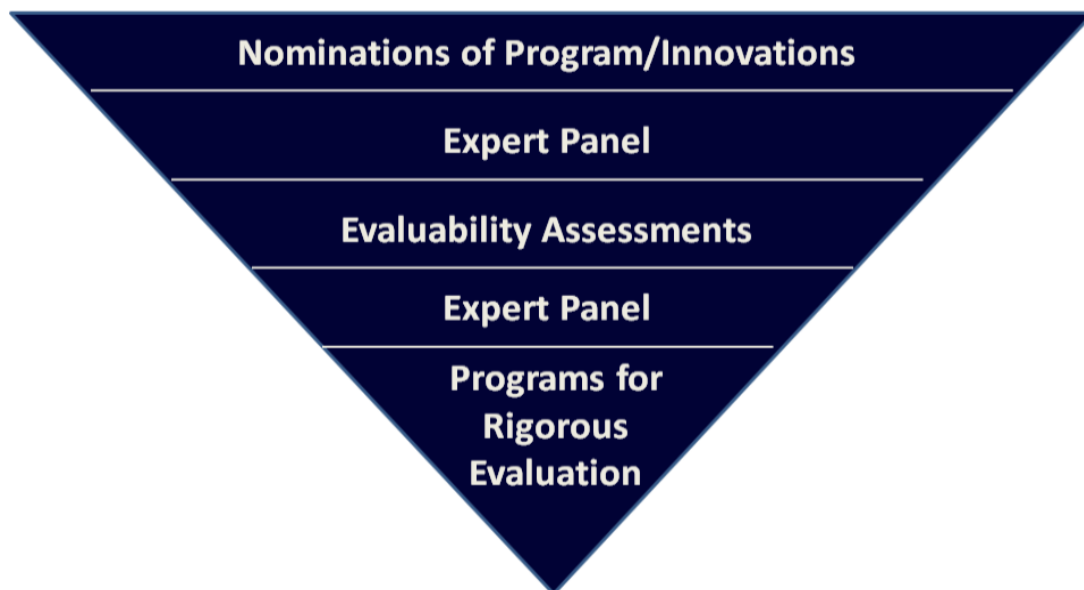
- Innovations
- Interventions
- Programs
- Policies
- Models

1. **Dental providers in non-dental settings.** Dental providers may expand the public's access to oral health services through a variety of programs and settings such as WIC, Head Start, classrooms, congregate meal sites, public health and social services centers. Dentists, dental hygienists, and other dental providers may provide oral health education, fluoride, sealants, and other services in these diverse settings. For example, a dental hygienist may work with schools to deliver fluoride treatments and sealants to school children.
2. **Non-dental providers in non-dental settings.** Non-dental providers may include physicians, nurse practitioners, physician assistants, nurses, nutritionists, childcare and outreach workers, and others. With the appropriate education and training, these professionals can educate patients, perform dental screenings, and make referrals for dental treatment. A specific example is caregivers of seniors and adults with disabilities, who are trained to prompt, assist or perform oral health prevention services with their clients.
3. **New types of dental professionals trained to provide preventive services.** New dental professionals, who focus on preventive services may be added to the dental team, function independently in a collaborative program with a dentist, or program under general supervision of a dentist. Examples of these new types of dental professionals may include dental health aides, dental health coordinators, oral preventive assistants, advanced dental hygiene practitioners, and expanded function dental auxiliaries.

4. **Innovative preventive practices in traditional dental settings.** Dentistry and dental education are increasingly moving toward a medical model of dental disease that prioritizes prevention, risk assessment, and disease management. This approach is likely to change how dentistry is practiced and delivered in offices and clinics. Examples might include dental practices or clinics that have changed the way they deliver anticipatory guidance, risk assessment, and prevention services (e.g., via group dental wellness visits and similar innovations).

We use the Systematic Screening and Assessment (SSA) Method to identify and screen real-world interventions and select those that are both ready for evaluation and highly promising in terms of their plausible effectiveness, reach to the target population, feasibility, and generalizability (Leviton Dawkins, & Kettel Khan, 2010). The SSA Method integrates expert review with evaluability assessment (EA) as a means to identify promising practice-based strategies worthy of more rigorous evaluation studies (Leviton & Gutman, 2010). It includes the following steps: (1) requesting nominations of programs and innovations; (2) engaging a panel of experts with knowledge in oral health, health workforce, health education and promotion, and evaluation to conduct an initial review of the initiatives and identify those that merit further study; (3) conducting EAs of the selected programs; (4) facilitating a second review by the expert panel of the selected programs after considering the results of the EA, and having the expert panel rate their promise and readiness for evaluation; (5) using the results to position the most promising interventions for rigorous evaluation; (6) providing constructive feedback to the programs for further refinement; and (7) providing the list of most promising programs for further evaluation and program development. The funnel diagram in Figure 1 below depicts the overall process of this project.

**Figure 1. Funnel Process of the Systematic Screening and Assessment of Workforce Innovations Designed to Promote Oral Health and Prevent Dental Disease**



## Project Purpose

The overall goal of this project is to identify promising innovations that increase the workforce and capacity of dental and non-dental professionals in the provision of preventive oral health services, in both typical (i.e., dental) and atypical (i.e., non-dental) settings. Based on findings from this SSA project, programs may be evaluated for effectiveness and/or for adaptation purposes. The SSA method will assess plausibility, implementation, data availability, design, and analytic issues among the programs.

The innovations selected for EA are the result of a systematic review by a panel of experts using the criteria described in Table.

**Table 1. Criteria for Selecting Innovations for an Evaluability Assessment**

Criterion	Description
Potential impact	The potential for the innovation to increase access to oral health care. Estimate of potential impact can be based on “face value,” program documents, and/or expert input.
Reach to target population	The percentage of the target population “reached” or in some other way positively affected by the intervention.
Acceptability to stakeholders	The potential or actual evidence that the intervention is acceptable and even attractive to pertinent collaborators, gatekeepers, and other necessary groups, such as dental clinics, dentists, and patients. Conversely, the lack of likelihood that stakeholder opposition to the intervention might limit its effectiveness, sustainability or replication.
Feasibility of implementation	The likelihood that the intervention as designed can be or has been implemented fully, given the clarity of its goals, objectives, and strategies; complexity and leadership requirements; financial and other costs; and training and supervision requirements.
Feasibility of adoption	The potential for other sites or entities to adopt the intervention—particularly for multiple states or regions or racial/ethnic groups.
Transportability or generalizability	The degree to which the intervention demonstrates or has potential to be adapted for other settings that differ in size, resources, and demographics.
Intervention sustainability	The likelihood that the intervention can continue over time without special resources or extraordinary leadership.
Staff and organizational capacity	Sponsoring organization and staff have the capacity to participate fully in a brief assessment, learn from it, and further develop the program.
Sustainability of health effect	Will the intended health effect of the intervention endure over time?

## Evaluability Assessment Questions

At the core of the SSA Method is the EA. Each EA will consist of reviews of documents followed by a 3-day site visit during which trained project staff members will assess implementation, data collection, and options for evaluation. The objectives of the EA are to examine the following:

1. The *plausibility* that the innovation will produce the desired outcomes

2. The *feasibility* of fully implementing the innovation
3. The options for *further evaluation*

As part of the site visit, a limited amount of onsite technical assistance (TA) will be provided to each site; this TA may focus on topics such as the program's logic model and evaluation. On the basis of the findings of the EAs, the expert panel will identify a program that shows promise in increasing access to and availability of preventive oral health services and readiness for rigorous evaluation.

Questions guiding the EA are noted below. These questions form the basis of the guides for data collection, analysis, and reports.

1. Is it *plausible* that the program will produce the desired outcomes, leading to the provision and/or improved access to preventive oral health services?
  - a. Is the program based on scientific theory or evidence?
  - b. Is the logic or theory of change plausible?
    - i. What are the components of the program?
    - ii. What are the goals and expected outcomes of the program?
    - iii. Are the links between program components and expected outcomes in the logic model appropriate and plausible based on logic, scientific theory, or evidence?
    - iv. Is there agreement on the program logic model among key informants?
2. Is it *feasible* that the program will be fully implemented as intended?
  - a. How far has implementation progressed?
  - b. Have there been any barriers in implementing the program?
  - c. How is the program funded?
  - d. Who is the target audience? Is the programs tailored to this audience?
3. What are options for *further evaluation*?
  - a. What is the capacity of the parent organization and staff for evaluation and their receptivity to it?
  - b. Is there an ongoing documentation or formal evaluation component?
  - c. What are the available data sources? Are the available data sources appropriate indicators of achievement?
  - d. Are there sufficient baseline data to use in further evaluation?
  - e. How might the timeline of the program impact evaluation methods if selected for a more formal evaluation?
  - f. Are there sufficient nonmonetary resources to conduct a more formal evaluation?

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## II. METHODS

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### Document Review

Before the site visit, the site visit team reviewed various documents as part of the background review on the program. The document review helped site visitors gain a general understanding of the program structure. The materials also served as a reference during analysis and report writing to provide clarification or a more comprehensive context for the data collected throughout the EA. The site visit team reviewed the following documents:

1. Outline of relevant Nevada revised statutes
2. Future Smiles Practice Analysis
3. Future Smiles Program Description
4. Future Smiles Timeline of Events and Services Offered
5. Future Smiles Baseline Impact Summary
6. Future Smiles Outreach Demographics
7. Future Smiles Preliminary Data
8. Future Smiles 2012 RFP Summary
9. Future Smiles Outcome Study 2012 Research Design
10. Summary of research on dental care and student outcomes memo

### Site Visit

The site visit to Las Vegas, Nevada took place between October 24–26, 2012. Using semistructured interview guides, the site visit team conducted a total of 12 interviews. (See Appendix A for a list of the interview guide topics.) Before the visit, ICF requested a list of suggested interviewees from the site. Once the list was received, ICF team members talked with the site visitors and the site contact to discuss the roles of those individuals suggested, consider any important persons who may have been missed, and confirm those who would be interviewed. The site visitors conducted a total of 12 in-person interview sessions involving 15 individuals during the site visit. Respondents read an informed consent statement, which emphasized that the purpose of the visit was not to conduct an actual evaluation, but rather to learn about the program. The document also stressed that interviewees' responses would be confidential. Table 1 shows the number of interviews by interviewee type.

**Table 1. Interviews Conducted**

Lead Administrator/ Manager(s)	Other Staff	Partners	Other Stakeholders	Total
2	5	1	7	15

These interviews were conducted with the following people:

1. Terri Chandler, Founder/Future Smiles Executive Director
2. Cathy Carreiro, Public Health Dental Hygienist
3. Joane Cummings, Program Resource Coordinator

4. Nancy Dockery, Program Manager/Public Health Dental Hygienist
5. Diana Albiston, Hollingsworth ES Principal
6. Stephanie Redwine, Co-Founder/Dental Hygiene Director
7. Dwight Jones, CCSD Superintendent
8. Chris Garvey, CCSD School Board Trustee
9. Sally Jost, CCSD Health Related Services
10. Vicki Herman, CCSD Health Related Services
11. Lisa Pitch, CCSD Coordinator of Research
12. Shari Peterson, College of Southern Nevada Dental Hygiene Program Manager
13. Christina Demopoulos, UNLV SDM Professor/Future Smiles Dental Director
14. Cass Palmer, President & CEO of United Way of Southern Nevada
15. Terri Janison, Senior Director of Community Development at United Way of Southern Nevada

Chris Garvey participated in all of the interviews involving members of the CCSD. Also, the members of the United Way of Southern Nevada were interviewed during the same time. All other interviews occurred as one-on-one encounters. On average, the interviews lasted approximately 60 minutes.



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### **III. IDENTIFIED ELEMENTS OF THE PROGRAM AS PLANNED AND IMPLEMENTED**

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The review of program documents and the site visit interviews helped the site visitors to identify various elements of the Future Smiles (FS) program as it was planned and as it currently is being implemented.

#### **Program as Planned**

##### ***Brief History of the Program***

Founded in late 2009, FS is a 501 (c) 3 organization based in Las Vegas, Nevada that provides vital oral health care to vulnerable children to decrease the incidence of oral disease and instill life-long positive oral health behavior. The program is school-based and provides oral health care (dental screenings, oral health education, cleaning, sealants, fluoride varnish, and recare/ongoing preventive care) to low-income, uninsured, and Medicaid/CHIP (Children's Health Insurance Program)-enrolled children. Terri Chandler, a dental hygienist, is also the founder and executive director of FS. Her history as an oral health advocate began in 1998 while she participated in legislative efforts to improve the oral health of Nevadans. Since its inception in 2009, FS has provided preventive oral health services to more than 3,000 at-risk children in school settings.

##### ***Implemented Components of Program***

A relatively recent Nevada law allows dental hygienists to practice in high-need areas without the direct supervision of a dentist. However, the law requires that dental hygienists who wish to practice independent of a dental practice obtain a special license to do so; this license is called a "public health dental hygiene endorsement (PHDHE)." The endorsement allows the hygienist to operate in certain settings without the oversight of a dentist. The resulting reduction in red tape and expenses allows FS to expand its reach to more patients. FS is a nonprofit organization led by a PHDHE hygienist and staffed by a team of mostly part-time dental hygienists who also hold a PHDHE. The program has a strong partnership with Clark County School District (CCSD) to provide oral health services through two primary delivery mechanisms within at-risk schools where 50% or more of the student body receives free and reduced (F & R) meals. One method is through school-based health centers for education and prevention of oral disease (EPODs). These EPODs are located at the schools in either an unused classroom, school-based health center (SBHC), or an unused modular space. The sponsoring school site provides space, utilities, consumables, water, and restroom facilities at no cost to the program (the sponsor has typically been the school district and/or the City of Las Vegas which owns some of the properties FS uses). The program's three current EPODs are each located within CCSD. Specifically, the EPODs are offered at:

1. Clark High School
2. Cunningham Health Center
3. Hollingsworth Elementary School

The second manner of program delivery is via FS mobile sites. The program's dental equipment consists of portable units manufactured by DNITLworks that weigh 50 lbs. or less, and can be easily packed up and relocated by the FS hygienists. The FS staff serves a wider range of CCSD schools by operating in temporary spaces multiple times a year to provide services at more distal schools or at

schools without space to operate a more permanent EPOD. The mobile sites currently serve the following locations within CCSD:

1. Basic High School
2. Bennett Elementary School
3. Brinley Middle School
4. Fay Herron High School
5. Laughlin Junior/Senior High School
6. Martinez Elementary School
7. Virgin Valley Elementary School
8. Whitney Elementary School
9. Chaparral High School

Using both the EPOD and mobile service models, FS provides the same preventive oral health care to children that includes: dental screenings, oral health education, cleaning, sealants, fluoride varnish, and recare (ongoing preventive care). Services are provided to children whose parent or guardian has provided a written consent allowing their child to receive services for 2-year periods (after 2 years, a new consent form must be signed). In locations where FS has stationary EPODs, services are provided year round on specific days of the week which are noted on a calendar that parents receive. About every 6 months, typically during school hours, children are removed from permissible classes to come to the EPOD to receive oral health services.

In places where the FS services are provided using the mobile equipment, FS sets up a temporary location (all that is required is a water source and electricity) about 2–3 days per week for a month or until FS hygienists see all enrolled students. About 6 months later, it provides return for recare services, following the same procedure for removing students from classes to receive oral health care. This process is more systematic for elementary age students. For high school students, it is more ad hoc/by appointment (which could be during the school day, right before or after school) due to limitations on the classes students in upper grades can be dismissed from and how they are escorted from class to the EPOD.

Regardless of how the care is delivered, when needed, FS refers patients to local partners for restorative care. They include: Project Smile (Clark County Public Education Fund program to provide urgent dental care to low-income children), UNLV SDM free Saturday events, Paradise Park Children’s Dental Clinic, Dental Care International, and private dental offices. Typically, the referral partner’s services are provided either for free or a fee based on a sliding scale for the low-resource children that FS refers.

### **Goals and Expected Outcomes**

The overall goal and mission of the program is to increase access to oral health care in underserved populations. The program seeks to decrease oral disease through education and prevention, thus, instilling positive oral health behavior for a lifetime. (See Appendix B for the program logic model.)

The FS program’s expected outcomes are to increase the number of students receiving screenings, dental sealants, cleanings, fluoride varnishes, and oral health education. The program also hopes to screen and treat more students in more schools in underserved areas over time. As FS reaches more individuals, it expects to see an increase in student achievement and a decrease in absenteeism. The

program staff also expect to see a reduction in urgent care needs (e.g., emergency room visits) from students with severe tooth decay.

### **Target Audience**

FS' primary audience are students enrolled at one of their EPOD or mobile sites who are at risk due to poverty (attending schools with most students receiving free and reduced price lunch) and age pre-K to 18 (or older depending on graduation date from high school). Tangentially, the program also reaches the parents or guardians of the children as well as their siblings and other family members when they receive education from FS hygienists at health fairs and other community events. In collaboration with United Way, FS also enhances the work of a preschool education program known as High Scope by offering "Brush at Lunch" events to educate parents about oral health care and healthy behaviors to promote oral health among their young children. Also supported by United Way, High Scope is an evidence-based, early intervention program that works with parents to reduce developmental delays and increase school readiness among at-risk children.

### **Progression of Implementation**

Since its inception in late 2009, FS has grown a great deal. Since 2009, the program has observed a 42% increase in the number of children receiving dental sealants and a 19% decrease in children with untreated tooth decay, among other accomplishments at the Cunningham ES site. The program has also expanded into more schools, served over 5,000 students, and administered over 10,000 protective sealants. They have also provided nearly 2,000 cleanings and almost 5,000 fluoride varnishes. Their reach and acceptance among students and parents has increased greatly since the program began, but potential funding cuts will limit the amount of services that FS can provide in the coming year.

### **Program Funding**

FS funding comes primarily from reimbursement of services delivered under Medicaid and supplemented by various grant funding and donations. Currently, the McFadden Charitable Foundation (\$100,000) and United Way (\$80,000) are the program's top funders. However, United Way funding is expected to be reduced in the coming months due to some administrative/management changes that affected funding levels this year—the foundation leaders were interviewed and reaffirmed that this was unfortunate and they were seeking funding to restore the level but may not be able to this fiscal year. While FS leadership continues to seek grant funding, this fiscal year, FS has received \$210,298.40 in funding out of \$1,903,100.00 in applications/funding requests.

A full and detailed budget was provided by the program showing total costs, United Way funding request, and FS revenue or in-kind contributions—prior to the cut by the United Way the total budget was \$493,549 and then after the 30% reduction from the UWSN the resulting budget for 2012-13 was \$363,705. This operational budget includes all costs and the majority of costs are associated with service provision/labor and supplies (a distant second highest expenditure). Part of their funding comes from being able to receive reimbursement payments through Medicaid (if youth are enrolled). Nevada has three Medicaid payers and two of these (Scion and HP) have accepted FS as a reimbursable provider on their provider panels. One (HPN, the largest of these payers) claims the provider panels are closed and will not allow FS to get on the list. This affects their funding as it is estimated that \$80,000 of their services are forced to be considered as in-kind and therefore must be written off by the organization.

## Context of Program

### **Organizational Context**

The primary services offered by FS are delivered by nine dental hygienists and one coordinator, but patients may be referred to external resources to receive restorative dental care when needed. Most of the staff work only a few days per week within the FS program and spend the other days in other dental care settings, mostly private or university/college-based. Also, the FS staff typically rotate working at the various EPOD and mobile sites throughout the year. However, it appears that some staff members are more stationary, providing services primarily in one location or the same EPOD locations.

### **Community Context**

CCSD is the fifth largest school district in the United States, with over 311,000 students, though not all meet the eligibility criteria to be enrolled in FS. Criteria include over 50% of the student population receiving (F & R); and the school must be willing to partner with FS staff to offer preventive oral health services to students. At approximately 44% of the total student population, Hispanics make up the largest demographic group enrolled in CCSD, while white students account for about 29% of district enrollment (Millard, 2012). During the site visit, many district officials noted that nearly half the schools in CCSD meet the over 50% (F & R) eligibility requirement for FS services.

The CCSD school board, superintendent, principals, and relevant teachers at participating schools are all important partners in FS. CCSD is not heavily involved in the design of the program. Still it is an invested partner, supporting the program with infrastructure resources (space and facilitation of FS), as well as supporting some research and evaluation of the program through its research and evaluation unit. The district's involvement is critical to the success of FS and it is certainly a strong champion of the program.

FS achieves community impact through oral health education that the program's hygienists provide at "brush at lunch" events, parent meetings, health fairs, and other community activities. The community is not involved in the design or implementation of FS. However, interviewees did not identify this as a hindrance to the program, and site visitors did not see it as posing any particular challenges.

### **Current Reach to Priority Population**

Participation in FS requires active parental consent which can reduce overall program participation. There is no way around this potential hindrance to the program. Because on-site oral hygiene services constitute a health care service, parents must authorize their children's treatment. Using a unique student identifier (identical to CCSD's unique student identifier), FS has the ability to provide the specific number of consented youth per school per year and to track all services provided to that student. However, FS has to couple that information with individual school enrollment data to estimate participation rates at each location. To date, this calculation had not been made. But CCSD promptly submitted each school's program enrollment data to FS and ICF. As a result, FS can assess participation rates by site if it desired. Anecdotally, the FS staff noted a high level of participation in its first two elementary school EPOD locations—suggesting about 80% of the at-risk children enrolled at the schools are served by FS (Once given, consent is active for a 2-year period and then requires a new consent form). At-risk is defined as children from low-income families, Medicaid or CHIP enrollees, and/or uninsured-w/out health care. While FS staff did not discuss specific attempts to recruit the remaining estimated 20% of at-risk students at these schools, they certainly

suggested that the longer the program is at these locations, the stronger their parental reminder strategies (in partnership with school staff) and the higher the rate of returned consent forms.

FS staff also noted that program participation rates in schools with EPODs are much higher than schools that offer mobile services twice a year. Participation is also high where FS has a permanent presence or where it has worked with a school for at least 1 year (participation increases with length of partnership). The site visitors felt the participation at middle and high schools was much more limited but, in elementary schools, the model is well-received and participation rates appear strong. Therefore, participation seems limited only by the program's ability to: secure a viable venue, ensure parental consent forms are returned, and obtain the funding to deliver services.

CCSD has about 311,000 students enrolled. Of these, just over 50% are identified as qualifying for free and reduced lunch schools (mostly attending Title I schools). Thus, about 160-170,000 students are the potential target population for FS. While the numbers of youths served may be only a small percentage of the total district enrollment, it is still substantial (~3–5%), given the scale of the program's resources and limited ability to bill all three Medicaid payers.

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## IV. HIGHLIGHTED FINDINGS

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Information collected through the site visit interviews and review of documents provided some insight into the plausibility of the FS program attaining its desired goals and the feasibility of its full implementation.

### Plausibility

Although FS did not have an existing logic model, it had clearly articulated program activities and goals that accurately described its intervention. As a purely preventive oral health service program reaching underserved/impoverished children ages 0-18 years (or high school graduation up to age 21) with service delivered by public health endorsed dental hygienists, FS activities appear to lead directly to the outcomes of increased availability and access to preventive oral health care. In addition, the workforce model being employed to this preventive care is innovative and likely to increase the reach of preventive services to children with little or no access to oral health care. The logic of the FS program is highly plausible, based on the theory that education (of youth and parents), risk assessment, cleaning, fluoride varnish and sealant applications, and semi-annual recare/follow-up services for youth in school settings will lead to reduced incidence of caries and improved oral health.

While on the site visit, those interviewed consistently stated the program goals (paraphrased in their own words). At the debrief session the draft program goals and logic model was reviewed and revised, but few major changes were needed as the group felt it accurately portrayed the FS program and its outcomes. The only discrepancy was a level of emphasis on parent education and changing parents' behavior as a way of further influencing youth's preventive oral health care. All participants mentioned this as a program goal but also recognized it as somewhat of a program by-product primarily directed at the children in the school district. Whether this is a "core component" of the FS program model is debatable—the site visitors applaud the work but did not see it affecting the desired outcomes of FS as directly as the services reaching youth in school settings or EPODs.

### Feasibility

The FS program is highly organized and consistently implemented from its scheduling procedures to service provision to data entry/record keeping. The staff was able to show the site visitors their Operating Procedure manuals, Occupational Safety and Health Administration (OSHA) protocols and health manuals/procedures, and FS program data forms and entry procedures. Evidence of a well-documented and implemented program was well-demonstrated.

The program started in late 2009 and has been consistently growing with strong support from the CCSD, other funding partners such as the United Way of South Nevada, and dentistry partners such as the College of Southern Nevada and the UNLV SMD. The partnerships appeared strong and all partners were committed to continued implementation and growth if at all possible. While the United Way funding was reduced this year (due to administrative issues at the foundation locally), FS is committed to its targets for the year and is already well on its way to meeting them. However, the loss of funds may necessitate reductions in some education and outreach activities in the future. Even though the program and CCSD would love to expand to more sites in the district, both

EPOD centers and mobile venues, the program will be fully implemented and/or find a way to expand to more sites as funding allows.

### **Resources**

Nevada requires dental hygienists who wish to practice independent of a dental practice to be certified. This certification is called a “public health dental hygiene endorsement” (PHDHE). This endorsement allows the hygienist to operate in certain settings without the direct oversight of a dentist. The result is a reduction red tape and preventive care costs that allows the FS program to reach more patients.

FS is a nonprofit organization run by a public health endorsed dental hygienist, Terri Chandler. She is one of nine public health endorsed dental hygienists who work part time for FS. Ms. Chandler puts in a fair amount of in-kind support directly but also is the driver behind securing many in-kind resources for their work—mostly dental products (e.g., toothbrushes, sealant material, floss.) and networking/outreach to funders and donors to seek contributions to FS. She also has solid relationships with two oral health education programs (the dental hygienist program at College of South Nevada and the UNLV SDM) which supply FS with higher education, community level preventive clinical rotations, as well as to refer patients for restorative or emergency care. The UNLV dentist, Dr. Demopoulos, also serves as an in-kind dental director for FS, due to a recent change in Nevada that requires a dentist to be a director over a dental practice, the technical definition of FS services. Two of the dental hygienists are responsible for data entry and record keeping in the electronic medical record/billing system and the SEALS form data entry. These duties are in addition to their regular duties and both work only part time. Most of the FS staff are part-time dental hygienists who have other employment in private practice as well.

CCSD and the City of Las Vegas (as relevant) provide pro bono, unused modular or permanent space for FS to set up its three EPOD locations. CCSD also provides space on school grounds for FS to use even if staff is doing only a temporary, mobile set-up for services. CCSD is also collaborating with FS on an evaluation that is monitoring the program’s effect on academic outcomes among the students who receive services (compared to students who do not receive FS services).

The program resources have consistently grown until this year (Fall 2012) when the United Way funding was cut by about 30% unexpectedly. This reduction clearly caused a reduction in the reach targets FS had originally planned for over this year. Still, FS plans to meet or exceed its service goals by streamlining its efforts where necessary, but service delivery of primary program components should not be affected.

### **Barriers**

All stakeholders felt funding was the key issue for increasing the scale of their efforts but what is being done currently is being delivered fully. The United Way funding reduction was cited as a barrier this year. The United Way CEO and program officer were interviewed and described FS as their “poster child”—a truly great program that is savvy and accountable. The cut in funding was an administrative (staff change) issue that was unfortunate, they explained. However, United Way is working to resolve the issue for future funding opportunities. They even indicated that FS was the kind of program they would enter into a long-term funding agreement with (more than annual agreements—this was not a binding statement but a qualitative assessment of the high regard for which the funder has for FS and their belief that it will be successful). The reimbursement issue with

Medicaid was also noted as a major concern. The largest of the Medicaid payers claims that the provider panel is closed and will not allow FS to get on the list. About half of the kids receiving FS services last year were enrolled with this payer—HPN. The FS Director feels that if they could get on this Medicaid panel, the program would pay for itself and they would be less dependent on grants to sustain service levels or to expand the program. Many political efforts are afoot to address this barrier but to date they have not been able to get on the HPN Medicaid provider panel.

The issue of better reaching the middle and high school students with services was also noted as a challenge. The processes for appointments and recare appointments are not as easily navigated in high schools in particular; this is due to requirements about which classes upper-grade students can be called out of for appointments and the need for school personnel (not FS staff) to escort youth from class to the FS service location. FS is working with individual schools and CCSD to devise new ways to set and keep appointments for the older youth. FS has this process well-oiled at the elementary schools that enroll most participants and have a longer history of providing services.



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## V. EVALUATION POTENTIAL

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### Evaluation Capacity Building

#### **Current Data Collection or Evaluation**

Currently, FS collects considerable data on service provision at the client level. The program uses the SEALS data system, the Dentrax electronic medical records (EMR) and billing system, and Microsoft Excel-based tracking of a few more data elements not captured well in the other systems. With these tools, FS is able to fully describe the oral health status of all children the program services by: tracking the school where children are enrolled, billing and medical histories as appropriate for the level of prevention/intervention FS provides; and outcomes at recare. A summary of some of this data was provided by the FS leadership (Appendix C). From the parental consent forms, FS is able to gather additional demographic and oral health care history on each child served (there may be some missing data, depending on how thoroughly parents complete the form). These data are available from December 2009 to the present; FS has two staff members who are part-time service providers but also responsible for data entry and the management of these systems.

CCSD has allowed FS to use the child unique identifier that the district assigns to each enrolled student for the duration of enrollment in the district. Consequently, FS data can easily be linked to school records/data on each enrolled student for as long as he or she remains in the district. All stakeholders indicated a high level of intra-district mobility, which can pose challenges for follow-up care if children move from an FS-served school to a school that does not provide FS services as yet. Nevertheless, so long as children remain in CCSD (there is less mobility out of the district), FS can still track their whereabouts. Site visitors were unable to ascertain whether FS staff conduct direct case management to ensure that youth with restorative dental care needs are following-through with referrals to dentists or community programs. FS staff members described efforts to assist individual children who had major problems obtain the services they need. Still, it was not clear that FS followed up on these referrals as program protocol. Staff did indicate that children seen for recare are examined and any restorative or preventive work completed since their last FS visit is noted in the Dentrax EMR system. This may provide a rudimentary way to track completion of restorative care with a presumed referral completion; however, youth who complete referrals but do not complete the restorative care due to cost or other reasons would not be captured by the current data tracking.

#### **Available Data Sources**

The FS program and CCSD have a wealth of data sources on the program implementation, services being delivered by child by school, and academic records that can be linked to the program data. FS systematically enters its data into the CDC SEALS system, collects service and billing data in Dentrax EMR, and a set of other data (e.g., demographic information and medical history/dental history information reported on parental consent forms) not included in these systems is maintained in an Excel file. The children have unique identifiers used in all three databases which is their CCSD IDs. These IDs are maintained over the life of the student's attendance in the district.

Detailed oral health assessment and service-level data are maintained in the program's current data collection systems. Currently, FS does not assess or collect data on child knowledge or motivation related to preventive oral health care, although this is part of the program's activities during the course of the services it provides. Similarly, it does not assess a parent or guardian changes in

knowledge, attitudes, or behaviors associated with their child's oral health care. The FS team voiced ideas for collecting this data via a special data collection that could be launched in two elementary schools with EPODs and strong program participation (Hollingsworth and Cunningham schools where a large proportion of students receive services). CCSD also noted that it delivers an annual district-wide survey of all students that could be used to collect data on oral health. CCSD leadership indicated that possibly up to five survey questions could be added with district approval. These additional questions might provide a comparison of FS-enrolled students to non-enrolled students if this data collection includes CCSD's unique student ID. (The site visitors learned of this survey at the debrief session so this idea may or may not be feasible once researched further).

### **Options for Further Evaluation**

Depending on the length of a rigorous evaluation of the FS program, several options for further evaluation could be considered:

- A prospective quasi-experimental study could be designed using the two EPOD location/schools as the intervention schools and selected two matched schools where FS is not conducting any outreach at this time. Given the large size of the CCSD, it seems reasonable that appropriate matches could be identified. The study could then address evaluation questions such as: What are the oral health outcomes of FS children compared to children not enrolled in FS, including rates of caries, rates of sealant application, rates of urgent oral health care needs, and so on? What are the academic outcomes of children enrolled in FS compared to those not enrolled in FS?
- One or more cohorts of FS enrolled children could be followed over time (in a retrospective and prospective design) to examine similar outcomes but for a longer time period and among select age groups. Identifying an appropriate comparison group for this study would need further consideration. However, CCSD also noted that they deliver an annual district wide survey of all students that could be leveraged to address oral health (perhaps up to five survey questions could be added with district approval)—perhaps serving as a district-level comparison on a restricted list of outcomes.
- A more robust evaluation could be designed to build off of the current proposal CCSD and FS have developed collaboratively to conduct the matched comparison study of academic outcomes of FS enrolled children. The current proposal could be augmented by following a new cohort/drawing new matched controls and simultaneously adding substudy components designed to better assess the intermediate outcomes, such as knowledge gain, preventive behaviors, recare and referral practices, the spectrum of oral health care outcomes, and the spectrum of academic outcomes proposed in the current CCSD and FS proposal.
- Cost-benefit analyses or return on investment assessments should be considered in the context of a rigorous evaluation because the site has strong data on service provision and costs for services per child per event and a unique, possibly cost-efficient model of providing access to preventive oral health care.

Currently, there are strong service-level data sources but less process evaluation focused on the consumer experience. A rigorous evaluation could involve the spectrum of principals, teachers, guardians, children, and staff in quality improvement and process evaluation. For instance, currently, no data are collected on client satisfaction and changes in quality of life/confidence/self-esteem or

data from supporting school stakeholders. Also needed is a comprehensive analysis of who is being reached in each school by examining rates of: consent, refusal, nonresponse, recare, and referral completion. This would capture true reach figures and illuminate if and how differential response to the program is present.

### ***Capacity for Rigorous Evaluation***

While FS needs some staff to assist with data collection and perhaps data entry, depending on any new or burdensome data collection efforts, the program has sufficient capacity and interest in participating in a rigorous evaluation if selected. The draft of an evaluation that FS and CCSD designed together to explore a possible correlation between FS participation and academic outcomes demonstrates clear evidence of the program's capabilities and willingness for evaluation (see Appendix D). FS acknowledges that, ideally, this draft should also include mediating variables/outcomes related to improved oral health. Nonetheless, the program is on its way to conducting a study that examines academic outcomes of FS enrolled students. The preliminary data runs FS has provided to date also suggest (these are crude, unadjusted mean differences) there may be a difference in academic outcomes between the FS intervention group and a matched comparison group (see preliminary data in Appendix E). The study will employ a quasi-experimental design in which FS-enrolled students are compared to a matched control group of children not enrolled in FS services.

### ***Receptivity to Evaluation***

The FS program staff and its key partners—school, district, and clinical—were excited about the opportunity to participate in evaluation, and they are strongly positioned to do so. Clearly, CCSD personnel appear to be better equipped to analyze data and conceive of study designs because of the district's built-in research and evaluation office. At the same time, FS staff members appeared to be good consumers of evaluation eager to assist with evaluation activities in any way that they can. This is evidenced by the wealth of data they already collect on each youth the program serves, data that can be linked to tracked by their unique district ID. The leadership and those involved in data entry/collection worked together monthly to update all data summaries, and generate graphs and tables summarizing the program's progress. While these data are mostly for funder reporting and grant-seeking, FS leadership and staff see the value in collecting these data and are motivated to use data to improve program delivery.

### ***Program and Evaluation Support from Umbrella Organization***

The CCSD is serving in the role of a rigorous evaluation lead and partner but the FS staff (the director who synthesizes program data on a monthly basis, the manager who handles billing and Dentrix EMR, and the program coordinator who inputs SEALS system data) is integrally involved in collecting, entering, and ensuring data quality. With support, the program could hire a dedicated part-time evaluation coordinator to help streamline the processes and relieve time burdens on the director and service staff that currently enter data.

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## VI. RECOMMENDATIONS

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FS is a strong, innovative program that leverages PHDHE hygienists to provide the spectrum of preventive oral health care to low-income children in Clark County, Nevada. With strong leadership and a passion for the work, FS has been growing steadily and finding ways to expand its service reach, even in the face of challenging economic times and funding reduction. Its success is driven by the team of part-time FS dental hygienists who demonstrate a deep commitment to the children and youths the program serves. The staff is willing to work part time basically for Medicaid reimbursement rates to help impoverished children in CCSD receive oral health risk assessments and preventive care.

With a small program budget, FS provides a lot of preventive oral health care—and its service numbers continue to impress despite a shrinking budget. Ms. Chandler, the FS director, is known to all associated with FS as an incredible leader and entrepreneur who has developed the only such program registered in the State of Nevada. FS is also collecting a strong amount of case-level oral health data (including SEALS), cost data, and has the ability to link these data to data maintained by the CCSD via its student ID tracking system. This is a wealth of extant data with the potential to be leveraged for evaluation purposes. Lastly, FS has continued to build strong relationships with district schools, particularly elementaries, while smartly dispatching mobile units to extend the program's reach to schools in rural areas or with limited interest or space for permanent FS activities.

### Additional Program Strengths

- The FS program and purpose has broad stakeholder support that suggests high stakeholder commitment to FS.
- The tenacity, intelligence, and dedication of the program's director (Terri Chandler) to the mission of FS, the quality of care delivered by the hygienists.
- FS can be adapted easily for different locations or populations and the mobile units allow for quick expansion of services and easy facilitation of recare.
- FS sees all children without regard to their insurance or ability to pay.
- The program addresses a major unmet need in the community and has a clear and strong preventive care model.

### Program Challenges and Recommendations

While the FS program is impressive, site visitors certainly noted some challenges. The program appears to have a more difficult time engaging and operating in middle and high schools for a variety of reasons cited in this report. The site visitors felt the participation at middle and high schools was much more limited than in elementary schools, where the model is well-received and participation appears to be greater. However, because FS does not critically assess student participation levels at each school or venue, there are no specific data available indicating greater participation at the elementary schools; however, interviewees generally acknowledge high schools as an area for program growth.

As stated in the report, the majority of FS costs are associated with service provision/labor and supplies (a distant second highest expenditure). An important part of FS funding comes from

receiving Medicaid reimbursement payments (if youth are enrolled). Two of the three Medicaid providers (Scion and HP) have accepted FS on their provider panels for reimbursement. One (HPN, the largest of these payers) claims the provider panels are closed and will not allow FS to get on the list. This is a critical sustainability and growth delimiter that will, if addressed, allow the program to maintain a strong and growing presence in CCSD.

## **Data Collection, Monitoring and Evaluation**

Another recommendation is for FS to partner with a university or college public health, dental school to assist with data analysis and evaluation; the program can existing educational partnerships to find these resources. The data currently summarized are effective tools for sharing the successes of FS but they do not provide a patient-level outcomes perspective rather than focusing on numbers of procedures performed. Using the data that is currently gathered, it would be beneficial to also conduct your evaluation on a per child basis. The additional evaluation resources FS might find in higher education partners could also be leveraged to conduct some process evaluation with school staff, families, and even enrolled children. Among others, FS might choose to examine efforts to follow up on: referrals made (and completed); what various stakeholders say about their experienced with FS; what youth and guardians say about the program. An intermediate outcome evaluation could also be conducted with enrolled families to examine: changes in oral health knowledge; changes in oral health promotion behaviors; follow-up/referral activities; and comfort with and value attributed to seeking oral health care.

A second recommendation for FS is to examine program participation rates by site and look at age, race, ethnicity, gender, and language spoken in the home, if possible. With this information in hand, FS would be positioned to think critically about how to maximize participation within schools or expand reach to schools needing oral health services. Similarly, FS would benefit from examining its re-enrollment patterns since families must re-consent for services every 2 years. The program has not been in existence long enough to anticipate whether families will stay in the district and/or continue to want their child to participate in FS. An opportunity to examine this will present itself in 2013.

Lastly, the CCSD has about 311,000 students enrolled. Of these, just over 50% are identified as > 50% free and reduced lunch schools (mostly Title I schools). That means about 160-170,000 students are the overall target population for FS services. While the numbers of youth served may be only a small percentage of the total student enrollment in the district, it is still substantial (~3-5%) given the scale of their resources and limited ability to bill all three Medicaid payers. If these numbers continue at this rate and early participants maintain enrollment, FS may require service capacity that is currently beyond its means. Thus, a recommendation to expand into more schools must be issued with caution. FS might first conduct an assessment of its enrollment and retention rates to project needs and balance those with its existing capacity (or plan to expand capacity as needed).

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## VII. CONCLUSION

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Though relatively new, the FS program has achieved in only a few years a tremendous amount of outreach to its target population and has reduced the incidence of oral disease among the students. The tenacity of the program's executive director and her dedication to the mission of FS has attracted multiple funders while also earning praise of the program's community partners and other accolades. The hygienists who make up the FS staff strongly believe in the program's goals and are very passionate about their work with CCSD students. Most significantly, the data that FS collects and the availability of other data about the CCSD student population make FA highly evaluable. FS achieves and exceeds its goals of reaching and treating the oral health needs of its targeted population of underserved youth. These attributes, along with others, suggest that, with appropriate funding, the program will be able to continue its successful trajectory.

### Implications for Other Oral Health Workforce Programs

The FS program is a model preventive oral health services program. While the personalities of the staff associated within this program cannot be duplicated, the service model can be duplicated with the right resources and buy-in from community stakeholders and school administrators. FS reaches mainly students in schools where the majority of students receive F & R and administrators seem open to working with FS and granting it access to building facilities. Assuming similar cooperation can be achieved elsewhere, the FS program can serve as an ideal model for other oral health workforce programs.

### Implications for Rigorous Evaluation

Rigorous evaluation can be conceptualized for this intervention. One researcher/statistician for the CCSD has already begun some analyses of FS and tentative planning for an evaluation. While statistical significance has not yet been calculated, FS enrollees seem to perform better on math and reading test scores when compared to a matched group of students at other schools that do not receive the FS intervention. The FS team carefully and consistently collects and analyzes the data it has and is receptive to modifying and updating data collection and analysis to perform a high quality, rigorous evaluation. In addition to the data FS has already collected, the support and dedication from the hygienists, administrators, and stakeholders make FS an ideal candidate for a rigorous evaluation.

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# **APPENDIX A**

# **INTERVIEW GUIDE TOPICS**



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## **APPENDIX A. INTERVIEW GUIDE TOPICS**

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### **SYSTEMATIC SCREENING AND ASSESSMENT OF WORKFORCE PROGRAMS IN THE PROVISION OF PREVENTIVE ORAL HEALTH SERVICES: DENTAL PROVIDERS IN NON-DENTAL SETTINGS**

#### **INTERVIEW TOPICS**

During the evaluability assessment site visits, we hope to learn more about your program. Some of the topics that we would like to discuss with the identified interviewees include the following:

#### **Lead Administrators**

- Background and history of the program
- Basis for the program
- Program's goals, expected outcomes, activities, and services
- Program components
- Program setting(s) and rationale for site selection
- Staffing, training, roles and responsibilities
- Administrator's role and responsibilities
- Challenges and successes with implementation
- Community awareness and involvement
- Program's reach to target audience
- Current or potential partnerships
- Strengths and weaknesses of the program
- Success(es) of the program
- Key lessons learned with overall experience
- Data collection activities
- Financial resources and funding challenges
- Start-up costs, ratio of costs across program components, cost of administration

#### **Managers**

- Manager's role and responsibilities
- Basis for the program
- Program's goals, expected outcomes, activities, services
- Program components
- Key staff members and their roles
- Program setting(s) and rationale for site selection

- Community awareness and involvement
- Program’s reach to target audience
- Current or potential partnerships
- Strengths and weaknesses of the program
- Key lessons learned with overall experience
- Success(es) of the program
- Data collection activities
- Financial resources and funding challenges
- Start-up costs, ratio of costs across program components, cost of administration

## **Staff**

- Staff member’s role and responsibilities
- Program’s goals, expected outcomes, activities, and services
- Community awareness and involvement
- Current or potential partnerships
- Strengths and weaknesses of the program
- Successes of the program
- Key lessons learned with overall experience
- Data collection activities
- Financial resources and funding challenges

## **Partners**

- Partner’s involvement, role, and responsibilities
- Program’s goals, expected outcomes, activities, and services
- Community awareness, involvement, and reaction
- Benefits from partnership
- Other potential partners
- Strengths and weaknesses of the program
- Success(es) of the program
- Key lessons learned from experience with the program
- Funding sources and their effect on partnership

## Evaluators

- Evaluator's role and responsibilities
- Program's goals, expected outcomes, activities, and services
- Program components
- Program's reach to target audience
- Community awareness, involvement, and reaction
- Other potential partners
- Success(es) of the program
- Evaluation design
- Data collection methods
- Analysis of data and dissemination of results
- Key lessons learned from experience with the program and efforts with evaluation
- Financial resources and funding challenges

## Other Stakeholders

- Background and history of the program
- Program's goals, activities, and services
- Stakeholder's role and involvement with the program
- Program's reach to target audience
- Audience's awareness and reaction
- General impression of the program
- Success(es) of the program
- Key lessons learned from experience with the program

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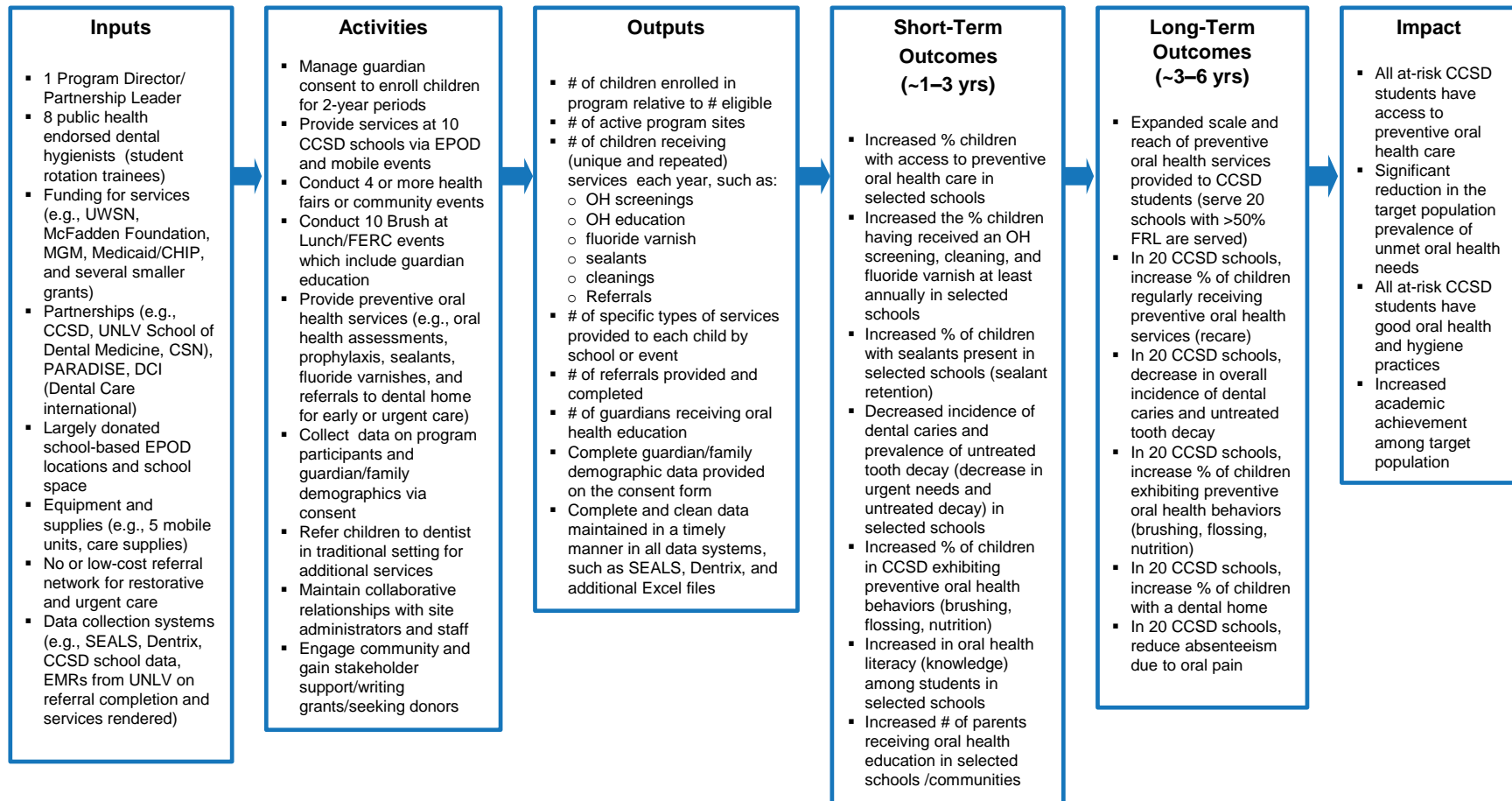
# **APPENDIX B**

## **LOGIC MODEL**

## Future Smiles Program Logic Model

### Dental providers in non-dental settings

**Rationale:** Providing preventive oral health services to children ages 0-18 (or until high graduation/21 years) in school-based or school proximal settings using public health (PH) dental hygienists to provide basic preventive oral health care, such as risk assessments, cleaning, fluoride varnish, sealants, follow-up preventive care, and referrals for restorative or emergency care. The program aims to reach youth in schools where free and reduced lunch status exceeds 50%.





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