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Repair or Replace of Defective Restorations – a Cross-Sectional Study

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Objectives The aim of this cross-sectional study (Tromsø 7) was to evaluate the treatment need among a random selection of adult patients in Northern-Norway by measuring the repair versus replacement for failed restorations. A secondary aim was to assess strategy differences between dentists.

Methods A randomised sample of 3 653 persons (51.5% women, 48.5% men, aged 40-93 years) were included. Based on FDI's Clinical criteria for the evaluation of restorations—2010, patients' clinical and radiographical pictures were evaluated in a specially designed software developed for this purpose.

Descriptive statistics and multivariable multilevel-mixed-effect-logistic-regression-models (STATA 17/SE) was performed. p-value < 0.05 was used throughout.

Results A total of 90.062 teeth (24.7 teeth pr. patient) were assessed. Re-treatment suggestions were made for 3006 restorations, giving an overall treatment suggestion of 3.3 %. Of these, 27% (n=814) were suggested for repair and 73% (n=2192) judged to replacement). The participants' DMFT-values ranged from 0 (0.9%) to 28 (8.8%) (Median DMFT 21.3, mean 20.0). Suggestions for treatment were made for 1597 patients (43.7%, 54% men), varying from one (54% of the participants) to 14 suggestions (0.1% of the participants, one patient).

There were not found significant difference between dentists based on sex or age.

Clustering by dentist level was checked using Intra-class Correlation Coefficients (ICC), demonstrating that 16% of the variance in suggestions for restoration re-treatment was explained at the dentist level. Thus, a wide range of number of treatment suggestions was noted among the dentists.

Secondary caries and restoration fracture were found to be most used diagnose for re-treatment, surface properties the least.

Conclusions Need for restoration revision seems low in Norway. There is a tendency towards larger and more indirect restorations, and the diagnosis secondary caries is still a matter of uncertainty.