A life course approach to preventing and treating oral disease

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The thoughtful paper by Klemme and colleagues (2004) in this issue provides an apt opportunity to emphasize two central concerns of our own collaborative research, practice, education, and policy efforts, namely, improved integration of oral health and health care into public health more generally (Northridge 2002; Lamster 2004), and the elimination of social disparities in health (Zabos et al. 2002; Northridge et al. 2004). The editors-in-chief of Social and Preventive Medicine no doubt agree with the US Surgeon General's call to "reconnect the mouth to the rest of the body in health policies and programs" (US DHHS 2000), as they chose to highlight oral health through our accompanying editorial.

Klemme et al. (2004) astutely note that the disparities in sealants applied and caries found among German youths by social class exist despite a social security system that pays the full costs associated with this proven preventive measure. In their words, "the expansion of fissure sealants did not reduce disparities in caries prevalence across groups with different educational [attainment]" (Klemme 2004). Efforts to eliminate social disparities in health and health care thus need to address the structural determinants of population health, in addition to providing programs for underserved populations (Northridge et al. 2003).

A life course approach to preventing and treating oral disease may prove insightful, as it has for understanding the etiology of other chronic diseases. In essence, the life course approach is "the study of long-term effects on chronic disease risk of physical and social exposures during gestation, childhood, adolescence, young adulthood, and later adult life" (Ben-Shlomo & Kuh 2002). Poor nutrition, lack of preventive oral health care, violence leading to face trauma, and tobacco and alcohol use affect teeth and their supporting structures, leading to dental caries (beginning in early childhood and continuing throughout the life course), periodontal diseases and tooth loss (especially in adults), and oral and pharyngeal cancers (predominantly disorders of the elderly). Furthermore, research is currently underway to understand the relationship between periodontal infections in mothers and pre-term low birth weight of their babies (Mitchell-Lewis et al. 2001), which suggests that oral disease may have intergenerational effects on population health.

We believe that social disparities in health and health care are particularly evident in the mouth, even as they are inextricably tied to other systems of the body (Lamster 2004), and that it is never too early or too late in life to intervene to improve health and well-being. Klemme et al. (2004) noted that the most disadvantaged children in their study lacked adequate oral hygiene, proper nutrition, and effective preventive oral health care by the time they were screened at 12 years of age. Thus, we believe that prevention should begin earlier in life.

Disparities in oral health and health care accumulate and intensify throughout the life course. In a population-based health survey of adults in Harlem, New York City, we found that problems with teeth and gums were cited more than any other health complaint, and that even in this poor community, disparities in oral health and health care were evident by social class (Zabos et al. 2002).

One of us (IBL) recently stressed that oral disease has a disproportionate impact on the elderly (Lamster 2004), thus drawing explicit attention to social disparities in health by age group. He explains, "In addition to years of exposure of the teeth and related structures to microbial assault,

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[seniors'] oral cavities will show evidence of wear and tear as a result of normal use (chewing and talking) and destructive oral habits such as bruxism (habitual grinding of the teeth). The elderly also suffer from chronic disorders that can directly or indirectly affect oral health..." (Lamster 2004).
In September 2003, the US Senate Special Committee on Aging held a forum entitled, "Ageism in health care: are our nation's seniors receiving proper oral health care?" Whether due to rapid population shifts and the resulting larger numbers of older adults in both developed and developing nations, willful neglect, or ageism – or a combination of all three – there is no doubt that more resources need to be directed towards meeting the oral health care needs of our seniors (Ahluwalia 2004). Priorities include promoting collaborations among other health care providers who routinely treat seniors with a focus on educating them about oral disease prevention and referral for treatment, developing and implementing relatively inexpensive preventive procedures and protocols for seniors who have problems accessing care, and formally training new generations of dentists and other health care providers to meet the needs of elderly patients (Lamster 2004).
The models developed for children ought to be critically examined for application to older adults (Lamster 2004), as has been suggested for injury prevention and control (Northridge & Levick 2003). Applying the "best principles" of public health programs targeted to younger age groups across the life course may benefit our valued seniors. A collaborative approach involving national and regional dental associations and educational institutions is needed to respond to the growing burden of oral disease among older adults.

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References

Ahluwalia K (2004). Oral health care for the elderly: more than just dentures. Am J Public Health *94*: 698.

Ben-Shlomo Y, Kuh D (2002). A life course approach to chronic disease epidemiology: conceptual models, empirical challenges, and interdisciplinary perspectives. Int J Epidemiol *31*: 285–93.

Klemme B, Tramini P, Niekusch U, Schulte AG (2004). Relationship between caries prevalence and fissure sealants among 12-year-old German children at three educational strata. Soz Praventiv Med *49:* 344–51.

Lamster IB (2004). Oral health care services for older adults: a looming crisis. Am J Public Health *94*: 699–702.

Mitchell-Lewis D, Engebretson SP, Chen J, Lamster IB, Papapanou PN (2001). Periodontal infections and pre-term birth: early findings from a cohort of young minority women in New York. Eur J Oral Sci *109*: 34–9.

Northridge ME (2002). Reconnecting the mouth to the rest of the body. Am J Public Health *92*: 2.

Northridge ME, Levick N (2003). Transforming unsafe spaces into healthy places: preventing falls and promoting health and well-being for older adults. Generations *26*: 42–7.

Northridge ME, Sclar ED, Biswas P (2003). Sorting out the connections between the built environment and health: a conceptual framework for navigating pathways and planning healthy cities. J Urban Health *80*: 556–90.

Northridge ME, McLeroy KR, Haviland ML (2004). Essential tensions in the Journal. Am J Public Health *94*: 11–3.

US Department of Health and Human Services (US DHHS) (2000). Oral health in America: a report of the Surgeon General. Rockville, Md: National Institute of Dental and Craniofacial Research, National Institutes of Health.

Zabos GP, Northridge ME, Ro MJ, et al. (2002). Lack of oral health care for adults in Harlem: a hidden crisis. Am J Public Health *92*: 49–52.

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