

ABSTRACT

Objectives: Using data from dentists participating in The Dental Practice-Based Research Network (DPBRN), the study had 2 main objectives: (1) to identify and quantify the types of restorative materials in the existing failed restorations; and (2) to identify and quantify the materials used to repair or replace those failed restorations.

Methods: This cross-sectional study used a consecutive patient/restoration recruitment design. Practitioner-investigators recorded data on consecutive restorations in permanent teeth that needed repair or replacement. Data included the primary reason for repair or replacement, tooth surface(s) involved, restorative materials used, and patient demographics.

Results: Data for 9,875 restorations were collected from 7,502 patients in 197 practices for which 75% of restorations were replaced and 25% repaired. Most of the restorations that were either repaired or replaced were amalgam (56%) for which most (56%) of the material used was direct tooth-colored. The restorative material was 5 times more likely to be changed when the original restoration was amalgam (OR=5.2, $p<.001$). The likelihood of changing an amalgam restoration differed as a function of the tooth type (OR=3.0, $p<.001$), arch (OR=6.6, $p<.001$); and number of surfaces in the original restoration (OR=12.2, $p<.001$).

Conclusion: The probability of changing from amalgam to another restorative material differed with several characteristics of the original restoration. The change was most likely to take place when (1) the treatment was a replacement; (2) the tooth was not a molar; (3) the tooth was in the maxillary arch; and (4) the original restoration involved a single surface.

KEY WORDS: practice-based research, repair, replacement, decision, defective, restorations

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