



a Press Ganey Solution

CAHPS[®] Dental Plan Survey

2022 SoonerCare Child Member Research

Prepared for: The Oklahoma Health Care Authority

(Through a contract with KFMC Health Improvement Partners)

June 2022



Table of contents

Background and objectives	2
Executive summary	3
Methodology	4
Research findings	5
Overall ratings	6
Composite global proportions and mean scores	7
Care from dentists and staff	8
Access to dental care	11
Dental plan services	13
Appendices	
Appendix A: Member profile	16
Appendix B: Overall ratings and composite score summary tables	19
Appendix C: SatisAction™ key driver statistical model	23

Background. The CAHPS® Dental Plan Survey was adopted as an official CAHPS product in 2006. It is currently being used to evaluate dental programs that cover over 2.8 million lives and will soon expand to over 3.5 million covered lives.

SPH has conducted the CAHPS® Health Plan Survey since the program's inception in 1995. SPH has also been a Medicare CAHPS® certified survey vendor and a Medicare Health Outcomes Survey supplier since the start of those programs, as well.

KFMC Health Improvement Partners contracted with SPH Analytics to conduct the CAHPS Dental Plan survey, on behalf of the Oklahoma Health Care Authority.

Objectives. The CAHPS Dental Plan Survey is used by those interested in assessing, improving and reporting on the quality and value offered by dental plans.

Specific objectives include:

- Determination of member ratings of:
 - Their dental plan overall
 - Overall dental care provided
 - Their regular dentist overall
 - The ease of finding a dentist
- Assessment of member perceptions related to:
 - Care from dentists and staff
 - Access to dental care
 - Dental plan services

Standard measurement of all areas mentioned to facilitate meaningful comparisons among dental plans that wish to disclose their data to consumers.

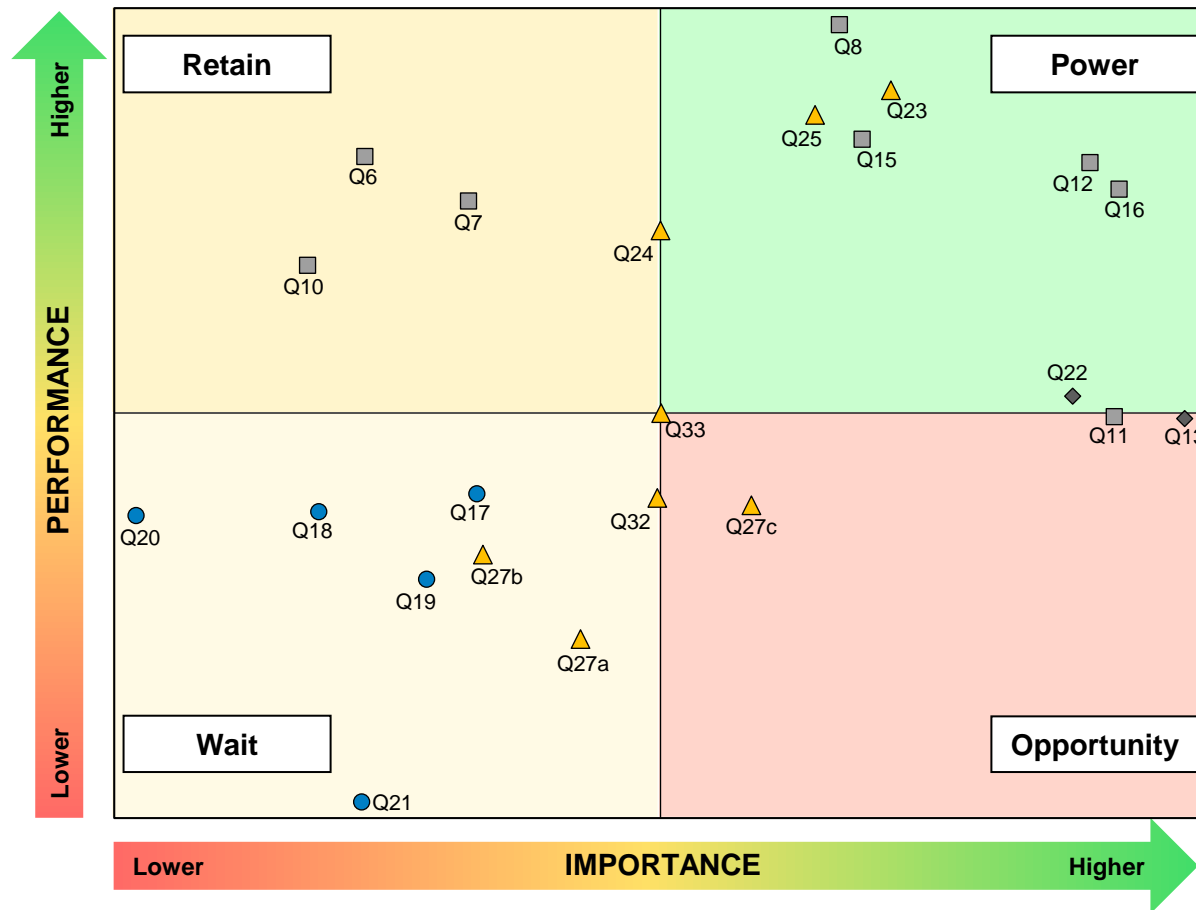
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Executive summary: POWeR™ Chart

Key driver analysis

The key drivers of the overall dental plan rating are presented in the POWeR™ Chart classification matrix below. The table assesses the key drivers and each measure is ranked by importance within each quadrant. Focus resources on improving processes that underlie the most important items and look for a significant improvement in the overall health plan rating (see Appendix C for more details).

POWeR™ Chart classification matrix



- ◆ Overall Ratings
- Care from dentists and staff
- ▲ Dental plan services
- Access to dental care

Survey Measure	Score	Importance	Performance
Power			
Q16. Dentist/staff explained what they were doing while treating you	94.9%	92	78
Q12. Satisfied with the overall care provided by regular dentist	96.7%	89	81
Q22. Rating of Dentist Care ¹	92.5%	88	52
Q23. Dental plan covered all services you thought were covered	96.8%	71	90
Q15. Dentist/staff did everything to make you feel comfortable during dental work	96.0%	68	84
Q8. Dentist treated you with courtesy and respect	97.5%	66	98
Q25. Plan covered what your child needed to get done	96.4%	64	87
Opportunity			
Q13. Rating of Regular Dentist ¹	90.5%	98	49
Q11. Dentist spent enough time with your child	92.6%	92	50
Q27c. Found needed information from written materials	84.2%	58	39
Q33. Plan's customer service treated you with courtesy and respect	95.8%	50	50
Wait			
Q32. Plan's customer service gave you information or help needed	83.3%	50	40
Q27a. Found needed information from toll free number	69.7%	43	22
Q27b. Found needed information from website	75.0%	34	33
Q17. Regular dental appointments were as soon as wanted	86.2%	33	40
Q19. Specialty dental appointments were as soon as wanted	74.8%	29	30
Q21. If waited more than 15 minutes, were told reason for delay/how long delay would be	44.4%	23	2
Q18. Emergency dental appointments were as soon as wanted	87.2%	19	38
Q20. Spent more than 15 minutes in waiting room (Sometimes or Never)	86.9%	2	37
Retain			
Q24. Plan meet all your child dental care needs	95.5%	50	73
Q7. Dentist listened carefully	95.0%	32	76
Q6. Dentist explained your child's dental health in a way that was easy to understand	95.0%	23	82
Q10. Dentist explained things in a way that was easy to understand	96.7%	18	68

¹ Overall ratings are top-3-box scores (% 8, 9 and 10).



Questionnaire. A modified version of the CAHPS Dental Plan survey was used to standardize the measurement and reporting of dental health care quality. SPH produced the questionnaire and cover letter using the health plan logo. The cover letters also provided the information needed to take the survey online, in English or in Spanish.

Data collection. The data collection technique was a two-wave mailing (with phone follow-up) to sampled members, with an option to complete the survey online.



Staffing of the toll-free help line. SPH staffed a toll-free phone line for members to call if they had any questions.



Sample design.

- **Qualified respondents.** KFMC Health Improvement Partners provided SPH with a file of eligible child dental members for inclusion in the study, on behalf of the Oklahoma Health Care Authority.
- **Sample type.** A simple random sample of 2,145 members was drawn.



Sample size/sampling error. A total of 256 members completed the survey with an overall sampling error of $\pm 6.1\%$ at 95% confidence, using the most pessimistic assumption regarding variance ($p=0.5$).



Response rate. The return volume and response rate information is summarized in the table to the right:

Item	Total
Total mailed	2,145
Undeliverable	175
Total completed surveys	256
Mail completes	108
Phone completes	31
Internet completes	117
Adjusted response rate	13.0%
Overall sampling error	$\pm 6.1\%$

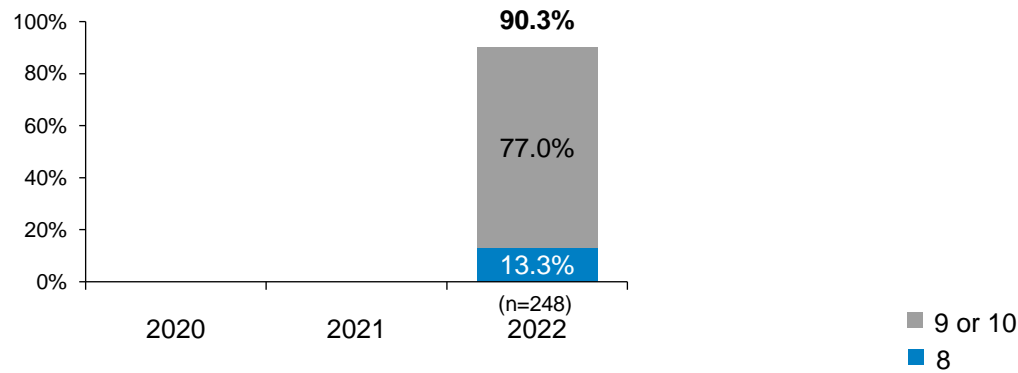


Data processing and analysis. SPH processed all completed surveys and analyzed the results.

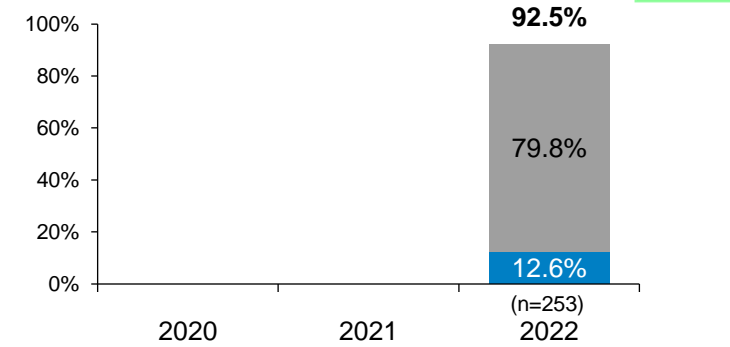
Research findings

- At least nine in 10 rated their child's overall dental care, their child's regular dentist and their child's dental plan favorably (a rating of 8, 9 or 10).
- Four in five respondents gave a favorable rating for the ease of finding a dentist for their child.

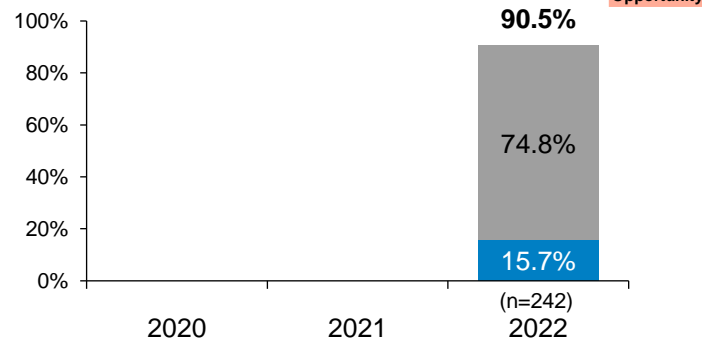
Q34. Rating of Dental Plan



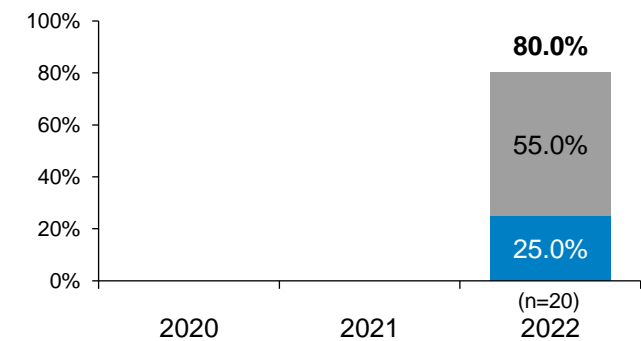
Q22. Rating of Dental Care



Q13. Rating of Regular Dentist



Q30. Rating of Ease of Finding a Dentist

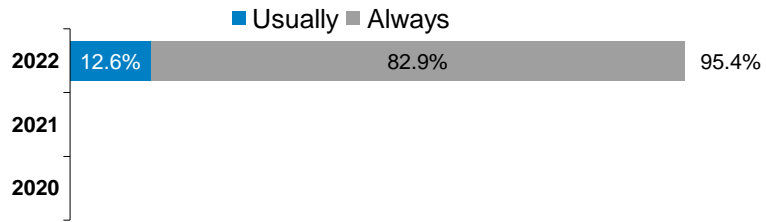




Composite global proportions and mean scores

Care from dentists and staff

Global Proportions

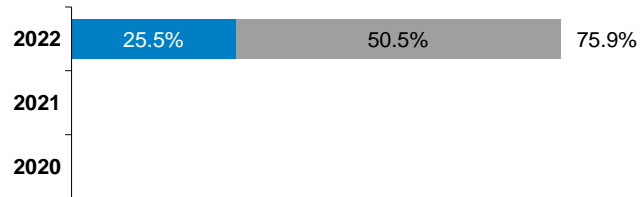


Mean Scores



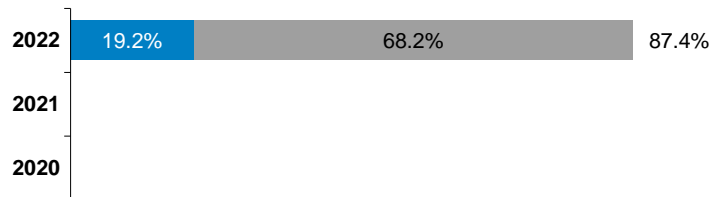
Access to dental care

■ Usually/Somewhat yes ■ Always/Definitely yes



Dental plan services

■ Usually/Somewhat yes ■ Always/Definitely yes

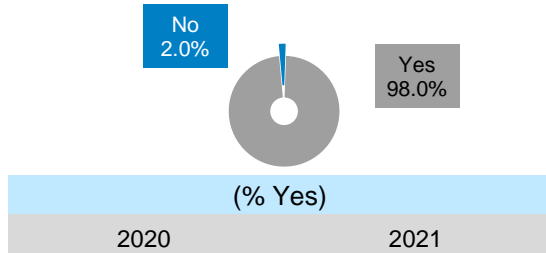




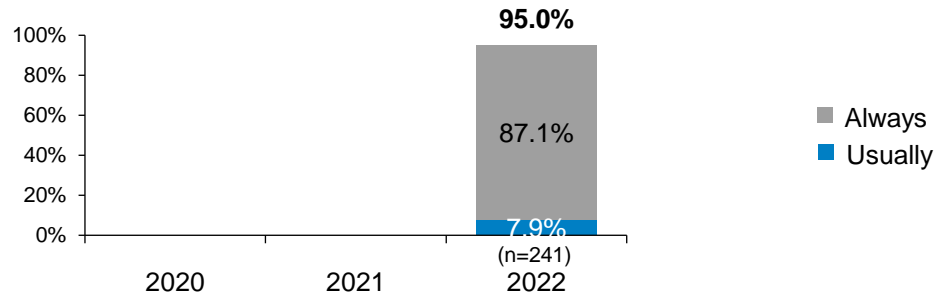
Care from dentists and staff

- Nearly all indicated that the dentist always or usually explained their child's dental health in a way that was easy to understand, listened carefully and treated their child with courtesy and respect.

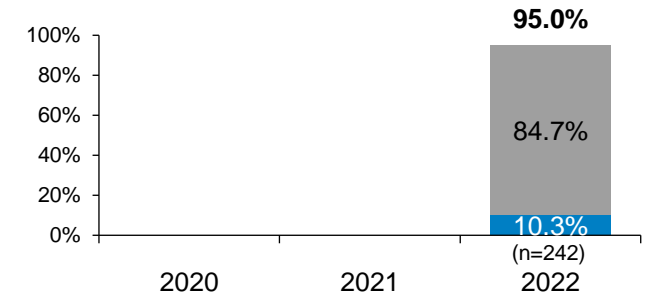
Q4. Have a regular dentist



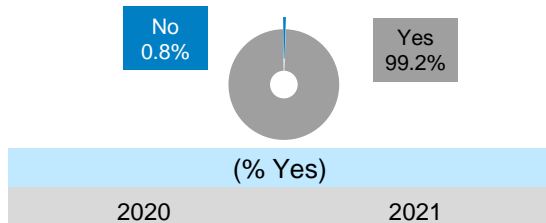
Q6. Dentist explained your child's dental health in a way that was easy to understand



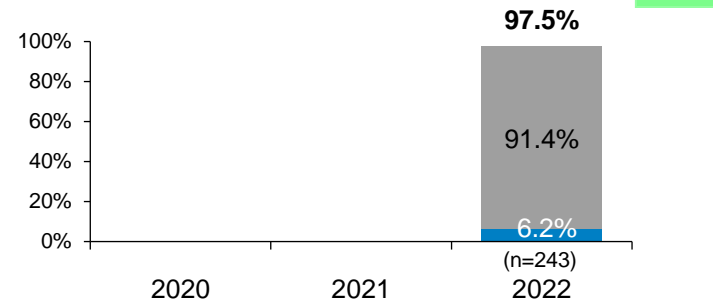
Q7. Dentist listened carefully



Q5. Have seen regular dentist in the last 6 months



Q8. Dentist treated your child with courtesy and respect

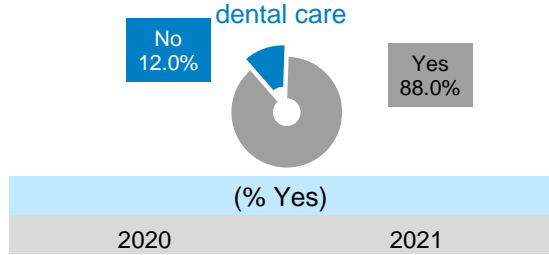


Care from dentists and staff composite

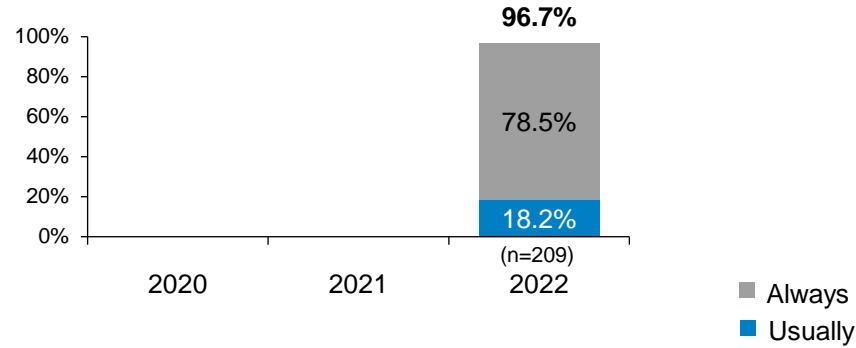
	2020	2021	2022
Global proportion			95.4%
Mean score			2.7830

- More than nine in 10 indicated that their child's dentist always or usually explained things in a way that was easy to understand and spent enough time with their child.
- Similarly, more than nine in 10 indicated that they are satisfied, overall, with the care provided by their child's regular dentist and would recommend them to other parents.

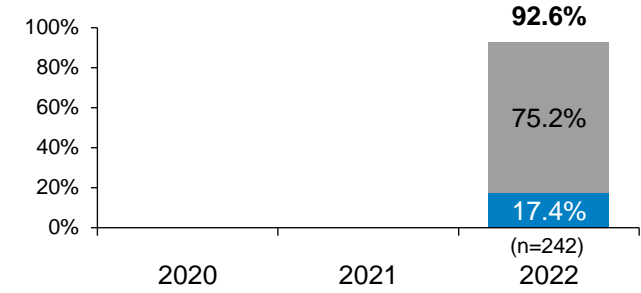
Q9. Able to talk to regular dentist about dental care



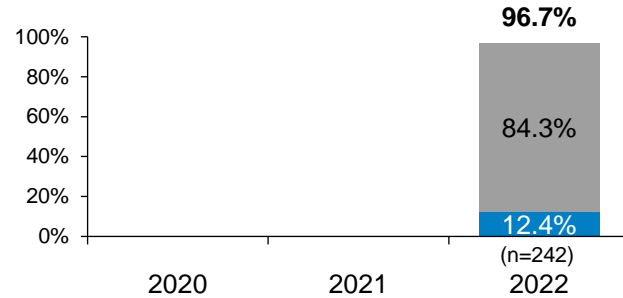
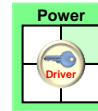
Q10. Dentist explained things in a way that was easy to understand



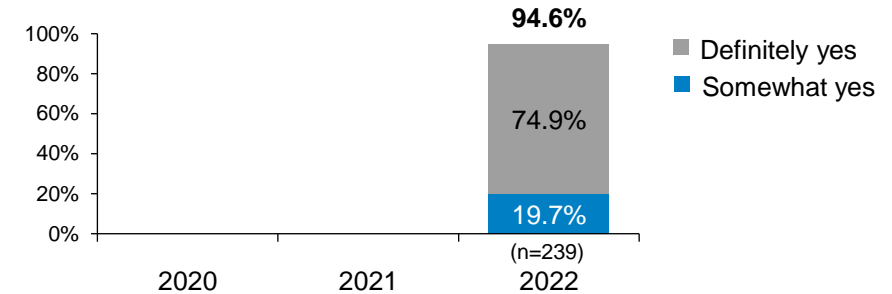
Q11. Dentist spent enough time with your child



Q12. Satisfied with the overall care provided by regular dentist in the last 6 months

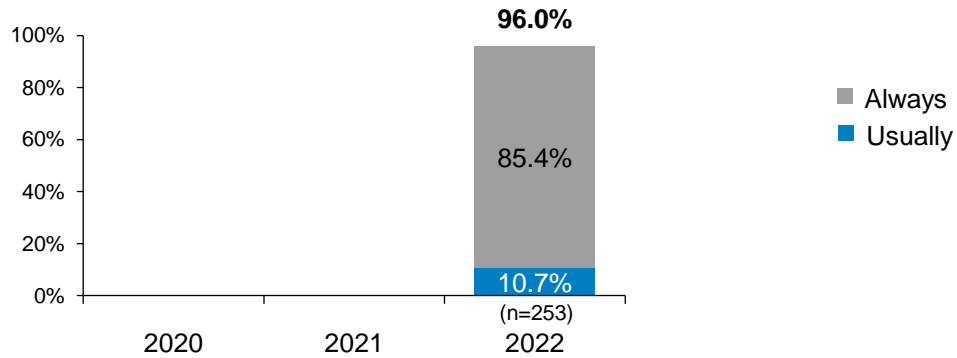
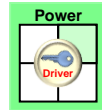


Q14. Regular dentist recommended to parents looking for a new dentist

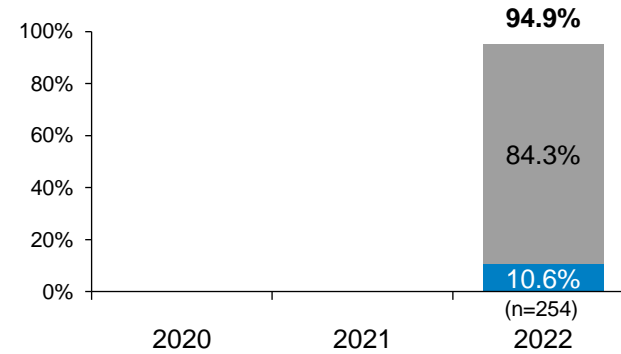
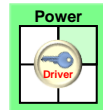


- More than nine in 10 indicated that the dentist and dental staff did everything they could to help their child feel comfortable and that the staff explained what they were doing during treatment.

Q15. Dentist/dental staff did everything they could to help your child feel comfortable during dental work

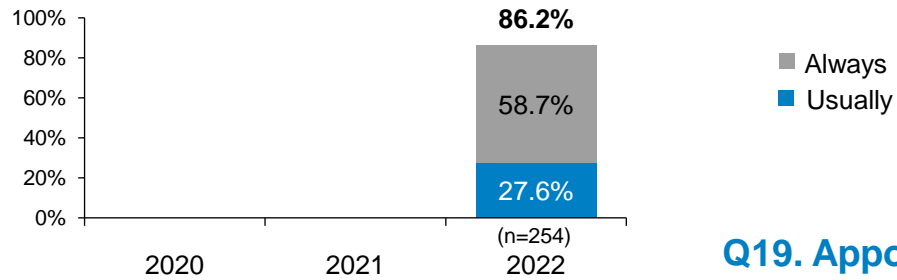


Q16. Dentist/dental staff explained what they were doing while treating your child

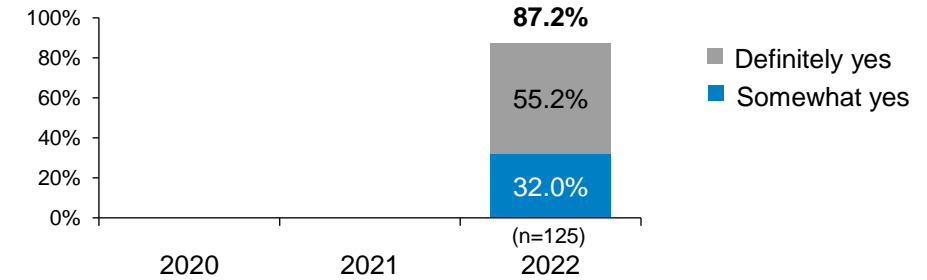


- More than eight in 10 got regular and emergency appointments for their child as soon as they wanted.
- More than seven in 10 indicated that they were able to get an appointment for their child with a dental specialist as soon as they wanted.

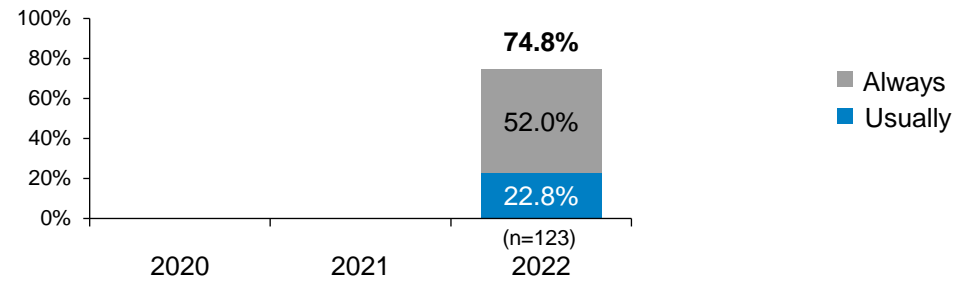
Q17. Regular dental appointments were as soon as wanted



Q18. Emergency appointments were as soon as wanted



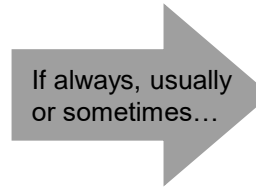
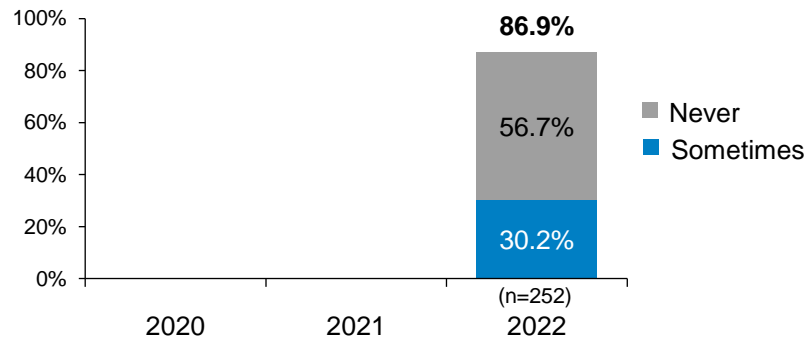
Q19. Appointments with dental specialists were as soon as wanted



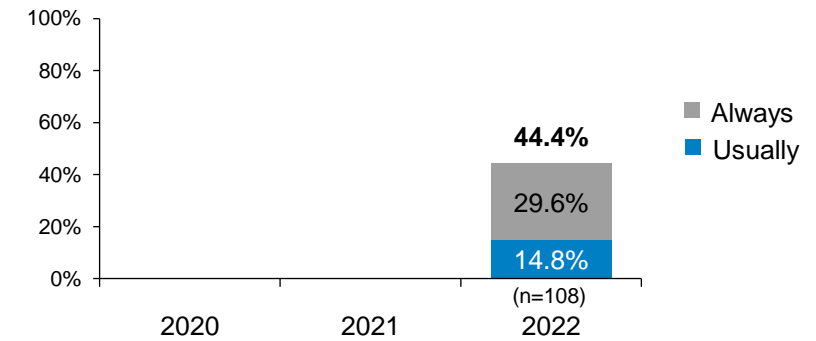
Access to dental care composite			
	2020	2021	2022
Global proportion			75.9%
Mean score			2.2637

- More than eight in 10 indicated that they did not have to spend more than 15 minutes in the waiting room before they saw someone for their child's appointment.
- Among those who experienced a wait that exceeded 15 minutes, more than four in 10 were informed about the delay.

Q20. Spent more than 15 minutes in waiting room before seeing someone

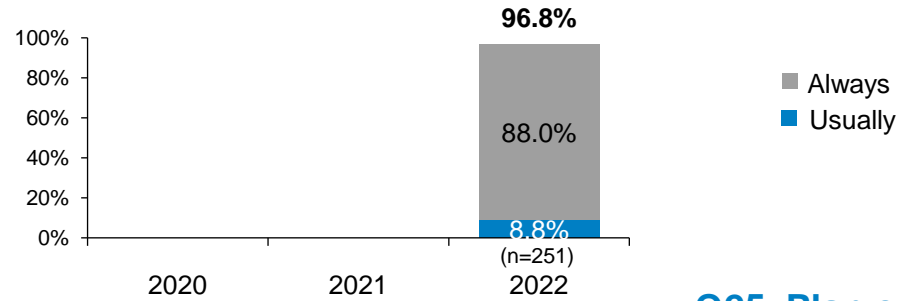
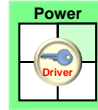


Q21. If so, were told reason for delay/how long delay would be

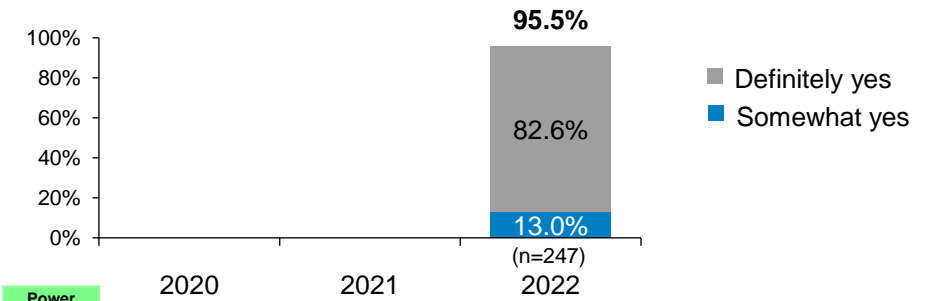


- More than nine in 10 indicated that the plan typically covered services as expected and that the plan covered what was needed.

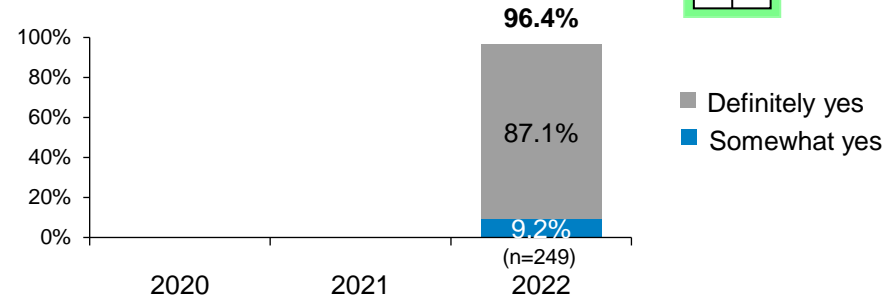
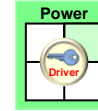
Q23. Plan covered all the services you thought were covered



Q24. Plan meet all your child dental care needs



Q25. Plan covered what your child needed to get done

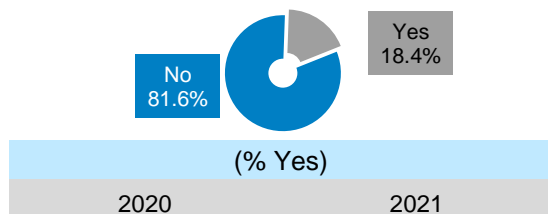


Dental plan services composite

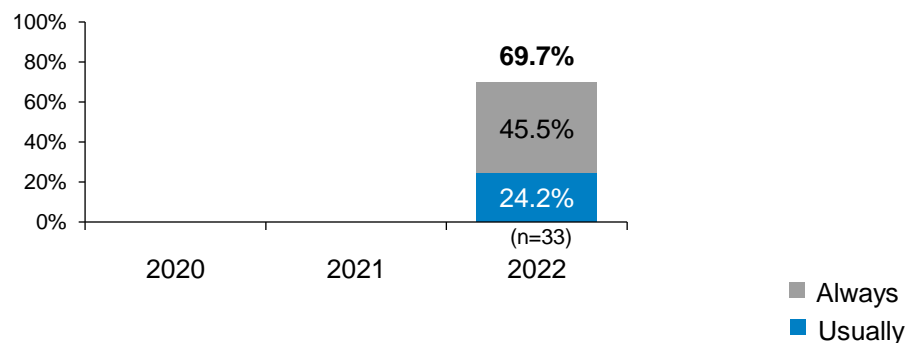
	2020	2021	2022
Global proportion			87.4%
Mean score			2.5556

- Among the few who tried to find additional information, most were able to get it from the toll free number, the written information or the website.

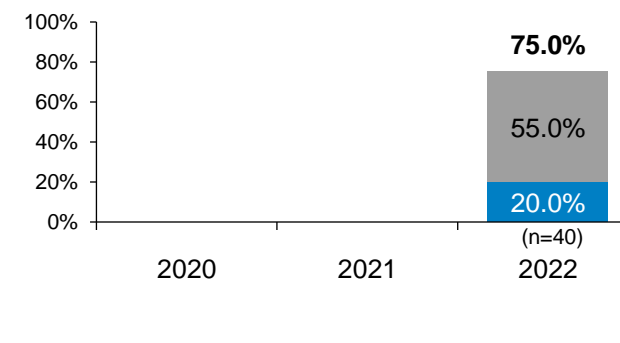
Q26. Tried to find information from 800 number, written materials or website



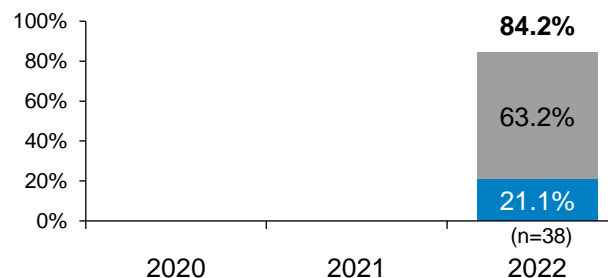
Q27A. Found needed information from toll free number



Q27B. Found needed information from website



Q27C. Found needed information from written materials



- Among the few who used plan information to find a new dentist for their child, all but two indicated that the information helped them.
- Among those who called customer service, the vast majority indicated that the representative gave them needed information and treated them with courtesy and respect.

Q28. Used information from plan to find a new dentist



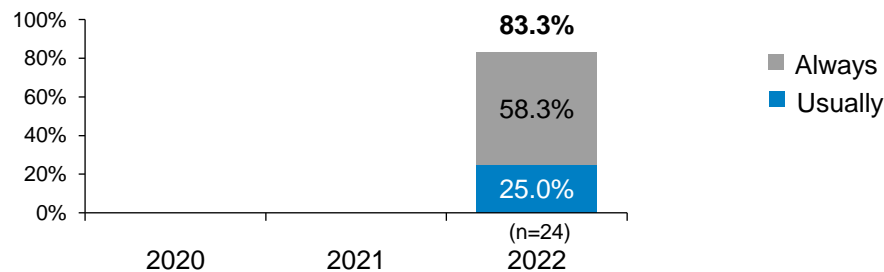
(% Yes)	
2020	2021

Q31. Tried to get information or help from dental plan's customer service

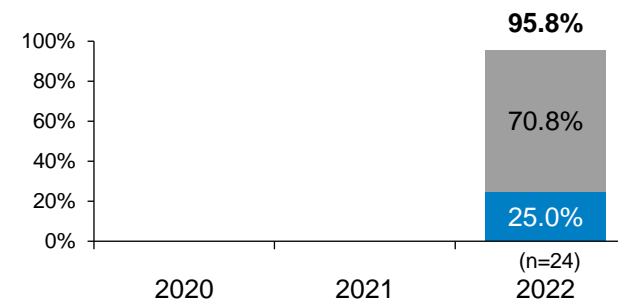


(% Yes)	
2020	2021

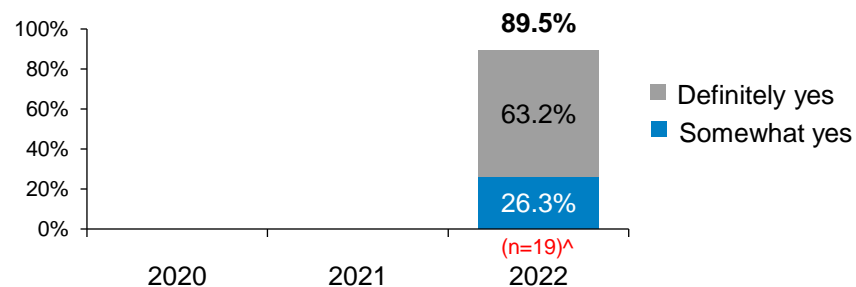
Q32. Plan's customer service gave you information or help needed



Q33. Plan's customer service staff treated you with courtesy and respect



Q29. Information from plan helped find a dentist



Appendix A: Member profile

	2020	2021	2022
Member health			
Overall condition of teeth and gums (Q35)			
Excellent/very good			62.7%
Good			29.7%
Fair/poor			7.6%
Member Demographics			
Child's age (Q36)			
Less than 1 year			0.0%
1-5			18.7%
6-10			34.7%
11-older			46.6%
Child's gender (Q37)			
Female			52.6%
Male			47.4%
Child's race/ethnicity (Q38/Q39)			
White			73.8%
Hispanic or Latino			30.5%
American Indian or Alaska Native			19.6%
Black or African-American			15.0%
Asian			3.8%
Native Hawaiian or other Pacific Islander			2.1%
Other			10.8%

	2020	2021	2022
Parent/Guardian Demographics			
Age (Q40)			
Under 18			4.9%
18-24			4.5%
25-34			32.8%
35-44			35.2%
45-54			12.6%
55-64			5.3%
65 to 74			4.0%
75 or older			0.8%
Gender (Q41)			
Female			90.4%
Male			9.6%
Education (Q42)			
Some college or less			86.0%
College graduate or more			14.0%
Relation to Child (Q43)			
Mother or father			89.7%
Grandparent			5.4%
Legal guardian			3.3%
Someone else			0.8%
Aunt or uncle			0.4%
Older brother or sister			0.4%

Appendix B: Overall ratings and composite score summary tables



Overall ratings and composites - global proportions

	2020	2021	2022
Rating of Dental Plan (Q34) (% 8, 9 or 10)			90.3%
Rating of Dental Care (Q22) (% 8, 9 or 10)			92.5%
Rating of Regular Dentist (Q13) (% 8, 9 or 10)			90.5%
Rating of Ease of Finding a Dentist (Q30) (% 8, 9 or 10)			80.0%
Care from dentists and staff (% Always or Usually)			95.4%
Q6. Dentist explained your child's dental health in a way that was easy to understand			95.0%
Q7. Dentist listened carefully			95.0%
Q8. Dentist treated you with courtesy and respect			97.5%
Q10. Dentist explained things in a way that was easy to understand			96.7%
Q11. Dentist spent enough time with your child			92.6%
Q12. Satisfied with the overall care provided by regular dentist			96.7%
Q14. Regular dentist recommended to parents looking for a new dentist			94.6%
Q15. Dentist/staff did everything to make you feel comfortable during dental work			96.0%
Q16. Dentist/staff explained what they were doing while treating you			94.9%
Access to dental care (% Always or Usually)			75.9%
Q17. Regular dental appointments were as soon as wanted			86.2%
Q18. Emergency dental appointments were as soon as wanted (% Definitely yes or Somewhat yes)			87.2%
Q19. Specialty dental appointments were as soon as wanted			74.8%
Q20. Spent more than 15 minutes in waiting room for appointment (% Sometimes or Never)			86.9%
Q21. If waited more than 15 minutes, were told reason for delay/how long delay would be			44.4%
Dental plan services (% Always or Usually)			87.4%
Q23. Dental plan covered all services you thought were covered			96.8%
Q24. Plan meet all your child dental care needs (% Definitely yes or Somewhat yes)			95.5%
Q25. Plan covered what your child needed to get done (% Definitely yes or Somewhat yes)			96.4%
Q27A. Found needed information from toll free number			69.7%
Q27B. Found needed information from website			75.0%
Q27C. Found needed information from written materials			84.2%
Q29. Information from plan helped find a dentist (% Definitely yes or Somewhat yes)			89.5% [^]
Q32. Plan's customer service gave you information or help needed			83.3%
Q33. Plan's customer service treated you with courtesy and respect			95.8%



Overall ratings and composites – Mean scores

	2020	2021	2022
Overall mean ratings: 0 to 10 scale			
Rating of Dental Plan (Q34)			9.13
Rating of Dental Care (Q22)			9.19
Rating of Regular Dentist (Q13)			9.13
Rating of Ease of Finding a Dentist (Q30)			8.15
Composite scores: Three-point mean scores			
Care from dentists and staff			2.7830
Access to dental care			2.2637
Dental plan services			2.5556

Overall ratings and composites – Demographic analysis

2022 Demographic Analysis	Total respondents	Child's Age				Child's Gender	
		Less than 1 year (L) 0	1-5 (M) 47	6-10 (N) 87	11+ (O) 117	Male (P) 118	Female (Q) 131
Rating of Dental Plan (Q34) (% 8, 9 or 10)		NA	95.7% O	92.9%	86.2%	94.9% Q	86.8%
Rating of Dental Care (Q22) (% 8, 9 or 10)		NA	95.7%	94.3%	89.7%	92.4%	93.1%
Rating of Regular Dentist (Q13) (% 8, 9 or 10)		NA	95.6% O	94.0%	86.5%	91.2%	91.1%
Rating of Ease of Finding a Dentist (Q30) (% 8, 9 or 10)		NA	100% ^	71.4% ^	81.8% ^	66.7% ^	90.9% ^
Care from dentists and staff (% Always or Usually)		NA	97.8%	95.7%	94.4%	94.6%	96.5%
Q6. Dentist explained things		NA	97.7%	95.2%	93.7%	93.8%	96.7%
Q7. Dentist listened carefully		NA	100% NO	95.2%	93.8%	93.8%	96.8%
Q8. Dentist treated your child with courtesy and respect		NA	97.8%	100% O	95.5%	97.4%	98.4%
Q10. Dentist spent enough time with your child		NA	96.2%	94.6%	98.1%	94.6%	98.2%
Q11. Dentist/staff did everything they could to make your child feel comfortable during dental work		NA	95.6%	92.8%	91.0%	92.9%	92.7%
Q12. Dentist/staff did everything they could to make your child feel comfortable during dental work		NA	100% O	98.8%	94.6%	96.5%	97.6%
Q14. Dentist/staff explained what they were doing while treating your child		NA	95.6%	93.9%	95.4%	93.7%	95.9%
Q15. Dentist/staff did everything they could to make your child feel comfortable during dental work		NA	100% NO	94.3%	95.7%	94.9%	96.9%
Q16. Dentist/staff explained what they were doing while treating your child		NA	97.9%	96.6%	92.3%	94.1%	95.4%
Access to dental care (% Always or Usually)		NA	76.0%	77.3%	75.0%	74.2%	77.7%
Q17. Regular dental appointments were as soon as wanted		NA	87.2%	82.8%	88.9%	83.9%	89.3%
Q18. Emergency dental appointments were as soon as wanted (%Definitely or Somewhat yes)		NA	81.0%	89.7%	87.7%	85.7%	88.1%
Q19. Specialty dental appointments were as soon as wanted		NA	68.0%	77.8%	75.8%	73.7%	75.0%
Q20. Spent more than 15 minutes in waiting room for appointment (% Sometimes or Never)		NA	93.6%	83.7%	86.3%	82.9%	90.1%
Q21. If waited more than 15 minutes, were kept updated on reason and length of delay		NA	50.0%	52.5%	36.2%	44.8%	45.8%
Dental plan services (% Always or Usually)		NA	97.4%	81.3%	86.4%	84.0%	89.0%
Q23. Plan covered all the services you thought were covered		NA	97.9%	98.9%	94.8%	97.5%	96.2%
Q24. Plan covered what your child needed to get done (%Definitely or Somewhat yes)		NA	100% O	97.6%	92.2%	96.6%	94.5%
Q25. Found needed information from 800 number, written materials or website		NA	100% O	98.8% O	93.1%	96.6%	96.2%
Q27A. Information from plan helped find a dentist (%Definitely or Somewhat yes)		NA	88.9% ^N	44.4% ^	73.3% ^	54.5% ^	77.3%
Q27B. Received needed information from dental plan's customer service		NA	100% ^NO	69.2% ^	68.4% ^	60.0% ^	84.0%
Q27C. Customer service staff treated you with courtesy and respect		NA	90.0% ^	72.7% ^	88.2% ^	85.7% ^	83.3%
Q29. Customer service staff treated you with courtesy and respect		NA	100% ^	83.3% ^	90.9% ^	87.5% ^	90.9% ^
Q32. Customer service staff treated you with courtesy and respect		NA	100% ^	83.3% ^	76.9% ^	88.9% ^	78.6% ^
Q33. Customer service staff treated you with courtesy and respect		NA	100% ^	83.3% ^	100% ^	88.9% ^	100% ^

A capital letter and green font indicates that result is significantly higher than the corresponding column.

Appendix C: SatisAction™ key driver statistical model

POWeR™ Chart shown in the executive summary on page 3.

Overview. The key driver statistical model is a powerful, proprietary statistical methodology used to identify the key drivers of overall ratings and provide actionable direction for satisfaction improvement programs. This methodology is the result of a number of years of development and testing using health care satisfaction data. We have been successfully using this approach since 1997.

The model provides the following:

- Identification of the elements that are important in driving the overall dental plan rating.
- Measurement of the relative importance of each of these elements.
- Measurement of how well members think the plan performed on those important elements.
- Presentation of the importance/performance results in a matrix that provides clear direction for member satisfaction improvement efforts by the plan.

Importance analysis. The importance analysis involves a multi-step process:

- Factor analysis is used to summarize the predictor set into a more manageable number of composite variables.
- Regression Model I is used to make preliminary estimates and identify leverage points and outliers.
- Leverage points and outliers are eliminated.
- Regression Model II is run on the remaining data to derive final estimates of the importance of the various satisfaction elements.

Factor analysis. Factor analysis is used to reduce the number of items in the predictor set to a smaller set of underlying constructs, or factors. It is necessary to go through this process because of the high degree of collinearity in the original data. This is a problem for the regression analysis to follow because regression assumes non-collinearity between predictor variables.

Regression analysis. Regression analysis is then used to predict overall plan ratings on the factors created in the previous step. As noted above, regression analysis is run in two steps. The first step is used to derive preliminary estimates of the importance of the various satisfaction elements and to identify outliers and leverage points. Those outliers and leverage points are eliminated before running the second regression model which produces final estimates of the importance of each satisfaction element.

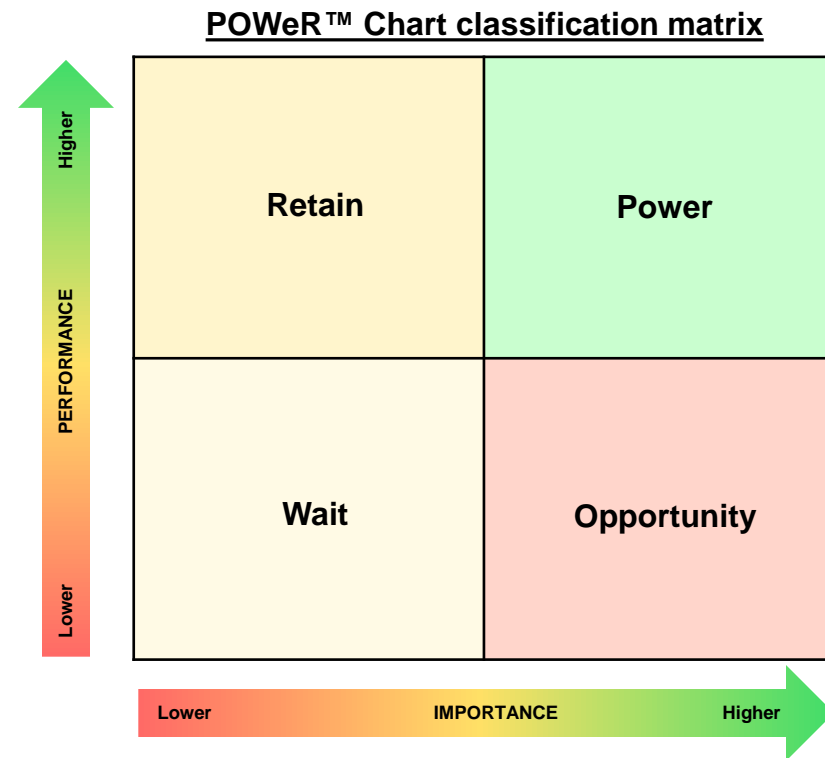
Derived importance. The relative importance of each survey item is derived from the combined results of the factor and regression analyses. The correlations of each question with each factor are squared and then multiplied by the standardized (beta) regression coefficients associated with each of those factors. This sum is then rescaled so that the largest value (most important item) is rescaled to 100 points, the smallest value is rescaled to 0 points and the median value is rescaled to 50 points.

Performance analysis.

Relative performance is also calculated for each survey variable. Ratings are rescaled on a 100-point basis (like importance values) so that the highest rating is set to 100 points, the lowest rating is set to 0 points and the median rating is set to 50 points.

Classification matrix. Results of the key driver modeling are presented in a classification matrix. The importance and performance results for each item in the model are plotted in a matrix like the one shown below. This matrix provides a quick summary of what is most important to your members and how your plan is doing on those items. The matrix is divided into four quadrants. The quadrants are defined by the point where the medians of the importance and performance scales intersect. The four quadrants can be interpreted as follows:

- *Power.* These items have a relatively large impact on overall rating of dental plan and your performance levels on these items are high. Promote and leverage strengths in this quadrant.
- *Opportunity.* Items in this quadrant also have a relatively large impact on overall rating of dental plan but your performance is below average. Focus resources on improving processes that underlie these items and look for significant improvements in overall dental plan ratings.
- *Wait.* Though these items still impact overall rating of dental plan, they are somewhat less important than those that fall on the right hand side of the chart. Relatively speaking, your performance is low on these items. Dealing with these items can wait until more important items have been dealt with.
- *Retain.* Items in this quadrant also have a relatively small impact on overall rating of dental plan but your performance is above average. Simply maintain performance on these





Variables in the model

Variables from the CAHPS Dental Survey that are important in determining member satisfaction are summarized below. This table also identifies the dependent variable (Q34 -- overall rating of dental plan) and the independent or predictor variables.

The independent or predictor variables are:

- Q6 How often dentist explain things about your child's dental health in a way that was easy to understand?
- Q7 How often did your regular dentist listen carefully to you?
- Q8 How often did your regular dentist treat you with courtesy and respect?
- Q10 How often dentist explain things in a way that was easy for your child to understand?
- Q11 How often did your regular dentist spend enough time with your child?
- Q12 How often were you satisfied with the overall care provided by dentist?
- Q13 What number would you use to rate your child's regular dentist?
- Q15 How often did the dentists/dental staff do everything they could to help your child feel comfortable?
- Q16 How often did the dentists/dental staff explain what they were doing?
- Q17 How often did you get dental appointments as soon as you wanted?
- Q18 Did you get to see an emergency appointment as soon as wanted?
- Q19 How often did you get a dental specialist appointment as soon as wanted?
- Q20 How often did you have to spend more than 15 minutes in the waiting room?
- Q21 How often did someone tell you why there was a delay or how long the delay would be?

The dependent variable is:

- Q34 What number would you use to rate your dental plan?

The independent or predictor variables are:

- Q22 What number would you use to rate all of the dental care your child personally received in the last 6 months?
- Q23 How often did your dental plan cover all of the services you thought were covered?
- Q24 Did your dental plan meet all of child's needs?
- Q25 Did your dental plan cover what your child needed?
- Q27a How often did the toll-free number provide the information you wanted?
- Q27b How often did the web site provide the information you wanted?
- Q27c How often did the written materials provide the information you wanted?
- Q32 How often did your dental plan's customer service give you the information or help you needed?
- Q33 How often did your dental plan's customer service staff treat you with courtesy and respect?



Factor analysis results

Factor analysis. Factor analysis reduced the 23 highly-correlated model variables to eight orthogonal (uncorrelated) factors that explain 74.0% of the variation in the original variables. This is necessary due to the strong relationships or correlation between certain variables. The table below shows the factor correlations or loadings. For readability, only those variables with correlations greater than 0.250 are displayed.

Factor Correlations with Survey Variables

Question	Survey Items	Factors							
		1	2	3	4	5	6	7	8
Q13	What number would you use to rate your child's regular dentist?	0.8157	0.2836						
Q16	How often did the dentists/dental staff explain what they were doing?	0.7901							
Q11	How often did your regular dentist spend enough time with your child?	0.7842							
Q12	How often were you satisfied with the overall care provided by dentist?	0.7734	0.2749						
Q22	What number would you use to rate all of the dental care your child personally received in the last 6 months?	0.7576		0.2988					
Q8	How often did your regular dentist treat you with courtesy and respect?	0.6826							
Q15	How often did the dentists/dental staff do everything they could to help your child feel comfortable?	0.6710		0.2507					
Q6	How often dentist explain things about your child's dental health in a way that was easy to understand?	0.3406	0.8098						
Q7	How often did your regular dentist listen carefully to you?	0.4429	0.7378						
Q10	How often dentist explain things in a way that was easy for your child to understand?	0.2770	0.7373						
Q19	How often did you get a dental specialist appointment as soon as wanted?			0.8201					0.2647
Q18	Did you get to see an emergency appointment as soon as wanted?			0.6759					0.3762
Q17	How often did you get dental appointments as soon as you wanted?	0.3184		0.6664					
Q23	How often did your dental plan cover all of the services you thought were covered?				0.8610				
Q25	Did your dental plan cover what your child needed?				0.8085				
Q24	Did your dental plan meet all of child's needs?	0.2793			0.5979				0.5206
Q27c	How often did the written materials provide the information you wanted?					0.8520			
Q27a	How often did the toll-free number provide the information you wanted?					0.7796			-0.2635
Q27b	How often did the web site provide the information you wanted?				0.3011	0.5636			0.3708
Q32	How often did your dental plan's customer service give you the information or help you needed?							0.9076	
Q33	How often did your dental plan's customer service staff treat you with courtesy and respect?	0.2661						0.7522	-0.3078
Q21	How often did someone tell you why there was a delay or how long the delay would be?			0.3264					0.6628
Q20	How often did you have to spend more than 15 minutes in the waiting room?								0.8724



Regression analysis results

Regression analysis. The eight factors identified in the previous step were used as predictors in a regression model with Q34, overall dental plan rating, as the dependent variable. Regression was first run to test the model and identify any observations that have a high degree of leverage on the regression coefficients (disproportionately high degree of influence relative to others) as well as observations that can be considered outliers because of inconsistent responses.

The high leverage cases and outliers were removed and the regression model was rerun. The regression coefficients for each factor provide the second set of inputs necessary to determine the key drivers of overall dental plan ratings. These coefficients provide estimates of the relative importance of each factor in determining overall dental plan ratings. The table below shows the raw regression coefficients, beta coefficients (standardized regression coefficients) and the statistical significance of those coefficients. This model explains 38.1% of the variation in the dependent variable ($R^2 = 0.381$).

Regression Coefficients

Variable	Unstandardized Coefficients	Standardized (Beta) Coefficients	Significance Level
Constant	9.2828	0.0000	0.0000
Factor 1 -- Q13, Q16, Q11, Q12, Q22, Q8, Q15	0.4619	0.4471	0.0000
Factor 2 -- Q6, Q7, Q10	0.0616	0.0615	0.2391
Factor 3 -- Q19, Q18, Q17	0.1432	0.1400	0.0080
Factor 4 -- Q23, Q25, Q24	0.3227	0.2957	0.0000
Factor 5 -- Q27c, Q27a, Q27b	0.2564	0.2340	0.0000
Factor 6 -- Q32, Q33	0.2663	0.2099	0.0001
Factor 7 -- Q21	0.1116	0.1061	0.0437
Factor 8 -- Q20	0.0108	0.0105	0.8398

Derived importance. The importance of each survey item is derived from the combined results of the factor and regression analyses. The correlations of each question with each factor were squared and then multiplied by the standardized (beta) regression coefficients associated with each of those factors. This sum was then rescaled so that the largest value (most important item) is rescaled to 100 points, the smallest value is rescaled to 0 points and the median value is rescaled to 50 points.

Plan performance. Relative performance is calculated for each survey variable. Ratings are rescaled on a 100-point basis (like importance values) so that the highest rating is set to 100 points, the lowest rating is set to 0 points and the median rating is set to 50 points.

Question	Survey Items	Importance	Performance	Top 2/Top 3 Scores
Q13	What number would you use to rate your child's regular dentist?	100	49	90.5%
Q16	How often did the dentists/dental staff explain what they were doing?	92	78	94.9%
Q11	How often did your regular dentist spend enough time with your child?	92	50	92.6%
Q12	How often were you satisfied with the overall care provided by dentist?	89	81	96.7%
Q22	What number would you use to rate all of the dental care your child personally received in the last 6 months?	88	52	92.5%
Q23	How often did your dental plan cover all of the services you thought were covered?	71	90	96.8%
Q15	How often did the dentists/dental staff do everything they could to help your child feel comfortable?	68	84	96.0%
Q8	How often did your regular dentist treat you with courtesy and respect?	66	100	97.5%
Q25	Did your dental plan cover what your child needed?	64	87	96.4%
Q27c	How often did the written materials provide the information you wanted?	58	39	84.2%
Q33	How often did your dental plan's customer service staff treat you with courtesy and respect?	50	50	95.8%
Q24	Did your dental plan meet all of child's needs?	50	73	95.5%
Q32	How often did your dental plan's customer service give you the information or help you needed?	50	40	83.3%
Q27a	How often did the toll-free number provide the information you wanted?	43	22	69.7%
Q27b	How often did the web site provide the information you wanted?	34	33	75.0%
Q17	How often did you get dental appointments as soon as you wanted?	33	40	86.2%
Q7	How often did your regular dentist listen carefully to you?	32	76	95.0%
Q19	How often did you get a dental specialist appointment as soon as wanted?	29	30	74.8%
Q6	How often dentist explain things about your child's dental health in a way that was easy to understand?	23	82	95.0%
Q21	How often did someone tell you why there was a delay or how long the delay would be?	23	0	44.4%
Q18	Did you get to see an emergency appointment as soon as wanted?	19	38	87.2%
Q10	How often dentist explain things in a way that was easy for your child to understand?	18	68	96.7%
Q20	How often did you have to spend more than 15 minutes in the waiting room?	0	37	86.9%