Americares Oral Health Project:

Integrating Low Literacy Dental Health Education into the Health Care Safety Net

Background & Introduction

One in three adults in the United States have untreated tooth decay and 36% of adults ages 18 - 64 reported no dental visits in 2015.[1],[2] The impact of lack of dental care on patients' general health and well-being is well documented, disproportionately impacting low-income individuals' overall health and socio-economic status. An estimated 164,000,000 work-hours each year are lost due to oral disease, resulting in lost wages for patients dependent upon hourly wages.[3] According to the American Dental Association, children living in poverty suffer twice as much tooth decay as their more affluent peers, and their disease is more likely to go untreated. There is also a growing body of research that points to associations between untreated oral disease and an exacerbation of chronic conditions such as diabetes, heart disease, and stroke. Individuals with disabilities or mental illness and the elderly may have physical, cognitive or behavioral limitations that impair normal oral self-care, exacerbating chronic and complex conditions that are adversely affected by oral disease.

Untreated preventable dental problems led to 830,000 emergency room visits in 2009 with a correlating negative economic impact.[4] The estimated global economic burden of dental diseases was over $442 billion in 2010.[5] The burden of untreated dental caries is highest among adults with income below 100% of the Federal Poverty Level (FPL) at 44% and with adults with income between 100% and 199% of the FPL versus 17% for those adults over 200% of the FPL. [6]

The Affordable Care Act had nominal impact on the number of low income adults with dental benefits. States have significant flexibility to determine what dental benefits are provided to adult Medicaid enrollees resulting in spotty coverage. As explained by an Americares free clinic partner in West Virginia, "The expansion of Medicaid did nothing to offer dental services to the low-income state residents, so at this point there is really nothing they can do to access dental care." While most states provide at least emergency dental services for adults, less than half of the states currently provide comprehensive dental care and there are no minimum requirements for adult dental coverage.

Because of these access-related issues, the best setting to address oral health in vulnerable, low-income populations are safety net institutions, including free and charitable clinics (“FCCs”). FCCs serve a low-income patient base with more than 95% of patients falling below 200% of the FPL. Over the last decade, the FCC sector has increasingly begun basic and/or comprehensive oral health care at their clinic sites.

Americares is a health-focused relief and development organization that responds to people affected by poverty or disaster with life-changing medicine, medical supplies and health programs. In the United States, Americares partners with over 1,000 clinics, health centers and nonprofit behavioral health organizations in all 50 states and Puerto Rico who collectively serve nearly 6 million patients. Americares is the largest distributor of the highest-quality medical aid to the poor and uninsured/underinsured in the U.S. and serve as the pharmaceutical industry’s preferred program partner for domestic product distribution. Last year, the U.S. Program received medical donations from 58 corporate donors and distributed 3.46 million course treatments that benefited 236,000 people, valued at over $200 million.

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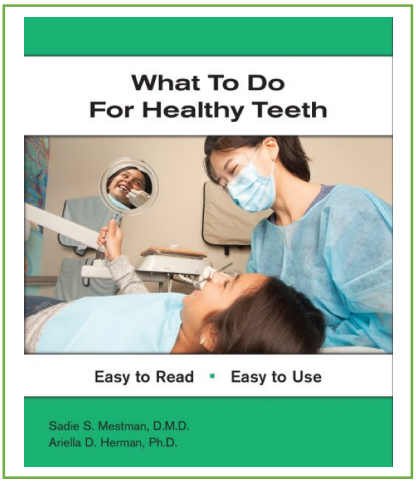
[1] https://www.cdc.gov/nchs/products/databriefs/db197.htm
[2] https://www.cdc.gov/nchs/fastats/dental.htm
[3] https://www.nidcr.nih.gov/DataStatistics/SurgeonGeneral/Report/ExecutiveSummary.htm
[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4765973/
[5] https://www.ncbi.nlm.nih.gov/pubmed/26318590
[6] https://www.kff.org/medicaid/issue-brief/access-to-dental-care-in-medicaid-spotlight-on-nonelderly-adults/

Americares supplements their gift-in-kind model by offering their FCC partner network best-in-class health programming to address chronic diseases in low-income, uninsured patient populations.

There are approximately 1,400 FCCs in the United States who together serve 2 million patients annually and provide 5 million visits.[i] FCCs are nonprofit organizations that rely heavily on private sources of funding and volunteer clinicians to provide a range of health services to uninsured and underinsured patients at little or no cost.

The **Institute for Healthcare Advancement** (IHA) is a nonprofit organization with the mission of empowering people to better health. They accomplish their vision by hosting national literacy seminars, providing health literacy communications solutions consulting services, and publishing the "What to do for Health" book series. IHA is led by Dr. Albert Barnett, a nationally recognized expert on healthcare delivery models.



IHA has developed a series of low literacy health books, including “What to Do for Healthy Teeth,” an easy-to-follow, simply written guide that covers a full range of oral health topics on how to care for every tooth in the mouths of adults and children. The guide was vetted and approved by Americares public oral health consultant and has been successfully utilized in numerous public health settings, including in a 60,000 family study at the University of California, Los Angeles funded in part by the CDC.

Americares sought to explore health interventions that would increase free clinic patients oral education and could be replicated by our national network of free and charitable clinics.

Hypothesis

Both oral health care and low-literacy health resources were identified as a gap in the delivery of care to low-income patients through the conducting of web-based needs assessments and clinic site visits. The barriers to dental care for low-income patients are multi-faceted and may include challenges related to cost, fear or stigma, lack of dental providers, transportation, work and child care arrangements and cultural concerns. **Given these barriers, it was hypothesized that integrating literacy-sensitive oral health education into primary care settings would serve to address an unmet need in communities across the country by educating patients in the comfort and convenience of their medical home.**

Pilot Program: Americares Oral Health Project

To address the gap in dental benefits for low income patients and the significant role that oral health plays in systemic health and with funding from the Baxter International Foundation, Americares U.S. Program partnered with IHA on a year-long project to address oral health education in both primary care FCC and charitable dental clinic settings. Launched in November 2016, the Americares Oral Health Project entailed the collaboration with IHA to create a customized Master ‘Train the Trainer’ webinar series on how to integrate low-literacy oral health education materials into primary and dental care settings. The program was designed specifically for Americares partner FCCs that serve uninsured, low-income, and often low-literate patients. IHA delivered the "Healthy Teeth" books and developed and implemented the ‘Train the Trainer’ modules for FCCs. Online training sessions entailed the delivery of educational modules to 30 clinic staff members to complement the IHA’s "What to Do for Healthy Teeth" book. The

book is geared specifically toward adults at a 3rd to 5th grade reading level. Americares supplied the 30 partner FCCs with 6,000 books and dental products for patients.

The primary objectives of the Americares Oral Health Project were to:

(1) Increase the capacity of clinic staff treating vulnerable populations to address issues related to oral health,
(2) Educate clinic staff in the delivery of oral health education to a population with low literacy levels and other language barriers and
(3) Train clinic staff on how to integrate low-literacy oral health education into clinic settings.

Methods

Americares disseminated a competitive request for proposal ("RFP") to its partner network of approximately 500 FCCs. Interest in this Oral Health Project was high, with 60 clinics willing to join the project. 30 clinics were selected based on:

- Clinic/ patient need
- Clinic staff's experience with implementing a train the trainer initiative
- Experience and dedication of staff identified to implement and manage the project
- Clinic capacity to dispense donated products

Based on these criteria, Americares selected the following clinics to participate in the pilot project:

1. Native American Community Health Center – West (AZ)
2. Coachella Valley Volunteers in Medicine (CA)
3. Samaritan House Medical/Dental Clinics (CA)
4. Volunteers in Medicine - San Diego, Inc. (CA)
5. Westminster Free Clinic (CA)
6. SET Family Medical Clinics (CO)
7. Americares Free Clinic (CT)
8. Hands Clinic (FL)
9. Homeless Empowerment Program Dental and Wellness Clinic (FL)
10. Neighborhood Health Clinic (FL)
11. The Salvation Army – We Care Dental Services (FL)
12. Senior Friendship Centers, Inc. (FL)
13. CommunityHealth (IL)
14. Volunteers In Medicine (MA)
15. Dr. Gary Burnstein Community Health Clinic (MI)
16. Good Samaritan Care Clinic (MO)
17. Broad Street Clinic Foundation (NC)
18. Surry Medical Ministries (NC)
19. Geneseo Parish Outreach Center, Inc. (NY)
20. Good Shepherd Ministries (OK)
21. Centre Volunteers in Medicine (PA)
22. Community Volunteers in Medicine (NJ)
23. Community Medical Clinic of Aiken County (SC)
24. Shifa Free Clinic (SC)
25. Mission Waco Health Clinic (TX)
26. Spindletop Center (TX)
27. Safe Harbor Free Clinic (WA)
28. Bread of Healing Dental Clinic (WI)
29. Hope Clinic and Care Center (OH)
30. Beckley Health Right, Inc. (WV)

Americares program staff experienced in project management served to select clinics for participation and provided direct technical assistance to participating clinics. Further, Americares program staff worked in partnership with the IHA in the module design and implementation, soliciting feedback from clinics prior to the modules on topics of interest and hosting the modules on Americares web platform. Additionally, Americares program staff co-developed the baseline and post-surveys and managed the distribution of surveys and collection of data.

Americares Oral Health Project followed the timeline below:

- **September 2016**: Request for Proposal released
- **October 2016**: Thirty participating clinics selected
- **November – December 2016**: Thirty master trainers trained in two groups using three, one-hour interactive webinars. Baseline and post-training surveys were collected from each clinic to assess the project's effectiveness at increasing the clinic staff's ability to educate patients about oral health.
- **December 2016 – May 2017**: Thirty master trainers trained their colleagues to use the "Healthy Teeth" books and provide the books to and dental hygiene products to their patients.
- **July 2017**: Final survey to assess the effectiveness of the webinars and "Healthy Teeth" book on improving clinic services and processes around oral health.

Results

Goal #1 – Increase the capacity of clinic staff treating vulnerable populations to address issues related to oral health.

The master training aimed to prepare 30 clinic staff with the knowledge and tools necessary to both treat patients and educate additional staff. Participants learned about a variety of dental health conditions including co-morbidity with other disease states including heart disease and diabetes. They were given strategies on how to teach patients about a range of oral health topics, such as how to maintain healthy dental diets, what to do if a tooth gets knocked out, and how to minimize the impact of the mineral-laden saliva that causes tartar. Trainers were taught specific methods for teaching colleagues to utilize the "Healthy Teeth" books with their patients at appropriate literacy levels.

Trainers were also taught teaching methods around low-literacy approaches to care that can be applied to topics throughout the clinic setting and well beyond oral health. Americares aimed to accomplish this goal of increased clinic capacity through increased knowledge about oral health and enhanced trainer understanding regarding the necessity of providing education in a manner that is at an appropriate level.

This goal was measured by:

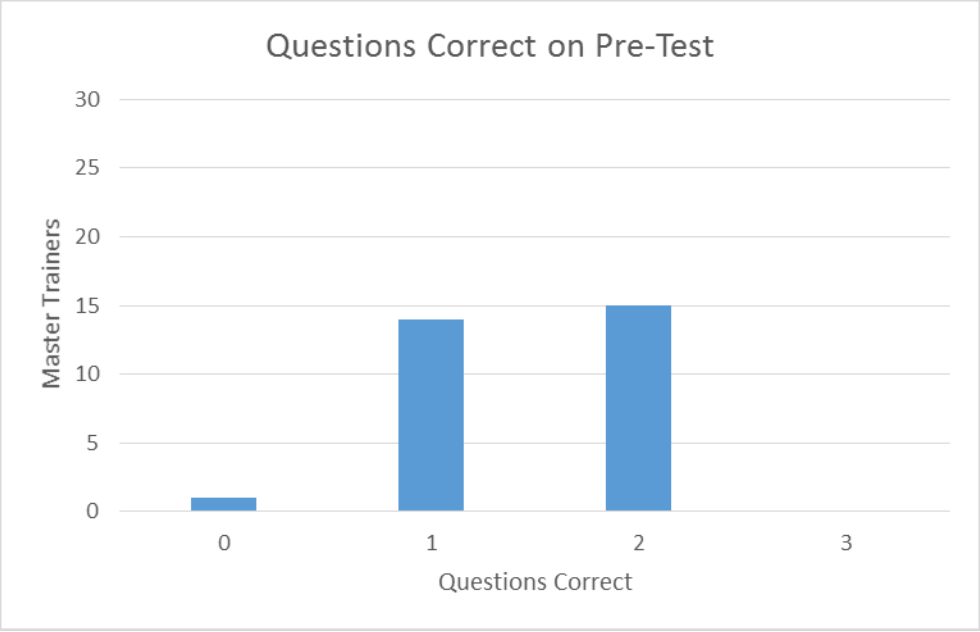
(1) Number of trainers trained
(2) Trainer knowledge-change using Likert scales. At the conclusion of the training modules, training participants should be able to understand techniques to effectively educate patients in their community and will be able to identify reasons why oral health education is needed to increase overall health.

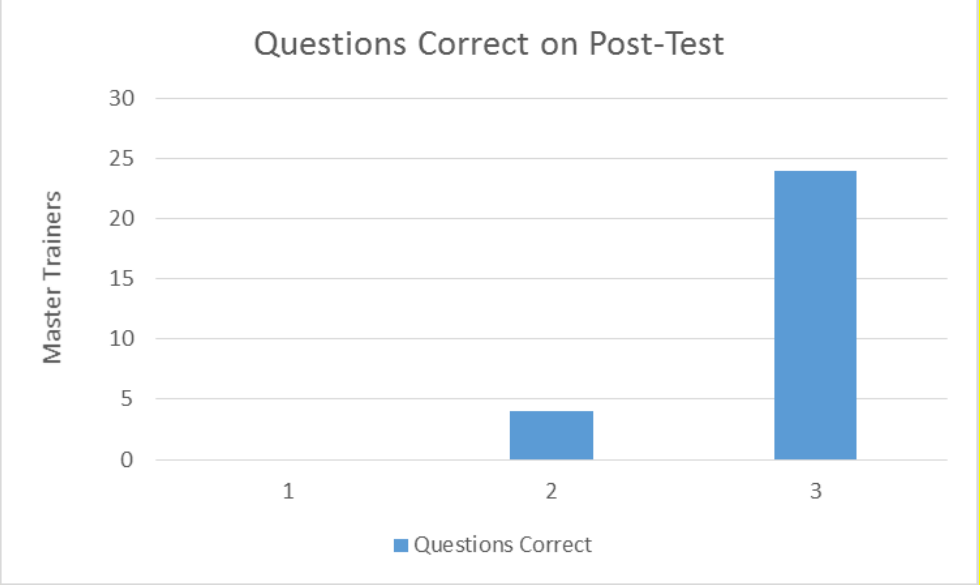
Goal #1 – Results

30 Master Trainers were trained across 30 of Americares partner clinics. The clinics were split into two cohorts of 15 clinics each, and each cohort participated in three webinars to learn and practice the teach-

back method of patient outreach, familiarize the Master Trainers with the “What to Do For Healthy Teeth” book and get tips for implementing the project at their site. Americares and IHA administered a pre-test before the three webinars to gauge participants’ knowledge of Health Literacy and the effect of oral health on overall health, as well as participants’ knowledge of and comfort with the teach-back method. There were three questions about health literacy and the effect of oral health on overall health.

All 30 Master Trainers completed a pre and post-test of 3 questions. **There was a 40% increase in knowledge between the pre and post-tests.** Participants were given access to recordings of the webinars and were in contact with the consultant from IHA who led the webinars to ask any questions or address any concerns they had before moving into the patient outreach phase of the project.





Goal #2 – Educate clinic staff in the delivery of oral health education to a population with low literacy levels and other language barriers.

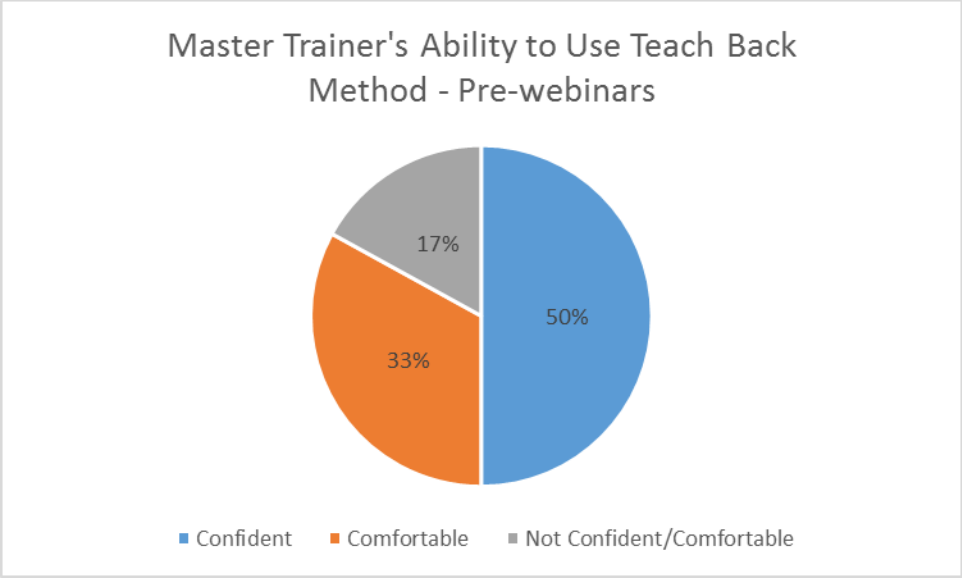
The educational materials participants were trained to use were specifically designed to address social and cultural barriers for effective oral health care delivery. Americares aimed for trainees to understand the teach-back method by the end of the training. The teach-back method is a communications methodology used by health care providers to confirm whether a patient understands what is being explained to them. It should also increase oral health education in a manner that is sensitive to the community's needs. The teach-back method also helps providers evaluate their own communications skills and has been proven effective in the areas of quality, patient safety, risk management and cost efficiency. By empowering clinic staff with the skills to utilize this methodology, Americares anticipated significant residual benefits in the delivery of other clinic services.

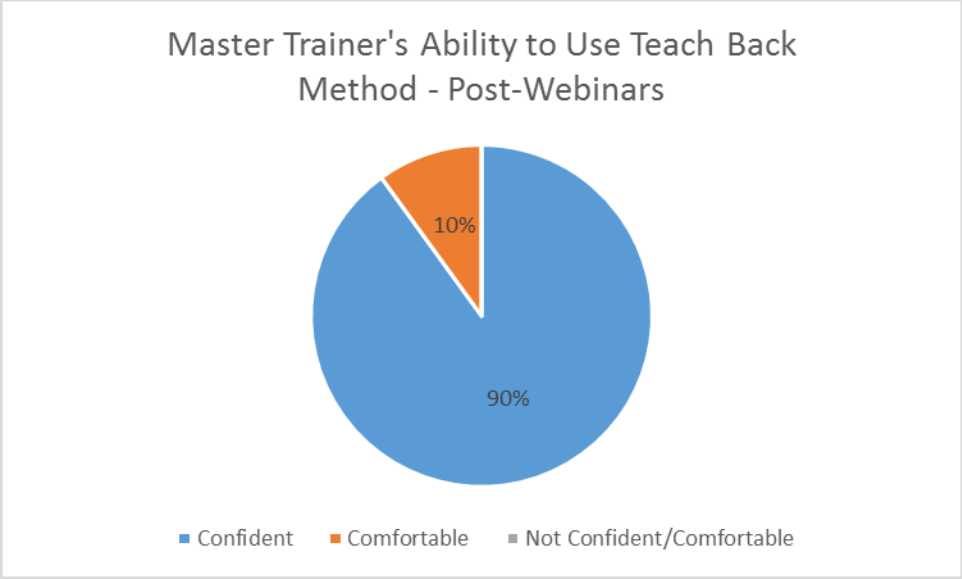
This goal was measured by:

(1) Number of additional staff trained at each clinic site
(2) Knowledge changes using Likert scale
(3) Development of logic models
(4) Graded evaluation of logic models
(5) Pre-and post-oral and low literacy education integration change

Goal #2 – Results

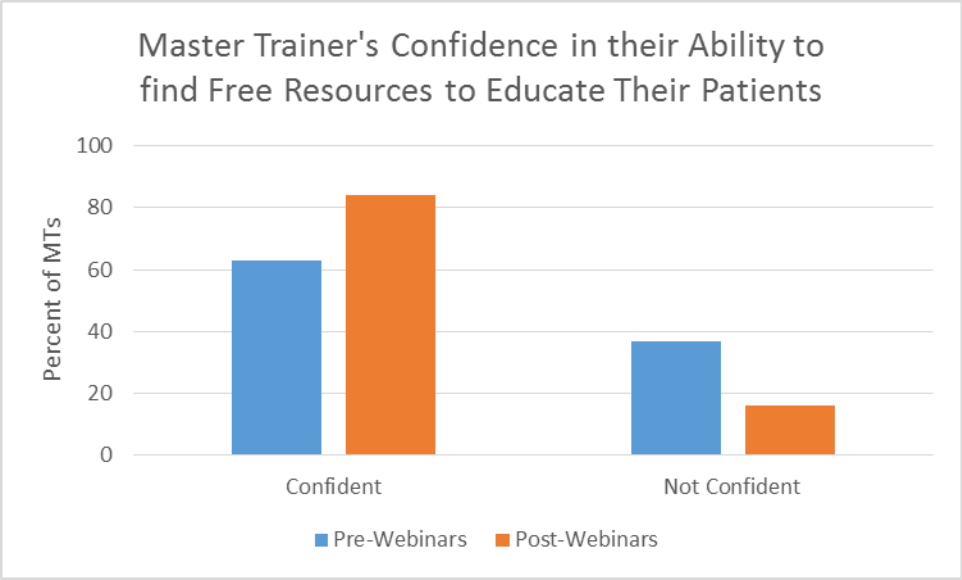
149 staff were trained by Master Trainers at participating clinics. Each Master Trainer was evaluated based on their knowledge of and comfort with the use of the 'teach-back method on the pre- and post-webinar tests. 50% were confident in their knowledge of the 'teach-back' patient outreach method before the webinars. **After the webinars, 90% of Master Trainers felt confident in their knowledge of the teach-back method.**





Before the webinars, 63% of Master Trainers felt confident in their ability to find free resources to help effectively educate patients in addition to the book. In final reporting, 80% felt confident in their ability to find free resources.

In addition, 92% of Master Trainers indicated the patients responded favorably to outreach conversations they had with clinic staff through the project. Furthermore, 69% of Master Trainers indicated that their clinic staff's rapport with patients improved.



Before the patient outreach phase of the project, the Master Trainers were tasked with developing an implementation plan for the Oral Health Project at their site. This included the number of staff they planned to train, the schedule for training, resource needs, and any potential barriers to staff training or engagement that could arise at their site. **24 of the 30 Master Trainers completed an implementation plan.** The IHA team reviewed the implementation plans, following-up with the Master Trainers about the plans where necessary. All plans were evaluated and graded with a pass.

Goal #3 – Train clinic staff on how to integrate low-literacy oral health education into clinic settings.

Participants were taught a variety of practical methods to use at their clinic sites in the introduction of new oral health literature, including how to recognize when a patient is having difficulty reading and how to create simple yet effective patient-centric marketing materials. Participants also learned how to assist patients with low literacy levels in completing documents, engaging in productive and inclusive conversations, and communicating a large amount of information in a limited amount of time. During the modules, participants also explored the greatest communication challenges that their staff have with patients and discuss methods for troubleshooting challenging situations with patients lacking literacy skills. These skills were focused primarily on oral health but addressed communication challenges in primary care more generally. A graded evaluation of logic models around implementation were used to measure the effectiveness of adopted strategies.

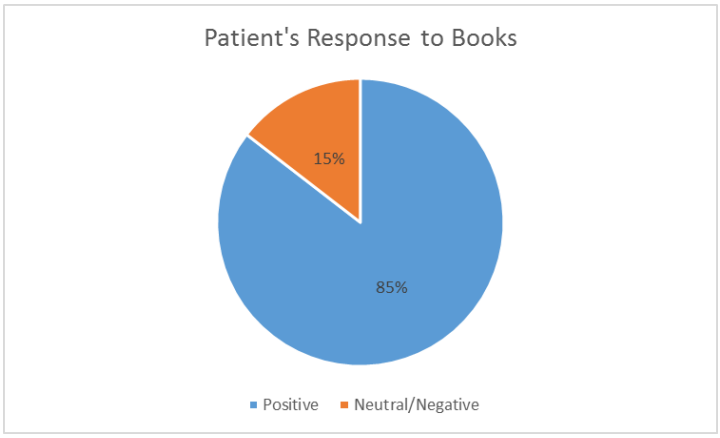
Following the train the trainer modules and the subsequent clinic staff training, the "Healthy Teeth" books were distributed to 6,000 vulnerable patients across 30 clinics sites. As an incentive for the utilization of the books, 1 toothbrush and 1 unit of toothpaste were distributed to patients who received the books. Through other Americares projects and evidence based research, it is well documented that patient incentives are highly beneficial when seeking to affect a process change.

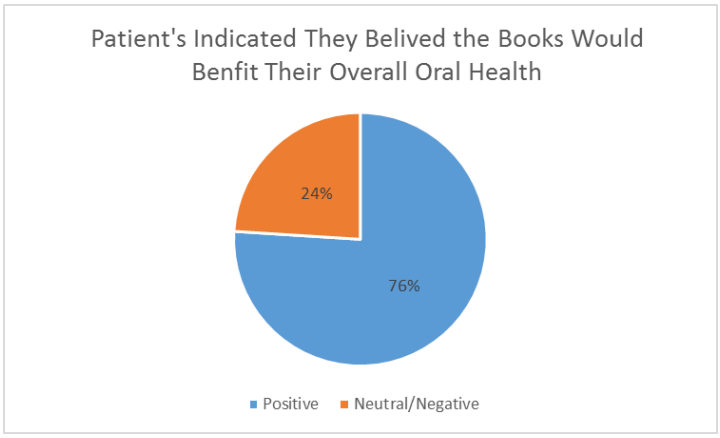
This goal was measured by:
(1) Number of patients educated about oral health
(2) Number of books distributed
(3) Number of incentives distributed

Goal #3 – Results

After completion of the three webinars, each cohort (group of 15 clinics) had 6 months to train their staff and conduct outreach to patients at their clinic. Each clinic set a patient outreach goal based on their clinic's annual unduplicated patient numbers and schedule. At the conclusion of the project, 4,707 patients had been reached through the project and 4,628 books and 11,976 units of dental supplies (toothbrush, toothpaste, spool of floss) had been distributed to patients. Distribution at the clinics sites continued after the conclusion of the reporting period.

Several participating clinics created supplementary materials to accompany the books depending on their patients' reading levels and/or language challenges. In some instances clinics chose to give patients more information than was available in the books, a practice encouraged during the webinars. **100% of Master Trainers indicated on their final reporting that the patients responded positively to the dental supplies they received through the project. On the final reporting, 88% of Master Trainers indicated that the patients responded positively to the books and 76% of the Master Trainers indicated that the patients believed the book they received after their project interaction would benefit their oral health.**





Lessons Learned

One lesson learned from the Oral Health Project has been to build in more time for clinics to implement each project milestone. In similar train-the-trainer and patient outreach projects, the time allotted for staff training and patient outreach should be increased to allow for limited clinic hours or low staff bandwidth. Another lesson learned is to have monthly check-in calls with each cohort and to not wait until midpoint reporting for formal progress reports and feedback from the clinics. Americares staff primarily use email to communicate with project partners, escalating to phone calls when the partners are unresponsive. Using regularly scheduled phone calls could encourage clinics to think more critically about their progress, bring up issues that need addressing earlier and more frequently, and allow clinics to share successes and best practices with the group so other clinics can implement them at their clinic as well.

Project Limitations

Some limitations must be acknowledged. This project is not a research study, therefore the level of rigor of both the implementation and analysis does not align with that of a study subject to peer review. Americares did not track patient outcomes or community cost savings through this project. The study period was also relatively short, mandated by budget limitations.

Future Programming

Americares plans to continue the Oral Health Project, pivoting to operations and service expansion and intervention at the clinic leadership level. The Charitable Dental Clinic Institute (CDCLI) will be the first continuing education program of its kind in the nation. The CDCLI will equip the next generation of charitable dental clinic leaders to build and manage high-performing charitable dental clinics and programs. Launching in mid-2018 *(funding dependent),* the CDCLI will create a robust knowledge base on charitable dental care that will be imparted through webinars to established charitable dental clinic leaders who want to expand their clinics' services and operations either by increasing the service offerings; becoming their patients' medical home; or seeing more patients for more hours a week or increasing number of providers and volunteers that see patients on-site.

Americares long term vision is to build the oral health capacity of our clinic network through a national needs assessment and the provision of dental products and supplies, educational resources and ultimately clinic level programming. Americares plans to leverage our existing technology, network, and program to expand into this critical area of care.

Conclusion

By enabling patients to care for their and their family's teeth, and by raising awareness of the impact of oral health on overall heath, the Oral Health Project had residual impacts beyond the direct beneficiaries. Americares clinic partners were given tools to integrate oral health prevention education into the primary care setting which served to address the growing issue of dental disease in settings that serve as the first line of defense for this country's most vulnerable patients. By raising the general level of oral health education among patients treated at participating clinics, the project indirectly impacted their extended families and communities. The families of over thousands of patients were exposed to appropriate literacy level education around oral health and have a resource in their home to reference as they adopt health seeking behaviors.

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[i] Darnell, J.S. and Obrien, L. "How are free and charitable clinics faring under the Affordable Care Act? Results from a national survey." American Public Health Association Annual Meeting, November 3, 2015, Chicago, IL, Conference Presentation. Available from https://apha.confex.com/apha/143am/webprogram/Paper317629.html.

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