Innovative Approaches for Preventing Oral Disease and Improving Health

Texas Oral Health Coalition
November 11, 2017
Vision

> All people enjoy good oral and overall health with no one left behind
Our Three Pillars:

- Prevent Oral Disease
- Improve Access
- Transform Health Systems
What does success look like?

Prevention, prevention, prevention

100% access

0 disparities
Social Determinants of Health

Determinants of Health

- Social & Economic Factors: 40%
- Health Behaviors: 30%
- Clinical Care: 10%
- Physical Environment: 10%
- Genetics & Biology: 10%
Innovative approaches to prevent disease

> Baby Teeth Matter Collaborative
> Medical Dental Integration
> The Mighty Mouth campaign
Baby Teeth Matter
Just the Facts: 2-5 year olds

![Bar chart showing decay experience and untreated decay for AI/AN and US populations.](chart.png)
Two is Too Late!

Percent of AI/AN Children with Decay Experience by Age, 2014

- Age 1 Year: 20.0%
- Age 2 Years: 40.0%
- Age 3 Years: 60.0%
- Age 4 Years: 70.0%
- Age 5 Years: 80.0%
- Age 1-5 Years: 60.0%
Treatment alone does not stop ECC

> IHS has estimated that it costs thousands of dollars to treat each child with ECC and $8,000 or more if they are treated under general anesthesia.

> 40-50% of children treated with severe ECC have new decay within 4-12 months.
Assumptions

> ECC is both preventable and manageable if we can see children regularly beginning soon after the first tooth erupts.

> IHS/Tribal dental clinics are the best dental home for young children and dental treatment under general anesthesia should be avoided if possible.
Baby Teeth Matter: Objectives

- Prevention, prevention, prevention

- Changing norms

- Increase the number of 0-5 year olds who receive dental access, with an emphasis on 0-2 year olds.

- Increase the number of 0-5 year olds who receive comprehensive dental care at their IHS/Tribal dental program.
Baby Teeth Matter: 8 Dental Programs

> 12 Tribal Dental Programs from WA, OR participate
> Mix of large, small tribes
> Reservation based and urban Indian clinics
BTM Structure

> 3-4 face to face meetings yearly
> Collection of baseline and quarterly data
> Quarterly conference calls
> Ongoing training and technical assistance
PDSAs: Plan, Do, Study, Act

> Mini-experiments to see what does and doesn’t work to increase access and to keep young children in our IHS/Tribal dental programs.

> Experiment, fail, share learnings, tweak, try something else
Baseline Data: Jan-June 2013

Patient Outcome as of 12/2013

- 23.5% (44) Child did not receive TX
- 27.8% (57) TX completed with GA
- 30.5% (57) TX completed without GA
- 9.6% (18) TX started but not completed
- 8.6% (16) Unknown outcome
Baseline Data: Highlights

> Children 3 to 5 years old were twice as likely to access care as children 0 to 2 years old

> Nearly 32% (n=229) of children receiving dental exams/screenings needed restorative care

> Nearly 24% (n=44) of children who needed restorative care did not receive treatment and 9% (n=16) had an unknown outcome
Three Year Results

Children 0-5 Accessing Care at IHS/Tribal Dental Clinics (Phase I)

<table>
<thead>
<tr>
<th>Baseline Data</th>
<th>Inception of program</th>
<th>Progress Measure Data</th>
<th>% Change from Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>784</td>
<td>821 (+178%)</td>
</tr>
<tr>
<td>295</td>
<td></td>
<td>784</td>
<td></td>
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<tr>
<td>205</td>
<td>459</td>
<td>665</td>
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<td></td>
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<td>436</td>
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<td>436</td>
<td></td>
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- Children Accessing Care 0-2
- Children Accessing Care 3-5
- Children Accessing Care 0-5
What Works?
Washington state 2016 Apple Health utilization, adults 21 and over

SOURCE:
Washington State 2016 Apple Health Utilization, Children under 6

Statewide utilization 52.6%
0.5% change from last year

Highest utilization
Yakima County (65.2%)

Lowest Utilization
Garfield County (31.1%)

Largest Increase since 2015
Jefferson County (9.3%)

Largest Decrease since 2015
Ferry County (-2.2%)
Oral Health Integration
Putting the Mouth Back into the Body
Access Disparities: What Is Being Done?

Federally Qualified Health Center: dental visits improvements over time

% WA Residents below Federal Poverty Level Had a Dental Visit at FQHC  
Dental Patients  
Dental Visits
What Is Being Done?

Primary Care Medical Provider Trainings

✧ Since 2002, trainings have reached more than 1,612 of the 3,562 practicing Family Physicians and Pediatricians in WA.
Oral Disease Prevalence

Tooth Decay
> Most common chronic disease in childhood
  > Nearly 40% of kindergarteners in WA have tooth decay
  > Nearly 1 in 4 adults in the U.S. have untreated tooth decay

Periodontal Disease
> 47% of U.S. adults have some form of periodontal disease (> with age)
> 19% of adults aged 25–44 have severe periodontal disease
> People with serious gum disease are 40% more likely to have a chronic condition on top of it.

> Periodontal disease—correlated with a variety of conditions with systemic implications
  > Cardiovascular disease, heart disease, respiratory infections, diabetes, HIV, adverse pregnancy outcomes

> Systemic diseases can have an impact on oral health
  > Dementia
  > Chronic disease medications that cause xerostomia
Periodontal Treatment Reduces Medical Costs?

Treating Gum Disease Means Lower Annual Medical Costs

- Diabetes: $2,840 (40.2%)
- Stroke: $5,681 (40.9%)
- Heart Disease: $1,090 (10.7%)
- Pregnancy: $2,433 (73.7%)

Significant annual cost savings are possible when individuals with certain chronic diseases (diabetes, cerebral vascular disease, or coronary heart disease), or who were pregnant, received dental treatment for their gum disease, after accounting for the effect of diabetes.

Treating Gum Disease Reduces Hospital Admissions

- Diabetes: 39.4%
- Stroke: 21.2%
- Heart Disease: 28.6%

Significant decreases in annual hospitalizations are possible when individuals with certain chronic diseases received dental treatment for their gum disease, after accounting for the effect of diabetes.

What is the problem we are trying to solve?

A Prevention Gap

- Caries and periodontal disease are preventable chronic infectious diseases
- Unacceptably high burden of disease
- Dental care is the most common unmet health need
- The healthcare system, as currently configured, fails to reach the populations with the highest burden of disease resulting in pervasive health disparities and wasteful spending

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We need an *upstream* solution... a way to intervene *earlier* in the course of disease.

The proposal?

Expand the oral disease prevention workforce by engaging primary care teams in the fight against oral disease.
2011, the Institute of Medicine (IOM) recommends expanding the role of non-dental healthcare professionals in oral health.

The U.S. Preventive Services Task Force (USPSTF) Grade B recommendation for children, “primary care providers should apply fluoride varnish to the teeth of all infants and children from the time of primary tooth eruption to age 5.”

The Health Resources and Services Administration (HRSA) issues core clinical competencies and recommendations for integrating oral health in primary care, healthcare education, and practitioner standards.
Why enlist primary care teams?

**Access:**
Frequent contact with high-risk groups:
Children, pregnant women, adults with diabetes

**Oral systemic connection**

**Skills:**
- Chronic disease prevention
- Risk assessment, screening, case-finding
- Help patients navigate the healthcare system
- Engage patients in behavior change
Collaborative Care

Primary Care

Population Health Management and Reporting Tools*
Quality Improvement Methodology
Care Coordination
Medication List Management
Population Health Management and Reporting Tools
Quality Improvement Methodology
Care Coordination
Medication List Management

Prevention
Risk Assessment
Dietary Counseling
Oral Hygiene Training
Smoking Cessation
Fluoride Varnish
Fluoride Supplementation
Antibiotic Rinses
Screening for Oral Diseases
Management of Chronic Diseases

Deep Scaling and Root Planning for Periodontal Disease

Dental Care
Restorative Treatment of Caries
Endodontics
Orthodontics
Crowns and Implants
Deep Scaling and Root Planning for Periodontal Disease

*Including structured EHR data and diagnostic codes, disease registries, and other tools
5 actions primary care teams can take to protect and promote their patients’ oral health. Within the scope of practice for primary care; possible to implement in diverse practice settings.

Preventive interventions: Fluoride therapy; dietary counseling to protect teeth and gums; oral hygiene training; therapy for substance use; medication changes to address oral dryness; referral.

Field-Testing a Conceptual Framework

Develop  Test  Improve  Disseminate

19 diverse healthcare delivery organizations: Private practices, Federally Qualified Health Centers; medical only and on-site dental

Adults with diabetes (12), pediatrics (5), pregnancy (1), adult well visits (1) eCW (5), EPIC (8), NextGen (2), Centricity (2), Success EHS (2)

Direct Technical Assistance
Train-the-trainer with State PCAs

Oregon Primary Care Assoc.
Kansas Assoc. Medically Underserved (*)
Massachusetts League of CHCs
Field-Testing Results ➔ Implementation Tools

“Oral Health Integration Implementation guide”
Toolkit for primary care teams (Published Oct 2016)

- Workflow maps
- Referral agreements
- Clinical training materials
- Patient engagement strategies
- Patient/family education resources
- EHR templates
- Case examples
- Impact data and more
What’s next

Imagine.....

> Dental is a valued partner in a healthcare system capable of using data and evidence to measure, finance and deliver whole person care and population health.
What Is The Problem We Are Trying To Solve?

> The oral disease severity of a patient population cannot be easily measured, which is a foundational problem needing to be solved in order to reliably track disease progression and design the most effective models for preventing and treating oral disease.
What Will It Take?

Validated tools in dental for consistently measuring the oral disease severity in a population.
  > chronic diseases in medical

Dental providers assessing and tracking disease severity in real time.
  > Retrospective claims analysis is not sufficient.

Ability to easily share diagnostic data between dental and medical
  > Procedure codes (dental) vs diagnostic codes (medical)
The Mighty Mouth
The Mighty Mouth Campaign

Our Goals:

> Increase awareness about the value of oral health
> Motivate people to do more to prevent oral disease
Phase 1 Campaign Objectives

> Raise awareness: *oral health is essential to overall health*

> Increase knowledge about how to prevent oral disease

> Change behaviors (long-term)
  ✓ Increase Flossing
  ✓ Increase Checkups
Target Audiences

> At launch, targeted broad audience (Adults 25+)

> Followed by targeting subgroups with tailored messages
  - Pre-retirees
  - Mothers of young children
## Research Informed Strategy

<table>
<thead>
<tr>
<th>Summer 2013</th>
<th>Fall 2013</th>
<th>January 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus Groups</strong></td>
<td><strong>Baseline Survey</strong></td>
<td><strong>Campaign Launch</strong></td>
</tr>
<tr>
<td>-14 Small Groups</td>
<td>-1,200 Adults</td>
<td></td>
</tr>
<tr>
<td>-Statewide</td>
<td>-Phone survey</td>
<td></td>
</tr>
<tr>
<td>-Adults</td>
<td>-Statewide</td>
<td></td>
</tr>
</tbody>
</table>
Our Approach: Things People Say They Care About

Initial Target: Adults 25+

Medical frame
What my doctor thinks

Fitness/beauty frame
What I look like

Norms frame
What my friends think
Campaign Strategy

- Immediate rewards (better breath, more fit)
- Easy, important and cost-effective
- Fun and informative -- not “preachy”
- Place oral health messages in different contexts and settings
- Variety of trusted messengers
- New, surprising information in creative ways
Campaign Tactics

Paid Media

Social Media

Earned Media

Resources

Partners

Event: “Teeth Week”
Lou The Tooth Fairy
Campaign Tactics: Paid Media

- Statewide TV ads
- Targeted radio ads
- Digital advertising (pre-roll video ads, Facebook ads)
Campaign Tactics: Earned Media

- On-air programming
- Contributed articles (blogs, newspapers, newsletters)
- TV, radio, print stories
Partners

Beauty/Fitness
- YMCA
- Walgreens

Seniors
- AARP
- Touchmark
- Merrill Gardens
- Areas Agencies on Aging

Education
- WSU
- EWU
- Public Schools

Health
- Swedish
- American Diabetes Association
- Seattle Children’s
- Providence
- Yakima Memorial
- Lourdes Health Network
- Rockwood Clinics
- Whatcom Alliance for Health Advancement
- Coordinated Care
- Children’s Alliance
Influencers: Seattle Mama Doc
What Does Success Look Like?

SHORT AND INTERMEDIATE OUTCOMES

- KNOWLEDGE
- ATTITUDES

LONG-TERM

- BEHAVIORAL INTENTIONS & BEHAVIORS
- BELIEFS & NORMS

Reduce Oral Disease
### Effectiveness

**> The Mighty Mouth is Working**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree at Baseline</th>
<th>Strongly Agree at Follow-Up</th>
<th>Strongly Agree in 2016</th>
<th>2015/2016 Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Taking care of my teeth and gums is as important to me as taking care of my general health”</td>
<td>61%</td>
<td>64%</td>
<td>84%</td>
<td>+20</td>
</tr>
<tr>
<td>“My dentist thinks my oral health is important to general health”</td>
<td>53%</td>
<td>56%</td>
<td>86%</td>
<td>+30</td>
</tr>
<tr>
<td>“My doctor thinks my oral health is important to my general health”</td>
<td>33%</td>
<td>38%</td>
<td>67%</td>
<td>+29</td>
</tr>
</tbody>
</table>
The Mighty Mouth Phase 2
Target Audiences

Primary Audiences

> Low-income moms with children under age 6
> Low-income pregnant women, especially Latinas
> Ages 18-44

Note:

> Low-income is broadly interpreted
> Will be spillover to other income groups
Messages and Behavior Change Goals

1st Visit ➔ Take child to doctor or dentist for oral screening by age 1

Safe & recommended ➔ Visit dentist as early as possible in pregnancy

Water for thirst ➔ Choose water over soda or other sugary beverage

Apple Health includes dental ➔ Use the dental benefits
How We Are Reaching These Audiences

> Targeted paid media, especially digital (Facebook ads, pre-roll videos), (Pandora, YouTube)

> Video, radio and digital ads in Spanish

> Social media/testimonials/micro-videos (30 sec. or less)

**Partners**

> Influencers respected in the community

> Partners serving low-income families

> Organizations working with Latinos and other underserved communities
How We Are Reaching These Audiences

Refreshed website featuring:

> Easily consumed, plain language articles with helpful tips

> Culturally appropriate and relevant messages

> User-friendly tools and resources

> Micro-videos and infographics for busy lives and short attention spans

> Authentic, friendly, helpful information
Dental care is prenatal care: Simple steps to keep mom’s and baby’s mouths healthy

Your oral health can affect your baby now...and later. Putting off dental care and necessary treatment could result in significant risk to you and...
Partners: Odessa Brown Children’s Clinic
Examples of Digital (online) ads

- Digital ads provide ability to track engagement.
- Optimize what is working
Parents talking to Parents
Infographics

Tips to Keep Your Child Healthy & Cavity-Free!

- Have a dentist or physician screen your child's teeth by age 1.
- Take your child to regular oral health checkups.
- Floss your child's teeth as soon as they touch.
- Avoid frequent snacking so teeth have time to rest & rebuild between meals.
- Avoid juice & sugary drinks.
- Brush your child's teeth twice a day with fluoride toothpaste.

Take Care of Your Oral Health During Pregnancy!

- Sharing utensils or food with your baby can actually start cavities in your baby's mouth.
- Dental treatments, like fillings, X-rays, & certain medications are safe during pregnancy.
- Brush twice a day with fluoride toothpaste.
- Putting off dental care & treatment could result in risk to you and your baby.
- Go to the dentist when pregnant.
- Tell your dentist you are pregnant and when you are due.

The Mighty Mouth

Arcora Foundation
Conclusion

> We can’t treat our way out of this problem
> Prevention is key
> Innovative approaches to prevent oral disease are essential

Thank You!
Questions?

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