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Community Dental Health Coordinators: Innovative Impact with Dental Case Management an Arizona Case Study

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ABSTRACT

Oral health services remain a top unmet need despite the rising number of children who have access to a "Dental Home". Most care rendered in the dental community depends on self - directed case management through patient action, with no consideration of social determinants. While care coordination and navigation linking patients to appropriate services are well understood within the medical community, they are less understood in the dental community until recently with the growing number of graduates from the Community Dental Health Coordinator (CDHC) curriculum designed by the American Dental Association.

This article will highlight a case study designed by a Community Dental Health Coordinator who utilized dental case management to reduce untreated decay in a school by 60% over a one-year period.

Highlights

A dental hygienist with specific training as a Community Dental Health Coordinator utilized engaging and innovative methods to energize schoolchildren and their families in an oral health program of reduced disease and untreated dental decay.

Keywords

Care coordination, Case management, Navigation, Social determinants, CDHC, Oral health, Decay, Access.

Background

When the American Dental Association (ADA) designed a training program in 2007 for dental professionals to learn various skill sets of community health workers, many people were puzzled. Why would a member organization for dentists devote time to develop, license and trademark a social service curriculum based on community health worker skills for hygienists and assistants?

The popular thinking among some groups was (and for some, it remains), that the only really relevant people in the dental workforce are dentists, dental hygienists and dental assistants. Some observers have claimed that access to dental care can be improved only with more providers of care.

So, what purpose could it serve for the ADA to teach dental professionals how to address upstream determinants of poverty, approach psychosocial aspects of barriers to dental care or focus on barriers to care faced by underserved populations? After all, if people want a dental appointment, don't they just call a dental office and get one? At one time in my dental hygiene career, I believed that concept completely.

As a dental hygienist with now over 10 years of experience, I once believed that my chief professional purpose in life was to provide hygiene services. In becoming a Community Dental Health Coordinator (CDHC), I came to realize that providing the clinical services was only part of what the patient needed. It turned out that there was a population of people who needed not just my clinical services but much more. They actually had significant barriers to obtaining care as many populations do with regard to understanding what dental care was and how to obtain it. Health literacy is a major barrier for many.

In the continually evolving discussion on access to dental care, there is much dependence on self-navigation. The traditional expectations of many in the dental community assume that patients know what services they need for good oral health and how to

obtain it. There is also the assumption that patients understand how their oral health impacts their overall health.

In the medical provider space, navigators have been central to helping patients explain what health services are available, how those services can be coordinated, what insurance options exist for them and how to get around the healthcare system, once inside. Navigators or "case managers" must also deal with the emotional, spiritual, financial, familial and realistic factors (which can become barriers) that patients face in their attempts to access care [1].

Navigators in the medical world assist patients in addressing their issues and reducing those factors which can become barriers to care like transportation, understanding what services are needed, when they're needed and how to get them. These navigational services are critical to helping patients obtain services to upgrade their health status and reduce some of the disparities that are frequently seen with underserved populations. Navigators can also help address some of the fears and deeply rooted suspicions which prevent members of those populations from seeking care.

In the dental world, there was complete reliance on patient self - direction until the CDHC program developed by the ADA was developed which is now being offered by over 15 schools. The graduates of those programs are changing the landscape of access to dental care. In 2017, I became one of those graduates after becoming interested in how I could better connect families to dental care.

The program professionally changed my life, and, in turn, I've been allowed to change the lives of many patients. The impact of this change is felt by me every day and it's seen in the disease levels of the children.

What is unique about the training within the CDHC program? It's the provision of an academic environment where dental professionals like myself can have intense training in patient advocacy, care coordination and navigation services that encourages consistent continuity of care. It's one thing to get a dental appointment for a patient for a specific procedure – it's another to locate them in a dental "home" for continuing care and preventive maintenance.

My CDHC program was through the 11 month Rio Salado Community College located in Tempe Arizona. The online modules focused on several community health worker topics including social determinants of health, verbal and non-verbal communication skills, principles of community outreach and motivational interviewing. Our class had frequent conference calls to discuss the modular content and share our thoughts with the faculty.

Most dental hygiene programs contain some information about those topics, but the CDHC program deals with them on an intensive level. We spent a couple of months on motivational interviewing before beginning our internship projects which were designed to demonstrate a community based intervention. Our internship projects were overseen by faculty at the AT Still School of Oral and Dental Health.

This training was a transition into a new world which included some intense development of presentation skills on community water fluoridation advocacy, how to make an effective home visit, what motivational interviewing is really all about and how to culturally understand the power of communication within a community.

This training also taught me how to assist groups or individuals how to identify and pursue oral health goals, teach them how to demonstrate oral health preventive techniques and how to address their anxiety with regard to dental appointments.

I learned enough from this program to feel empowered to begin my own non-profit dental company, work with a dentist and make community based grass root changes for underserved families to be linked to a dental office. In many ways, I've learned a new language of access which has seen some early success.

This dental case management program has significantly reduced untreated dental decay within an elementary school. This outcome has important long range policy implications.

The 2000 report of the U.S. Surgeon General reported that over 50% of children in the 5-9 year old age category have at least one cavity. This condition feeds into the 51 million school hours that are lost each year for reasons related to untreated dental disease [2].

Materials and Methods

My first step was to perform an environmental scan to look at access and utilization for our particular county in Arizona county. What I discovered was clearly evident (thanks to our CDHC class in Community Mapping).

Greenlee County has 3188 households according to the 2010 US Census [2]. It is the least populated county and 38% of the households have children under age 18. It is the county with the lowest number of children who had a preventive dental visit in 2016.

The clear difference in utilization of services between Greenlee County and the others made quite an impression on me. I became determined to make a difference for children by working within their school system to reach them (and their families) [3].

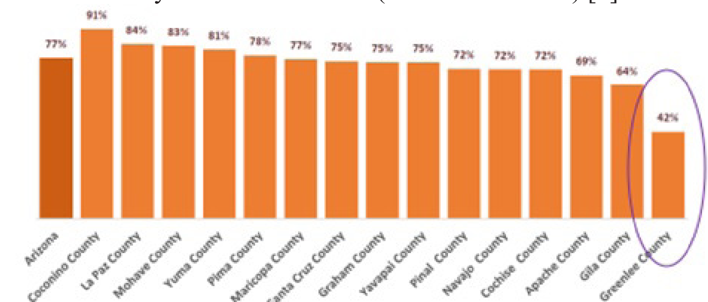


Figure 1: Percent of children with an Annual Dental Visit by Country.

My thoughts about an affiliated dental practice with a dentist grew into my development of a nonprofit organization which would bring preventive services such as screening assessments, cleanings, sealants, fluoride applications and oral health education to the county schools. My affiliated dentist would work with me in getting those children with decay into the dental office for restorative care.

The name for the organization came to me while driving around our county and locating the various schools. The name is Tooth B.U.D.D.S and the B.U.D.D.S stands for "Bringing Understanding of Dental Disease to Schools". If we could help kids understand what caused tooth decay, we could get them excited about how to prevent it. This effort would not only make them experience less tooth decay (and the discomfort which goes along with it), but could help them feel better about themselves.

Intervention

When Tooth B.U.D.D.S. began about one year ago, it was apparent to me that 20% of the children I was seeing in elementary schools had never been to a dentist before. As the first dental presence in their young lives, it gave me an enormous sense of satisfaction to provide preventive services, through an affiliated practice agreement with my dentist partner, to over 600 children with another 1200 receiving oral health education.

What has been remarkable about this year is the difference that this program, accompanied by my CDHC developed navigational skills, has accomplished for one group of children in particular. Credit is also shared with the dental office of Dr. Stacy Williams who partnered with me in helping to call the parents, address any of their barriers and getting the kids in for treatment.

We have found that using tele dentistry has really streamlined the process of getting patients into the office for their restorative needs. The software stores the images we take of the students in the cloud for our affiliated dentist to access. This gives the dentist a greater understanding of the situation so that when she connects with the parents, she is able to better convey to the parent what needs to be done.

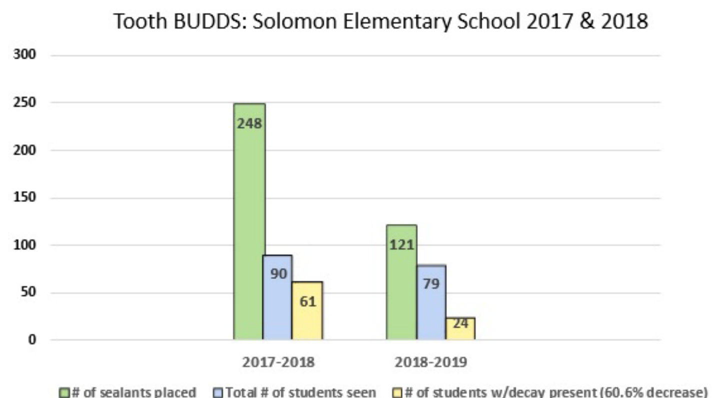
At the same time, we print off these pictures for the parents and send them home with the follow up treatment referral information. These pictures seem to the key for getting parents to make an appointment for the restorative care. The treatment gets completed, and the untreated decay rate declines.

Solomon Arizona is a small town, about 2 hours northeast of Tucson, with a population of 486 people. The elementary school covers K-8th grade and most of the kids I saw last year for the first time. This year, while most of the kids were the same ones I saw last year, their oral health status was quite different.

The table illustrates a key outcome of our program at this early stage: less untreated tooth decay and less decay in total. In addition to the treatment the children received through the program, those who had no dental home were referred to our affiliated dentist who is always glad to see new patients.

Outcomes and Discussion

It was a pleasant surprise to discover a significant decline in untreated decay and new decay as well.



Tooth BUDDS Data Collection for School Year 2017-2018

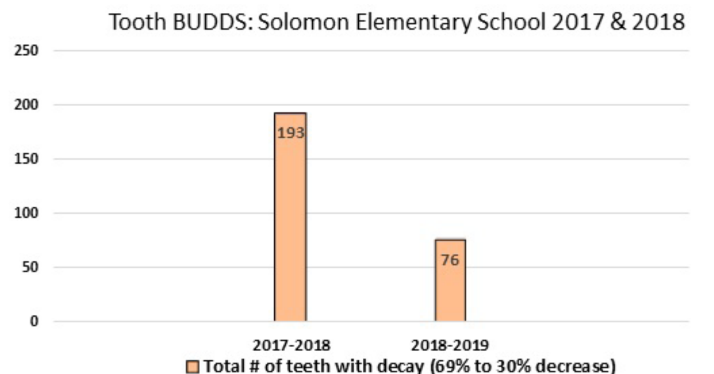
School	Grades Served	Total Students	Total students seen	Consent forms returned	Yes's	No's	Caucasian	Hispanic	African American	Native American	other
Discovery Plus Academy	K-5	114	83	n/a	83	n/a	70	11	1	0	1
Dan Hinton	K-12	34	9	9	9	0	5	0	0	4	0
Solomon	K-5	117	90	105	90	15	35	50	3	1	0
Triumphant Learning Center	K-8	100	53	70	53	17	34	15	0	2	2
Duncan	K-5	170	100	130	100	30	55	27	1	6	11
Pima	K-6	438	140	238	140	95	124	34	3	2	1
Dorothy Stinson	K only	89	50	58	50	8	29	21	1	0	1
Bonita	K-8	89	58	82	58	24	19	36	0	0	3
Home School (Graham)	K-12	35	35	35	35	0	35	0	0	0	0
Summer Programs	n/a	41	41	41	41	0	28	13	0	0	0
Totals:		1267	662	175	662	189	432	209	9	15	19

School	Decay experience	Decay present	Sealants present	1st dental visit	# referrals given for decay from pt's with no dentist	AHCCCS pts	Sealants Placed: Molars	Sealants Placed Premolars	Sealants placed: baby teeth	No dentist	# decayed teeth referred	SDF placed
Discovery Plus Academy	80	49	27	5	15	15	220	28	180	15	53	n/a
Dan Hinton	4	5	2	0	5	9	18	22	0	5	15	12
Solomon	60	61	22	10	22	49	142	106	188	26	193	140
Triumphant Learning Center	40	28	18	2	10	29	102	39	22	10	81	65
Duncan	59	68	19	8	31	51	123	72	0	39	223	168
Pima	92	89	27	2	27	66	289	230	0	35	290	242
Dorothy Stinson	27	28	4	5	9	18	85	0	0	10	82	52
Bonita	29	30	13	5	9	14	112	124	0	14	103	97
Home School (Graham)	20	10	8	2	2	8	53	65	1	18	34	17
Summer Programs	21	25	3	5	18	23	58	121	28	18	71	71
Totals:	412	394	143	44	148	282	1212	807	419	190	1135	864

Solomon Elementary School Grades K-5

	2017	2018
% of children with decay	69%	30%
# of teeth with decay	193	76

In working closely with our affiliated dental office and our students we saw the active decay rate decline from 69% to 30%. Last year, there were 193 decayed teeth compared to 76 with decay this year.



Part of this reduction could be from the improved home care practices of the students. One parent has shared this comment, "My kids came home so excited, and of course had to tell me that I haven't brushed their teeth correctly haha. But now they brush ALL THE TIME!!. Great job Tooth BUDDS!"

There are also stories of the kids loving the Tooth B.U.D.D.s pledge we teach them by singing the following message:

I pledge to brush my teeth 2 times a day for two minutes.

This simple message can lead families to healthier homecare practices and time will tell us if we are experiencing these outcomes because of our efforts or because many of these children have not had a predictable dental presence in their lives up to this point. But with one year accomplished already, this program seems to have made a significant difference and we appear to be on a positive track.

My supervising dentist has commented that our program "has been an amazing boost for children's dental health in our community. It is wonderful to be part of saving children from infection, pain, and premature tooth loss."

Conclusion

My nonprofit mobile dental program which is connected to a dental practice utilizes a low cost service paired with an existing dental practice. Our efforts are supported by my newly acquired Community Dental Health Coordinator case management skill set from a curriculum constructed by the American Dental Association which addresses cultural barriers that families face in eliminating dental disease.

This engagement involves reaching out to parents with effective communication to schedule them for restorative treatment and provide the needed education to reduce future disease. In one year, we saw almost a 30% reduction in new dental disease in an elementary school by connecting their families to care through our actions.

The children feel empowered, the families are excited about their improved oral health, and I feel professionally gratified about making this difference in their lives.

We will collect data on the other schools which we visit and share those outcomes in a subsequent article. I look forward to seeing what outcomes my classmates or some of the other graduates are accomplishing. With over 300 graduates from this program, there will surely be some additional impact studies coming in the near future.

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