New York City
School-Based Dental Service Program

Presenter:
Ramneet Kalra MPH, MBA
Director, Oral Health Program
New York City Department of Health and Mental Hygiene (NYC DOHMH)
NYC DOHMH
Dental Services History

- **2008**
  DOHMH operated 30+ dental clinics in public schools; services highly underutilized

- **2010**
  Phased out DOHMH School-Based Dental Services

- **2012**
  Introduction of DOHMH Dental Public Health Program focused on surveillance, policy and education

- **2014**
  Addition of School-Based Dental Services into programmatic framework

- **2019**
  Scaled School-Based Dental Services to 798 public schools
Key Program Components

- Surveillance & Data Informatics
- Education
- Direct Services & Workforce Development
- Policy
- Quality Assurance & Improvement
NYC Schools Dental Landscape
Geographic Distribution

NYC School-Based Dental Services 2014-2015
105 Schools Served

NYC School-Based Dental Services 2019-2020
798 Schools Served

Legend
- Children's Aid Society
- Columbia University
- Heritage Health Care Center
- Montefiore Medical Center
- Morris Heights Health Center
- NY Presbyterian Hospital
- NYU Dental Preventive/Restorative
- NYU Dental Screening
- NYU Langone SBHC & Standalone
- SmileNY
- Urban Health Plan

Dental Provider
- Bellvue (1)
- Brooklyn Pizza Medical Center (1)
- Children's Aid Society (7)
- Columbia University (14)
- Family Health Centers at NYU Langone (51)
- First Medicare / Healthy Smiles (48)
- Heritage Health Care Center (1)
- Institute for Family Health (4)
- L'Enfants (5)
- Montefiore Medical Center (74)
- Morris Heights Health Center (4)
- NYU Bringling Smiles (9)
- NYU Canal Away (42)
- NYU Dental Van (9)
- New York Presbyterian Hospital (7)
- SmileNY (507)
- St. Barnabas (9)
- Urban Health Plan (1)

Sources: Office of School Health (OSH) Oral Health Program
Map prepared by the OSH Research and Analytics Unit, Dec 2017
Map prepared by OSH Research and Analytics Unit, Jan 2020
Health Equity
Targeting Children With High Needs

NYC School-Based Dental Services 2014-2015
105 Schools Served

Legend
Schools with Dental Programs
NYC DOE Public Schools
Population below poverty
0% to 10%
10% to 20%
20% to 30%
> 30%

NYC School-Based Dental Services 2019-2020
798 Schools Served

Legend
- Schools with dental providers
- Schools without dental providers
Poverty by NTA DOHMH
% population below poverty
0.0 - 10.0
10.0 - 20.0
20.0 - 30.0
> 30.0

Source: Office of School Health, Oral Health Program
Map prepared by OSH Research & Analytics Unit, Dec 2017

Source: Office of School Health Oral Health Program, January 2020
* Effective 1/2019, screening only programs will not be included in GIS Mapping
Program Administration

- Developed and updated Memorandum of Understanding with participating providers
  - Updates to MOU included:
    - Mandatory application of sealants and fluoride, unless contraindicated
    - Quarterly and annual reporting of data
    - Case management
- Conduct process and outcomes evaluations through:
  - Quarterly and annual data reports
  - Data collected through quality assurance and case management units
- Review local, statewide, and national data sets to inform program initiatives
Assess Process and Outcomes
Established Data Informatics System

NYC OH Data Registry

| Indicator | SRHC Dental Clinics | SRHC Medical Clinics | BenReef Hospital Center | School-Based Sealed Program | LMAH Family Health Centers | City Council Program (NYU Dental | YVAM-Pediatric Oral Health Initiat | YVAM Screening Program | YVAM Sealed Program | YVAM Briefing Program | NYU Dental Assay Program | Measurement Tool |
|-----------|---------------------|----------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-----------------------------|----------------------|----------------------|-------------------|----------------------|------------------|------------------|
| 1. % of consent forms returned | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 2. % of children who received oral screening/examination | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 3. % of children who received oral prophylaxis | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 4. % of children who received topical fluoride | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 5. % of children who received sealants | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 6. % of children who received oral health education | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 7. % of children who were referred for treatment services on site at the SBHC-D | Y | Y | Y | Y | Y | Y | NYU Data Registry |
| 8. % of children who were referred for treatment off-site dental services | Y | Y | Y | Y | Y | Y | NYU Data Registry |

Standardized Evaluation Tool

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
<th>City Council Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. % of children with untreated decay</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
<tr>
<td>10. % of children with treated decay</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
<tr>
<td>11. % of children with pre-existing sealants</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
<tr>
<td>12. % of children who received silver diamine fluoride application</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
<tr>
<td>13. % of children being referred for treatment services</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
<tr>
<td>14. % of children given a referral form and signed referral form was returned</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>City Council Program</td>
</tr>
</tbody>
</table>
Developed a QA dashboard

Unannounced visits made at randomized sites selected proportionately by borough

Address key findings:

• Urgent issues addressed on site; provider leadership informed within 24-48 hours
• Non-urgent issues addressed during regular meetings
• Provider to prepare and implement a corrective action plan
Process Evaluation
Launched a Quality Assurance Unit

16 SBDPs rated
Visits can be preventive, restorative, or both
Selected sites randomly chosen sites at the start of the school year, based geography
QA Score based on post-review checklist results
Qualitative data: issues raised and how they were addressed

SBHC-Dental Services: 2019-20 Annual Quality Assurance Report

<table>
<thead>
<tr>
<th>Borough</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>Overall Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brooklyn</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>Bronx</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Manhattan</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Queens</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Staten Island</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>Overall</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>79</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>Total to be</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>116</td>
</tr>
</tbody>
</table>

Process Evaluation
Launched a Quality Assurance Unit

Surveillance & Data Informatics
Quality Assurance & Improvement
Direct Services & Workforce Development
Policy

Family and Child Health
NYC Health
Assess Process and Outcomes
Launched a Case Management (CM) Unit

- Built a case for CM. Developed a CM Program Plan
- Hired personnel (1 FTE)
- Conducted literature review
- Convened with subject-matter experts
- Developed CM avenues and continued quality improvement techniques (CQI)
- Survey
- Quarterly & Annual Data
- Claims Data
- Electronic medical records
- Designated 1.25 FTE for calls
- Collaborating with DHMOs
- Strengthened ready access to our low cost dental provider list
- Designed a partnership with Nursing Unit

Family and Child Health
Quality Improvement
Assisting Dental Providers to Minimize Barriers

Increased Consent Rates in 39 out of 44 Schools

FY 17 Participation (%) | FY 18 10% Target | FY 18 15% Target | FY 18 Participation (%)
Quality Improvement
Incentivizing Providers to Strengthen Volume of Treatment

- Disseminated portable equipment and dental materials to school-based dental providers who demonstrated its need
- Launched a performance based rewards program to encourage an increase in sealant and fluoride applications
  - Implemented and evaluated a pilot program through 5 providers in 57 schools
  - Scaling initiative to a three-year $600,000 program starting SY 20-21

Pilot Program Results

Sealant Applications

Fluoride Varnish Applications
Interprofessional Collaboration
Leveraging Medical Providers for Dental Services

Fluoride Varnish Applications - All Sites
(April 2015 – June 2019)

Dental Training Module for Medical Providers

Course Menu
This course consists of five modules. Each module describes a component of a school-based oral health program. Click the “Introduction” module to begin.

- Introduction
- Screen
- Varnish
- Educate
- Refer

You can return to this menu at any point by clicking the Home button in the upper right corner of any screen. After you have viewed all five modules, take the course quiz by clicking the quiz button.
Strengthen Awareness
Disseminate Oral Health Educational Materials

City Health Information
Volume 32 (2012) The New York City Department of Health and Mental Hygiene

Part I: Oral Health

Oral health is an important part of overall health. Despite the advances made over the past half-century in oral health, oral diseases are still a public health problem, with a higher burden among low-income, minority, and older populations. The most common threats are periodontal disease (gingivitis and periodontitis) and caries (tooth decay).

Nearly 40% of adult New Yorkers are at increased risk for oral health problems due to behavioral or medical risk factors. Oral health is also closely linked to overall health. People with lower incomes are less likely to visit a dentist. In New York City (NYC), 52% of adults in the lowest-income households (<100% federal poverty level) had a dental visit in the past year, compared with 77% in the highest-income households (100% federal poverty level).

Primary care providers can improve their patients’ oral health by encouraging good oral hygiene and regular preventive dental visits.

Ask patients about their most recent dental visit and report all patients to a dentist if they do not already have one. Explain the importance of brushing with fluoridated toothpaste, flossing, visiting a dentist regularly, and eating a diet high in fiber-rich fruits and vegetables while limiting sugar and starchy snacks. Examine the mouth for signs of early oral cancers; early detection can improve cancer prognosis (see page 35).

Dental care is particularly important for children, who should be referred to a dentist by age 1. In the US, only 2% of infants and toddlers have an annual dental visit, while 87% have an annual home-based physician visit.

Box 1: Oral Disease Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Potential Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thick tongue</td>
<td>Caries, Smelling</td>
</tr>
<tr>
<td>Smelling</td>
<td>Oral cancer, periodontal disease</td>
</tr>
<tr>
<td>Heavy alcohol use</td>
<td>Oral cancer</td>
</tr>
<tr>
<td>Poor oral hygiene</td>
<td>Periodontal disease, cavities</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Periodontal disease</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Gingivitis</td>
</tr>
</tbody>
</table>

Help prevent or stop tooth decay

Early Childhood Oral Health

Primary Care: What You Need to Know About Fluoride Varnish and How You Can Promote Early Childhood Oral Health

Addressing Oral Health in Patients with Diabetes

Diabetes is associated with increased prevalence and severity of oral complications, including periodontal disease and severe tooth loss. Ongoing treatment is critical to the prevention, and management, of oral complications, and early identification of periodontal disease may be an indication that a patient requires better disease management. The mechanisms by which diabetes influences periodontal disease are thought to involve the following factors: compromised immune system, impaired inflammatory response, and poor oral hygiene. Diabetes is one of the leading causes of preventable blindness, and it is associated with a higher rate of hospitalization and mortality. Diabetes also increases the risk of cardiovascular disease and other chronic conditions, as well as decreasing life expectancy. There is a significant association between oral health and disease, suggesting that oral health outcomes in patients with diabetes may have a profound impact on the overall health of the patient. In addition, diabetes is one of the most important risk factors for periodontal disease, and in turn, periodontal disease is associated with diabetes, which is a systemic inflammatory disease that contributes to the systemic inflammatory burden and has an adverse effect on glycemic control (Figure 1). Identifying and addressing periodontal disease in patients with diabetes may improve overall health and quality of life.

In addition to periodontal disease and tooth loss, other oral manifestations of diabetes include root caries, halitosis, mouth ulcers, dry mouth, and gum disease. Patients with diabetes may also be more likely to develop oral infections and infections that are caused by bacteria that are resistant to antibiotics.

Role of care providers

In managing diabetes, care providers should consider and address oral health of their patients. The standard of care for diabetes includes regular oral health assessment, similar to screening for other complications of diabetes. For all patients with diabetes, it is important to identify those at risk for periodontal disease and to initiate appropriate therapy. Patients should be aware of the signs and symptoms of periodontal disease, and it is important for them to understand the importance of regular dental care. In addition, care providers should be aware of the potential for oral infections and infections that are caused by bacteria that are resistant to antibiotics, and they should encourage their patients to seek appropriate treatment if necessary.

Medication providers should

- Screen and monitor patients with diabetes
- Educate patients about oral health
- Identify and refer patients to a dentist
- Educate patients about the importance of regular dental care
- Educate patients about the signs and symptoms of periodontal disease
- Educate patients about the importance of regular dental care

Funding for patients with diabetes receiving regular dental care

- Assistance may be available through the Medicaid program
- Assistance may be available through the Medicare program

Figure 1:Bidirectional relationship between periodontal disease and diabetes.

New York City Department of Health and Mental Hygiene

Page 5 October 2014

www.nyc.gov
Follow us on Twitter: @NYCHealth
Policy Amendment

Transforming Health Outcomes Among 128,000 Children in Day Care

Child Dental Health Survey

Policy Memo

Proposed Amendment to Article 47: Requiring Tooth Brushing in Child Care Centers

Dental caries (tooth decay) is preventable, yet it is the most common chronic childhood disease in the U.S.

- National data shows that nearly one in four (23%) children age 2-5 has experienced caries.
- Children from low-income families are more likely to suffer from caries than their more affluent peers.
- Caries prevalence increases as children get older: national data shows that caries experience in primary teeth increases from 20% of children age 2.5 to 25% of children age 8-11.
- NYC DOHMH’s 2014 Child Dental Health Survey (CDHS) found that at least 15% of children in NYC child care facilities experienced caries and 45% of children consumed between meals sugary snacks or sugary drinks four or more times a day, a major risk factor for caries.
- Consequences of early childhood caries (ECC) include a higher risk of developing additional caries in primary and permanent teeth, difficulty eating and speaking, increased hospitalizations and emergency room visits, greater risk of delayed physical growth and development, decreased ability to learn, and diminished oral and related quality of life.

Evidence shows that brushing with fluoride toothpaste is effective in preventing caries.
- Daily tooth brushing with fluoride toothpaste can significantly reduce caries risk.

The American Dental Association (ADA) recommends tooth brushing twice a day with fluoride toothpaste, which should begin at the time of a child’s first tooth.

- Systematic review by the ADA found that use of fluoride toothpaste in children younger than 6 years had a significant effect on decreasing the mean number of decayed primary teeth for populations at high risk of developing caries.
- Tooth brushing practices of young children in New York City (NYC) remain inadequate.
- According to the NYC CDHS, 40% of children ages 0 to 6 years surveyed brushed their teeth only once a day or less, and 45% of children ages 0 to 2 years did not use fluoride toothpaste.

Requiring tooth brushing in child care facilities can improve oral health outcomes in young children.
- Requiring tooth brushing in child care centers installs healthy habits in young children, which can have a positive impact on their health throughout their lifetime.
- Tooth brushing in child care is an opportunity for children to remove the decay-causing plaque that builds up on their teeth after eating. It can also reinforce and supplement any oral hygiene regimen taking place in the home.
- Kansas, Massachusetts, and West Virginia require tooth brushing in child care centers.
- Additionally, EarlyEd centers, including Administration for Children’s Services (ACS) contracted preschools, ACS Head Start Centers, and Head Start centers receiving direct federal funding require daily tooth brushing for children over one year of age in their facilities.
- CDHS findings indicate that children enrolled in EarlyEd centers were two and a half times as likely to brush their teeth recommended two or more times per day than children at non-EarlyEd centers.

Notice of Adoption

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Notice of Adoption of Amendments to Article 47 of the New York City Health Code

In accordance with §1043(b) of the New York City Charter (the “Charter”) and pursuant to the authority granted to the Board of Health (the “Board”) by §558 of the Charter, a notice of intention to amend Article 47 of the New York City Health Code (the “Health Code”) was published in the City Record on March 19, 2016, and a public hearing was held on April 18, 2016. Twenty-seven individuals testified at the joint hearing on these amendments and the companion amendments to Article 43, and 92 written comments were received, including seven from individuals who also testified. Most of the amendments were adopted by the Board of Health on March 13, 2016, with some revisions. However, the Board’s final consideration of the portions of the amendments regarding tooth brushing was deferred to a later meeting. A number of changes were made to these provisions, including several in response to comments received. At its meeting on XXX, the Board adopted the following resolution.

Statement of Basis and Purpose

Statutory Authority

The Board’s authority to codify these proposed amendments is found in Sections 556, 558, and 1043 of the New York City Charter (the “Charter”). Sections 556(b) and (c) of the Charter empower the Board to amend the Health Code and to include all matters to which the Department’s authority extends. Section 556 of the Charter provides the Department with jurisdiction to protect and promote the health of all persons in the City of New York. Section 1043 grants the Department rule-making authority.

Background

Article 47 of the Health Code governs center-based child care. The Board is amending the Article’s requirements by adding requirements pertaining to tooth brushing. The basis for the changes is set forth below.
Thank you!

Ramneet Kalra MPH, MBA
rkalra@health.nyc.gov
Director, Oral Health Program
Family and Child Health
NYC Department of Health and Mental Hygiene

KEEP YOUR CHILD’S TEETH HEALTHY!