

# Chapter 8

## Little Use of Three-Dimensional Digital Dentistry in Rural Areas: Comparisons in Chaucer's Wife of Bath's Tale

Nancy Ann Watanabe

 <https://orcid.org/0000-0001-9762-4108>

University of Oklahoma, USA & University of Washington, USA

### ABSTRACT

*This chapter investigates the little use in rural areas of 3D technology, a staple of Computer-Aided Design and Computer-Aided Manufacturing (CAD/CAM) for prosthetics. The analysis argues the importance of traditional and pastoral values as a philosophical justification explaining rural areas' lack of 3D digital dentistry technology. Rural dentistry research typically alleges that economic impoverishment, occupational barriers, lack of education, and similar factors based on social stratification, prevent the development of digital dentistry technology in rural areas. Beyond socioeconomic concerns, the rural ambiance prioritizes the natural environment, social relationships, and community cooperation. Digital dentistry can improve rural health care through videoconferencing, telehealth, computerized recordkeeping, and dentist-patient communications. Technological tools may enhance yet are eclipsed in rural areas by preference for less mechanized dental care demonstrably linked to the time-honored transformative humanistic nature-oriented values in Chaucer's "The Wife of Bath's Tale."*

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## INTRODUCTION: AN INNOVATIVE QUALITATIVE APPROACH

Rural dentistry may legitimately be called frontier dentistry because it stands at the forefront of a conundrum in the history of digital dentistry. United States researcher Lauren Rudolph, in “Firsthand Perspectives in Rural and Underserved Dentistry,” observes that “Rural and medically underserved communities all over the country face barriers that disproportionately affect and disadvantage them, and this can significantly decrease the quality of and access to dental care for patients living in these areas. Only fourteen percent of United States dentists practice in rural areas, forcing rural patients to face an unfair health professional geographic barrier they may not have the resources to overcome. Data from the 2018 policy brief released by the National Advisory Committee on Rural Health and Human Services found that eleven percent of practicing dentists serve rural or partially rural communities. The report also found that more than 5,700 new dentists would be needed to serve these communities to remove their Dental Health Professional Shortage Area designation” (2023, p. 24). Consistent with previous studies, Rudolph asserts, “Rural areas often have higher rates of poverty, lower rates of patients without medical and dental insurance, lower numbers of providers, a geographic travel barrier that may prevent patients from being able to attend their appointments, and decreased access to preventative and public health services. These disadvantages can play a role in leading to decreased access to oral health services, lowered dental care utilization, increased disease rates, and significantly more time and resources necessary to treat these populations.” An investigation of reasons for the lack of dental care services in rural areas should begin by calling attention to digital technology as the leading edge of dentistry in metropolitan areas. Since mainstream urban dentistry is a stronghold promoting the widespread use of computerized technology, a bilateral approach to addressing oral health issues in rural areas should adopt the perspective of rural dental patients and examine how they feel about the prevailing reliance in dentistry on computer technology. If the term “dental care” is synonymous with “digital dentistry,” then the problem of supplying more dentists and better dental health care to rural communities ought to take into consideration the present argument that dentistry in today’s technologically dominated world means sacrificing traditional values cherished by rural communities. Given the reality that computers are machines capable of producing artificial, synthetic false teeth, and people living in pastoral environments are conditioned to value nature over machines, the absence of professional dentists and rural dental clinics may well be ascribed to the resistance among rural populations, not necessarily to dental health care, but to digital technology. Viewed in this light, the lack of dental care in rural areas is traceable not to social and economic class, i.e., poverty, but to cultural values. Thus the effort to improve dental health care in rural areas ought to consider promoting traditional

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