Treatment of dental caries provided to Medicaid enrolled children over 2-year period

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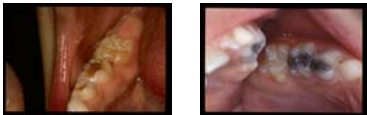
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Acknowledgement

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Background

- Children on Medicaid are far less likely to:
  - utilize dental services
  - receive comprehensive follow-up if screened
- "Quality chasm" by IOM – big gulf between the care that pts should receive and that is actually delivered.

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Objective

- To evaluate the quality of the dental treatments that were rendered to Medicaid enrolled African American children in Detroit, Michigan.
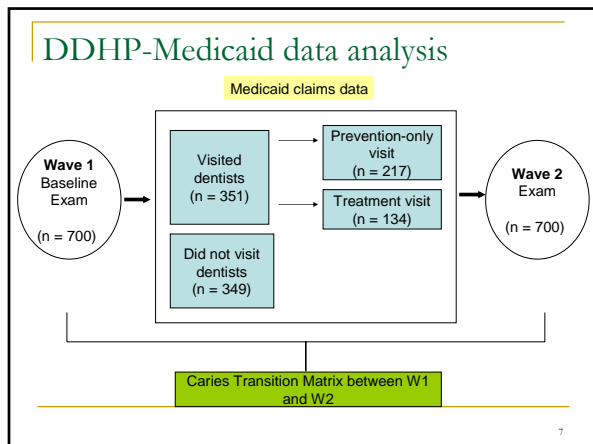
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Methods - Sample

- Detroit Dental Health Project (a.k.a., Detroit Center for Research on Oral Health Disparities)
  - *"Why some children and their caregivers in low-income areas in Detroit have good oral health while others do not, even when all of them live in the same communities and share similar environments?"*
  - Sample: Low income African American children (0-5 yrs) and their main caregivers in Detroit
  - From a stratified two-stage sampling design, 1386 eligible families were identified
    - Wave 1 (2002-03): 1021 pairs of child and caregiver
    - Wave 2 (2004-05): 790 pairs recalled (77%)

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Medicaid data

- Medicaid data
  - Among 1,021 W1 participants, 952 consented to permit us to access to the Medicaid records
  - Records of 876 children were obtained form the Michigan Department of Community Health

- DDHP – Medicaid matching
  - 855 children in Medicaid were matched with DDHP using name, birth date, Medicaid num. SSN and addresses (21 mismatches in the name and birth date)
  - Among 855 children, 700 were participants of both W1 and W2

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DDHP-Medicaid data analysis

Medicaid claims data

Wave 1 Baseline Exam (n = 700) → Visited dentists (n = 351) → Prevention-only visit (n = 217)

Visited dentists (n = 351) → Treatment visit (n = 134)

Did not visit dentists (n = 349)

→ Wave 2 Exam (n = 700)

Caries Transition Matrix between W1 and W2

Methods: Caries Exam

- International Caries Detection and Assessment System (ICDAS)
- Transition matrix (caries status of each tooth surface in Wave I and Wave II)
  - Non-cavitated lesions (d1)
  - Cavitated lesions (d2)
  - Filled lesioins (f)
  - Missing due to caries (m)

Results

- Of the 700 children, 351 (46%, weighted) had at least one dental visit during the two year period.
- Of these 351 children, 217 received only preventive procedures and the remaining 134 children received treatments and preventive services during the 2 year period.

Results

- Among the children who had one or more dental visits, 46% (35%, including natural exfoliation) of cavitated lesions identified at Wave I were left untreated at Wave II.
- Among the children with preventive-only dental visits, 75% (60%) of cavitated lesions identified at Wave I examination were left untreated.
- There was no significant difference in new development of cavitated lesions between children with preventive-only visits and those without dental visits.

Type of dental visit and # of new lesions

	N (%)	Non-cavitated (d_1) lesions	Cavitated (d_2) lesions
		Weighted mean (S.E.)	
No dental visit	348 (50.9%)	2.5 (0.2)	1.9 (0.3)
Preventive-only visit	216 (30.4%)	2.7 (0.2)	2.1 (0.2)
Treatment visit	134 (18.7%)	2.7 (0.3)	2.1 (0.4)
Total	698*	2.6 (0.1)	2.0 (0.2)

* Excluding two children whose teeth were examined at W2

Type of dental visit and caries status

	N (%)	Children with untreated d_2 lesions at W1	Percent of W1 d_2 lesions untreated at W2
No dental visit	348 (50.9%)	20.4%	74.9%
Preventive-only visit	216 (30.4%)	25.8%	75.2%
Treatment visit	134 (18.7%)	55.8%	28.6%
Total	698*	28.7%	55.5%

* Excluding two children whose teeth were examined at W2

Tooth surface transition (%) between W1 & W2

Children with preventive-only visits (n=216)

W2 / W1	Sound	d1	d2	f	m	Total
Sound	94.1	3.7	2.1		0.1	17,924
d1	27.5	52.3	19.1	0.7	0.3	547
d2	13.1	6.0	75.2	0.8	4.9	321
F	17.6	1.2	18.3	62.9		33
m					100.0	25
Total	90.7	5.1	3.8	0.2	0.2	18,850

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Tooth surface transition (%) between W1 & W2

Children with treatment visits (n=134)

W2 / W1	Sound	d1	d2	f	m	Total
Sound	88.1	4.0	2.7	3.3	2.0	10,301
d1	21.4	31.2	12.4	25.7	9.3	474
d2	15.6	2.0	28.6	32.0	21.9	471
F	1.7	1.7	25.6	62.6	8.3	99
m					100.0	125
Total	80.9	4.9	4.3	5.8	4.0	11,470

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Regression model

	Outcome = number of new d2		
	IRR	**95% CI**	
Child-level predictors			
Type of dental visit			
No visit (Ref)	--	--	--
Preventive-only visit	1.32	0.98	1.77
Treatment visit	0.94	0.58	1.50
Child's age	**0.62**	**0.54**	**0.72**
Child baseline caries			
no baseline caries (Ref)	--	--	--
1-6	**4.48**	**2.90**	**6.92**
7 +	**12.26**	**6.97**	**21.54**

* Model also includes other child and caregiver characteristics such as demographic, psychosoical, and dental variables

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Conclusion

- The results indicate that significant proportion of Medicaid enrolled children who seek care do not receive appropriate comprehensive care.
- Prevention-only services and programs are not adequate.
- Policy, programs, and strategies need to be implemented to assure provision of comprehensive care for these children.

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