Analysis of patient participation

Patient compliance in completing and returning the study surveys. Network dentists returned completed restorative data forms for 7,286 patients enrolled in this study. The network Regional Coordinators received a total of 5,879 surveys from these patients. This resulted in a compliance rate of 81%. Descriptive statistics for patient, dentist, and restoration factors for patients who did and did not return the satisfaction survey are presented in Table 1. Multivariate regression coefficients for patient, dentist, and restoration factors associated with having returned the study surveys are presented in Table 2. Patients who returned their satisfaction survey were more likely to be older (p < .001); female (p = 0.01); White compared to Black (p < .001); American Indian/Alaskan Native (p < .001); Asian (p = 0.02); and have dental insurance (p = .033). Dentists whose patients returned their satisfaction survey were more likely to have placed the original restoration (p = .005) and to be in a solo small group practice (p < .001). The surveys were more likely to be returned when the tooth was not a pre-molar/anterior compared to a molar (p < .001). Also, fewer number of restorations performed at the visit was associated with a greater likelihood of survey return (p = .024). No differences were found for patient’s ethnicity, dentist’s gender, years since dental school graduation, percent of time spent on non-implant restorative procedures, whether the procedure was a repair or a replacement, and original restoration material.

Patients who answered all survey items. Of the 5,879 patients who returned the study survey, 92% (n = 5,405) had completed all of the survey items. Patients who completed all items were younger (OR = 0.99, p < .001; mean 52.3 years, SD = 15.4) than non-completers (mean = 58.6 years, SD = 15.6) and more likely to have been seen in a Public Health Practice (13%) compared to Solo or Small Group Practice (8%) or Large Group Practice (7%). No differences were found for patient’s gender, race, ethnicity, having dental insurance, dentist’s gender, years since dental school graduation, percent of time spent on non-implant restorative procedures, whether the dentist placed the original restoration, whether the procedure was a repair or a replacement, tooth involved, and the original restoration material.
Table 2. Dentist, patient, and restoration characteristics associated with satisfaction surveys which were returned.

<table>
<thead>
<tr>
<th>Predictor variable (reference)</th>
<th>B (SE)</th>
<th>OR (95% CI)</th>
<th>p. value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in years</td>
<td>-.027 (.048)</td>
<td>0.97 (0.97-0.98)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Patient gender (male)</td>
<td>.258 (.062)</td>
<td>1.29 (1.15-1.46)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Black (White)</td>
<td>-.761 (.113)</td>
<td>0.47 (0.38-0.58)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>American Indian – Alaskan Native</td>
<td>-1.425 (.291)</td>
<td>0.24 (0.14-0.43)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Asian</td>
<td>-.697 (.229)</td>
<td>0.50 (0.32-0.78)</td>
<td>.002</td>
</tr>
<tr>
<td>Other</td>
<td>-.505 (.722)</td>
<td>0.60 (0.15-2.48)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Dental insurance (yes)</td>
<td>-.182 (.085)</td>
<td>0.83 (0.71-0.98)</td>
<td>.033</td>
</tr>
<tr>
<td><strong>Dentist characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGP (SGP)*</td>
<td>-.345 (.072)</td>
<td>0.71 (0.62-0.82)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>PHP (SGP)*</td>
<td>.306 (.162)</td>
<td>1.36 (0.99-1.87)</td>
<td>.052</td>
</tr>
<tr>
<td><strong>Restoration factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentist placed existing restoration (no)</td>
<td>-.048 (.071)</td>
<td>0.81 (0.70-0.94)</td>
<td>.005</td>
</tr>
<tr>
<td>Number of restorations treated</td>
<td>106 (.047)</td>
<td>1.11 (1.02-1.22)</td>
<td>.024</td>
</tr>
<tr>
<td>Tooth – molar (premolar/anterior)</td>
<td>-.129 (.067)</td>
<td>1.07 (0.94-1.22)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

a) The dependent variable was coded 0=survey not returned, 1=survey was returned.

b) General estimating equations were used to adjust for restorations clustered within dentists and patients. Backwards deletion was used with .15 used as the removal criteria. The model also included, patient ethnicity, dentist gender, years since dental school graduation, percent of time spent on non-implant restorative procedures, whether the procedure was a repair or a replacement, and original restoration material.

*Solo or Small group practice=SGP, Large group practice=LGP, Public health practice=PHP.
Table 1. Descriptive statistics for patient, dentist and procedure factors for patients who did and did not return the satisfaction survey

<table>
<thead>
<tr>
<th>Variable</th>
<th>Did not return survey</th>
<th>Returned survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD) or % (n)</td>
<td>Mean (SD) or % (n)</td>
</tr>
<tr>
<td></td>
<td>n=1407 patients</td>
<td>n=5879 patients</td>
</tr>
<tr>
<td>Dentists characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>20% (n=1054)</td>
<td>80% (n=4185)</td>
</tr>
<tr>
<td>Female</td>
<td>22% (n=481)</td>
<td>78% (n=1694)</td>
</tr>
<tr>
<td>Years since dental school graduation</td>
<td>21.3 (SD=10.5)</td>
<td>22.4 (SD=10.5)</td>
</tr>
<tr>
<td>Percent of time spent on non-implant restorations</td>
<td>56% (SD=20)</td>
<td>56% (SD=19)</td>
</tr>
<tr>
<td>Practice model used by dentist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGP</td>
<td>18% (n=783)</td>
<td>81% (n=3542)</td>
</tr>
<tr>
<td>LGP</td>
<td>25% (n=693)</td>
<td>75% (n=2037)</td>
</tr>
<tr>
<td>PHP</td>
<td>16% (n=59)</td>
<td>84% (n=300)</td>
</tr>
<tr>
<td>Practices by region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alabama/Mississippi</td>
<td>22% (n=349)</td>
<td>78% (n=1215)</td>
</tr>
<tr>
<td>Florida/Georgia</td>
<td>20% (n=335)</td>
<td>80% (n=1348)</td>
</tr>
<tr>
<td>Permanente Dental Associates</td>
<td>25% (n=343)</td>
<td>75% (n=1026)</td>
</tr>
<tr>
<td>HealthPartners and practitioners in Minnesota</td>
<td>26% (n=376)</td>
<td>74% (n=1091)</td>
</tr>
<tr>
<td>Scandinavia (Denmark, Norway, Sweden)</td>
<td>19% (n=38)</td>
<td>90% (n=1199)</td>
</tr>
<tr>
<td>Patients characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient age</td>
<td>46.1 (SD=16.9)</td>
<td>52.8 (SD=15.6)</td>
</tr>
<tr>
<td>Patient gender (missing=16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23% (n=736)</td>
<td>77% (n=2431)</td>
</tr>
<tr>
<td>Female</td>
<td>19% (n=795)</td>
<td>81% (n=3436)</td>
</tr>
<tr>
<td>Patient race (missing=73)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>19% (n=1249)</td>
<td>81% (n=5324)</td>
</tr>
<tr>
<td>Black or African-American</td>
<td>32% (n=146)</td>
<td>68% (n=304)</td>
</tr>
<tr>
<td>Asian</td>
<td>31% (n=118)</td>
<td>69% (n=262)</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>42% (n=23)</td>
<td>58% (n=32)</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>39% (n=24)</td>
<td>61% (n=37)</td>
</tr>
<tr>
<td>Category</td>
<td>Percent</td>
<td>Sample Size</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Other</td>
<td>26% (n=14)</td>
<td>74% (n=40)</td>
</tr>
<tr>
<td>Patient Hispanic/Latino ethnicity (missing=137)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>24% (n=308)</td>
<td>76% (n=981)</td>
</tr>
<tr>
<td>Not Hispanic/Latino</td>
<td>20% (n=1188)</td>
<td>80% (n=4800)</td>
</tr>
<tr>
<td>Patient was seen in a given practice model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGP</td>
<td>18% (n=783)</td>
<td>82% (n=3542)</td>
</tr>
<tr>
<td>LGP</td>
<td>25% (n=693)</td>
<td>75% (n=2037)</td>
</tr>
<tr>
<td>PHP</td>
<td>16% (n=59)</td>
<td>84% (n=300)</td>
</tr>
<tr>
<td>Number of restorations that the patient had during the visit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single restoration</td>
<td>20% (n=1142)</td>
<td>80% (n=4494)</td>
</tr>
<tr>
<td>Two restorations</td>
<td>21% (n=282)</td>
<td>79% (n=1040)</td>
</tr>
<tr>
<td>Three restorations</td>
<td>24% (n=79)</td>
<td>76% (n=253)</td>
</tr>
<tr>
<td>Four restorations</td>
<td>26% (n=32)</td>
<td>74% (n=92)</td>
</tr>
<tr>
<td>Percent of patients who have dental insurance (missing=5)</td>
<td>16% (n=248)</td>
<td>23% (n=1322)</td>
</tr>
</tbody>
</table>

*Small group practice=SGP, Large group practice=LGP, Public health practice=PHP.*