Pediatric Dental-Focused Interprofessional Interventions

Rethinking Early Childhood Oral Health Management

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KEYWORDS

- Early childhood caries • Social determinants of health • Social workers
- Health educators • Dietitians/nutritionists • Community health workers
- Population oral health • Accountable care/patient-centered medical homes

KEY POINTS

- Early childhood caries (ECC) shares social, environmental, and behavioral determinants with other chronic diseases and conditions that are termed "common risk factors."
- Evidence of effective ECC prevention suggests that prenatal and immediately postnatal interventions work best when delivered by unconventional providers, like helping professionals (eg, social workers, health educators, dietitian/nutritionists) and lay health workers (eg, community health workers).
- Pressures on US health care systems to deliver best outcomes at lowest costs suggest the need for a more efficient and cost-effective approach to early childhood oral health supervision.
- Population-based early childhood health systems hold great potential to allocate resources by risk, improve health care efficiency and cost-effectiveness, and reduce the burden of ECC.
- A tiered delivery system that engages nontraditional providers and serves all young children in a defined population is presented, along with suggestions for research needed for implementation.

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THE EARLY CHILDHOOD CARIES PROBLEM

The problem addressed by this contribution is that too many young children suffer from early childhood caries (ECC) that could have been prevented, suppressed, or arrested through adoption of sustained daily salutary behaviors. Too little is known, however, about how to consistently secure those behaviors over time, particularly in high-risk families. This problem is compounded by dentistry's conventional reparative treatment for ECC, which is costly, inefficient, inequitable, and too often fails: a situation that is increasingly untenable in an era of value-based purchasing.

ECC remains highly prevalent and consequential, disproportionately impacting low-income children.[1] Analyses of the 2011 to 2012 National Survey of Children's Health[2] reveal that 10% of poor parents and 7% of working-poor parents report that their young child is not in excellent or very good oral health compared with only 4% of middle-income and 2% of high-income parents. Similarly, poor and working-poor parents report higher levels of dental or oral problems in the past year than do middle-income and high-income parents (16%, 13%, 10%, 6%, respectively). Yet data from Medicaid show that even among poor children, most require little dental care, whereas a small minority (∼5%) account for a high proportion of dental care spending (∼30%).[3]

Like other chronic diseases, caries determinants relate substantially to socially grounded health behaviors rather than clinical factors.[4] Key ECC behavioral determinants are highly cariogenic diets and harmful feeding practices coupled with insufficient exposures to fluorides. Among the relevant social determinants that explain the prevalence of ECC in poor and low-income families are:

- Poverty itself
- Food, income, and housing insecurity
- Low levels of educational attainment and illiteracy
- Lack of social cohesion and discrimination
- Unavailability of healthful foods
- Unfavorable built environments marked by poor-quality housing, crime and violence, and toxic exposures[5]

Healthy People 2020 provides an explanation of how social and environmental risks impact health:

"Health starts in our homes, schools, workplaces, neighborhoods, and communities. We know that taking care of ourselves … influence[s] our health. Our health is also determined in part by access to social and economic opportunities; the resources and supports available in our homes, neighborhoods, and communities; the quality of our schooling; the safety of our workplaces; the cleanliness of our water, food, and air; and the nature of our social interactions and relationships. The conditions in which we live explain in part why some Americans are healthier than others and why Americans more generally are not as healthy as they could be."

Applying this understanding to oral health, Sheiham and Watt[6] recognize that poor diet and hygiene contribute to multiple illnesses and call for an "approach [that] addresses risk factors common to many chronic conditions within the context of the wider socio-environmental milieu," adding that "adopting a collaborative approach is more rational than one that is disease specific." Appreciation of social determinants has also led to calls to "go upstream"[7] when addressing preventable chronic diseases by targeting health behaviors that result in health inequalities.[4] The recognition that social, environmental, behavioral, and epigenetic health determinants are more influential in determining health status than is health care per se[8,9] raises fundamental questions about the limits and limitations of health care and its relationship with

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