Objective: This study aims to describe the patterns of specific dental service utilization among the various underserved groups in the state of North Carolina served by ECU SoDM.

Methods: Clinical data recorded for 26,710 patients and 534,983 procedures from 2011 to 2020 were extracted from the AxiUm database containing records from the 9 ECU SoDM clinic sites across the state of North Carolina. Data were analyzed using IBM SPSS Statistics for Macintosh, Version 25.0. Cross-tabulation of dental service utilization and patient demographic information by payment method was performed using chi-square analysis. Disease burden and dental need were measured through the D section of the DMFT score. Dental service utilization was broken down into specific categories by the number of persons receiving specified treatment types.

Results: Method of payment was determined to be significantly related to individual characteristics including location of service, age, race, ethnicity, and dental need (p<0.001). Method of payment plays an influential role in the determination of the dental service type utilized by an individual (p<0.001). Medicaid payers were more likely to receive restorative work, removable prosthetics, or oral surgery whereas privately insured or self-paying individuals demonstrated a greater variety of service options, as well as more specialized procedure options like endodontics, periodontics, fixed prosthetics, and implants.

Conclusions: Payment method was found to be related to demographic characteristics, and to influence the type of dental service utilized. Adults age 65+ demonstrated a higher likelihood to self-pay, indicating a lack of insurance coverage for this population. In the interest of providing care for underserved populations in North Carolina, policy makers ought to expand dental coverage for adults 65+. Multivariate analysis is required to further confirm statistical significance.

Discussion

• Visits that displayed a greater dental need (D >0) more likely to be paid by self-pay and less likely by private insurance and Medicaid.

• Visits from near-elderly (65-74) and elderly (75+) adults show an increase in self-pay payment with a decrease in Medicaid usage compared to younger adults.

• Visits paid with Medicaid were more likely to utilize less attractive service options in comparison to self-pay or private insurance.

Conclusions

• Likelihood of utilization of specific services is influenced significantly (p<0.001) by the payment method used.

• Preventative care showed a lower rate of utilization by Medicaid payers, possibly indicating poor coverage for preventative procedures.

• State or Federal policy decisions ought to expand coverage for underserved groups as:
  • Adults 65+ experiencing a lack of coverage options for necessary dental treatment.
  • Underserved persons with demonstrated need (D >0) not covered by Medicaid or private insurance.

Acknowledgements

This project was made possible by funding from East Carolina University School of Dental Medicine through the Summer Scholars Research Program. Special thanks to Dr. Al-Dajani and Dr. Moss for their contributions and guidance throughout this project.

References