Mexican American Farmworker Children's Oral Health

INTERAGENCY CONFERENCE

"Health Outcomes Among Children and Families Living in Rural Communities"

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Outline

- Socio-demographics of Mexican families and children in general
- Mexican Farmworker Context
- Epidemiology of Rural Children's Oral Health
- Brief summary and critique of literature
- Conceptual Model and Contributions from Qualitative Studies
- Brief Summary
- Sources and Acknowledgments

Socio-demographics of Mexican immigrants in U.S.

- Mexicans in U.S. are found in all states but mainly in major agriculture-producing states
  - California (38%)
  - Texas (22%)
  - Illinois (6%)
  - Arizona (6%)
  - Nevada (2%)
- In 16 states, young Mexican children account for over 40% of all immigrant children –
  - Reaches 75% in New Mexico, and 20-40% in 12 other states

Sources: [1-4]

Children of Mexican Immigrants

- In 2008, 11.8 million Mexican immigrants in US
  - 6.3M children have Mexican immigrant parents
- 38.6% of Mexican children are aged < 6 years
- Population growth rate of 17.2% for Mexican children between 2002-2008 (cf. -3.1% US-born whites)
- Majority of these children live in mixed citizenship families
- Mexican immigrant parents characterized by lower level of literacy and command of English than other immigrant or US-born parents

Source: [2]

Income in Mexican immigrant households in U.S.

- Almost 2/3rds (65%) of children of Mexican immigrants live in families where both parents participate in the labor force
  - Lower participation rate than for other immigrant and non-immigrant groups
- Most Mexican children live in low-income households
  - **Just over half (56%) of Mexican children live in households making 150% or less of the federal poverty level**

    - many families survive on <$15,000 or less per year

Source: [1, 2, 5, 6]

Seasonal Farm Work and Income

- 38% of Mexican immigrants' children aged <6 years in low-income families live in a household where one parent is absent at least part time
  - For rural children, this is often due to seasonal farm work
- Seasonal workers move frequently as each crop reaches harvest
- Many children lack a stable home base which severely disrupts children's education and continuity of health care services
- There are migrant services (eg, Head Start) that help address this issue but nonetheless frequent moves have serious impacts on children

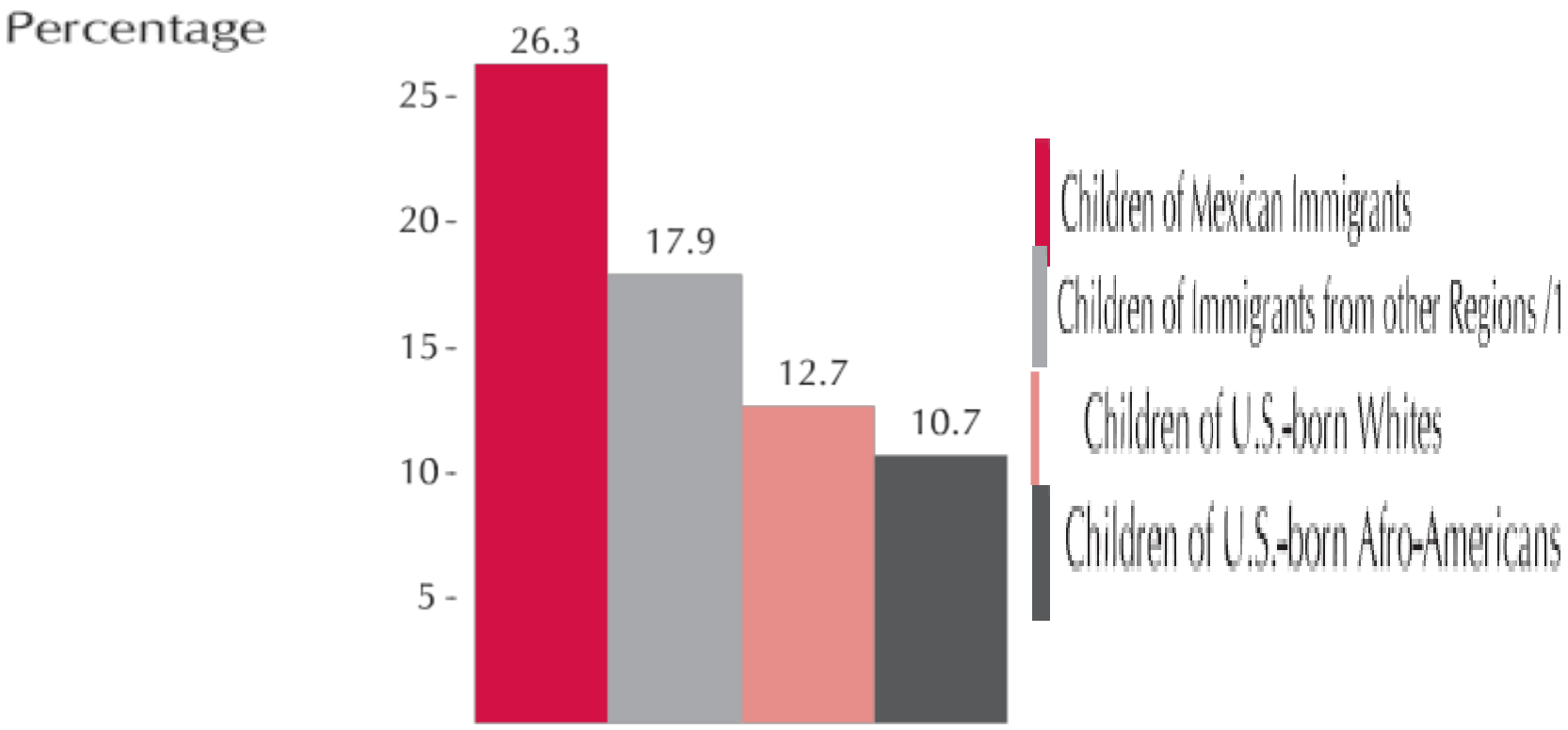
Source: [2, 3, 6]

Health Insurance Status

- Generally, Mexican children are less likely than other children to have private health insurance
- One in four children **without** health insurance in the U.S. is the child of a Mexican immigrant parent. i.e., about 1.3 M children
- In 24 states, over one-fifth of Mexican children are excluded from the state health system
  - 50% for children in states with more recent Mexican in-migration (Pennsylvania, North Dakota, Virginia, Oklahoma, Louisiana, Delaware, Florida)
- **This disadvantage in access to health care persists even if children are US-born (i.e. are US citizens)**

Source: [2, 5]

Distribution of Children under 18 in United States without Health Insurance by Parents' Income Level, Region of Origin and Ethnic Group, 2008
Income less than 150% federal poverty level



Notes: 1/ Excludes population born in Latin America and the Caribbean.
Source: [2]; citing CONAPO estimates based on Census Bureau, *Current Population Survey* (CPS), March 2008.

Use of Health Care

- Proportionately more Mexican than children in other immigrant or US-born groups (13.6% vs. 4.4%) lack a usual source of (medical) care
  - Many more Mexican children **aged <6** (17%) lack a usual source of medical care compared to older Mexican children, those aged 6-18 years (8%)
- Generally, Mexican children make fewer emergency room visits than do other children with immigrant parents
- In limited-income families, children of Mexican immigrants encounter more obstacles in access to public care than do children of other immigrants

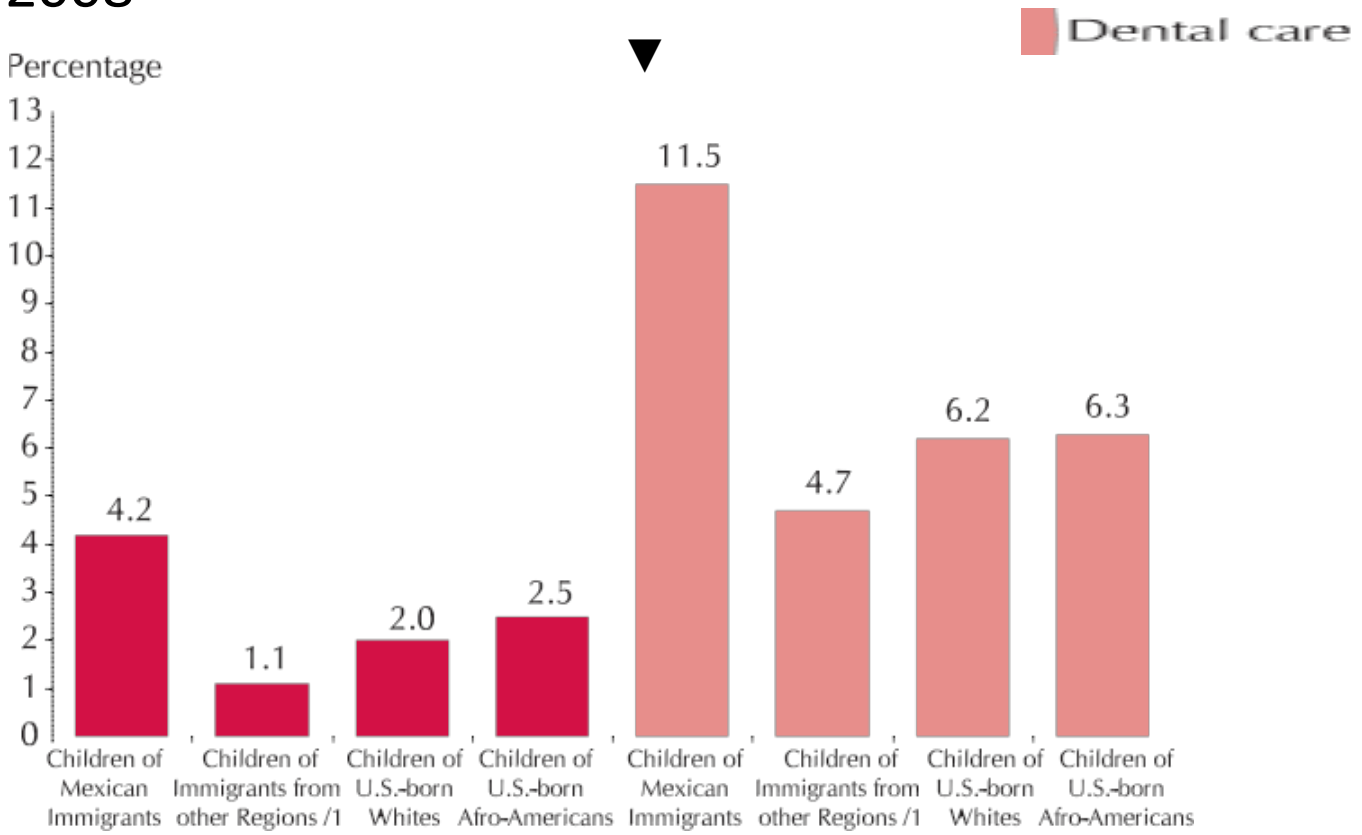
Source: [2]

Dental Service Utilization

- Low-income, migrant, farm wo ers have very low dental utilization rates
- Latinos of all ages have the lowest dental utilization rates of any group
- The 2000-2003 National Health Interview Survey reported that 16.7% of Latino children aged 2–17 years had never seen a dentist

Source: [7,8]

Children Aged between 2 and 17 in the United States that Were Unable to Afford Glasses or DENTAL CARE by Parents' Region of Origin and Ethnic Group/Race, 2006-2008



Note: Excludes population born in Latin America and the Caribbean.
Source: [2], CONAPO estimates based on *National Health Interview Survey,* 2006-2008

MEXICAN – AMERICANS IN THE RURAL U.S.

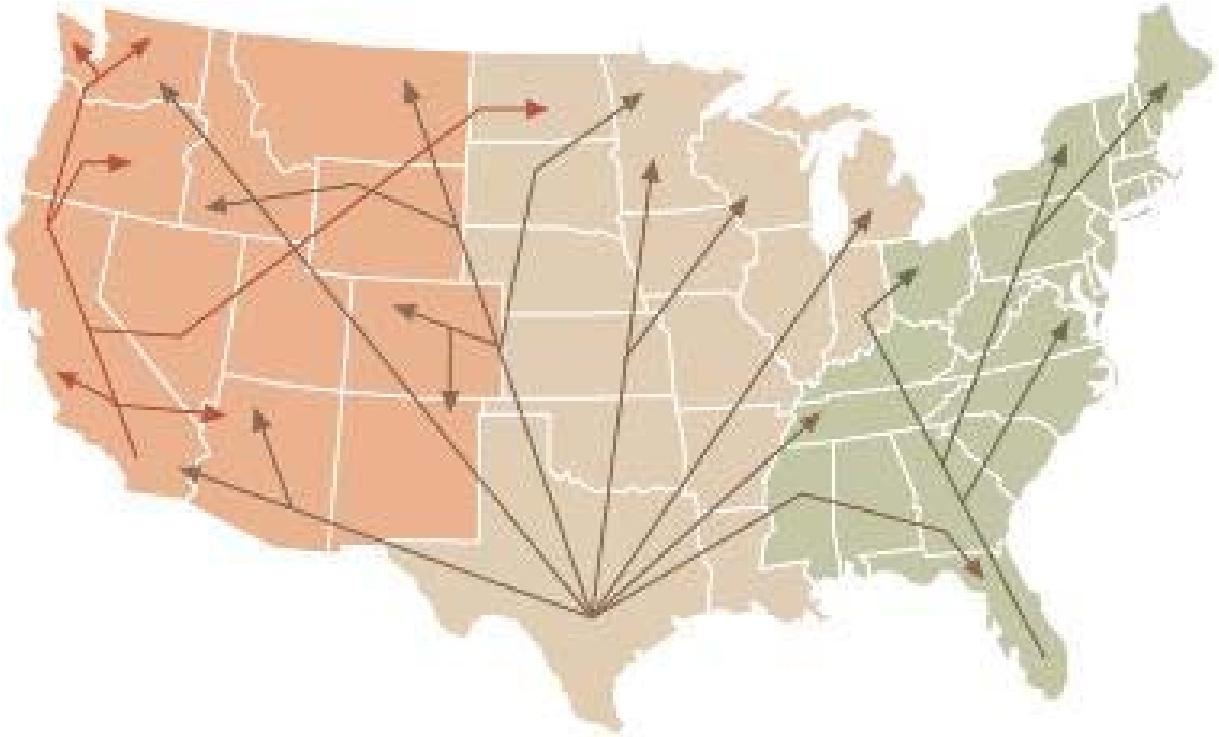
Adult U.S. Farm Workers

- Approximately 4.2 million migrant or seasonal farm workers and their dependents in the U.S. in 2000
- Over 75% self-identify as Mexican
- On average they are: 31 years; 80% male; 12% speak English; average education attainment is 6th grade
- Around half these men identify as being married
- Estimated that 25% are undocumented or illegal migrants
- Many live in sub-standard, structurally deficient houses with few amenities; often next to fields where pesticides are being applied

Source: [3]

Mexican Migrant Farmworker "Streams"

- **Eastern Stream**: citrus, sugar cane, tobacco, tomatoes, blueberries, apples
- **Midwestern Stream**: onions, citrus, beans, cucumbers, potatoes
- **Western Stream**: citrus, grapes, apples, tomatoes, strawberries, cherries, peaches, onions.



Source: [3] National Center for Farmworker Health, Inc; Buda, TX 2001 Monograph and Fact Sheet Series

Employment and Income

- Migrant workers may move 10 or more times per year following the harvest for various crops
- In 2000, the estimated average annual income of a seasonal or migrant farmworker was < $10,000 /year
- Are frequently ineligible for unemployment benefits or retirement pensions
- These farmworkers have little economic protection
  - Have very high rates of occupational injuries
  - Have limited union protections
- This economic fragility has an impact of children – making them extremely vulnerable

Source: [3, 9-11,14-17]

Children of Farmworkers

- Estimated 6% of farmworkers are children aged <18 years
- Fewer legal protections for these children than for children with other jobs
  - younger age at which certain jobs can be performed
  - greater amount time spent at work per day
- Overall, around 1.4M children of Mexican immigrant farmworkers
- In one study of rural migrant families, 53% children had an unmet medical need - 24X higher than for U.S. children overall
- Very high prevalence of dental caries in Mexican children in US - especially among children of low-income parents, migrants, or farm workers

Source: [2, 12-13]

Diverse population - poorly defined

- Hispanic or Latino
- National origin (Mexico)
  - Overlooks
  1. Ethnic differences
  2. Geographic diversity - of both sending and receiving regions
  3. Socio-demographic patterns of migration
  4. Differences in post-migration behaviors –settlement and return or circular migration
  5. Assumes Spanish language preference
  6. Assumes shallow migrant generational depth
  7. Assumes long duration of residence in US = increased acculturation

EPIDEMIOLOGY OF MEXICAN-AMERICAN CHILDREN'S ORAL HEALTH

Adult Farmworker Oral Health

- In 2007, it was estimated 80% of adult farmworkers had **not** had a dental visit in past year
  - of those who did, almost all received service in Mexico
- Generally, around 40% of farmworker males report having never seen a dentist at any time in their life
- Upward of 1/2 of adult farmworkers have untreated dental caries and 1/3 have missing teeth
- Obstacles to care in US are:
  - Lack of available dental services
  - Limited time during which clinics are open
  - Transportation difficulties
  - High fees
  - Language barriers
  - Cultural attitudes and values

Source: [2, 12, 18-19]

Parental Oral Health Status Influences Child Oral Health Status

❖ Generally, adult Mexican immigrants report high untreated caries prevalence and self-reported poor oral health

<u>Pregnant Hispanic Women at US-Mexico Border</u>

- 93% had untreated caries (mean 10 DS)
- 46% reported fair/poor oral health
- 28% toothache or dental pain

<u>Hispanic Adults in Rural Farm Worker Families</u>

- 46% had untreated caries
- 76% reported fair/poor oral health
- 26% toothache or dental pain

Source: [19,20]

NHANESIII 1988-1994: **Young Mexican American children generally have more untreated caries than do other children** (Vargas et al., *JADA* 1998 [21])

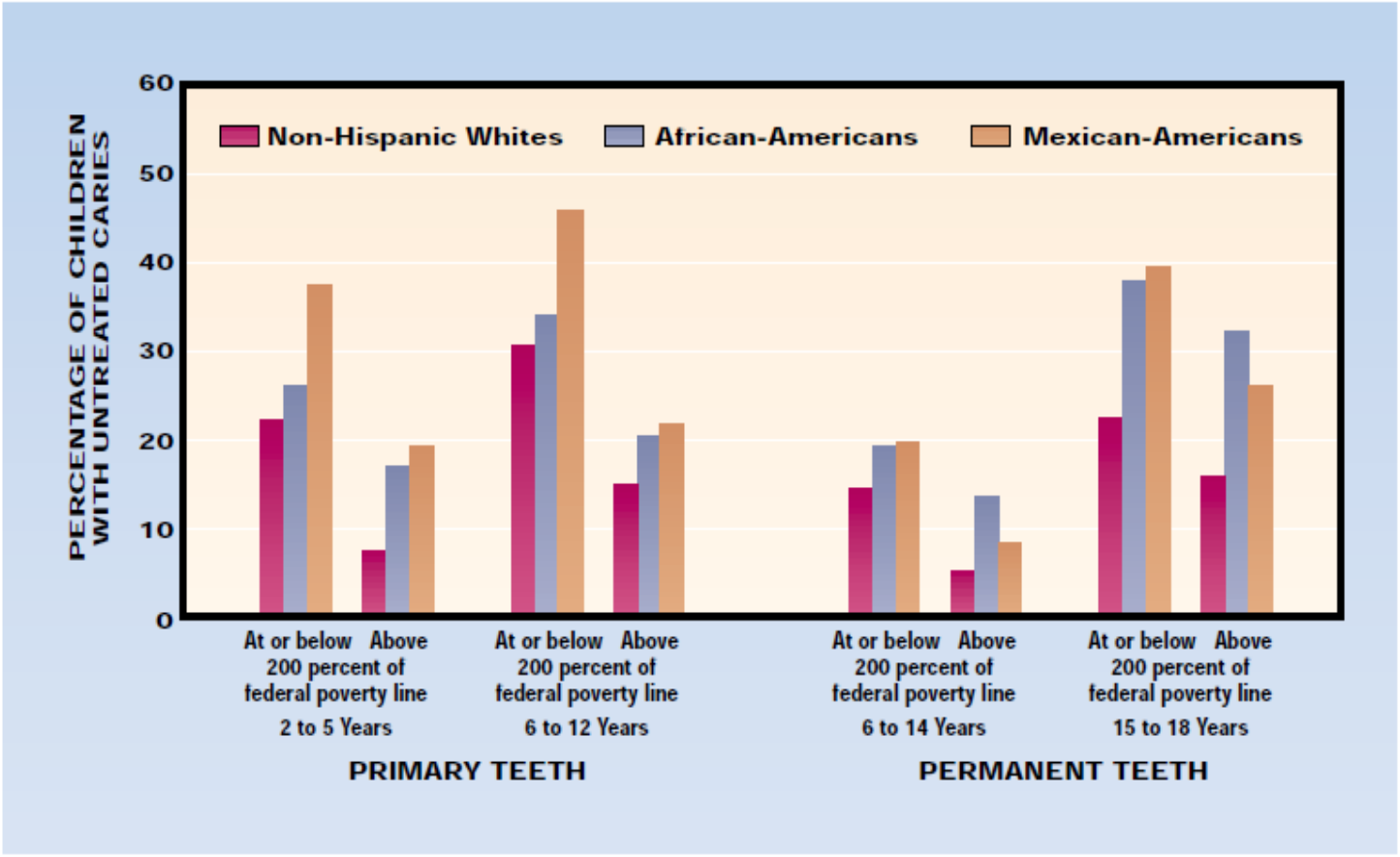
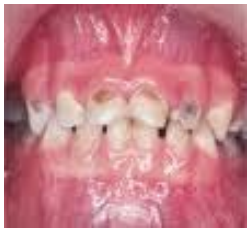


Figure Percentage of children with untreated caries by ethnicity, poverty status (200 percent of the federal poverty line), age group and dentition, Third National Health and Nutrition Examination Survey, 1988–1994.

Dental Caries: A major focus

- Caries - most common disease of childhood
- Dental Caries increased for 2-5 year olds from 24% to 28% between 1988-2004; in same time period rates stayed flat for older age groups, at around 50% for 6-11 year olds

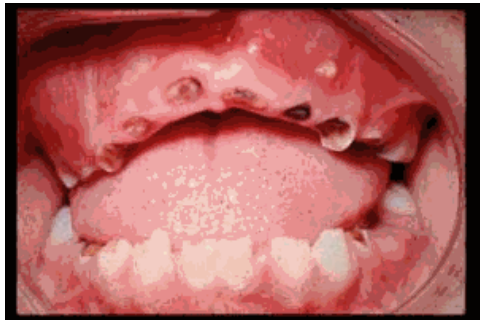
- In 2005, kindergarten and 3rd graders in California showed around 1in 3 had caries experience by age six:
  - 72% of Latino children had some caries, 26% had rampant caries or decay in 7+ teeth.
  - -- Nearly twice the determined rates for the non-Hispanic white children



Source: [22-24]

Early Childhood Caries

- Early Childhood Caries (ECC) - also known as baby bottle disease – is a particular and severe form of caries that affects children under age six
- *Preventable infectious disease* with complex, multiple causality
  - Bacteria AND behaviors
  1. oral hygiene
  2. diet
  3. care-seeking
- If untreated, ECC can lead to
  - pain and suffering; in rare cases, death
  - speech and chewing difficulties
  - poor growth and development
  - problems with permanent dentition and future caries
  - diminished quality of life



Caries Prevention

There are several main ways to reduce caries incidence and increment

- FLUORIDE
  - Shown for many decades that optimal fluoride ingestion helps -> drinking water
- TOOTH BRUSHING
  - Cheap, in-home, easy-to-do, low technology activity that's effective if undertaken using fluoridated toothpaste
- DIET
  - Reduction of sugar and acid (soda) intake
- PROFESSIONAL CARE
  - Sealants, varnishes, gels, foams – mainly need oral health professional application

ECC and Mexican Farmworker Children

- Latino children 1-5 years of age have higher rates of ECC than same age children in any other ethnic/ racial group in the US except American Indians
- Rates of ECC are highest among children of migrants and farm workers

Source: [12, 23, 25-29]

Oral health status of rural versus non-rural children aged 3-5 years

In 1992, Barnes and colleagues [30] reported in *Public Health Reports* that generally rural children had significantly more decay than non-rural children, and that rural Hispanic children had significantly more decay than did non-rural Hispanic children ($p<0.5$)

	N	% with 2+max inc.	% with 3+max inc.	Significant difference between rural/nonrural
White, nonrural	124	20.2	10.5	No
White, rural	97	24.7	19.6	
Hispanic, nonrural	287	16.0	8.7	Yes
Hispanic, rural	162	37.7	25.3	
Total (White, Afr-Am, Nat Am, Hisp) Nonrural	722	16.6	9.6	Yes
Total rural	508	34.1	23.2	

Scant But Provocative Data

- Relatively few studies that distinguish oral health status of rural from non-rural children generally. Few studies
  1. describe the range or prevalence of specific oral health conditions
  2. discuss variations by key socio-demographic markers including ethnic or national origin
  3. examine regional variations
  4. employ clinical examinations rather then self-report or visual inspection only
- Data quality compromised by poorly defined key terms (eg, rural, Hispanic) and measures

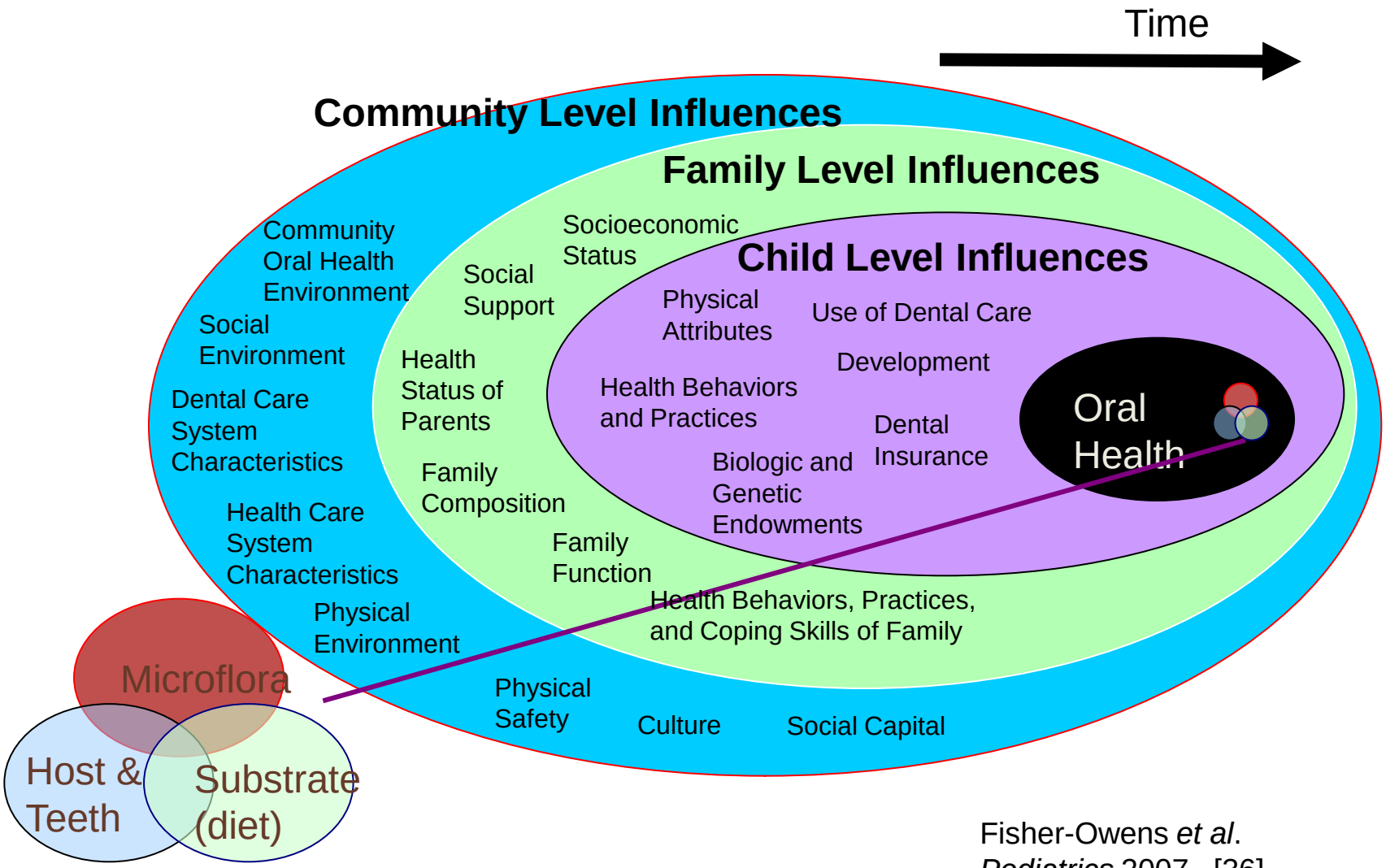
STRUCTURAL AND CONTEXTUAL FACTORS AFFECTING ORAL HEALTH OF CHILDREN OF MEXICAN MIGRANTS

Qualitative Studies of Mexican Farmworker Children's Oral Health

- Several small, intense studies have been done that examine contextual and structural factors influencing Mexican children's oral health in both rural and non-rural areas
- Generally do not involve clinical examinations so much as interviews, observations and ethnographic activity
- Generally, findings corroborate and elaborate survey and quantitative results

Source: [6, 31-35]

MULTI-LEVEL CONCEPTUAL FRAMEWORK



Fisher-Owens *et al*. *Pediatrics* 2007 [36]

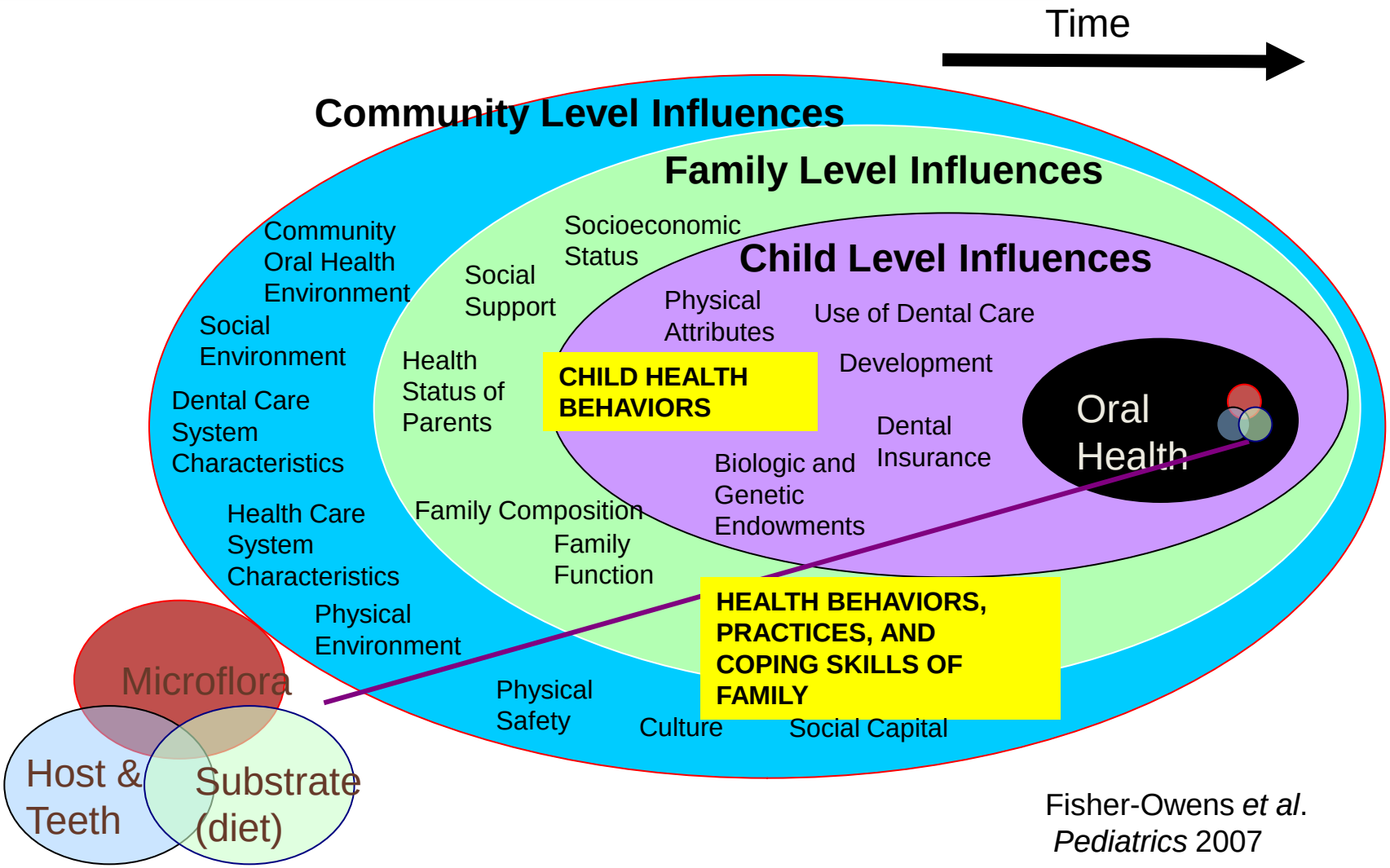
Delay in accessing care: in four intersecting contexts

- "Delay" in a child's receipt of care is
  - sometimes a deliberate choice of actors in that context
  - sometimes recognized as occurring, but many times not
  - rarely, however, is delay simple but usually results from a complex intermeshing of various opportunities and constraints in four context
    1. Caregiver and Family Context
    2. Community or Social Context
    3. Professional and Dental Practitioner Context
    4. Regulatory and Policy Context

  - especially Medicaid dental health safety net for the poor (known in California as Denti-Cal)

Source: [6]

Conceptual Framework of Children's Oral Health: Child, Family, and Community Influences



Fisher-Owens *et al*. *Pediatrics* 2007

Mexican Caregivers' Experiences

- Many immigrant parents come from rural areas in Mexico that lack dental services
- As children, caregivers did not themselves experience or see other children with caries
- Often did not begin their own oral hygiene routines until they were considerably older than age 5
- Ate a very different, far less cariogenic diet as children
- Do not associate dietary change after migration with their own child's caries

  - though most parents do recognize their child's diet is far more sugar- and soda- laden than was their own

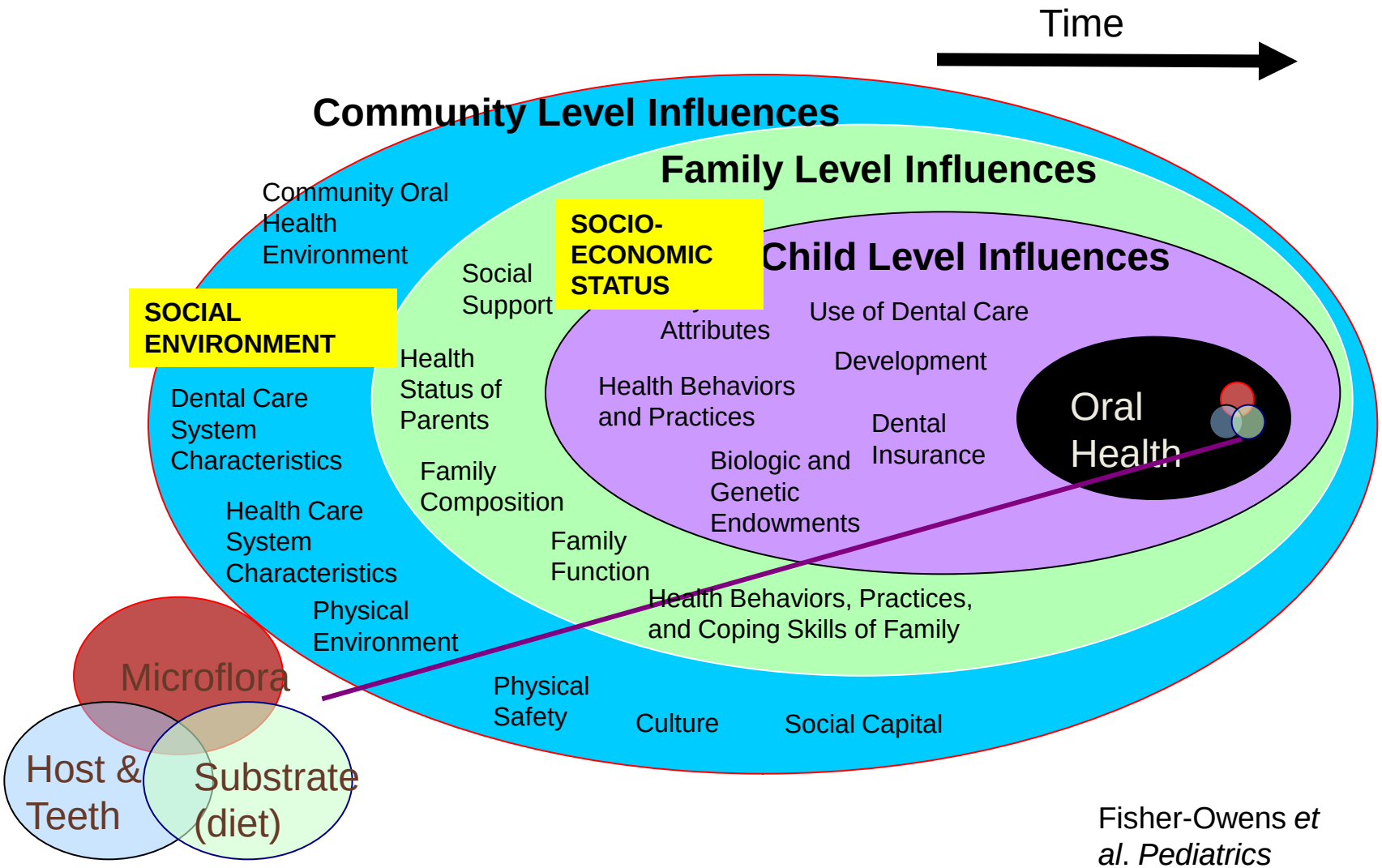
Source: [37]

Parent's Ideas on Oral Health

- Do not know about bacterial etiology and transmission of infection or impact of sharing of toothbrushes
- Thought caries due to the bottle's nipple not the sweet fluid content (milk or juice)
- Not seek professional oral care until child had a recognizable visible tooth problem ("stains" or red swelling) *AND* complained of pain
- Not know about or teach child proper tooth brushing technique; brush for cosmetic reasons; cannot afford to buy toothbrushes for each child
- Poor supervision of or provision of brushing assistance to children aged <8 years of age

Source: [6, 32- 35, 38-39]

Conceptual Framework of Children's Oral Health
Child, Family, and Community Influences



Fisher-Owens *et al*. *Pediatrics* 2007

Seasonal Employment

- Few non-farm work opportunities in small rural communities
- Farm work - and therefore family income - fluctuates seasonally

  → affects child's eligibility for public "safety net" services including health care
- During harvest season especially, parents work long, inflexible hours (often 4am to 4pm)

  → unable to accompany child to clinic too often or else lose jobs
- Delay taking child to dental clinic until winter when parents are not in field or earning much, so children become Medicaid eligible

Source [6, 33-34, 40]

Community Services and Amenities

- **Mexican farmworker families live with food insecurity in a food desert**
  - low-income families with fluctuating employment experience considerable food insecurity
  - live in towns and cities without reliable access to affordable, good quality supermarket within a short distance with fruit and produce available
  - Staple diet tends to be carbohydrate-laden – ie, cariogenic

- **Water Supply: Dubious Quality**
  - -- many rural areas rely on well water or unfluoridated municipal supplies
  - poor and unsafe quality with little monitoring and a history of pesticide and other pollutants
  - Locations with a predominance of Latinos or lowest income groups are more likely than other areas to have polluted water supplies

Source: [3, 12, 38, 41]

Bottled Water

- Latinos more than other population groups prefer **to purchase bottled or filtered water**
  - costs are significant : 1.5% of household incomes
- Bottled water is usually filtered: generally through a reverse-osmosis system which removes any natural or added fluoride
- Farmworkers purchase bottled water or "sports drinks" for themselves and their children

  → **Children lack access to a major source of proven caries preventative** – namely fluoridated water- and exposure to sugar laden fluids

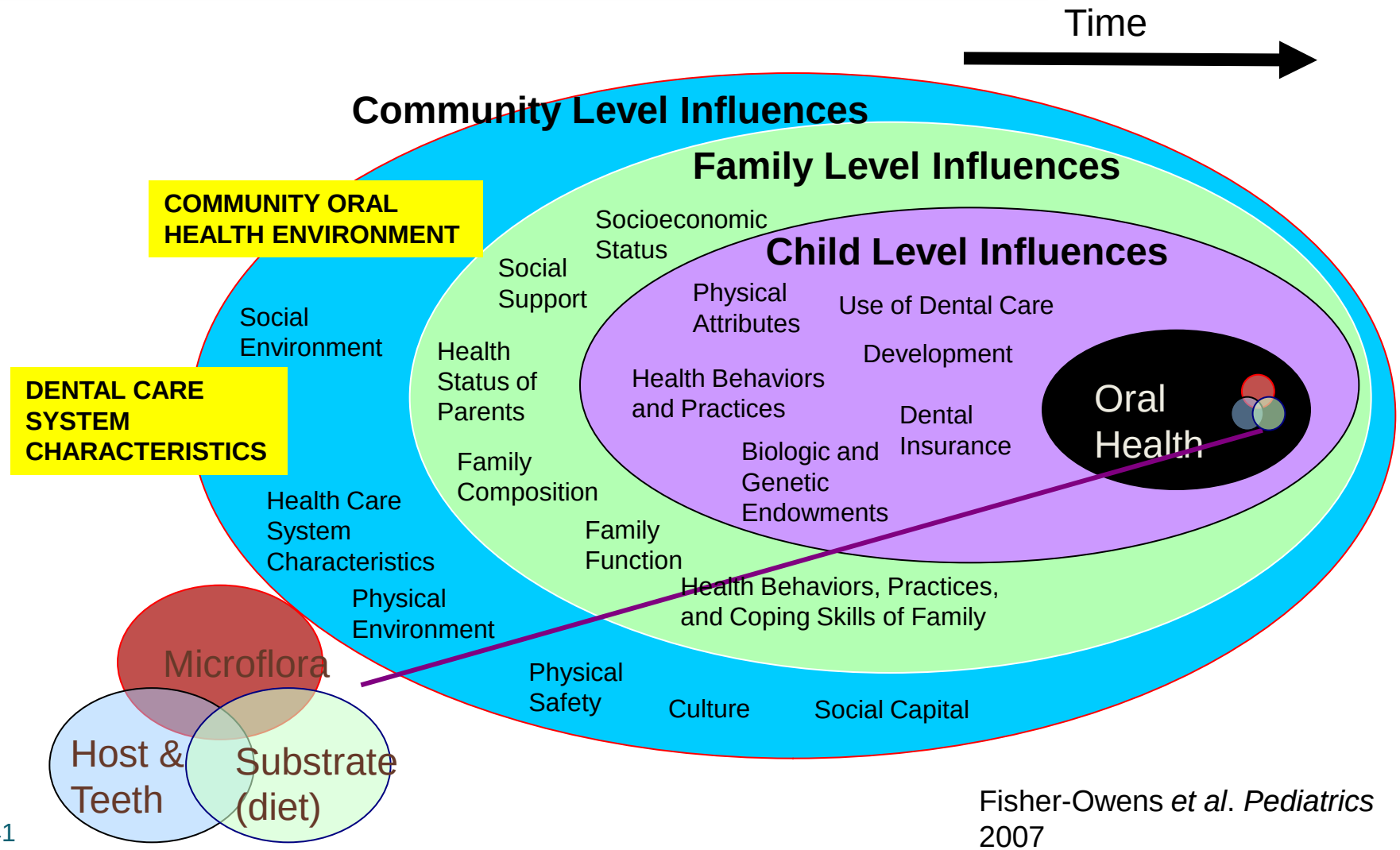
Source: [41, 47-48]

Getting From Home to Dentist

- LACK OF PUBLIC TRANSPORTATION
  - Few households have money to make long trips or access to a reliable vehicle --> borrow a vehicle
  - Women often did not drive, so mothers had to wait to get child to dental clinic till an adult male relative available to drive
- RURAL AREAS ARE UNDERSERVED DENTAL AREAS
  - Many small towns are geographically distant from nearest dental clinic
  - Especially true for pediatric specialty clinics

Source: [6, 49-51]

Conceptual Framework of Children's Oral Health
Child, Family, and Community Influences



Fisher-Owens *et al*. *Pediatrics* 2007

Availability of Dental Care

- In the agricultural Central Valley in California, 23 general dental clinics were within 75 miles of one study site
- Unusually ***high*** proportion of these clinics accepted Medicaid-insured patients under 4 years of age: 8 (or 34%), FQHC or clinic
- These 8 FQHC clinics were staffed by general practice dentists with a median of two years experience since graduation
- All had lengthy wait times of 2-3 months or longer for new child patients

Source: [6,40]

Interaction in the Dental Clinic

- Communication is difficult
  - few dentists speak Spanish, rely on busy bilingual staff to convey information and education
- Parents do not understand the forms they sign
- Do not know what to expect from a dental visit
- Do not know what treatment a child is getting or why
  - Surprised by repeat visits and by need for extensive restorative treatments
- Dislike being excluded from operatory
  - Intensely dislike child being distressed by treatment (eg, being strapped into a “papoose” or given oral sedation)
  - Reluctant to take child for follow-up or repeat visit
  - results in delay of completion of treatment

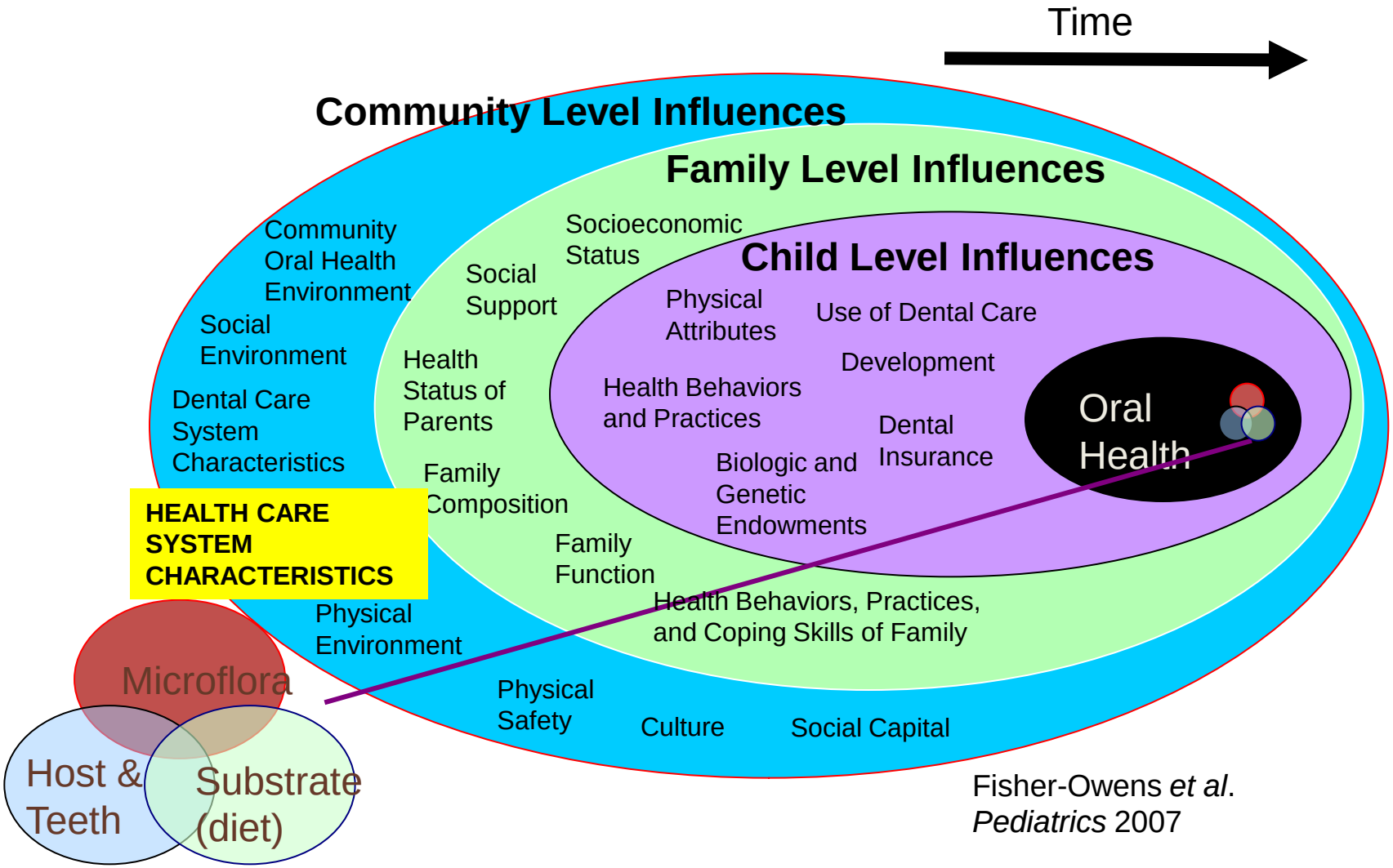
Source: [6,40]

Dentists' Viewpoints

- Non-specialist, general dentists are very uneasy handling children under age five
  - Children this young cry, yell, squirm, kick
- In dental school, dentists are not usually taught techniques to manage this kind of behavior
- Tend to view young, Hispanic patients with Medicaid insurance as " high risk" challenging children.
- Child often needs extensive or complex treatment
- Some dentists will only screen these children and refer to other dentists to treat
- Referral to specialty care is common but these clinics are usually a considerable distance away, have long wait times, which causes further delay, and are expensive as not all costs are covered by Medicaid
  - Referrals put a child at greater risk for poor oral health and untreated needs

Source: [6, 34, 37, 40]

Conceptual Framework of Children's Oral Health
Child, Family, and Community Influences



Fisher-Owens *et al*. *Pediatrics* 2007

RURAL CLINICS and FINANCES

In California, two specific policies have a large impact

(1ST) Certain clinics (FQHCs, CHCs, RHCs) in rural areas are permitted to charge per patient **encounter** rather than per procedure/service completed

- encourages some dentists to have child make multiple short visits to complete treatment
- discourages farmworker parents who can – and do – lose jobs if take too much time from work
- makes parents feel as if they are being taken advantage of financially
- contributes to parents' lack of trust in oral health professional

Source: [6, 40]

Reimbursement Policy

(2ND) In CA, Medicaid reimburses only for restoration of lesion that breaches the "dento-enamel junction" or DEJ

- Many providers feel it best to restore smaller lesions in this population with high caries prevalence,
  - worry the patient won't return to complete treatment
  - worry that further delay will lead to need for more risky, expensive specialty care
- Hard to get good radiographs to show the DEJ involvement on children <4 years, so often dentists end up not get reimbursed
- Many dentists do smaller, less invasive restorations anyway as an act of *pro bono* care because they think these are children at risk for sustained or increased caries involvement

Source: [6, 40]

Federal Immigration Policy

- Citizen-children do not always receive oral health services to which they are entitled.

- This is often due to parental fear:

- (1) Parents fear that a dental visit will induce a visit by immigration services - *la migra*' – which could lead to deportation/family break-up
- (2) Unfounded but common fear that children's use of Medicaid services will limit parents' ability to apply for naturalization

Source [6]

Federal Fiscal Policy

- Denti-Cal pays only for emergency care (i.e., extractions) for undocumented children (non-citizen or illegal aliens)
  - In mixed status families, differential access to care for their citizen (documented) and alien (undocumented) children distresses parents
  - some parents then tend to not seek care for their entitled child(ren)

- Bacteria unaware of legal status of child's mouth
  - freely travel from the mouths of undocumented children to citizen-child mouths
  - Lack of access to care except in emergency, means undocumented children comprise a reservoir of re-infection in this high-risk population

Source: [6]

Summary

- It is not simply one context of care that in**fl**uences, creates or sustains oral health disparities for rural Mexican children
- Families may be the first and most direct day-to-day influence on a child's oral health, but actions in this context are influenced and constrained by other contexts too
- Beliefs, values and behaviors of actors in one context are mirrored, exacerbated and reproduced in other contexts

Source: [6, 14-17, 36, 52]

Conclusion

- Diverse contexts and forms of dynamic influence interconnect to create and sustain the poor oral health status of young Mexican farmworker children in impoverished rural communities
- In order to effect change – increase access to and use of preventive and therapeutic services - we must address all contexts at once
- While we need health policy, what we need far more is healthy policy - in all arenas of government
- We must look beyond the health care system alone to interface with and include employers and labor; education; housing; transportation; immigration services; financing; and policy

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http:/www/ucsf/edu/cando/

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