Improving Access to Dental Care for Residents of Public Housing
Learning Objectives

In this session, we’ll review ...

- Dental services at Zufall Health Center
- The relationship between oral health and whole body health
- Overcoming barriers to dental care for residents of public housing
- Findings and results of our program and future plans
Zufall Health Center
Dover, Morristown, Hackettstown, Mobile Van

- Established in 1990 in church basement in Dover by Dr. Zufall and volunteer physicians
- FQHC since 2004; dental services since 2002
- Expanded to three sites and a mobile van
- Serving 4 counties in NW NJ
- Serving uninsured, underinsured, homeless, residents of public housing, farm workers
- Open 7 days a week, extended hours
Served over 16,500 patients with over 50,000 visits

- 94% of patients are at or below 200% of FPL
- 72% of patients have no insurance
- 80% of patients in racial/ethnic minority groups, the majority being Hispanic
- 58% of patients best served in language other than English
- Children – 22%, Adults – 72%, Seniors – 6%
  - 48% of children and 79% of adults are uninsured
  - 20% of patients have Medicaid/NJ Family Care; 3% have Medicare
- 540 are residents of public housing
ZHC Dental Services 2012

- 4,200 Patients
- 10,000 visits in 2012
  - 1,350 Children
  - 150 Children 0-3 years old
  - 1,400 Seniors
- 1 Dental Director, 3 FTE Dentists
- 6.5 Dental Assistants
- 2 sites, 4 operatories
- 1 mobile van

- Provided full range of dental services at clinical sites, screenings and cleanings on mobile van and schools
- Provided periodontal, geriatric and select oral surgery services
- Provided educational and preventive services
  - GKAS, Nat'l Rural Health Day
Public Health Approach

**CATEGORY IV**
- Implant Services
- Complex Rehabilitative Services
- Impacted Wisdom Teeth

**CATEGORY III**
Rehabilitative Services
- Removable (partials/dentures)
- Fixed (crowns/bridges)
- Endodontics (root canals)

**CATEGORY II**
Basic Services
- Diagnostics (exams)
- Preventive (cleanings)
- Restorative (fillings)
- Periodontal (scaling)
- Surgical (extractions)

**CATEGORY I**
Preventive Services
- School Based Fluoride Rinse Program
- Schools Based Program
- Van-based Dental Program

ZUFALL HEALTH CENTER SITES
DOVER
MORRISTOWN
FLEMINGTON
HACKETTSTOWN

ZUFALL HIGHLANDS HEALTH VAN
ZUFALL HEALTH PORTABLE DENTAL PROGRAMS
ZUFALL HEALTH CENTER SCHOOL-BASED DENTAL SERVICES
Public Housing Sites 2011-2012

- Morris Mews
- 215 E. Blackwell St.
- Riverview Apts
- Pleasant View Village
- Rexford S. Tucker Apts
- India Brook Village
- Manahan Village
- Morristown Housing Authority
- Centennial Courts
- Chateau Thierry Ave
- Madison Central Ave
Relationship Between Oral Health & Whole Body Health

- **Common Risk Factors**
  - Tobacco
  - Sugar Consumption
  - Alcohol
  - Accidents & Injuries
    - Falls
    - Sports
  - Genetics
  - Chronic Inflammation

- **Solutions**
  - Smoking Cessation
  - Healthy Diet
  - Substance Abuse Treatment
  - Injury Prevention
    - Night lights
    - Mouth guards
  - Good Oral Hygiene
The Effects of Inflammation on Health

- Chronic inflammation associated with
  - ASHD/CAD
  - Arthritis
  - Arteritis/Vasculitis
  - Pneumonitis
  - Connective Tissue Dz

- Bacteremia is associated with
  - Endocarditis
  - Valvular disease
  - Abscesses
  - Gastritis

Oral bacteria play a significant role on health
Gingivitis and Periodontal Disease

- **Sources of chronic inflammation**
  - Bacteria form “biofilm”
  - Release of inflammatory substances like IL-2 and IL-6, TNF, CRP
- **Sets up cascade to produce assaults on different tissues and organs**
Oral Health & Cardiovascular Disease

- Strong correlation between periodontal disease and CAD
  - 23-35% increase risk
- Inflammatory response and bacteria may accelerate arterial plaque development
- Increased levels of CRP and IL-6; these drop after dental care
Oral Health and Pregnancy

- Periodontal disease associated with higher risk for preterm delivery and low birth weight babies
- Transplacental bacteremia and inflammatory response increase Prostaglandin E2 => premature contractions
- Preterm birth incidence of 10% (as compared to <2%)
Oral Health and Diabetes

- Diabetics have higher risk of periodontal disease. This results in:
  - Accelerated gum disease
  - Bone loss
  - Higher blood sugars
  - Increased risk for other infections (oral candida)
- Obesity – Fat cells produce IL-6 and TNF
- Routine dental care helps control diabetes
Oral Health and Pneumonia

Nursing home patients with periodontal disease have higher rates of:
- Microbial Aspiration
- Bacterial Pneumonia

- Alcoholics
- Seizure Disorders
- Dementia
Oral Health and Osteoporosis

Estrogen deficiency, low calcium intake, low BMI and smoking

- Associated with
  - Collagen destruction
  - Loss of alveolar bone

- Osteoporosis may predispose to periodontal disease
Collaboration between Medical and Dental

Provide training
- Project PEDs/tools
- Fluoride CE Course

Address Common Risk Factors
- Obesity
- Sugar Consumption
- Alcohol
- Tobacco

The role of the Pediatrician
Challenges in Providing Dental Services to Residents of Public Housing

- Access to Care
- Transportation
- Unmet Dental Need
- Case Management and Outreach

Early childhood caries–related visits to emergency departments and ambulatory surgery facilities and associated charges in New York state

Sanket R. Nagarkar, BDS, MPH; Jayanth V. Kumar, DDS, MPH; Mark E. Moss, DDS, MS, PhD

Abstract

Background. The authors assessed the extent of early childhood caries (ECC)-related visits to emergency departments (EDs) and ambulatory surgery facilities (ASFs) in children younger than 6 years and associated treatment charges in New York state from 2004 through 2008.

Methods. The authors obtained data from the New York state’s Statewide Planning and Research Cooperative System (Albany) and calculated descriptive statistics and rates according to selected indicators, as well as total and average per-visit treatment charges.

Results. From 2004 through 2008, the number of ECC-related visits to EDs and ASFs increased by 349 and 1,039, respectively. Most ECC-related visits were to ASFs. The total annual treatment charges increased from $38.5 million to $313.5 million from 2004 to 2008, and average per-visit charges increased from $4,257 to $5,501 during the same period.

Conclusions. ECC-related visits to EDs and ASFs by children younger than 6 years and the associated treatment charges increased substantially from 2004 through 2008 in New York state.

Practice Implications. Dental professionals need to determine the reasons parents seek dental care for their children in EDs and ASFs and effective strategies for preventing ECC to avoid the subsequent need for seeking dental care in EDs and ASFs.

Key Words. Early childhood caries; ambulatory surgery; emergency department; children; treatment charges.


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Overcoming Barriers: Access To Care

Expand Services
- Dover – existing
- Morristown – existing
- Flemington – Summer 2013
- Hackettstown – Fall 2013

Expand the Team

Provide Affordable Care
- Sliding Fees
- Grant-supported services
Overcoming Barriers: Access To Care

Fixed Dental Sites
## Dental Fixed Sites

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Treat more patients</td>
<td>• Start-up Costs</td>
</tr>
<tr>
<td>• Provide more services</td>
<td>• Operating Costs</td>
</tr>
<tr>
<td>• True “Dental Home”</td>
<td>• Rent / Mortgage</td>
</tr>
<tr>
<td>• Resources and Support Services Available</td>
<td>• Utilities</td>
</tr>
<tr>
<td></td>
<td>• Requires clerical &amp; support staff</td>
</tr>
</tbody>
</table>
Overcoming Barriers: Transportation

Portable Dental Programs

ZUFALL HEALTH CENTER
Overcoming Barriers: Transportation

Portable Dental Equipment
# Portable Programs

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Start-up Costs</td>
<td>Physically demanding</td>
</tr>
<tr>
<td>Lower recurring costs</td>
<td>Set-up &amp; Break Down</td>
</tr>
<tr>
<td>Fewest support staff required</td>
<td>Sharing space</td>
</tr>
<tr>
<td>No mortgage or rent</td>
<td>Electric &amp; Water Supply</td>
</tr>
<tr>
<td>No monthly utilities</td>
<td>Non-billable</td>
</tr>
<tr>
<td></td>
<td>Not a Dental Home</td>
</tr>
<tr>
<td></td>
<td>Grant Funded/ Episodic</td>
</tr>
<tr>
<td></td>
<td>Fewest number of patients treated</td>
</tr>
</tbody>
</table>
Overcoming Barriers: Transportation

Mobile Van
Dental Services on Mobile Van

Disposable Supplies
Digital X-rays
Sensors

Exams, Oral Cancer Screenings, Denture Adjustments, X-rays & Preventive Services
## Mobile Dental Programs

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ambulatory Care Center</td>
<td>• Higher Start-up Costs</td>
</tr>
<tr>
<td>• Self Contained</td>
<td>• Higher Recurring Costs</td>
</tr>
<tr>
<td>• Reimbursable visits</td>
<td>• Limit to scope</td>
</tr>
<tr>
<td>• Dental Home (if linked to a fixed site)</td>
<td>• Narrow Streets</td>
</tr>
<tr>
<td>• Sustainable</td>
<td>• Parking</td>
</tr>
<tr>
<td>• Few support staff</td>
<td>• Weather</td>
</tr>
</tbody>
</table>
Overcoming Barriers: Unmet Needs

Role of Prevention
- Education
- Sealants
- Fluoride
- Mouth Guards
- Regular Exams
- Cleanings
Overcoming Barriers: Case Management

- Outreach
  - Establish relationships
  - Provide information
  - Coordinate visits
  - Assist with preregistration

- Follow Up
ZHC Public Housing Dental Patient Data

- Date Range (Jan 1, 2010 to April 4, 2013)
- Total PH Patients = 970
- Total PH Dental Patients = 424
- Total dental visits = 1,560
- 44% of our public housing patients have had at least one dental visit
  - Of those, 59% had a follow up visit during that date range
  - 58% of children had at least one dental visit
- 76% of NJ residents accessed dental services in 2010
ZHC Public Housing Dental Demographics

AGE
- Children < 18 (n=75; 18%)
- Adults 18-64 (n=210; 49%)
- Seniors 65+ (n=139; 33%)

GENDER
- Male = 150 (35%)
- Female = 274 (65%)

LANGUAGE
- English = 60.4%
- Spanish or Other = 39.6%
ZHC Dental Public Housing Race & Ethnicity

**RACE**
- White – 65%
  - n = 276
- Black/African American - 22%
  - n = 93
- More than 1 race - 7%
  - n = 29
- Unreported - 4%
  - n = 18

**ETHNICITY**
- Hispanic – 48%
  - n = 208
Retrospective Chart Review

- Sample size 217
- Stratified random
- Confidence interval of 95%
- IRB reviewed
## ZHC Dental Public Housing Medical Conditions

### Seniors
- Hypertension – 74%
- High Cholesterol – 34%
- Diabetes – 34%
- CAD – 28%
- Anxiety/Depression – 26%
- Hypothyroid – 24%
- COPD – 19%

### Adults
- Anxiety/Depression – 25%
- Hypertension – 24%
- COPD – 11%

### CHILDREN
- 13% reported asthma

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Self-reported data
ZHC Findings

- Untreated Decay (at least 1 tooth) overall: 71%
  - Children (<18): 56%
  - Adults (18-64): 89%
  - Seniors (65+): 70%
- Periodontal Disease
  - Adults - 39% (n=82)
  - Seniors - 43% (n=60)
- Edentulousness in Seniors
  - Maxillary Arch - 24% (n=33)
  - Max & Mandibular - 17% (n=24)

(95% CI)

NHANES

- Untreated Decay
  - Children (2-11): 23%
  - Children (12-19): 20%
  - Adults (20-64): 23%
  - Seniors (65+): 23%
- Periodontal Disease
  - Adult - 8.52%
  - Seniors - 17.2%
- Edentulousness in Seniors
  - 14 % (2010 NJ BRFSS)
Conclusions

• PH Patients
  • higher rates of dental decay, periodontal disease and edentulousness than the general population
  • less likely to go to the dentist
  • higher rates of self-reported anxiety/depression
  • Respond to accessible dental services
## Future Plans

- **Increase Access**
  - Flemington
  - Hackettstown
  - Expand to rural areas

- **Enhance Preventive Services**
  - Integration with Primary Care (Project PEDs)
  - Sealant Programs
  - Pediatric Dentists
  - Early Education

- **Participate in county and state-wide educational initiatives**
  - Children’s Oral Health Program
  - Partner with more schools and Head Start Programs

- **Research Funding**
Our Dental Team
References

- NHANES (National Health and Nutrition Examination Survey) 2010 data
- NJ BRFSS (Behavioral Risk Factor Surveillance System) 2010 and 2011 data
- Pihlstrom BL, Michalowicz BS, Johnson NW. Periodontal diseases. Lancet 2005;366:1809-1820
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Thank You!