

## Appendix (Supplementary Tables)

**Table S1: Distribution of the number of NCTD restorations placed per patient, by reason for the restoration.**

<i>Number of restorations per patient</i>	<b>AAE</b>	<b>Tooth fracture</b>	<b>Cosmetic reasons</b>	<b>Others</b>
<b>0</b> [N (%)]	539 (62%)	504 (58%)	834 (95%)	729 (83%)
<b>1</b> [N (%)]	176 (20%)	338 (39%)	18 (2%)	109 (12%)
<b>2</b> [N (%)]	87 (10%)	27 (3%)	7 (1%)	21 (2%)
<b>3</b> [N (%)]	37 (4%)	3 (0%)	5 (1%)	7 (1%)
<b>4</b> [N (%)]	35 (4%)	2 (0%)	10 (1%)	8 (1%)
<b>Total</b>	874 (100%)	874 (100%)	874 (100%)	874 (100%)

Counts are the number of patients, not the number of restorations. Percentages are within columns for each NCTD type of restoration. AAE: abrasion, abfraction, or erosion lesions; Others: developmental defects or hypoplasia, endodontically-treated teeth, or other unspecified reasons.

**Table S2: Multiple logistic regression analysis of the reasons for restoring NCTD.**

		AAE	Tooth fracture	Cosmetic reasons	Others
<b>Patient</b>	<b>Gender</b>	0.4245	0.2175	0.6462	0.9526
	<b>Age group in years</b>	< 0.0001 (<0.0001)	0.7449	0.5217	<0.0001 (<0.0001)
<b>Dentist</b>	<b>Years of experience</b>	0.4189	0.66	0.6492	0.541
	<b>Visits per week</b>	0.0459	0.2606	0.7798	0.1991
	<b>Risk assessment</b>	0.0871	0.3243	0.0819	0.2241
	<b>Type of practice</b>	0.1914	0.0056	xxxx	0.387
<b>Tooth</b>	<b>Type</b>	< 0.0001 (< 0.0001)	< 0.0001 (0.0009)	0.0002 (0.0003)	< 0.0001 (0.0039)
	<b>Location</b>	0.973	0.2799	0.0969	0.001 (0.0014)
	<b>Surface</b>	< 0.0001 (<0.0001)	< 0.0001(<0.0001)	0.0495	0.0055 (0.0381)
<b>DPBRN region</b>		0.0151 (0.0346)	0.0032	xxxx	0.6992

The table shows p-values for univariate predictors of reasons for restoring NCTD and in parenthesis p-values for final multivariable models. Variables significant at  $p < 0.10$  in the individual models were included in the respective block model. Variables significant at  $p < 0.05$  in the block models were used along with DPBRN regions in a single multivariable model. Variables which were significant at  $p < 0.05$  in this model were retained in a final multivariable model. This process was conducted separately for each of the four reasons for NCTD restoration. AAE: abrasion, abfraction, or erosion lesions; Others: developmental defects or hypoplasia, endodontically-treated teeth, or other unspecified reasons; “xxxx”: the estimation algorithm failed to converge.

**Table S3: Number and percentage of DPBRN dentists and patients participating in the study and number and percentage of restorations placed by dentists from each DPBRN region.**

	<b>AL/MS</b>	<b>FL/GA</b>	<b>MN</b>	<b>PDA</b>	<b>SK</b>	<b>Total</b>
<b>Dentists</b> [N (%)]	46 (26)	32 (18)	24 (14)	40 (22)	36 (20)	178 (100)
<b>Patients</b> [N (%)]	197 (23)	211 (24)	103 (12)	175 (20)	188 (21)	874 (100)
<b>NCTD Restorations</b> [N (%)]	332 (26)	316 (24)	131 (10)	268 (21)	254 (19)	1301 (100)

Percentages are within rows for each variable. NCTD: non-cariou tooth defects; AL/MS: Alabama/Mississippi; FL/GA: Florida/Georgia; MN: dentists employed by HealthPartners and other practitioners in Minnesota; PDA: Permanente Dental Associates in cooperation with Kaiser Permanente Center for Health Research, Portland, Oregon; and SK: Denmark, Norway, and Sweden.

**Table S4: Distribution of reasons for the restoration, by tooth characteristics and type of restorative material used.**

<b>Restorative Material</b>	<b>Tooth</b>	<b>AAE</b>	<b>Tooth fracture</b>	<b>Cosmetic reasons</b>	<b>Others</b>	<b>Total</b>
<b>Amalgam</b>	<b>Molar</b>	3 (4%)	52 (78%)	0	12 (18%)	67 (100%)
	<b>Premolar</b>	2 (8%)	16 (67%)	0	6 (25%)	24 (100%)
	<b>Anterior</b>	0	0	0	0	0
	<b>Maxillary</b>	0	36 (90%)	0	4 (10%)	10 (100%)
	<b>Mandibular</b>	5 (10%)	32 (63%)	0	14 (27%)	51 (100%)
	<b>O and/or I</b>	1 (20%)	0	0	4 (80%)	5 (100%)
	<b>M and/or D</b>	0	21 (81%)	0	5(19%)	26 (100%)
	<b>B and/or L</b>	3 (20%)	9 (60%)	0	3(20%)	15 (100%)
	<b>Multiple (O/I/M/D/B/L)</b>	1 (2%)	36 (86%)	0	5(12%)	42(100%)
	<b>Direct Composite Resin (RBC)</b>	<b>Molar</b>	94 (35%)	81 (30%)	1 (0%)	91 (34%)
<b>Premolar</b>		259 (81%)	33 (10%)	5 (2%)	23 (7%)	320 (100%)
<b>Anterior</b>		213 (45%)	159 (34%)	71 (15%)	28 (6%)	471 (100%)
<b>Maxillary</b>		308 (51%)	169 (28%)	59 (10%)	65 (11%)	601 (100%)
<b>Mandibular</b>		258 (56%)	104 (23%)	18 (4%)	77 (17%)	457 (100%)
<b>O and/or I</b>		74 (37%)	30 (15%)	13 (7%)	82 (41%)	199 (100%)
<b>M and/or D</b>		7 (14%)	20 (41%)	12 (24%)	10 (20%)	49 (100%)
<b>B and/or L</b>		436 (82%)	46(9%)	16 (3%)	32 (6%)	530 (100%)
<b>Multiple (O/I/M/D/B/L)</b>		45 (17%)	173 (64%)	35 (13%)	16 (6%)	269 (100%)
<b>Glass ionomer (GI/RMGI)</b>		<b>Molar</b>	5 (50%)	2 (20%)	0	3 (30%)
	<b>Premolar</b>	14 (88%)	1 (6%)	0	1 (6%)	16 (100%)

	<b>Anterior</b>	5 (50%)	0	1 (10%)	4 (40%)	10 (100%)
	<b>Maxillary</b>	15 (75%)	2 (10%)	1 (5%)	2 (10%)	20 (100%)
	<b>Mandibular</b>	9 (56%)	1 (6%)	0	6 (38%)	16 (100%)
	<b>O and/or I</b>	6 (75%)	0	0	2 (25%)	8 (100%)
	<b>M and/or D</b>	0	0	0	0	0
	<b>B and/or L</b>	15 (75%)	0	0	5 (25%)	20 (100%)
	<b>Multiple (O/I/M/D/B/L)</b>	3 (38%)	3 (38%)	1 (13%)	1 (13%)	8 (100%)
<b>Others</b>	<b>Molar</b>	0	25 (69%)	0	11 (31%)	36 (100%)
	<b>Premolar</b>	0	11 (61%)	1 (6%)	6 (33%)	18 (100%)
	<b>Anterior</b>	4 (18%)	1 (5%)	8 (36%)	9 (41%)	22 (100%)
	<b>Maxillary</b>	4 (9%)	15 (34%)	9 (20%)	16 (36%)	44 (100%)
	<b>Mandibular</b>	0	22 (69%)	0	10 (31%)	32 (100%)
	<b>O and/or I</b>	0	0	0	2 (100%)	2 (100%)
	<b>M and/or D</b>	0	9 (100%)	0	0	9 (100%)
	<b>B and/or L</b>	0	13 (57%)	4 (17%)	6 (26%)	23 (100%)
	<b>Multiple (O/I/M/D/B/L)</b>	4 (10%)	13 (33%)	5 (13%)	17 (44%)	39 (100%)

Counts are the number of restorations, not the number of restorative materials. AAE: abrasion, abfraction, or erosion lesions; Others: developmental defects or hypoplasia, endodontically-treated teeth, or other unspecified defects or reasons. RBC: directly placed resin-based composite; GI/RMGI: glass-ionomer or resin-modified glass-ionomer; Other materials: indirectly placed resin-based composite, ceramic or porcelain, cast gold or other metallic-based material, combined metal-ceramic material, and temporary restorative material; O: occlusal; M: mesial; D: distal; B: buccal/facial; L: lingual/palatal; and I: incisal tooth surfaces.