

**SERFF Tracking #:**

ASWX-G128985617

**State Tracking #:****Company Tracking #:**

DC01612FB00052

**State:**

District of Columbia

**Filing Company:**

Union Security Insurance Company

**TOI/Sub-TOI:**

H10G Group Health - Dental/H10G.000 Health Dental

**Product Name:**

Group Indemnity Dental

**Project Name/Number:**

Group Indemnity Dental/DC01612FB00052

## Correspondence Summary

### Amendments

Schedule	Schedule Item Name	Created By	Created On	Date Submitted
Rate	Section 13 of Group Rate Manual	SPI AssurantHealthandEmplo yeeBenef	04/18/2013	04/18/2013
Supporting Document	Actuarial memorandum	SPI AssurantHealthandEmplo yeeBenef	04/18/2013	04/18/2013

**State:** District of Columbia  
**TOI/Sub-TOI:** H10G Group Health - Dental/H10G.000 Health Dental  
**Product Name:** Group Indemnity Dental  
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## Amendment Letter

Submitted Date: 04/18/2013

**Comments:**

We have revised the material on page 54 of the rate manual. A copy of the revised manual and an actuarial memorandum are enclosed.

**Changed Items:**

*No Form Schedule Items Changed.*

Rate/Rule Schedule Item Changes						
Item No.	Document Name	Affected Form Numbers (Separated with commas)	Rate Action	Rate Action Information	Attachments	Date Submitted
1	Section 13 of Group Rate Manual	Den BP 2013, Den Def	New		Dental Rate Manual - PPO - GENERIC.PDF,	04/18/2013 By:
<i>Previous Version</i>						
1	<i>Section 13 of Group Rate Manual</i>	<i>Den BP 2013, Den Def</i>	<i>New</i>		<i>Dental Rate Manual - PPO - GENERIC.PDF,</i>	<i>04/16/2013 By: SPI AssurantHealthandEm ployeeBenef</i>

Supporting Document Schedule Item Changes	
<b>Satisfied - Item:</b>	Actuarial memorandum
<b>Comments:</b>	
<b>Attachment(s):</b>	CDC - actuarial memo - Active PPO - Revised Step 54 Rate Tiers.PDF

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### Rate Information

Rate data applies to filing.

Filing Method: Prior Approval

Rate Change Type: %

Overall Percentage of Last Rate Revision: %

Effective Date of Last Rate Revision:

Filing Method of Last Filing:

### Company Rate Information

Company Name:	Overall % Indicated Change:	Overall % Rate Impact:	Written Premium Change for this Program:	# of Policy Holders Affected for this Program:	Written Premium for this Program:	Maximum % Change (where req'd):	Minimum % Change (where req'd):
Union Security Insurance Company	%	%				%	%

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## Rate/Rule Schedule

Item No.	Schedule Item Status	Document Name	Affected Form Numbers (Separated with commas)	Rate Action	Rate Action Information	Attachments
1		Section 13 of Group Rate Manual	Den BP 2013, Den Def	New		Dental Rate Manual - PPO - GENERIC.PDF,

## SECTION 13 - GROUP DENTAL INSURANCE

UNION SECURITY INSURANCE COMPANY  
 2323 Grand Blvd  
 Kansas City, MO 64108

	<u>Employee</u>		<u>Spouse</u>		<u>Children Unit</u>	
	In-Network	Out-of-Network	In-Network	Out-of-Network	In-Network	Out-of-Network
<b>Base Rate</b>	Step 1	Step 1	Step 1	Step 1	Step 1	Step 1
<b>Plan Variations</b>						
Deductible	Step 2	Step 2	Step 2	Step 2	Step 2	Step 2
Benefit Rate	Step 3	Step 3	Step 3	Step 3	Step 3	Step 3
Family Deductible	Step 4	Step 4	Step 4	Step 4	Step 4	Step 4
4th Quarter Carryover	Step 5	Step 5	Step 5	Step 5	Step 5	Step 5
Annual Max Benefit	Step 6	Step 6	Step 6	Step 6	Step 6	Step 6
Preventive Max Waiver	Step 7	Step 7	Step 7	Step 7	Step 7	Step 7
Timely / Late Entrant	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3
Graded Coinsurance Option	Step 8.2	Step 8.2	Step 8.2	Step 8.2	Step 8.2	Step 8.2
Filling Wait Period	Step 9	Step 9	Step 9	Step 9	Step 9	Step 9
Allowable Charge	Step 10	Step 10	Step 10	Step 10	Step 10	Step 10
Procedure Categories	Step 11	Step 11	Step 11	Step 11	Step 11	Step 11
<b>Initial Claim Cost</b>	Step 12	Step 12	Step 12	Step 12	Step 12	Step 12
PPO Distribution	Step 13	Step 13	Step 13	Step 13	Step 13	Step 13
PPO Allowed	Step 14	Step 14	Step 14	Step 14	Step 14	Step 14
<b>Blended Claim Cost</b>	Step 15		Step 15		Step 15	
<b>Age and Frequency Limits</b>						
Oral Exam Frequency	Step 16		Step 16		Step 16	
Cleaning Frequency	Step 17		Step 17		Step 17	
Topical Fluoride Age	Step 18		Step 18		Step 18	
Sealant Age	Step 19		Step 19		Step 19	
Denture / Bridge / Crown replace	Step 20		Step 20		Step 20	
Root Canal Retreatment	Step 21		Step 21		Step 21	
Restorations	Step 22		Step 22		Step 22	
Bitewing frequency	Step 23		Step 23		Step 23	
Complete Series / Panoramic frequency	Step 24		Step 24		Step 24	
Perio Scaling and Root Planing	Step 25		Step 25		Step 25	
<b>Adjustment Factors</b>						
Area	Step 26		Step 26		Step 26	
Industry	Step 27		Step 27		Step 27	
Contribution	Step 28		Step 28		Step 28	
Participation	Step 29		Step 29		Step 29	
Prior Coverage	Step 30		Step 30		Step 30	
Case Size	Step 31		Step 31		Step 31	
Age / Gender	Step 32		Step 32		Step 32	
State Variations	Step 33		Step 33		Step 33	
Administration	Step 34		Step 34		Step 34	
Enrollment	Step 35		Step 35		Step 35	
Trend	Step 36		Step 36		Step 36	
Deductible Basis	Step 37		Step 37		Step 37	
Duration	Step 38		Step 38		Step 38	
Rate Guarantee / Cap	Step 39 & 40		Step 39 & 40		Step 39 & 40	

SECTION 13 - GROUP DENTAL INSURANCE

**Additional Contract Features**

Composite Fillings Posterior	Step 41	Step 41	Step 41
Add Implant Coverage	Step 42	Step 42	Step 42
Porcelain Crowns - Posterior	Step 43	Step 43	Step 43
Tooth Whitening	Step 44	Step 44	Step 44
Debridement	Step 45	Step 45	Step 45
Remove missing tooth exclusion	Step 46	Step 46	Step 46
Non-surgical TMJ	Step 47	Step 47	Step 47
Occlusal Guards	Step 48	Step 48	Step 48

<b>Net Dental Rate</b>	Step 49	Step 49	Step 49
Expense Load	Step 50	Step 50	Step 50
PPO Access Fee	Step 51	Step 51	Step 51
Vision discount	Step 52	Step 52	Step 52
<b>Gross Dental Rate</b>	Step 53	Step 53	Step 53

		<u>Gross Rate</u>	<u>FSM Load</u>
Rate Tier:	EE	Step 54	Steps 55.1 & 55.2
	EE+SP	Step 54	Steps 55.1 & 55.2
	EE+CH	Step 54	Steps 55.1 & 55.2
	EE+FAM	Step 54	Steps 55.1 & 55.2

**Orthodontia**

Base Plan Amount	Step O-1	Step O-1	Step O-1	Step O-1	Step O-1	Step O-1
Coinsurance and Lifetime Max	Step O-2	Step O-2	Step O-2	Step O-2	Step O-2	Step O-2
Timely Applicant Deferral Period	Step O-3	Step O-3	Step O-3	Step O-3	Step O-3	Step O-3
<b>Initial Ortho Claim Cost</b>	Step O-4	Step O-4	Step O-4	Step O-4	Step O-4	Step O-4
Distribution	Step O-5	Step O-5	Step O-5	Step O-5	Step O-5	Step O-5
PPO Discount	Step O-6	Step O-6	Step O-6	Step O-6	Step O-6	Step O-6
<b>Blended Ortho Claim Cost</b>	Step O-7		Step O-7		Step O-7	
<b>Rate Adjustment Factors:</b>						
Area	Step O-8		Step O-8		Step O-8	
Industry	Step O-9		Step O-9		Step O-9	
Participation	Step O-10		Step O-10		Step O-10	
Case Size	Step O-11		Step O-11		Step O-11	
Ortho Size	Step O-12		Step O-12		Step O-12	
<b>Net Ortho Rate</b>	Step O-13		Step O-13		Step O-13	
Expense Load	Step O-14		Step O-14		Step O-14	

<b>Gross Ortho Rate</b>	<b>Step O-15</b>	<b>Step O-15</b>	<b>Step O-15</b>
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	<u>Final Dental Rate</u>	<u>Experience Rate Blend</u>	<u>Post-Manual Adjustments</u>
EE	Step 56	Step 57	Step 58
EE+SP	Step 56	Step 57	Step 58
EE+CH	Step 56	Step 57	Step 58
EE+FAM	Step 56	Step 57	Step 58

## SECTION 13 - GROUP DENTAL INSURANCE

The calculation of a monthly premium rate for the Group Dental Plan begins with a set of base rates. Variations are recognized by means of adjustments to these base rates. A further set of Rate Adjustment Factors reflects differences in group employer and employee characteristics. All the rates and factors in this manual are subject to change as experience dictates.

The rates for the Dental Plan are determined separately for employees, spouses and children.

The rating factors in this manual apply to both our contracts with the standard definition of children and our "Wrap" contracts that do not cover your state's definition of pediatric age children. Where a rating step differs between the two contracts, we will distinguish the factors using the naming "Standard Contract" and "Wrap Contract."

### Step 1 - Base Rates

The monthly base rates are:

	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
Standard Contract	25.089	24.372	36.220
Wrap Contract	25.089	24.372	19.160

SECTION 13 - GROUP DENTAL INSURANCE

Plan Variations

Certain variations in the benefit plan are considered to have measurable effect on the premium rates. These are listed in the following steps along with factors to be applied in the rate calculation. The base rates are multiplied by the applicable factors. Additional variations may be possible in some cases, and these are to be determined and evaluated by the Group Actuarial Department.

**Step 2** - Deductible

Deductible applies to Preventive, Basic and Major services combined or is waived for Preventive services. Factors for values chosen between listed deductibles are determined by interpolation.

**Combined**

<u>Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
0	1.169	1.176	1.234
25	1.049	1.050	1.001
30	1.023	1.026	0.954
40	0.971	0.978	0.859
50	0.919	0.930	0.765
60	0.904	0.914	0.706
70	0.887	0.898	0.646
75	0.880	0.890	0.616
80	0.874	0.884	0.584
90	0.865	0.871	0.520
100	0.854	0.859	0.456
200	0.797	0.806	0.267
250	0.771	0.780	0.216
300	0.754	0.762	0.180

**Waived**

<u>Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
0	1.169	1.176	1.234
25	1.075	1.076	1.149
30	1.061	1.061	1.120
40	1.030	1.031	1.060
50	1.000	1.000	1.000
60	0.981	0.982	0.975
70	0.963	0.966	0.952
75	0.953	0.957	0.939
80	0.950	0.954	0.932
90	0.942	0.947	0.915
100	0.934	0.940	0.899
200	0.875	0.883	0.757
250	0.849	0.857	0.721
300	0.832	0.841	0.685



SECTION 13 - GROUP DENTAL INSURANCE

**Step 3** - Benefit Rate

These factors adjust the rate for the coinsurance levels selected for each of the dental classes.

Factors for values chosen between listed values are determined by interpolation.

$$\text{Employee Factor} = 1 + \text{Employee Preventive Factor} + \text{Employee Basic Factor} + \text{Employee Major Factor}$$

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.358	-0.310
10	n/a	-0.314	-0.240
20	n/a	-0.269	-0.180
25	n/a	-0.246	-0.132
30	n/a	-0.224	-0.105
40	n/a	-0.200	-0.070
50	-0.173	-0.170	0.000
55	-0.156	-0.125	0.028
60	-0.139	-0.125	0.060
65	-0.121	-0.095	0.128
70	-0.104	-0.045	0.181
75	-0.094	-0.026	0.223
80	-0.079	0.000	0.265
85	-0.054	0.020	n/a
90	-0.035	0.055	n/a
95	-0.017	0.100	n/a
100	0.000	0.160	n/a

$$\text{Spouse Factor} = 1 + \text{Spouse Preventive Factor} + \text{Spouse Basic Factor} + \text{Spouse Major Factor}$$

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.326	-0.310
10	n/a	-0.286	-0.260
20	n/a	-0.245	-0.200
25	n/a	-0.224	-0.150
30	n/a	-0.204	-0.119
40	n/a	-0.184	-0.065
50	-0.159	-0.158	0.000
55	-0.143	-0.115	0.033
60	-0.127	-0.115	0.071
65	-0.111	-0.083	0.145
70	-0.100	-0.041	0.205
75	-0.087	-0.021	0.252
80	-0.074	0.000	0.293
85	-0.050	0.020	n/a
90	-0.032	0.050	n/a
95	-0.016	0.092	n/a
100	0.000	0.149	n/a

SECTION 13 - GROUP DENTAL INSURANCE

Child Factor = 1 + Child Preventive Factor + Child Basic Factor + Child Major Factor

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.480	-0.058
10	n/a	-0.420	-0.047
20	n/a	-0.360	-0.035
25	n/a	-0.330	-0.029
30	n/a	-0.300	-0.023
40	n/a	-0.285	-0.017
50	-0.239	-0.262	0.000
55	-0.215	-0.228	0.005
60	-0.191	-0.184	0.019
65	-0.167	-0.135	0.029
70	-0.144	-0.088	0.041
75	-0.120	-0.038	0.050
80	-0.092	0.000	0.055
85	-0.072	0.030	n/a
90	-0.048	0.057	n/a
95	-0.024	0.113	n/a
100	0.000	0.130	n/a

SECTION 13 - GROUP DENTAL INSURANCE

**Step 4** - Family Deductible

Deductible is limited to a certain number of family members satisfying their individual deductibles.

<u>Family Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
Individual	1.000	1.000	1.000
2 Members	1.000	1.000	1.022
3 Members	1.000	1.000	1.020

## SECTION 13 - GROUP DENTAL INSURANCE

### Step 5 - Fourth Quarter Carryover

Covered dental expenses used to satisfy the deductible in the last 3 months of a benefit year will also be applied to the deductible for the next benefit year.

If fourth quarter carryover applies then multiply the Employee, Spouse, and Child rate by 1.05

SECTION 13 - GROUP DENTAL INSURANCE

**Step 6** - Annual Max Benefit

The annual maximum rating factor is based on the dollar amount of the plan's annual maximum and the richness of the plan design. The annual maximum factor comes from the table in Step D which uses the benefit factor to determine if the plan is "Low," "Medium," or "High." If the plan does not cover Type 3 or Type 2 Services, the annual maximums from the "No Major" or "Preventive Only" columns should be used, respectively.

Calculation of Annual Maximum Factor:

A Determine the Area Index per the following table, using the Area Factor (derived in Step 26).

Area Factor	Area Index
< 0.85	0.80
0.85 to 0.94	0.90
0.95 to 1.04	1.00
1.05 to 1.19	1.10
1.20 +	1.20

B Benefit Factor = (Rate of benefit factor (Step 3)) \* (Area Index (Step 6-A)) \* Waiting Period Factor (Step 8) \* Procedure Category Factor (Step 11)

C Table Determination

Benefit Factor	Table
< 0.94	Low
0.94 to 1.29	Medium
>= 1.29	High
No Type 3	No Major
No Type 2 or 3	Preventive Only

SECTION 13 - GROUP DENTAL INSURANCE

D Use the Annual Maximum Table shown below.

<u>Maximum</u>	<u>Low</u>		<u>Medium</u>		<u>High</u>		<u>No Major</u>		<u>Preventive Only</u>	
	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>
500	0.874	0.940	0.849	0.904	0.815	0.886	0.937	0.961	0.998	0.998
600	0.905	0.956	0.886	0.925	0.844	0.905	0.960	0.973	1.000	1.000
700	0.937	0.972	0.921	0.944	0.877	0.924	0.980	0.985	1.000	1.000
750	0.952	0.980	0.937	0.952	0.894	0.933	0.989	0.990	1.000	1.000
800	0.967	0.988	0.954	0.961	0.913	0.942	0.998	0.995	1.000	1.000
900	0.999	1.004	0.983	0.981	0.931	0.961	1.005	0.996	1.000	1.000
1000	1.030	1.020	1.000	1.000	0.960	0.980	1.015	0.997	1.000	1.000
1100	1.050	1.032	1.032	1.011	1.003	1.000	1.038	1.002	1.000	1.000
1200	1.069	1.043	1.052	1.017	1.029	1.020	1.048	1.020	1.000	1.000
1250	1.081	1.048	1.063	1.022	1.045	1.030	1.056	1.026	1.000	1.000
1300	1.090	1.054	1.072	1.028	1.062	1.039	1.061	1.028	1.000	1.000
1400	1.102	1.062	1.094	1.039	1.096	1.059	1.068	1.032	1.000	1.000
1500	1.147	1.079	1.153	1.079	1.150	1.079	1.075	1.036	1.000	1.000
1600	1.163	1.095	1.169	1.094	1.175	1.095	1.081	1.039	1.000	1.000
1700	1.182	1.112	1.187	1.110	1.198	1.112	1.086	1.042	1.000	1.000
1750	1.193	1.120	1.200	1.119	1.211	1.120	1.087	1.043	1.000	1.000
1800	1.202	1.128	1.214	1.128	1.224	1.128	1.089	1.043	1.000	1.000
1900	1.222	1.145	1.236	1.144	1.251	1.145	1.092	1.045	1.000	1.000
2000	1.262	1.161	1.279	1.161	1.303	1.161	1.093	1.046	1.000	1.000
2250	1.306	1.184	1.323	1.183	1.350	1.165	1.094	1.046	1.000	1.000
2500	1.332	1.206	1.349	1.206	1.377	1.194	1.095	1.047	1.000	1.000
2750	1.357	1.229	1.376	1.229	1.405	1.229	1.096	1.047	1.000	1.000
3000	1.383	1.251	1.401	1.251	1.431	1.251	1.096	1.048	1.000	1.000

SECTION 13 - GROUP DENTAL INSURANCE

**Step 7** Preventive Maximum Waiver

With Preventive Maximum Waiver a member's preventive (class 1) claims are not counted against the member's annual maximum. If this option is chosen by the group use the rating factors below; otherwise, use a 1.00 factor in this step.

Annual Maximum	Preventive Max. Waiver Factor	
	Adult	Child
500	1.050	1.039
600	1.047	1.037
700	1.043	1.035
750	1.042	1.033
800	1.040	1.032
900	1.037	1.030
1000	1.033	1.027
1100	1.028	1.021
1200	1.022	1.015
1250	1.021	1.020
1300	1.021	1.019
1400	1.020	1.017
1500	1.019	1.015
1600	1.018	1.014
1700	1.016	1.013
1750	1.016	1.012
1800	1.015	1.012
1900	1.014	1.010
2000	1.012	1.009
2250	1.011	1.008
2500	1.009	1.006

SECTION 13 - GROUP DENTAL INSURANCE

**Step 8.1** - Waiting Period for Timely Applicants

The insured group can elect a waiting period for Major services that applies to timely applicants. In lieu of a waiting period, a graded coinsurance schedule can be chosen in the next step. If graded coinsurance is selected, the rating factor for this step will be 1.000.

Waiting Period (Months)	Prior Coverage		No Prior Coverage	
	Adult	Child	Adult	Child
0	1.068	1.010	1.030	1.000
6	1.043	1.005	1.013	1.000
12	1.000	1.000	0.887	0.990
24	0.939	1.000	0.803	0.990

**Step 8.2** - Graded Coinsurance Option for Major Services

If selected, this option pays a scheduled coinsurance benefit for Major services for each plan year. For example, the 10/25/50 option below pays 10% coinsurance for Major in the first year, 25% in the second year, and 50% in the third and subsequent years. No waiting period for timely applicants will apply if one of these options is selected.

Graded Coinsurance Option	Prior Coverage		No Prior Coverage	
	Adult	Child	Adult	Child
None	1.000	1.000	1.000	1.000
10/25/50	0.948	1.000	0.884	1.000
25/50/50	1.000	1.000	1.000	1.000



SECTION 13 - GROUP DENTAL INSURANCE

**Step 8.3** - Late Entrant Limitation

This factor adjusts for the available late entrant limitation options.

Late Entrant Limitation	Factor
None (UW only)	1.0000
12m Basic & Major	1.0000
12m Basic, 24m Major	0.9956
0m Basic, 12m Major	1.0083

SECTION 13 - GROUP DENTAL INSURANCE

**Step 9** - Filling Wait Period

This factor adjusts for the option to include a waiting period for restorations.

Wait Period (months)	Factor - Adult	Factor - Child
0	1.000	1.000
6	0.982	0.987

SECTION 13 - GROUP DENTAL INSURANCE

**Step 10** - Allowable Charges

The allowable charge percentile adjustment factor is:

Allowable Charge Percentile	Factor
50	0.930
60	0.950
70	0.970
75	0.980
80	0.985
85	0.990
90	1.000
95	1.005

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 11 Procedure Category Movement**

Some procedure categories may be moved to other classes (preventive / basic / major). The rating factor is equal to the weight of the changing category from the table below times the coinsurance difference below times the coinsurance difference between the selected class and the base class. A multiplier is then applied to the adjustment. An example is included on the next page. **For the "Wrap Contract," Stainless Steel Crowns and Space Maintainers for Children are not covered, and rates are adjusted per this procedure.**

Procedure Category	Base Class	Member	Paid Distribution
Oral Evaluations	1	Adult	10.62%
Prophylaxis	1	Adult	18.50%
Fluoride	1	Adult	0.01%
Fluoride Plus Propy	1	Adult	0.00%
X-rays - Bitewings	1	Adult	5.27%
X-rays - Complete Series / Pano	1	Adult	3.70%
X-rays - Intraoral/Extraoral/Oth.	1	Adult	0.99%
Lab and Other Tests	1	Adult	0.01%
Other Preventitive	1	Adult	0.00%
Emergency	2	Adult	0.14%
Space Maintainers	2	Adult	0.00%
Simple Extraction	2	Adult	2.13%
Surgical Extractions	2	Adult	2.97%
Oral Surgery	2	Adult	0.16%
Anesthesia	2	Adult	0.33%
Drugs	2	Adult	0.00%
Restorations	2	Adult	18.47%
Perio - Minor	2	Adult	5.84%
Perio - Major (surgical)	2	Adult	1.18%
Endodontics	2	Adult	8.66%
Repair	2	Adult	0.19%
Inlays/Onlays/Crowns	3	Adult	16.41%
Stainless Steel Crowns	3	Adult	0.00%
Dentures	3	Adult	1.75%
Bridges	3	Adult	1.97%
Other Prosthetics	3	Adult	0.16%
Implant Services	3	Adult	0.26%
Misc.	3	Adult	0.20%
Consultation	3	Adult	0.04%
Veneer	3	Adult	0.03%
Professional Visits	3	Adult	0.00%
Oral Evaluations	1	Child	15.62%
Prophylaxis	1	Child	24.26%
Fluoride	1	Child	5.13%
Fluoride Plus Propy	1	Child	0.01%
X-rays - Bitewings	1	Child	7.05%
X-rays - Complete Series / Pano	1	Child	3.17%
X-rays - Intraoral/Extraoral/Oth.	1	Child	0.75%
Lab and Other Tests	1	Child	0.01%
Other Preventitive	1	Child	4.08%
Emergency	2	Child	0.07%
Space Maintainers	2	Child	0.69%
Simple Extraction	2	Child	3.24%
Surgical Extractions	2	Child	7.25%
Oral Surgery	2	Child	0.37%
Anesthesia	2	Child	1.45%
Drugs	2	Child	0.01%
Restorations	2	Child	21.65%
Perio - Minor	2	Child	0.26%
Perio - Major (surgical)	2	Child	0.22%
Endodontics	2	Child	2.41%
Repair	2	Child	0.01%
Inlays/Onlays/Crowns	3	Child	1.28%
Stainless Steel Crowns	3	Child	0.83%
Dentures	3	Child	0.01%
Bridges	3	Child	0.05%
Other Prosthetics	3	Child	0.00%
Implant Services	3	Child	0.02%
Misc.	3	Child	0.06%
Consultation	3	Child	0.03%
Veneer	3	Child	0.02%
Professional Visits	3	Child	0.00%

SECTION 13 - GROUP DENTAL INSURANCE

**Example:** Move X-rays - Bitewings from Class 1 to Class 2, where Class 1 coinsurance = 100% and Class 2 coinsurance is 80% for a selected plan (note: the coinsurance levels will vary from plan to plan).

$$\text{Coinsurance difference} = 80\% - 100\% = -20\%$$

X-rays - Bitewings weights:

Adult	5.27%
Child	7.05%

Adjustments:

Adult	-1.1%	= 5.27% x -20%
Child	-1.4%	= 7.05% x -20%

<u>Adjustment</u>	<u>Multiplier</u>
-100%	1.00
-20%	2.00
-15%	3.30
-10%	3.30
-5%	3.30
0%	3.30

Since the adjustments are less than zero but greater than -5%, the multiplier is 3.30, so the final rating factors are:

Adult	<b>0.965</b> = (-1.1% x 3.30) + 1
Child	<b>0.953</b> = (-1.4% x 3.30) + 1

The multiplier is an adjustment for expected utilization differences by an insured group who selects an alternate plan design. They are based on prior experience for the limited procedure group movement available in our existing dental plans.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 12 Initial Claim Cost**

Initial Claim Cost = Product of Steps 1 through 11

SECTION 13 - GROUP DENTAL INSURANCE

**Step 13 - Distribution**

The distribution factor is the assumed percent of claims serviced by PPO dentists, and therefore subject to reduced fees negotiated with network dentists. The final distribution factor is the output of a regression formula that considers the percentage of dentists contracted with Union Security's provider network ("Baseline Penetration") and adjusts for anticipated "steerage" toward in-network dentists, depending on the relative richness of the in-network benefits versus the out-of-network benefits.

The Baseline Penetration figures are the percentage of total practicing dentists in a given 3-digit zip code region that are contracted with Union Security's dental network.

**Benefits Selected:**

	In-Network (A)	Out-of-Network (B)	Difference (A-B)
Type 1 Coinsurance	<b>Input as selected on a group-by-group basis.</b>		
Type 2 Coinsurance			
Type 3 Coinsurance			
Deductible			
Annual Max			

**Regression Calculation:**

	Coefficients (C)	Difference (A-B)	Products (A-B) x C
Type 1 Diff	0.004677		
Type 2 Diff	0.004281		
Type 3 Diff	0.002316		
Deduct Diff	-0.000474		
<i>Baseline Penetration</i>	0.613641	lookup from table	
Max Difference	0.000075		

**Final Distribution Ratio:**

Sum of Products

**Example:**

In-network benefits: 100 / 90 / 60 coinsurance with a \$50 deductible and a \$1,500 annual max  
 Out-of-network benefits: 100 / 80 / 50 coinsurance with a \$50 deductible and a \$1,000 annual max

	Difference (A-B)	Coefficients (C)	Products (A-B) x C
Type 1 Diff	= 100 - 100 = 0	0.004677	0
Type 2 Diff	= 90 - 80 = 10	0.004281	0.042814557
Type 3 Diff	= 60 - 50 = 10	0.002316	0.023163254
Deduct Diff	= 50 - 50 = 0	-0.000474	0
<i>Baseline Penetration</i>	40%	0.613641	0.245456356
Max Difference	= 1500 - 1000 = 500	0.000075	0.037648197

Percent weight to place on in-network initial plan rate: 34.9%

SECTION 13 - GROUP DENTAL INSURANCE

**Step 14** - PPO Discount

This factor represents the impact of reduced fees agreed to by dentists contracted with Union Security's provider network. The discounts are calculated by comparing dentists' fee schedules to the regularly updated usual and customary average provider charges by 3-digit zip code.

The out-of-network factors for maximum allowable charge (MAC) plans are shown below. Use 1.00 for plans other than MAC plans.

<b>MAC Type</b>	<b>Out-of-Network Factor</b>
None	1.000
20% off the 80th	0.790
45% off the 80th	0.590



SECTION 13 - GROUP DENTAL INSURANCE

**Step 15** - Blended Claim Cost

Blended Claim Cost = (In-Network Initial Claim Cost \* In-Network Distribution factor \* In-Network PPO Discount factor) + (Out-of-Network Initial Claim Cost \* [1 - In-Network Distribution factor] \* Out-of-Network PPO Discount factor)

SECTION 13 - GROUP DENTAL INSURANCE

**Step 16** - Exam Frequency Options

This factor adjusts for the selected exam frequency limit.

Exam Option	Factor
1 per 6 months	1.000
1 per 12 months	0.960
2 per 12 months	1.002

SECTION 13 - GROUP DENTAL INSURANCE

**Step 17** - Cleaning Frequency Options

This factor adjusts for the selected cleaning frequency limit.

Cleaning Option	Factor
1 per 6 months	1.000
1 per 12 months	0.993
2 per 12 months	1.003
1 per 3 months (UW only)	1.050
4 Standard + Perio (LOS)**	1.004

\*\* Factor does not apply to children rate as perio cleanings are not common for children. Factor is 1.00 if this option is selected.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 18** - Maximum Fluoride Age

This factor adjusts for the limiting age to cover fluoride.

Age Limit	Factor
14	1.000
16	1.003
19	1.008
no age limit	1.011

SECTION 13 - GROUP DENTAL INSURANCE

**Step 19** - Maximum Sealant Age

This factor adjusts for the limiting age to cover sealants. Applies to children rate only. Sealants are not covered on the "Wrap Contract."

Age Limit	Child Factor
14	1.000
16	1.003
19	1.005

SECTION 13 - GROUP DENTAL INSURANCE

**Step 20** - Denture / Bridge / Crown Replacement Frequency

This factor adjusts for the option to increase the replacement frequency for certain major services.

Replacement Frequency	Factor
Once every 10 years	1.000
Once every 7 years	1.003
Once every 5 years	1.006

SECTION 13 - GROUP DENTAL INSURANCE

**Step 21** - Root Canal Retreatment Frequency

This factor adjusts for the option to increase the frequency for retreating root canals.

Frequency	Factor
Retreat after 24 months	1.000
Retreat after 12 months	1.005

SECTION 13 - GROUP DENTAL INSURANCE

**Step 22** - Coverage for Restorations - Number of Surfaces

This factor adjusts for the option to cover restorations only up to 2 surfaces vs the standard 4.

Coverage	Factor
Up to 2 surfaces	0.989
Up to 4 surfaces	1.000



SECTION 13 - GROUP DENTAL INSURANCE

**Step 23** - Bitewing X-ray Frequency

This factor adjusts for the option to increase the frequency for bitewing x-rays.

Frequency	Factor
1 per 12 months	1.000
1 per 6 months	1.006
2 per 12 months	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 24** - Panoramic / Complete Series X-ray Frequency

This factor adjusts for the option to increase the frequency for panoramic & complete series x-rays.

Frequency	Factor
1 per 60 months	1.000
1 per 36 months	1.005
1 per 24 months	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 25** - Perio Scaling and Root Planing

This factor adjusts for the option to increase the frequency for perio scaling and root planing.

Frequency	Factor
1 per 36 months	0.997
1 per 24 months	1.000

SECTION 13 - GROUP DENTAL INSURANCE

**Step 26** - Area

An area factor is applied by each geographic area. The factors reflect differences in cost and utilization in each geographic area.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 27 - Industry**

Industry factors reflect varying levels of utilization and benefit awareness across industries and occupations. This rate manual uses a blended industry factor based on the participation level of the group sponsor. For a given group, the non-voluntary and voluntary factors shown for any given Standard Industrial Classification (SIC) are interpolated based on the participation level of the group. The non-voluntary participation baseline is 80% while the voluntary baseline is 40%. For example, a group with a 6020 SIC and 60% participation would have an industry factor of 1.105. Some industries below have 4.00 factors; these are not intended to be sold, but rather an indication of industries not eligible to be sold this dental coverage.

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
100	199	Agriculture	0.97	0.97
200	299	Agriculture	0.97	0.97
300	399	Agriculture	0.97	0.97
400	499	Agriculture	0.97	0.97
500	599	Agriculture	0.97	0.97
600	699	Agriculture	0.97	0.97
700	739	Agriculture	0.97	0.97
740	749	Agriculture	0.97	0.97
750	759	Agriculture	0.97	0.97
760	780	Agriculture	0.97	0.97
781	781	Agriculture	0.97	0.97
782	782	Agriculture	0.97	0.97
783	799	Agriculture	0.97	0.97
800	899	Agriculture	1.00	0.97
900	999	Agriculture	0.97	0.97
1000	1099	Mining	0.85	0.85
1100	1199	Mining	0.85	0.85
1200	1299	Mining	0.85	0.85
1300	1399	Mining	0.90	0.80
1400	1499	Mining	0.85	0.80
1500	1519	Construction	1.00	0.93
1520	1539	Construction	1.00	0.93
1540	1541	Construction	1.00	0.93
1542	1542	Construction	1.00	0.93
1543	1549	Construction	1.00	0.93
1550	1569	Construction	1.00	0.93
1570	1579	Construction	1.00	0.93
1580	1599	Construction	1.00	0.93
1600	1619	Construction	0.87	0.84
1620	1699	Construction	0.87	0.84
1700	1719	Construction	0.88	0.88
1720	1729	Construction	0.88	0.88
1730	1739	Construction	0.88	0.88
1740	1789	Construction	0.88	0.88
1790	1799	Construction	0.88	0.88
2000	2099	Manufacturing	0.89	0.89

## SECTION 13 - GROUP DENTAL INSURANCE

SIC Code	Range	Description	Non-voluntary	Voluntary
2100	2199	Manufacturing	0.89	0.89
2200	2299	Manufacturing	0.89	0.89
2300	2399	Manufacturing	0.89	0.89
2400	2430	Manufacturing	0.89	0.89
2431	2431	Manufacturing	0.89	0.89
2432	2499	Manufacturing	0.89	0.89
2500	2519	Manufacturing	0.89	0.89
2520	2529	Manufacturing	0.89	0.89
2530	2599	Manufacturing	0.89	0.89
2600	2699	Manufacturing	0.89	0.89
2700	2709	Manufacturing	1.02	1.02
2710	2710	Manufacturing	1.02	1.02
2711	2711	Manufacturing	1.02	1.02
2712	2719	Manufacturing	1.02	1.02
2720	2729	Manufacturing	1.02	1.02
2730	2749	Manufacturing	1.02	1.02
2750	2751	Manufacturing	1.02	1.02
2752	2752	Manufacturing	1.02	1.02
2753	2799	Manufacturing	1.02	1.02
2800	2809	Manufacturing	0.89	0.89
2810	2819	Manufacturing	0.89	0.89
2820	2829	Manufacturing	0.89	0.89
2830	2839	Manufacturing	0.94	0.89
2840	2843	Manufacturing	0.89	0.89
2844	2844	Manufacturing	0.89	0.89
2845	2849	Manufacturing	0.89	0.89
2850	2859	Manufacturing	0.89	0.89
2860	2869	Manufacturing	0.89	0.89
2870	2889	Manufacturing	0.89	0.89
2890	2899	Manufacturing	0.89	0.89
2900	2999	Manufacturing	0.89	0.89
3000	3088	Manufacturing	0.89	0.92
3089	3089	Manufacturing	0.89	0.92
3090	3099	Manufacturing	0.89	0.92
3100	3199	Manufacturing	0.89	0.89
3200	3299	Manufacturing	0.89	0.86
3300	3399	Manufacturing	0.87	0.87
3400	3439	Manufacturing	0.87	0.87
3440	3449	Manufacturing	0.87	0.87
3450	3459	Manufacturing	0.87	0.87
3460	3469	Manufacturing	0.87	0.87
3470	3479	Manufacturing	0.87	0.87
3480	3499	Manufacturing	0.87	0.87
3500	3529	Manufacturing	1.01	0.97
3530	3539	Manufacturing	1.01	0.97
3540	3549	Manufacturing	1.01	0.97

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
3550	3598	Manufacturing	1.01	0.97
3599	3599	Manufacturing	1.01	0.97
3600	3609	Manufacturing	1.12	1.12
3610	3619	Manufacturing	1.12	1.12
3620	3629	Manufacturing	1.12	1.12
3630	3639	Manufacturing	1.12	1.12
3640	3649	Manufacturing	1.12	1.12
3650	3659	Manufacturing	1.12	1.12
3660	3669	Manufacturing	1.12	1.12
3670	3673	Manufacturing	1.12	1.12
3674	3674	Manufacturing	1.12	1.12
3675	3679	Manufacturing	1.12	1.12
3680	3689	Manufacturing	1.12	1.12
3690	3699	Manufacturing	1.12	1.12
3700	3799	Manufacturing	0.98	0.95
3800	3840	Manufacturing	1.09	1.09
3841	3841	Manufacturing	1.09	1.09
3842	3899	Manufacturing	1.09	1.09
3900	3999	Manufacturing	0.97	0.97
4000	4099	Transportation	0.90	0.90
4100	4199	Transportation	0.90	0.90
4200	4212	Transportation	0.81	0.81
4213	4213	Transportation	0.81	0.81
4214	4219	Transportation	0.81	0.81
4220	4299	Transportation	0.89	0.89
4300	4399	Transportation	0.90	0.90
4400	4499	Transportation	0.90	0.90
4500	4599	Transportation	0.90	0.90
4600	4699	Transportation	0.90	0.90
4700	4799	Transportation	0.90	0.90
4800	4812	Communication	1.00	1.00
4813	4813	Communication	1.00	1.00
4814	4829	Communication	1.00	1.00
4830	4898	Communication	1.00	1.00
4899	4899	Communication	1.00	1.00
4900	4999	Transportation	0.98	0.91
5000	5009	Trade	0.85	0.94
5010	5019	Trade	0.85	0.94
5020	5029	Trade	0.96	0.96
5030	5039	Trade	0.96	0.92
5040	5049	Trade	1.13	0.96
5050	5059	Trade	0.85	0.94
5060	5069	Trade	1.06	1.08
5070	5079	Trade	0.94	0.94
5080	5089	Trade	0.96	0.96
5090	5099	Trade	0.96	0.96

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
5100	5139	Trade	0.96	0.96
5140	5149	Trade	0.96	0.96
5150	5199	Trade	0.96	0.96
5200	5269	Trade	0.96	0.96
5270	5299	Trade	0.96	0.96
5300	5399	Trade	0.87	0.88
5400	5499	Trade	0.92	1.00
5500	5599	Trade	0.98	0.98
5600	5699	Trade	1.06	0.94
5700	5799	Trade	1.03	1.05
5800	5812	Trade	0.85	0.85
5813	5899	Trade	0.85	0.85
5900	5999	Trade	0.94	0.94
6000	6019	Finance	1.03	1.18
6020	6029	Finance	1.03	1.18
6030	6060	Finance	1.03	1.18
6061	6061	Finance	1.03	1.18
6062	6062	Finance	1.03	1.18
6063	6099	Finance	1.03	1.18
6100	6161	Finance	1.03	1.06
6162	6162	Finance	1.03	1.06
6163	6199	Finance	1.03	1.06
6200	6210	Finance	0.97	1.13
6211	6211	Finance	0.97	1.13
6212	6281	Finance	0.97	1.13
6282	6282	Finance	0.97	1.13
6283	6299	Finance	0.97	1.13
6300	6399	Finance	1.05	1.08
6400	6410	Finance	1.05	1.25
6411	6411	Finance	1.05	1.25
6412	6499	Finance	1.05	1.25
6500	6509	Finance	0.93	1.00
6510	6511	Finance	0.93	1.00
6512	6512	Finance	0.93	1.00
6513	6519	Finance	0.93	1.00
6520	6529	Finance	0.93	1.00
6530	6530	Finance	0.93	1.00
6531	6531	Finance	0.93	1.00
6532	6539	Finance	0.93	1.00
6540	6549	Finance	0.93	1.00
6550	6559	Finance	1.00	1.00
6560	6599	Finance	0.93	1.00
6600	6699	Finance	0.93	1.10
6700	6799	Finance	0.97	1.05
7000	7099	Services	0.99	0.90
7200	7299	Services	1.04	0.96



## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
7300	7309	Services	0.95	0.95
7310	7310	Services	0.95	0.98
7311	7311	Services	0.95	0.98
7312	7319	Services	0.95	0.98
7320	7329	Services	0.95	0.95
7330	7339	Services	0.95	0.95
7340	7348	Services	0.95	0.95
7349	7349	Services	0.95	0.95
7350	7359	Services	0.95	0.95
7360	7369	Services	0.95	0.95
7370	7372	Services	0.98	1.03
7373	7373	Services	0.98	1.03
7374	7379	Services	0.98	1.03
7380	7391	Services	0.95	0.95
7392	7392	Services	0.95	0.95
7393	7399	Services	0.95	0.95
7500	7599	Services	0.94	0.90
7600	7699	Services	0.90	0.96
7800	7819	Services	0.96	4.00
7820	7829	Services	0.96	1.15
7830	7839	Services	0.96	0.90
7840	7849	Services	0.96	1.00
7910	7919	Services	0.98	1.03
7920	7929	Services	1.05	1.00
7930	7939	Services	0.98	0.85
7940	7949	Services	0.98	4.00
7991	7991	Services	0.98	1.03
7992	7992	Services	0.98	0.94
7993	7995	Services	0.98	1.08
7996	7996	Services	0.98	1.08
7997	7997	Services	0.98	1.08
7998	7998	Services	0.98	1.08
7999	7999	Services	0.98	1.08
8000	8009	Health Services	1.02	1.08
8010	8019	Health Services	1.02	1.08
8020	8029	Health Services	1.02	1.08
8030	8039	Health Services	1.02	1.08
8040	8049	Health Services	1.02	1.08
8050	8050	Health Services	1.02	0.94
8051	8051	Health Services	1.02	0.94
8052	8059	Health Services	1.02	0.94
8060	8060	Health Services	1.08	1.02
8061	8061	Health Services	1.08	1.02
8062	8068	Health Services	1.08	1.02
8069	8069	Health Services	1.08	1.02
8070	8071	Health Services	0.95	0.97
8072	8079	Health Services	0.95	0.99

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
8080	8089	Health Services	1.08	1.02
8090	8092	Health Services	0.94	1.02
8093	8093	Health Services	0.94	1.02
8094	8099	Health Services	0.94	1.02
8100	8199	Services	1.04	1.17
8200	8209	Services	1.11	1.22
8210	8219	Services	1.11	1.22
8220	8229	Services	1.03	1.28
8230	8239	Services	1.08	1.16
8240	8249	Services	1.08	1.16
8250	8289	Services	1.08	1.16
8290	8299	Services	1.08	1.16
8300	8399	Services	0.97	0.97
8400	8499	Services	1.09	1.10
8600	8610	Services	0.99	1.23
8611	8611	Services	0.99	1.23
8612	8619	Services	0.99	1.23
8620	8629	Services	0.99	1.23
8630	8639	Services	0.99	1.10
8640	8659	Services	0.99	1.23
8660	8669	Services	0.99	1.21
8670	8698	Services	0.99	1.23
8699	8699	Services	0.99	1.23
8710	8719	Services	1.03	1.04
8720	8729	Services	1.09	1.04
8730	8739	Services	1.07	1.04
8740	8799	Services	0.99	1.09
8900	8999	Services	1.01	1.15
9100	9199	Public Admin	0.82	1.09
9200	9299	Public Admin	0.88	1.17
9300	9399	Public Admin	0.88	1.08
9400	9499	Public Admin	0.88	1.04
9500	9599	Public Admin	0.88	1.04
9600	9699	Public Admin	0.88	1.04
9700	9799	Public Admin	0.88	1.04
9900	9999	Misc.	0.94	1.04

SECTION 13 - GROUP DENTAL INSURANCE

**Step 28** - Contribution Level

This factor adjusts rates for high levels of employer contribution.

EER Contrib level	Factor
EER contributes 50% or more of plan premium	0.990
EER contributes less than 50% of plan premium	1.000

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 29** - Participation

The rates in this manual assume a certain level of employee and dependent participation. To the extent this level varies, the premium rates must be adjusted. Multiply the rates by the factor below based on the participation level of the group.

Participation	Factor
1%	1.230
2%	1.230
3%	1.230
4%	1.230
5%	1.230
6%	1.230
7%	1.230
8%	1.230
9%	1.230
10%	1.230
11%	1.230
12%	1.230
13%	1.230
14%	1.230
15%	1.230
16%	1.230
17%	1.230
18%	1.230
19%	1.230
20%	1.171
21%	1.171
22%	1.171
23%	1.171
24%	1.171
25%	1.171
26%	1.171
27%	1.171
28%	1.171
29%	1.171
30%	1.171
31%	1.171
32%	1.171
33%	1.171
34%	1.171
35%	1.171
36%	1.171
37%	1.171
38%	1.171
39%	1.171
40%	1.171
41%	1.169
42%	1.168
43%	1.166
44%	1.165
45%	1.163

## SECTION 13 - GROUP DENTAL INSURANCE

46%	1.162
47%	1.160
48%	1.159
49%	1.157
50%	1.156
51%	1.152
52%	1.148
53%	1.143
54%	1.139
55%	1.134
56%	1.129
57%	1.124
58%	1.119
59%	1.114
60%	1.108
61%	1.103
62%	1.097
63%	1.091
64%	1.085
65%	1.079
66%	1.073
67%	1.066
68%	1.060
69%	1.054
70%	1.048
71%	1.041
72%	1.035
73%	1.029
74%	1.023
75%	1.017
76%	1.011
77%	1.006
78%	1.000
79%	0.995
80%	0.990
81%	0.985
82%	0.980
83%	0.975
84%	0.971
85%	0.967
86%	0.967
87%	0.967
88%	0.967
89%	0.967
90%	0.967
91%	0.967
92%	0.967
93%	0.967
94%	0.967
95%	0.967
96%	0.967
97%	0.967
98%	0.967
99%	0.967
100%	0.967

SECTION 13 - GROUP DENTAL INSURANCE

**Step 30** - Prior Coverage

This factor is based on whether or not and what kind of dental coverage a group had in the past.

Status	Employee/Spouse	Child
Prior coverage incl Major	1.00	1.00
Prior coverage excl Major	1.04	1.00
No prior coverage	1.07	1.02

SECTION 13 - GROUP DENTAL INSURANCE

**Step 31** - Case Size

This factor is based on the number of participating employees in the dental plan, and is a reflection of higher per unit experience for smaller case sizes due to the highly controllable nature of dental benefits and the resulting ability for covered groups to select against the plan.

EE LIVES	SIZE FACTOR
1	1.145
2	1.145
3	1.145
4	1.145
5	1.145
6	1.145
7	1.145
8	1.145
9	1.145
10	1.131
11	1.118
12	1.105
13	1.092
14	1.078
15	1.065
16	1.052
17	1.038
18	1.038
19	1.037
20	1.036
21	1.035
22	1.035
23	1.034
24	1.033
25	1.033
26	1.032
27	1.031
28	1.030
29	1.030
30	1.029
31	1.028
32	1.027
33	1.027
34	1.026
35	1.025
36	1.025
37	1.024
38	1.023
39	1.022
40	1.021
41	1.020
42	1.018
43	1.016
44	1.015
45	1.013
46	1.012
47	1.010
48	1.009

SECTION 13 - GROUP DENTAL INSURANCE

	49	1.007
	50	1.007
	51	1.006
	52	1.006
	53	1.006
	54	1.005
	55	1.005
	56	1.005
	57	1.004
	58	1.004
	59	1.004
	60	1.004
	61	1.003
	62	1.003
	63	1.003
	64	1.002
	65	1.002
	66	1.002
	67	1.001
	68	1.001
	69	1.001
	70	1.000
	71	1.000
	72	1.000
	73	0.999
	74	0.999
	75	0.999
	76	0.999
	77	0.998
	78	0.998
	79	0.998
	80	0.997
	81	0.997
	82	0.997
	83	0.996
	84	0.996
	85	0.996
	86	0.995
	87	0.995
	88	0.995
	89	0.995
	90	0.994
	91	0.994
	92	0.994
	93	0.993
	94	0.993
	95	0.993
	96	0.992
	97	0.992
	98	0.992
	99	0.992
Equal to or More than	100	0.991



SECTION 13 - GROUP DENTAL INSURANCE

**Step 32** - Age and Gender Content

To determine the employee rate an adjustment is based upon the age and gender mix of the insured employees. The tables below give the appropriate factors:

These factors are not applied in states that prohibit them.

<b>Age:</b>	<b>Factor</b>	<b>% female:</b>	<b>Factor</b>
0 - 29	0.985	0%	0.969
30 - 34	0.990	10%	0.975
35 - 39	0.995	20%	0.981
40 - 44	1.000	30%	0.988
45 - 49	1.005	40%	0.994
50 - 54	1.010	50%	1.000
55 - 59	1.015	60%	1.006
60 - 64	1.020	70%	1.012
65+	1.025	80%	1.019
		90%	1.025
		100%	1.031

SECTION 13 - GROUP DENTAL INSURANCE

**Step 33** - State Variations

On cases written in states requiring a 90-day benefit extension after termination of group coverage, multiply by 1.01

On cases written in New Mexico and affected by the 5% supplemental premium tax, multiply by 1.05

On cases written in Utah multiply by 1.012

**Step 34** - Administration

A 3% load is applied if the policyholder requests to self-administer their dental plan.

**Step 35** - Enrollment Option

Enrollment Type	Participation	Factor - Timely Major Wait = 0 months	Factor - Timely Major Wait = 6 months or more
Annual @ Issue / Future	All	1.000	1.000
Open @ Issue Only**	All	1.072	1.032
Annual Open	>= 85%	1.080	1.035
	75 - 84%	1.087	1.039
	65 - 74%	1.095	1.042
	Below 65%	1.107	1.047

\*\* Open @ Issue factors will only apply at proposal / issue. For future rates the factor is 1.000.

**Step 36** - Trend

The base rates in this manual are re-established (and re-filed) periodically to recalibrate the manual for accuracy as inflation and utilization change over time. Between these periodic changes, the ongoing impact of trend is accounted for in the manual by adjusting the rate with a trend factor.

The annualized trend factor assumed in this manual is 7.5%, and is applied from the date of the established base rate (1/1/2009) to six months past the quoted effective date (equaling the midpoint of the typical quoted coverage period of 12 months) on each respective case rated with this manual.

The coverage effective date must be within 90 days of the effective date assumed when the rate was quoted.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 37** - Deductible Basis

This factor adjusts for the option to track deductibles on a policy year or calendar year.

Deductible Basis	Factor
Policy	1.000
Calendar	1.001

SECTION 13 - GROUP DENTAL INSURANCE

**Step 38** - Durational Factor

This factor adjusts manual rates for lower expected utilization levels at future renewals. This factor does not apply to cases in the state of Florida.

Years since original plan effective date

	0	1	2	3+
Group has Major wait of 12 months or more	1.00	0.95	0.95	0.95
Group has Major wait of less than 12 months	1.00	0.97	0.93	0.92

SECTION 13 - GROUP DENTAL INSURANCE

**Step 39** - Rate Guarantee

If quoted rates are guaranteed for a period other than the standard 12 months, a load is applied to account for the extra cost trend as well as increasing risk due to the inability to change future rates if group risk criteria changes.

Rate Guarantee (Months)	Factor
<= 12	1.0000
13 - 15	1.0171
16 - 18	1.0302
19 - 27	1.0500
36 (UW review only)	10.0000

**Step 40** - Renewal Rate Cap

Groups may also request a maximum increase on their first renewal after the original rate guarantee ends. This is merely a cap; the potential rate change is not limited as long as it is below this cap.

Renewal Cap	Factor
N/A	1.0000
7% cap at 1st renewal	1.0286
9% cap at 1st renewal	1.0209

SECTION 13 - GROUP DENTAL INSURANCE

**Step 41** - Posterior Composite Fillings

This factor adjusts for the option to upgrade to composite fillings on posterior teeth rather than the standard amalgam filling.

Posterior Fillings	Factor
Amalgam	1.000
Composite	1.028

SECTION 13 - GROUP DENTAL INSURANCE

**Step 42** - Implants

This factor adjusts for the option to include coverage for implants.

Implant Coverage	Factor
No	1.000
Yes	1.016

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**Step 43** - Porcelain Crowns

This factor adjusts for the option to include coverage for porcelain crowns.

Coverage	Factor
No	1.000
Yes	1.029



SECTION 13 - GROUP DENTAL INSURANCE

**Step 44** - Tooth Whitening

This factor adjusts for the option to include coverage for Tooth Whitening services.

Coverage	Factor
No	1.000
Yes	1.171

SECTION 13 - GROUP DENTAL INSURANCE

**Step 45** - Debridement

This factor adjusts for the option to include coverage for full mouth debridement.

Benefit limited to once per lifetime.

Coverage	Factor
No	1.000
Yes	1.030

SECTION 13 - GROUP DENTAL INSURANCE

**Step 46** - Missing Tooth Exclusion

This factor adjusts for the option to remove the missing tooth exclusion from the contract.

Missing Tooth Exclusion	Factor
Include	1.000
Exclude	1.035

SECTION 13 - GROUP DENTAL INSURANCE

**Step 47** - Non-surgical TMJ

This factor adjusts for the option to exclude coverage for non-surgical TMJ services.

Coverage	Factor
Yes	1.000
No	0.999

SECTION 13 - GROUP DENTAL INSURANCE

**Step 48** - Occlusal Guard Factor

This factor adjusts for the option to include coverage for occlusal guards.

Coverage	Factor
No	1.000
Yes	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 49** - Net Dental Rate

Net Dental Rate = Product of Steps 15 through 48.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 50** - Expense Load

- A. Net Monthly Premium is calculated by summing the product of the Net Dental Rate and the associated number of lives. Ex.: Employee Rate \* Participating Employees + Spouse Rate \* Participating Spouses + Children Rate \* Participating Children Units.
- B. The Policy Fee is chosen from the table below and divided by 12, resulting in the Monthly Policy Fee.

ANNUAL POLICY FEE

Eligible Employees	Fee
0 - 25	0
>= 26	396

- C. Total Per Life Fees are calculated for Employees, Spouses and Children from the table below. These are then added together and divided by 12, resulting in the Total Monthly Per Life Fee.

ANNUAL PER LIFE FEE

Eligible Employees	Per Employee	Per Spouse	Per Child Unit
0 - 25	0.00	0.00	0.00
>= 26	15.60	0.00	0.00

- D. The sum of the Net Monthly Premium, the Monthly Policy Fee, and the Total Monthly Per Life Fee becomes the Initial Monthly Loaded Premium.

SECTION 13 - GROUP DENTAL INSURANCE

- E. The Final Monthly Loaded Premium is the sum of the Percent of Premium Expense Charge and the Initial Monthly Loaded Premium. The Percent of Premium Expense Charge table is made up of a Graded Expense Load (see table below), Commissions, and State Premium Tax.

The factors below include a target profit margin of 5% of total premium.

Annual Premium	0 - 25	>= 26
First 3000	0.2007	0.1648
Next 2000	0.2007	0.1517
Next 5000	0.2007	0.1517
Next 10000	0.2007	0.1434
Next 10000	0.2007	0.1434
Next 10000	0.2007	0.1340
Next 10000	0.2007	0.1340
Next 10000	0.2007	0.1340
Next 15000	0.2007	0.1340
Next 15000	0.2007	0.1293
Next 20000	0.2007	0.1293
Next 50000	0.2007	0.1255
Next 50000	0.2007	0.1255
Next 50000	0.2007	0.1208
Remaining Premium	0.2007	0.1208

1. Based on premium ranges, the commission, premium tax and graded expense loads are added together, resulting in an expense charge of each premium range.
  2. As the initial expense charge table is based on gross annual premium (including all expenses), it must be converted into a table which will apply to the Initial Monthly Loaded Premium from (D.) above (which only includes the per policy and per life expenses).
  3. The appropriate Percent of Premium Expense Charge is then applied to the Initial Monthly Loaded Premium, resulting in the Final Monthly Loaded Premium.
- F. The Expense Load is calculated by dividing the Final Monthly Loaded Premium by the Net Monthly Premium from (A.) above. This Expense Load is multiplied to each of the Employee, Spouse, and Child Net Rates.



## SECTION 13 - GROUP DENTAL INSURANCE

### Step 51 - PPO Access Fee

This is the access fee charged by the PPO network. The current Access Fee for the DHA Network is \$0.84 per employee.

The fee is spread over employee and dependent rates as below.

If split rated:

$$\text{Fee} = \frac{\text{Table Fee} * \# \text{ Employees}}{(\# \text{ EE} + \# \text{ SP} + \# \text{ CH})}$$

If composite rated:

$$\text{Fee} = \frac{\text{Table Fee} * \# \text{ Employees}}{(\# \text{ EE} + \# \text{ Deps})}$$

SECTION 13 - GROUP DENTAL INSURANCE

**Step 52 Vision Discount Rate**

A charge for a vision discount plan may be added to the premium bill for the group dental plan.

If vision discount is selected a fee is added to the Employee Rate of:     \$0.01

SECTION 13 - GROUP DENTAL INSURANCE

Step 53 Gross Dental Rate

Gross Dental Rate = Net Dental Rate \* Expense Load + PPO Access Fee + Vision discount

SECTION 13 - GROUP DENTAL INSURANCE

**Step 54** Rate Tiers

The following assumptions are used to develop the premium rate tiers as desired by the insured group.

One Tier

**Standard Contract**

Composite = 2.04 x Employee Rate

**Wrap Contract**

Composite = 1.51 x Employee Rate

Two Tier

**Standard Contract**

EE = Employee Rate

EE + Dependants = Employee Rate + (0.92 x Spouse Rate) + (0.73 x Children Rate)

**Wrap Contract**

EE = Employee Rate

EE + Dependants = Employee Rate + (0.94 x Spouse Rate) + (0.27 x Children Rate)

Three Tier

**Standard Contract**

EE = Employee Rate

EE + 1 = Employee Rate + (0.76 x Spouse Rate) + (0.24 x (Children Rate / 1.9))

EE + 2 or more = Employee Rate + (0.78 x Spouse Rate) + Children Rate

**Wrap Contract**

EE = Employee Rate

EE + 1 = Employee Rate + (0.92 x Spouse Rate) + (0.08 x (Children Rate / 1.1))

EE + 2 or more = Employee Rate + Spouse Rate + Children Rate

Four Tier

EE = Employee Rate

EE + Spouse = Employee Rate + Spouse Rate

EE + Children = Employee Rate + Children Rate

EE + Family = Employee Rate + Spouse Rate + Children Rate

Per Child

**Standard Contract**

EE = Employee Rate

Spouse Only = Spouse Rate

Per Child = Children Rate / 1.9

**Wrap Contract**

EE = Employee Rate

Spouse Only = Spouse Rate

Per Child = Children Rate / 1.1

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 55.1** - Family Share Max

Instead of using the individual annual maximum, the group can choose to share one annual maximum between family members. The rating factors are shown below and are based on the individual annual maximum chosen. The Family Max Share is only available when \$1000, \$1500, or \$2000 individual annual maximums.

Tier Structure	Tier	Individual Annual Max	Combined Max	Option	Premium Factor
4	EE	1000	-	Standard	1.000
4	EE+SP	1000	1500	Standard	1.000
4	EE+CH	1000	1500	Standard	1.000
4	EE+FAM	1000	2000	Standard	1.000
4	EE	1500	-	Standard	1.000
4	EE+SP	1500	2000	Standard	1.000
4	EE+CH	1500	2000	Standard	1.000
4	EE+FAM	1500	3000	Standard	1.000
4	EE	2000	-	Standard	1.000
4	EE+SP	2000	2500	Standard	1.000
4	EE+CH	2000	2500	Standard	1.000
4	EE+FAM	2000	4000	Standard	1.000
4	EE	1000	-	Buy-Up	1.000
4	EE+SP	1000	2000	Buy-Up	1.113
4	EE+CH	1000	2000	Buy-Up	1.082
4	EE+FAM	1000	3000	Buy-Up	1.103
4	EE	1500	-	Buy-Up	1.000
4	EE+SP	1500	2500	Buy-Up	1.072
4	EE+CH	1500	2500	Buy-Up	1.051
4	EE+FAM	1500	4000	Buy-Up	1.072
4	EE	2000	-	Buy-Up	1.000
4	EE+SP	2000	3000	Buy-Up	1.061
4	EE+CH	2000	3000	Buy-Up	1.041
4	EE+FAM	2000	5000	Buy-Up	1.051
3	EE	1000	-	Standard	1.000
3	EE+1	1000	1500	Standard	1.000
3	EE+2+	1000	2000	Standard	1.000
3	EE	1500	-	Standard	1.000
3	EE+1	1500	2000	Standard	1.000
3	EE+2+	1500	3000	Standard	1.000
3	EE	2000	-	Standard	1.000
3	EE+1	2000	2500	Standard	1.000
3	EE+2+	2000	4000	Standard	1.000
3	EE	1000	-	Buy-Up	1.000
3	EE+1	1000	2000	Buy-Up	1.113
3	EE+2+	1000	3000	Buy-Up	1.103
3	EE	1500	-	Buy-Up	1.000
3	EE+1	1500	2500	Buy-Up	1.072
3	EE+2+	1500	4000	Buy-Up	1.067
3	EE	2000	-	Buy-Up	1.000
3	EE+1	2000	3000	Buy-Up	1.061
3	EE+2+	2000	5000	Buy-Up	1.051
2	EE	1000	-	Standard	1.000
2	EE+DEP	1000	2000	Standard	1.000
2	EE	1500	-	Standard	1.000
2	EE+DEP	1500	3000	Standard	1.000
2	EE	2000	-	Standard	1.000
2	EE+DEP	2000	4000	Standard	1.000
2	EE	1000	-	Buy-Up	1.000
2	EE+DEP	1000	3000	Buy-Up	1.124
2	EE	1500	-	Buy-Up	1.000
2	EE+DEP	1500	4000	Buy-Up	1.082
2	EE	2000	-	Buy-Up	1.000
2	EE+DEP	2000	5000	Buy-Up	1.061

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 55.2** - Preventive Max Waiver

If a group selects both Preventive Max Waiver and Family Share Maximum, all of the family's preventive claims are not counted against the family's combined maximum. If both Preventive Max Waiver and Family Share Maximum are selected use the factors below; otherwise use a 1.00 factor here.

Tier Structure	Tier	Individual Annual Max	Combined Max	Option	Premium Factor
4	EE	1000	-	Standard	1.000
4	EE+SP	1000	1500	Standard	1.022
4	EE+CH	1000	1500	Standard	1.007
4	EE+FAM	1000	2000	Standard	1.017
4	EE	1500	-	Standard	1.000
4	EE+SP	1500	2000	Standard	1.000
4	EE+CH	1500	2000	Standard	1.000
4	EE+FAM	1500	3000	Standard	1.004
4	EE	2000	-	Standard	1.000
4	EE+SP	2000	2500	Standard	1.000
4	EE+CH	2000	2500	Standard	1.000
4	EE+FAM	2000	4000	Standard	1.000
4	EE	1000	-	Buy-Up	1.000
4	EE+SP	1000	2000	Buy-Up	1.005
4	EE+CH	1000	2000	Buy-Up	1.005
4	EE+FAM	1000	3000	Buy-Up	1.005
4	EE	1500	-	Buy-Up	1.000
4	EE+SP	1500	2500	Buy-Up	1.005
4	EE+CH	1500	2500	Buy-Up	1.005
4	EE+FAM	1500	4000	Buy-Up	1.005
4	EE	2000	-	Buy-Up	1.000
4	EE+SP	2000	3000	Buy-Up	1.005
4	EE+CH	2000	3000	Buy-Up	1.005
4	EE+FAM	2000	5000	Buy-Up	1.005
3	EE	1000	-	Standard	1.000
3	EE+1	1000	1500	Standard	1.022
3	EE+2+	1000	2000	Standard	1.017
3	EE	1500	-	Standard	1.000
3	EE+1	1500	2000	Standard	1.000
3	EE+2+	1500	3000	Standard	1.004
3	EE	2000	-	Standard	1.000
3	EE+1	2000	2500	Standard	1.000
3	EE+2+	2000	4000	Standard	1.000
3	EE	1000	-	Buy-Up	1.000
3	EE+1	1000	2000	Buy-Up	1.005
3	EE+2+	1000	3000	Buy-Up	1.005
3	EE	1500	-	Buy-Up	1.000
3	EE+1	1500	2500	Buy-Up	1.005
3	EE+2+	1500	4000	Buy-Up	1.005
3	EE	2000	-	Buy-Up	1.000
3	EE+1	2000	3000	Buy-Up	1.005
3	EE+2+	2000	5000	Buy-Up	1.005
2	EE	1000	-	Standard	1.000
2	EE+DEP	1000	2000	Standard	1.055
2	EE	1500	-	Standard	1.000
2	EE+DEP	1500	3000	Standard	1.026
2	EE	2000	-	Standard	1.000
2	EE+DEP	2000	4000	Standard	1.015
2	EE	1000	-	Buy-Up	1.000
2	EE+DEP	1000	3000	Buy-Up	1.005
2	EE	1500	-	Buy-Up	1.000
2	EE+DEP	1500	4000	Buy-Up	1.005
2	EE	2000	-	Buy-Up	1.000
2	EE+DEP	2000	5000	Buy-Up	1.005

## SECTION 13 - GROUP DENTAL INSURANCE

### Orthodontia

Optional Orthodontia coverage can be elected at an additional cost. The standard Orthodontia plan contains the following provisions:

Children are covered up to age 26, if banded prior to age 19.

Benefits include full or partial bands and fixed or removable appliances.

Normally offered to dependent children. Optional adult ortho coverage is available. Adult only ortho coverage is only available when the base plan is also adult only.

#### Step O-1 - Base Ortho Rate

The monthly Orthodontia base rates are provided below:

Coverage Category	Prior Ortho Coverage	No Prior Ortho Coverage
Employee	0.409	0.454
Spouse	0.409	0.454
Children (Standard Contract)	3.979	4.678
<b>Children (Wrap Contract)</b>	<b>0.409</b>	<b>0.454</b>

SECTION 13 - GROUP DENTAL INSURANCE

**Step O-2** - Coinsurance and Lifetime Max Benefit

The lifetime maximum benefit and rate of benefit percentage can be varied. These factors apply:

Coinsurance Percentage	Lifetime Ortho Maximum					
	\$500	\$750	\$1,000	\$1,250	\$1,500	\$2,000
25%	0.53	0.77	0.90	1.16	1.25	1.26
40%	0.57	0.78	0.98	1.32	1.59	1.86
50%	0.59	0.79	1.00	1.47	1.75	2.13
55%	0.60	0.80	1.01	1.56	1.81	2.41
60%	0.61	0.81	1.02	1.61	1.98	2.64
65%	0.62	0.83	1.04	1.70	2.13	2.86
70%	0.63	0.86	1.06	1.80	2.30	3.08
75%	0.65	0.89	1.08	1.92	2.46	3.30
80%	0.67	0.92	1.10	2.06	2.63	3.51



SECTION 13 - GROUP DENTAL INSURANCE

**Step O-3** - Timely Applicant Deferral Period

The period of deferral of benefits after Orthodontic coverage begins can vary between 0, 12 or 24 months. Refer to the following table for the factors:

Orthodontia Deferral Period in Months	Factor
0	1.00
12	0.88
24	0.82

**Step O-4** - Initial Ortho Claim Cost

Initial Ortho Rate = The product of Steps O-1 through O-3.

**Step O-5** - Distribution

Apply the same distribution factor as applied to the dental plan (Step 10).

**Step O-6** - PPO Discount

Based upon the ortho discount of the network.

Plan Type	In-Network Factor	Out-of-Network Factor
PPO	1.00	1.00

SECTION 13 - GROUP DENTAL INSURANCE

**Step O-7** - Blended Ortho Claim Cost

(In-Network Initial Ortho Claim Cost \* In-Network Distribution factor  
\* In-Network Ortho Discount factor) + (Out-of-Network Initial Ortho Claim Cost  
\* [1 - In-Network Distribution factor] \* Out-of-Network Ortho Discount factor)

**Step O-8** - Area

Apply the same factor as applied to dental rate.

**Step O-9** - Industry

Apply the same factor as applied to dental rate.

**Step O-10** - Participation

Apply the same factor as applied to dental rate.

**Step O-11** - Case Size

Apply the same factor as applied to dental rate.

## SECTION 13 - GROUP DENTAL INSURANCE

### **Step O-12** - Ortho Size

The Ortho Size factor is 1.00 if there are 10 or more child units or 15 or more composite units. Otherwise

1. Add the initial ortho net rates to the initial plan rates to get initial total net rates. When composite rated, the dependent rate is .92 times the spouse rate plus .73 times the child rate.
2. Take the initial total net rates times the number of lives and sum the products.
3. Multiply the initial ortho net rate by (10 minus the number of child units) if split rated or (15 minus the number of dependent units) if composite rated.
4. The ORTHO SIZE factor is the result of the above step 3 divided by the result of step 2, rounded to three places, plus 1.

### **Step O-13** - Net Ortho Rate

Net Ortho Rate = Blended Ortho Claim Cost multiplied by the plan variation factors (Steps O-8 through O-12).

### **Step O-14** - Expense Load

Apply the same factor as applied to dental rate.

### **Step O-15** - Gross Ortho Rate

Gross Ortho Rate = Product of Net Ortho Rate and Expense Load.

Apply the same rate tier formulas from Step 53 to the ortho rates.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 56** - Final Dental Rate

Final Dental Rate = Gross Dental Rate + Gross Ortho Rate

Union Security Insurance Company

Dental - 56.0

11/1/2012

SECTION 13 - GROUP DENTAL INSURANCE

**Step 57** - Experience Rating

Experience Rating of Insurance Transferred from another Carrier

In any case where the group has been insured with another carrier for the same or similar coverage, and the number of employee lives equals or exceeds 100, and the experience of the prior carrier(s) is made available, the rates herein will be modified by combining them with such experience according to the following procedures:

Step 1. For all such years (but no more than three), separately adjust the premium to the current manual basis by multiplying by the ratio of the manual rates as of the proposed rate effective date with us to the charged rate for each prior year.

Step 2. For all such years (but no more than three), separately adjust the incurred claims by multiplying by the following factors:

- (i) a factor which is the ratio of the manual premium for the plan inforce, to the manual premium for the proposed plan, both calculated as of the proposed rate effective date;
- (ii) a factor, which is the adjustment for the value of network differences, from the prior carrier;
- (iii) a factor which is the adjustment for trend from the midpoint of each experience period to the midpoint of the proposed rating period.

Step 3. For each prior year of experience, separately divided the result of step 2 by the result of step 1.

Step 4. Determine a weighted average actual loss ratio by multiplying each year's loss ratio (the result of step 3) by the appropriate weight given below:

one year prior experience	weight = 100%
two years prior experience	most recent year weight = 60% prior year weight = 40%
three years prior experience	most recent year weight = 60% prior year weight = 24% second prior year weight = 16%

Step 5. Determine the credibility ratio using the following formula:

$$Z = \frac{\text{Lives} * \text{Years}}{\text{Lives} * \text{Years} + 22000/(\text{Lives} * \text{Years})}$$

Where

Lives = Number of employees + 1.6 \* Number of employees with dependent coverage

Years =  $0.52 + 0.44 * \text{Months} + 0.02 * [\text{Max}(\text{Months} - 12, 0) + \text{Max}(\text{Months} - 24, 0)]$

Months = Total number of months of experience used in the experience analysis (not to exceed 36)

Step 6. Compute the credibility-weighted loss ratio as follows:

$$Z * \text{weighted average actual loss ratio (Step 4)} + (1-Z) * \text{expected loss ratio}$$

The expected loss ratio is equal to 1 / Expense Load, where Load is determined in Step 50 and 51.

Step 7. Determine the ratio of the credibility-weighted loss ratio from Step 6 above to the expected loss ratio.

Step 8. Multiply the manual rate for the proposed plan by the ratio determined in Step 7.

## SECTION 13 - GROUP DENTAL INSURANCE

### **Step 58** - Post-Manual Adjustments

Sales representatives have limited authority within actuarially determined risk levels to make adjustments to the calculated manual rate if favorable risk criteria are present and not otherwise reflected in the rate manual. Examples include stable rate histories, inforce with a single prior carrier for specified number of years, other coverages are sold in addition to dental, the employer has been in business for a specified time period and has stable or growing number of employees, or the employer is contributing some of the premium cost for the members.

**State:** District of Columbia  
**TOI/Sub-TOI:** H10G Group Health - Dental/H10G.000 Health Dental  
**Product Name:** Group Indemnity Dental  
**Project Name/Number:** Group Indemnity Dental/DC01612FB00052

**Filing Company:** Union Security Insurance Company

## Supporting Document Schedules

<b>Bypassed - Item:</b>	Certificate of Authority to File
<b>Bypass Reason:</b>	NA
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	District of Columbia and Countrywide Experience for the Last 5 Years (P&C)
<b>Bypass Reason:</b>	NA
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Actuarial Memorandum
<b>Comments:</b>	
<b>Attachment(s):</b>	CDC - actuarial memo - Active PPO - GENERIC - Wrap RS Updates - Rate Change.PDF
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	Unified Rate Review Template
<b>Bypass Reason:</b>	NA
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	District of Columbia and Countrywide Loss Ratio Analysis (P&C)
<b>Bypass Reason:</b>	NA
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Actuarial Justification
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**SERFF Tracking #:**

ASWX-G128985617

**State Tracking #:****Company Tracking #:**

DC01612FB00052

**State:**

District of Columbia

**Filing Company:**

Union Security Insurance Company

**TOI/Sub-TOI:**

H10G Group Health - Dental/H10G.000 Health Dental

**Product Name:**

Group Indemnity Dental

**Project Name/Number:**

Group Indemnity Dental/DC01612FB00052

<b>Comments:</b>	Addressed in actuarial memorandum
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	Actuarial Memorandum and Certifications
<b>Bypass Reason:</b>	NA
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Cover Letter All Filings
<b>Comments:</b>	
<b>Attachment(s):</b>	Cover letter for rate filing.PDF
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Exhibit 1
<b>Comments:</b>	
<b>Attachment(s):</b>	DC Exhibit 1.PDF
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Exhibit 2
<b>Comments:</b>	
<b>Attachment(s):</b>	DC Exhibit 2.PDF
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Actuarial memorandum
<b>Comments:</b>	
<b>Attachment(s):</b>	CDC - actuarial memo - Active PPO - Revised Step 54 Rate Tiers.PDF
<b>Item Status:</b>	



**SERFF Tracking #:**

ASWX-G128985617

**State Tracking #:**

**Company Tracking #:**

DC01612FB00052

**State:**

District of Columbia

**Filing Company:**

Union Security Insurance Company

**TOI/Sub-TOI:**

H10G Group Health - Dental/H10G.000 Health Dental

**Product Name:**

Group Indemnity Dental

**Project Name/Number:**

Group Indemnity Dental/DC01612FB00052

**Status Date:**

# Union Security Insurance Company

## Group Dental

### Actuarial Memorandum

#### Scope and Purpose

The purpose of this rate filing and memorandum is to update the current rate manual that corresponds to our existing dental coverage, and to demonstrate that the anticipated loss ratio of this rate revision meets the minimum requirements of your state.

The following changes are proposed in this filing:

- \* We are filing a 'Wrap' feature in our rate manual (under Section 13). This feature is to accommodate groups that would wish to purchase their pediatric Essential Health Benefit (EHB) coverage through their medical carrier or a different carrier's stand-alone pediatric dental plan. Our 'Wrap' plan would exclude coverage for your state's definition of pediatric coverage, and only provide coverage for employees of the insured group, their spouses, and dependent children of the employees above the defined pediatric age.
- \* Lower area factors

Other than the changes noted here, the remaining factors in the rate manual are the same as previously filed.

This rate filing is not due to any changes in law or regulation.

This rate filing is not intended to be used for other purposes.

#### Rating Period

The rates shall be effective upon the effective date for each group following approval of this rate filing. When approved, these rates, adjusted for trend as described in the rate manual, will be applicable until such time a new rate revision request is submitted and approved. These rates will also be used for the Wrap Plan which will be effective January 1, 2014.

#### Benefit Description

This product will provide dental benefits to the individual certificate holders of a group policyholder. The benefit options available are shown in the included rating manual.

### Renewability Clause

This is a Guaranteed Renewable contract.

### Applicability

The proposed rates shall apply to both new issues and future renewals.

### Methodology

The employee and spouse rate factors for this wrap product are the same as our existing dental product, as coverage is the same. For children, we adjusted the existing dental product rates for anticipated enrollment changes, including a higher average age and the associated shift in covered procedure mix. We have no prior experience with which to set these new assumptions, so emerging experience will be closely monitored.

### Morbidity

Morbidity is based on Union Security's dental products claim experience and available industry published data, such as usual and customary average costs.

### Mortality

There are no mortality assumptions in this group dental benefits product.

### Persistency

No lapse assumption is used in pricing this product, due to its annually renewable structure.

### Expenses

Expense assumptions listed apply for all policy years the group is inforce.

#### Average Percent of Premium Expenses:

Premium Tax	2.0%
Claims Expense	2.3%
Overhead / Admin	6.4%
Risk and Profit	5.0%
Distribution Costs	6.2%
Commissions	6.9%

The manual rates apply expenses in three categories: per policy, per employee, and percent of premium. The expense levels shown above are a total of the per policy, per employee, and percent of premium manual expenses restated as a percent of premium.

### Marketing Method

This product is marketed through a network of Union Security Insurance Company group sales representatives and the independent insurance brokers they recruit. At this time, we do not anticipate marketing this product through any government-administered health care exchange.

### Underwriting

This product is subject to group underwriting.

### Premium Classes

Premium rates are set for each group policyholder separately, based upon the plan of benefits, the demographic composition of the group certificate holders and the characteristics of the group policyholder. All of the possible rating factors are described in the rate manual pages being filed or already on file with the state.

### Issue Age Range

Certificates are issued to employees of any issue age, provided they meet the eligibility requirements under the group policy.

### Premium Modalization Rules

Premiums are paid monthly by the policyholder. There are no adjustments for different premium modes.

### Claim Liability Reserves

Only Incurred But Not Reported (IBNR) reserves are established for this product. IBNR reserves are developed using a combination of completion methods based on historical claim run-out patterns and expected loss ratio methods.

### Active Life Reserves

No active life reserves are established for this product.

### Trend Assumptions

The dental trend assumed in pricing is 7.5% per annum.

### Coordination of Benefits

The claims experience used to determine manual rating factors includes any reductions due to coordination of benefits with other dental and/or health insurance carriers.

### Future Anticipated Loss Ratio

The future anticipated loss ratio is 71.2%.

### Contingency and Risk Margins

No explicit additional risk margin is included in the rate for this product. The 5% profit margin listed in the expense description above includes any implicit risk margin.

### Experience on the Form

We are supplying experience we have incurred from our existing dental products in your state, as well as nationally. We believe our new product will incur similar experience. Please refer to Exhibit 1.

### History of Rate Adjustments

This is a brand new product with no previous rate history. The rating this product is based on comes from a new product initially filed in 2012 and only started to be sold in 2013, so there have been no rate adjustments to that product since the initial filing.

Proposed Effective Date

These rate revisions will be implemented upon approval of this filing, for groups with effective dates subsequent to the approval date. The Wrap Product has an effective date of January 1, 2014.

Actuarial Certification

To the best of my knowledge and judgment, I certify that this rate filing is in compliance with the applicable laws of the state and the rules of the Department of Insurance and in compliance with Actuarial Standard of Practice No. 8 and that the rates are not excessive, inadequate, unfairly discriminatory, or unreasonable in relation to the premium charged.



4/15/2013

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Ryan Bohrer, FSA, MAAA  
Sr. Associate Actuary  
Union Security Insurance Company

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Date



**ASSURANT**  
Employee  
Benefits

**Union Security  
Insurance Company**  
2323 Grand Blvd.  
Kansas City,  
Missouri  
64108-2670

April 16, 2013

Hon. William P. White  
DC Department of Insurance, Securities and Banking  
Products Analysis Division  
810 First Street N.E., Suite 701  
Washington, D. C. 20002

**NAIC No: 70408**

Dear Commissioner White:

We enclose for filing a revised Section 13 of our group rate manual for Dental insurance coverage. An actuarial memorandum and exhibits are enclosed, which describe the pricing methodology for the enclosed form filing.

The forms that will be sold with these rates will be submitted under a separate filing. The SERFF ID is ASWX-G128985652.

We trust that you will find everything in order and look forward to your response. If you have any questions regarding this submission, please contact me at the e-mail address or phone number provided below.

Sincerely,

Sharon Miller  
Senior Contract Compliance Analyst  
T. 816.881.8547  
F. 816.881.8755  
E-mail address: Sharon.Miller@assurant.com

Exhibit 1 - Dental Experience

Washington DC Experience Report For Existing Products

<b>Year</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Total</b>
<b>Earned premium</b>	788,017	645,878	442,231	1,876,127
<b>Incurred claims</b>	500,534	422,166	253,344	1,176,043
<b>Incurred loss ratio</b>	63.5%	65.4%	57.3%	62.7%
<b>Cases</b>	43	32	27	
<b>Lives</b>	998	773	482	

## Exhibit 1 - National Dental Experience

### National Experience Report For Existing Products

Year	2010	2011	2012	Total
<b>Earned premium</b>	354,268,654	353,519,401	340,004,553	1,047,792,608
<b>Incurred claims</b>	256,762,774	250,141,772	230,192,938	737,097,484
<b>Incurred loss ratio</b>	72.5%	70.8%	67.7%	70.3%
<b>Cases</b>	12,514	11,976	11,282	
<b>Lives</b>	562,847	538,929	512,695	

### Predicted Experience Under NEW Product

<u>7.5% trend</u> Year	2013	2014	2015	2016	2017	Projected Years Total
<b>Earned premium</b>	74,010,733	145,616,116	214,894,325	281,920,992	346,769,292	1,063,211,458
<b>Incurred claims</b>	52,668,777	103,625,818	152,926,756	200,625,413	246,773,864	756,620,627
<b>Incurred loss ratio</b>	71.2%	71.2%	71.2%	71.2%	71.2%	71.2%
<b>Cases</b>	2,300	4,369	6,232	7,908	9,417	
<b>Lives</b>	116,616	221,569	316,028	401,041	477,552	



## Area Factors

<u>Zip3</u>	<u>Proposed</u>
200	1.047
202	1.047
203	1.047
204	1.047
205	1.047

Union Security Insurance Company  
Group Dental  
Actuarial Memorandum

The purpose of this amendment to our current filing is to fix 'Step 54 – Rate Tiers' in our previously filed rated manual. On the 'Wrap' contract we are filing, we are assuming a different distribution of employees will be selecting some tier options than our standard contract. A revised copy of page 54 of the rate manual is included with this filing.

Actuarial Certification

To the best of my knowledge and judgment, I certify that this rate filing is in compliance with the applicable laws of the state and the rules of the Department of Insurance and in compliance with Actuarial Standard of Practice No. 8 and that the rates are not excessive, inadequate, unfairly discriminatory, or unreasonable in relation to the premium charged.



4/18/2013

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Ryan Bohrer, FSA, MAAA  
Sr. Associate Actuary  
Union Security Insurance Company

---

Date

**SERFF Tracking #:**

ASWX-G128985617

**State Tracking #:****Company Tracking #:**

DC01612FB00052

**State:**

District of Columbia

**Filing Company:**

Union Security Insurance Company

**TOI/Sub-TOI:**

H10G Group Health - Dental/H10G.000 Health Dental

**Product Name:**

Group Indemnity Dental

**Project Name/Number:**

Group Indemnity Dental/DC01612FB00052

## Superseded Schedule Items

Please note that all items on the following pages are items, which have been replaced by a newer version. The newest version is located with the appropriate schedule on previous pages. These items are in date order with most recent first.

Creation Date	Schedule Item Status	Schedule	Schedule Item Name	Replacement Creation Date	Attached Document(s)
04/16/2013		Rate	Section 13 of Group Rate Manual	04/18/2013	Dental Rate Manual - PPO - GENERIC.PDF (Superseded)

## SECTION 13 - GROUP DENTAL INSURANCE

UNION SECURITY INSURANCE COMPANY  
 2323 Grand Blvd  
 Kansas City, MO 64108

	<u>Employee</u>		<u>Spouse</u>		<u>Children Unit</u>	
	In-Network	Out-of-Network	In-Network	Out-of-Network	In-Network	Out-of-Network
<b>Base Rate</b>	Step 1	Step 1	Step 1	Step 1	Step 1	Step 1
<b>Plan Variations</b>						
Deductible	Step 2	Step 2	Step 2	Step 2	Step 2	Step 2
Benefit Rate	Step 3	Step 3	Step 3	Step 3	Step 3	Step 3
Family Deductible	Step 4	Step 4	Step 4	Step 4	Step 4	Step 4
4th Quarter Carryover	Step 5	Step 5	Step 5	Step 5	Step 5	Step 5
Annual Max Benefit	Step 6	Step 6	Step 6	Step 6	Step 6	Step 6
Preventive Max Waiver	Step 7	Step 7	Step 7	Step 7	Step 7	Step 7
Timely / Late Entrant	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3	Step 8.1, 8.3
Graded Coinsurance Option	Step 8.2	Step 8.2	Step 8.2	Step 8.2	Step 8.2	Step 8.2
Filling Wait Period	Step 9	Step 9	Step 9	Step 9	Step 9	Step 9
Allowable Charge	Step 10	Step 10	Step 10	Step 10	Step 10	Step 10
Procedure Categories	Step 11	Step 11	Step 11	Step 11	Step 11	Step 11
<b>Initial Claim Cost</b>	Step 12	Step 12	Step 12	Step 12	Step 12	Step 12
PPO Distribution	Step 13	Step 13	Step 13	Step 13	Step 13	Step 13
PPO Allowed	Step 14	Step 14	Step 14	Step 14	Step 14	Step 14
<b>Blended Claim Cost</b>	Step 15		Step 15		Step 15	
<b>Age and Frequency Limits</b>						
Oral Exam Frequency	Step 16		Step 16		Step 16	
Cleaning Frequency	Step 17		Step 17		Step 17	
Topical Fluoride Age	Step 18		Step 18		Step 18	
Sealant Age	Step 19		Step 19		Step 19	
Denture / Bridge / Crown replace	Step 20		Step 20		Step 20	
Root Canal Retreatment	Step 21		Step 21		Step 21	
Restorations	Step 22		Step 22		Step 22	
Bitewing frequency	Step 23		Step 23		Step 23	
Complete Series / Panoramic frequency	Step 24		Step 24		Step 24	
Perio Scaling and Root Planing	Step 25		Step 25		Step 25	
<b>Adjustment Factors</b>						
Area	Step 26		Step 26		Step 26	
Industry	Step 27		Step 27		Step 27	
Contribution	Step 28		Step 28		Step 28	
Participation	Step 29		Step 29		Step 29	
Prior Coverage	Step 30		Step 30		Step 30	
Case Size	Step 31		Step 31		Step 31	
Age / Gender	Step 32		Step 32		Step 32	
State Variations	Step 33		Step 33		Step 33	
Administration	Step 34		Step 34		Step 34	
Enrollment	Step 35		Step 35		Step 35	
Trend	Step 36		Step 36		Step 36	
Deductible Basis	Step 37		Step 37		Step 37	
Duration	Step 38		Step 38		Step 38	
Rate Guarantee / Cap	Step 39 & 40		Step 39 & 40		Step 39 & 40	

SECTION 13 - GROUP DENTAL INSURANCE

**Additional Contract Features**

Composite Fillings Posterior	Step 41	Step 41	Step 41
Add Implant Coverage	Step 42	Step 42	Step 42
Porcelain Crowns - Posterior	Step 43	Step 43	Step 43
Tooth Whitening	Step 44	Step 44	Step 44
Debridement	Step 45	Step 45	Step 45
Remove missing tooth exclusion	Step 46	Step 46	Step 46
Non-surgical TMJ	Step 47	Step 47	Step 47
Occlusal Guards	Step 48	Step 48	Step 48

<b>Net Dental Rate</b>	Step 49	Step 49	Step 49
Expense Load	Step 50	Step 50	Step 50
PPO Access Fee	Step 51	Step 51	Step 51
Vision discount	Step 52	Step 52	Step 52
<b>Gross Dental Rate</b>	Step 53	Step 53	Step 53

		<u>Gross Rate</u>	<u>FSM Load</u>
Rate Tier:	EE	Step 54	Steps 55.1 & 55.2
	EE+SP	Step 54	Steps 55.1 & 55.2
	EE+CH	Step 54	Steps 55.1 & 55.2
	EE+FAM	Step 54	Steps 55.1 & 55.2

**Orthodontia**

Base Plan Amount	Step O-1	Step O-1	Step O-1	Step O-1	Step O-1	Step O-1
Coinsurance and Lifetime Max	Step O-2	Step O-2	Step O-2	Step O-2	Step O-2	Step O-2
Timely Applicant Deferral Period	Step O-3	Step O-3	Step O-3	Step O-3	Step O-3	Step O-3
<b>Initial Ortho Claim Cost</b>	Step O-4	Step O-4	Step O-4	Step O-4	Step O-4	Step O-4
Distribution	Step O-5	Step O-5	Step O-5	Step O-5	Step O-5	Step O-5
PPO Discount	Step O-6	Step O-6	Step O-6	Step O-6	Step O-6	Step O-6
<b>Blended Ortho Claim Cost</b>	Step O-7		Step O-7		Step O-7	
<b>Rate Adjustment Factors:</b>						
Area	Step O-8		Step O-8		Step O-8	
Industry	Step O-9		Step O-9		Step O-9	
Participation	Step O-10		Step O-10		Step O-10	
Case Size	Step O-11		Step O-11		Step O-11	
Ortho Size	Step O-12		Step O-12		Step O-12	
<b>Net Ortho Rate</b>	Step O-13		Step O-13		Step O-13	
Expense Load	Step O-14		Step O-14		Step O-14	

<b>Gross Ortho Rate</b>	<b>Step O-15</b>	<b>Step O-15</b>	<b>Step O-15</b>
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	<u>Final Dental Rate</u>	<u>Experience Rate Blend</u>	<u>Post-Manual Adjustments</u>
EE	Step 56	Step 57	Step 58
EE+SP	Step 56	Step 57	Step 58
EE+CH	Step 56	Step 57	Step 58
EE+FAM	Step 56	Step 57	Step 58

## SECTION 13 - GROUP DENTAL INSURANCE

The calculation of a monthly premium rate for the Group Dental Plan begins with a set of base rates. Variations are recognized by means of adjustments to these base rates. A further set of Rate Adjustment Factors reflects differences in group employer and employee characteristics. All the rates and factors in this manual are subject to change as experience dictates.

The rates for the Dental Plan are determined separately for employees, spouses and children.

The rating factors in this manual apply to both our contracts with the standard definition of children and our "Wrap" contracts that do not cover your state's definition of pediatric age children. Where a rating step differs between the two contracts, we will distinguish the factors using the naming "Standard Contract" and "Wrap Contract."

### Step 1 - Base Rates

The monthly base rates are:

	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
Standard Contract	25.089	24.372	36.220
Wrap Contract	25.089	24.372	19.160

SECTION 13 - GROUP DENTAL INSURANCE

Plan Variations

Certain variations in the benefit plan are considered to have measurable effect on the premium rates. These are listed in the following steps along with factors to be applied in the rate calculation. The base rates are multiplied by the applicable factors. Additional variations may be possible in some cases, and these are to be determined and evaluated by the Group Actuarial Department.

**Step 2** - Deductible

Deductible applies to Preventive, Basic and Major services combined or is waived for Preventive services. Factors for values chosen between listed deductibles are determined by interpolation.

**Combined**

<u>Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
0	1.169	1.176	1.234
25	1.049	1.050	1.001
30	1.023	1.026	0.954
40	0.971	0.978	0.859
50	0.919	0.930	0.765
60	0.904	0.914	0.706
70	0.887	0.898	0.646
75	0.880	0.890	0.616
80	0.874	0.884	0.584
90	0.865	0.871	0.520
100	0.854	0.859	0.456
200	0.797	0.806	0.267
250	0.771	0.780	0.216
300	0.754	0.762	0.180

**Waived**

<u>Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
0	1.169	1.176	1.234
25	1.075	1.076	1.149
30	1.061	1.061	1.120
40	1.030	1.031	1.060
50	1.000	1.000	1.000
60	0.981	0.982	0.975
70	0.963	0.966	0.952
75	0.953	0.957	0.939
80	0.950	0.954	0.932
90	0.942	0.947	0.915
100	0.934	0.940	0.899
200	0.875	0.883	0.757
250	0.849	0.857	0.721
300	0.832	0.841	0.685

SECTION 13 - GROUP DENTAL INSURANCE

**Step 3** - Benefit Rate

These factors adjust the rate for the coinsurance levels selected for each of the dental classes.

Factors for values chosen between listed values are determined by interpolation.

$$\text{Employee Factor} = 1 + \text{Employee Preventive Factor} + \text{Employee Basic Factor} + \text{Employee Major Factor}$$

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.358	-0.310
10	n/a	-0.314	-0.240
20	n/a	-0.269	-0.180
25	n/a	-0.246	-0.132
30	n/a	-0.224	-0.105
40	n/a	-0.200	-0.070
50	-0.173	-0.170	0.000
55	-0.156	-0.125	0.028
60	-0.139	-0.125	0.060
65	-0.121	-0.095	0.128
70	-0.104	-0.045	0.181
75	-0.094	-0.026	0.223
80	-0.079	0.000	0.265
85	-0.054	0.020	n/a
90	-0.035	0.055	n/a
95	-0.017	0.100	n/a
100	0.000	0.160	n/a

$$\text{Spouse Factor} = 1 + \text{Spouse Preventive Factor} + \text{Spouse Basic Factor} + \text{Spouse Major Factor}$$

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.326	-0.310
10	n/a	-0.286	-0.260
20	n/a	-0.245	-0.200
25	n/a	-0.224	-0.150
30	n/a	-0.204	-0.119
40	n/a	-0.184	-0.065
50	-0.159	-0.158	0.000
55	-0.143	-0.115	0.033
60	-0.127	-0.115	0.071
65	-0.111	-0.083	0.145
70	-0.100	-0.041	0.205
75	-0.087	-0.021	0.252
80	-0.074	0.000	0.293
85	-0.050	0.020	n/a
90	-0.032	0.050	n/a
95	-0.016	0.092	n/a
100	0.000	0.149	n/a



SECTION 13 - GROUP DENTAL INSURANCE

Child Factor = 1 + Child Preventive Factor + Child Basic Factor + Child Major Factor

<u>Coinsurance</u>	<u>Preventive</u>	<u>Basic</u>	<u>Major</u>
0	n/a	-0.480	-0.058
10	n/a	-0.420	-0.047
20	n/a	-0.360	-0.035
25	n/a	-0.330	-0.029
30	n/a	-0.300	-0.023
40	n/a	-0.285	-0.017
50	-0.239	-0.262	0.000
55	-0.215	-0.228	0.005
60	-0.191	-0.184	0.019
65	-0.167	-0.135	0.029
70	-0.144	-0.088	0.041
75	-0.120	-0.038	0.050
80	-0.092	0.000	0.055
85	-0.072	0.030	n/a
90	-0.048	0.057	n/a
95	-0.024	0.113	n/a
100	0.000	0.130	n/a

SECTION 13 - GROUP DENTAL INSURANCE

**Step 4** - Family Deductible

Deductible is limited to a certain number of family members satisfying their individual deductibles.

<u>Family Deductible</u>	<u>Employee</u>	<u>Spouse</u>	<u>Child</u>
Individual	1.000	1.000	1.000
2 Members	1.000	1.000	1.022
3 Members	1.000	1.000	1.020

## SECTION 13 - GROUP DENTAL INSURANCE

### Step 5 - Fourth Quarter Carryover

Covered dental expenses used to satisfy the deductible in the last 3 months of a benefit year will also be applied to the deductible for the next benefit year.

If fourth quarter carryover applies then multiply the Employee, Spouse, and Child rate by 1.05

SECTION 13 - GROUP DENTAL INSURANCE

**Step 6** - Annual Max Benefit

The annual maximum rating factor is based on the dollar amount of the plan's annual maximum and the richness of the plan design. The annual maximum factor comes from the table in Step D which uses the benefit factor to determine if the plan is "Low," "Medium," or "High." If the plan does not cover Type 3 or Type 2 Services, the annual maximums from the "No Major" or "Preventive Only" columns should be used, respectively.

Calculation of Annual Maximum Factor:

A Determine the Area Index per the following table, using the Area Factor (derived in Step 26).

Area Factor	Area Index
< 0.85	0.80
0.85 to 0.94	0.90
0.95 to 1.04	1.00
1.05 to 1.19	1.10
1.20 +	1.20

B Benefit Factor = (Rate of benefit factor (Step 3)) \* (Area Index (Step 6-A)) \* Waiting Period Factor (Step 8) \* Procedure Category Factor (Step 11)

C Table Determination

Benefit Factor	Table
< 0.94	Low
0.94 to 1.29	Medium
>= 1.29	High
No Type 3	No Major
No Type 2 or 3	Preventive Only

SECTION 13 - GROUP DENTAL INSURANCE

D Use the Annual Maximum Table shown below.

<u>Maximum</u>	<u>Low</u>		<u>Medium</u>		<u>High</u>		<u>No Major</u>		<u>Preventive Only</u>	
	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>	<u>Adult</u>	<u>Child</u>
500	0.874	0.940	0.849	0.904	0.815	0.886	0.937	0.961	0.998	0.998
600	0.905	0.956	0.886	0.925	0.844	0.905	0.960	0.973	1.000	1.000
700	0.937	0.972	0.921	0.944	0.877	0.924	0.980	0.985	1.000	1.000
750	0.952	0.980	0.937	0.952	0.894	0.933	0.989	0.990	1.000	1.000
800	0.967	0.988	0.954	0.961	0.913	0.942	0.998	0.995	1.000	1.000
900	0.999	1.004	0.983	0.981	0.931	0.961	1.005	0.996	1.000	1.000
1000	1.030	1.020	1.000	1.000	0.960	0.980	1.015	0.997	1.000	1.000
1100	1.050	1.032	1.032	1.011	1.003	1.000	1.038	1.002	1.000	1.000
1200	1.069	1.043	1.052	1.017	1.029	1.020	1.048	1.020	1.000	1.000
1250	1.081	1.048	1.063	1.022	1.045	1.030	1.056	1.026	1.000	1.000
1300	1.090	1.054	1.072	1.028	1.062	1.039	1.061	1.028	1.000	1.000
1400	1.102	1.062	1.094	1.039	1.096	1.059	1.068	1.032	1.000	1.000
1500	1.147	1.079	1.153	1.079	1.150	1.079	1.075	1.036	1.000	1.000
1600	1.163	1.095	1.169	1.094	1.175	1.095	1.081	1.039	1.000	1.000
1700	1.182	1.112	1.187	1.110	1.198	1.112	1.086	1.042	1.000	1.000
1750	1.193	1.120	1.200	1.119	1.211	1.120	1.087	1.043	1.000	1.000
1800	1.202	1.128	1.214	1.128	1.224	1.128	1.089	1.043	1.000	1.000
1900	1.222	1.145	1.236	1.144	1.251	1.145	1.092	1.045	1.000	1.000
2000	1.262	1.161	1.279	1.161	1.303	1.161	1.093	1.046	1.000	1.000
2250	1.306	1.184	1.323	1.183	1.350	1.165	1.094	1.046	1.000	1.000
2500	1.332	1.206	1.349	1.206	1.377	1.194	1.095	1.047	1.000	1.000
2750	1.357	1.229	1.376	1.229	1.405	1.229	1.096	1.047	1.000	1.000
3000	1.383	1.251	1.401	1.251	1.431	1.251	1.096	1.048	1.000	1.000

SECTION 13 - GROUP DENTAL INSURANCE

**Step 7** Preventive Maximum Waiver

With Preventive Maximum Waiver a member's preventive (class 1) claims are not counted against the member's annual maximum. If this option is chosen by the group use the rating factors below; otherwise, use a 1.00 factor in this step.

Annual Maximum	Preventive Max. Waiver Factor	
	Adult	Child
500	1.050	1.039
600	1.047	1.037
700	1.043	1.035
750	1.042	1.033
800	1.040	1.032
900	1.037	1.030
1000	1.033	1.027
1100	1.028	1.021
1200	1.022	1.015
1250	1.021	1.020
1300	1.021	1.019
1400	1.020	1.017
1500	1.019	1.015
1600	1.018	1.014
1700	1.016	1.013
1750	1.016	1.012
1800	1.015	1.012
1900	1.014	1.010
2000	1.012	1.009
2250	1.011	1.008
2500	1.009	1.006

SECTION 13 - GROUP DENTAL INSURANCE

**Step 8.1** - Waiting Period for Timely Applicants

The insured group can elect a waiting period for Major services that applies to timely applicants. In lieu of a waiting period, a graded coinsurance schedule can be chosen in the next step. If graded coinsurance is selected, the rating factor for this step will be 1.000.

Waiting Period (Months)	Prior Coverage		No Prior Coverage	
	Adult	Child	Adult	Child
0	1.068	1.010	1.030	1.000
6	1.043	1.005	1.013	1.000
12	1.000	1.000	0.887	0.990
24	0.939	1.000	0.803	0.990

**Step 8.2** - Graded Coinsurance Option for Major Services

If selected, this option pays a scheduled coinsurance benefit for Major services for each plan year. For example, the 10/25/50 option below pays 10% coinsurance for Major in the first year, 25% in the second year, and 50% in the third and subsequent years. No waiting period for timely applicants will apply if one of these options is selected.

Graded Coinsurance Option	Prior Coverage		No Prior Coverage	
	Adult	Child	Adult	Child
None	1.000	1.000	1.000	1.000
10/25/50	0.948	1.000	0.884	1.000
25/50/50	1.000	1.000	1.000	1.000

SECTION 13 - GROUP DENTAL INSURANCE

**Step 8.3** - Late Entrant Limitation

This factor adjusts for the available late entrant limitation options.

Late Entrant Limitation	Factor
None (UW only)	1.0000
12m Basic & Major	1.0000
12m Basic, 24m Major	0.9956
0m Basic, 12m Major	1.0083



SECTION 13 - GROUP DENTAL INSURANCE

**Step 9** - Filling Wait Period

This factor adjusts for the option to include a waiting period for restorations.

Wait Period (months)	Factor - Adult	Factor - Child
0	1.000	1.000
6	0.982	0.987

SECTION 13 - GROUP DENTAL INSURANCE

**Step 10** - Allowable Charges

The allowable charge percentile adjustment factor is:

Allowable Charge Percentile	Factor
50	0.930
60	0.950
70	0.970
75	0.980
80	0.985
85	0.990
90	1.000
95	1.005

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 11 Procedure Category Movement**

Some procedure categories may be moved to other classes (preventive / basic / major). The rating factor is equal to the weight of the changing category from the table below times the coinsurance difference below times the coinsurance difference between the selected class and the base class. A multiplier is then applied to the adjustment. An example is included on the next page. **For the "Wrap Contract," Stainless Steel Crowns and Space Maintainers for Children are not covered, and rates are adjusted per this procedure.**

Procedure Category	Base Class	Member	Paid Distribution
Oral Evaluations	1	Adult	10.62%
Prophylaxis	1	Adult	18.50%
Fluoride	1	Adult	0.01%
Fluoride Plus Propy	1	Adult	0.00%
X-rays - Bitewings	1	Adult	5.27%
X-rays - Complete Series / Pano	1	Adult	3.70%
X-rays - Intraoral/Extraoral/Oth.	1	Adult	0.99%
Lab and Other Tests	1	Adult	0.01%
Other Preventitive	1	Adult	0.00%
Emergency	2	Adult	0.14%
Space Maintainers	2	Adult	0.00%
Simple Extraction	2	Adult	2.13%
Surgical Extractions	2	Adult	2.97%
Oral Surgery	2	Adult	0.16%
Anesthesia	2	Adult	0.33%
Drugs	2	Adult	0.00%
Restorations	2	Adult	18.47%
Perio - Minor	2	Adult	5.84%
Perio - Major (surgical)	2	Adult	1.18%
Endodontics	2	Adult	8.66%
Repair	2	Adult	0.19%
Inlays/Onlays/Crowns	3	Adult	16.41%
Stainless Steel Crowns	3	Adult	0.00%
Dentures	3	Adult	1.75%
Bridges	3	Adult	1.97%
Other Prosthetics	3	Adult	0.16%
Implant Services	3	Adult	0.26%
Misc.	3	Adult	0.20%
Consultation	3	Adult	0.04%
Veneer	3	Adult	0.03%
Professional Visits	3	Adult	0.00%
Oral Evaluations	1	Child	15.62%
Prophylaxis	1	Child	24.26%
Fluoride	1	Child	5.13%
Fluoride Plus Propy	1	Child	0.01%
X-rays - Bitewings	1	Child	7.05%
X-rays - Complete Series / Pano	1	Child	3.17%
X-rays - Intraoral/Extraoral/Oth.	1	Child	0.75%
Lab and Other Tests	1	Child	0.01%
Other Preventitive	1	Child	4.08%
Emergency	2	Child	0.07%
Space Maintainers	2	Child	0.69%
Simple Extraction	2	Child	3.24%
Surgical Extractions	2	Child	7.25%
Oral Surgery	2	Child	0.37%
Anesthesia	2	Child	1.45%
Drugs	2	Child	0.01%
Restorations	2	Child	21.65%
Perio - Minor	2	Child	0.26%
Perio - Major (surgical)	2	Child	0.22%
Endodontics	2	Child	2.41%
Repair	2	Child	0.01%
Inlays/Onlays/Crowns	3	Child	1.28%
Stainless Steel Crowns	3	Child	0.83%
Dentures	3	Child	0.01%
Bridges	3	Child	0.05%
Other Prosthetics	3	Child	0.00%
Implant Services	3	Child	0.02%
Misc.	3	Child	0.06%
Consultation	3	Child	0.03%
Veneer	3	Child	0.02%
Professional Visits	3	Child	0.00%

SECTION 13 - GROUP DENTAL INSURANCE

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**Example:** Move X-rays - Bitewings from Class 1 to Class 2, where Class 1 coinsurance = 100% and Class 2 coinsurance is 80% for a selected plan (note: the coinsurance levels will vary from plan to plan).

$$\text{Coinsurance difference} = 80\% - 100\% = -20\%$$

X-rays - Bitewings weights:

Adult	5.27%
Child	7.05%

Adjustments:

Adult	-1.1%	= 5.27% x -20%
Child	-1.4%	= 7.05% x -20%

<u>Adjustment</u>	<u>Multiplier</u>
-100%	1.00
-20%	2.00
-15%	3.30
-10%	3.30
-5%	3.30
0%	3.30

Since the adjustments are less than zero but greater than -5%, the multiplier is 3.30, so the final rating factors are:

Adult	<b>0.965</b>	= (-1.1% x 3.30) + 1
Child	<b>0.953</b>	= (-1.4% x 3.30) + 1

The multiplier is an adjustment for expected utilization differences by an insured group who selects an alternate plan design. They are based on prior experience for the limited procedure group movement available in our existing dental plans.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 12 Initial Claim Cost**

Initial Claim Cost = Product of Steps 1 through 11

SECTION 13 - GROUP DENTAL INSURANCE

**Step 13 - Distribution**

The distribution factor is the assumed percent of claims serviced by PPO dentists, and therefore subject to reduced fees negotiated with network dentists. The final distribution factor is the output of a regression formula that considers the percentage of dentists contracted with Union Security's provider network ("Baseline Penetration") and adjusts for anticipated "steerage" toward in-network dentists, depending on the relative richness of the in-network benefits versus the out-of-network benefits.

The Baseline Penetration figures are the percentage of total practicing dentists in a given 3-digit zip code region that are contracted with Union Security's dental network.

**Benefits Selected:**

	In-Network (A)	Out-of-Network (B)	Difference (A-B)
Type 1 Coinsurance	<b>Input as selected on a group-by-group basis.</b>		
Type 2 Coinsurance			
Type 3 Coinsurance			
Deductible			
Annual Max			

**Regression Calculation:**

	Coefficients (C)	Difference (A-B)	Products (A-B) x C
Type 1 Diff	0.004677		
Type 2 Diff	0.004281		
Type 3 Diff	0.002316		
Deduct Diff	-0.000474		
<i>Baseline Penetration</i>	0.613641	lookup from table	
Max Difference	0.000075		

**Final Distribution Ratio:**

Sum of Products

**Example:**

In-network benefits: 100 / 90 / 60 coinsurance with a \$50 deductible and a \$1,500 annual max  
 Out-of-network benefits: 100 / 80 / 50 coinsurance with a \$50 deductible and a \$1,000 annual max

	Difference (A-B)	Coefficients (C)	Products (A-B) x C
Type 1 Diff	= 100 - 100 = 0	0.004677	0
Type 2 Diff	= 90 - 80 = 10	0.004281	0.042814557
Type 3 Diff	= 60 - 50 = 10	0.002316	0.023163254
Deduct Diff	= 50 - 50 = 0	-0.000474	0
<i>Baseline Penetration</i>	40%	0.613641	0.245456356
Max Difference	= 1500 - 1000 = 500	0.000075	0.037648197

Percent weight to place on in-network initial plan rate: 34.9%

SECTION 13 - GROUP DENTAL INSURANCE

**Step 14** - PPO Discount

This factor represents the impact of reduced fees agreed to by dentists contracted with Union Security's provider network. The discounts are calculated by comparing dentists' fee schedules to the regularly updated usual and customary average provider charges by 3-digit zip code.

The out-of-network factors for maximum allowable charge (MAC) plans are shown below. Use 1.00 for plans other than MAC plans.

<b>MAC Type</b>	<b>Out-of-Network Factor</b>
None	1.000
20% off the 80th	0.790
45% off the 80th	0.590



SECTION 13 - GROUP DENTAL INSURANCE

**Step 15** - Blended Claim Cost

$$\text{Blended Claim Cost} = (\text{In-Network Initial Claim Cost} * \text{In-Network Distribution factor} * \text{In-Network PPO Discount factor}) + (\text{Out-of-Network Initial Claim Cost} * [1 - \text{In-Network Distribution factor}] * \text{Out-of-Network PPO Discount factor})$$

SECTION 13 - GROUP DENTAL INSURANCE

**Step 16** - Exam Frequency Options

This factor adjusts for the selected exam frequency limit.

Exam Option	Factor
1 per 6 months	1.000
1 per 12 months	0.960
2 per 12 months	1.002

SECTION 13 - GROUP DENTAL INSURANCE

**Step 17** - Cleaning Frequency Options

This factor adjusts for the selected cleaning frequency limit.

Cleaning Option	Factor
1 per 6 months	1.000
1 per 12 months	0.993
2 per 12 months	1.003
1 per 3 months (UW only)	1.050
4 Standard + Perio (LOS)**	1.004

\*\* Factor does not apply to children rate as perio cleanings are not common for children. Factor is 1.00 if this option is selected.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 18** - Maximum Fluoride Age

This factor adjusts for the limiting age to cover fluoride.

Age Limit	Factor
14	1.000
16	1.003
19	1.008
no age limit	1.011

SECTION 13 - GROUP DENTAL INSURANCE

**Step 19** - Maximum Sealant Age

This factor adjusts for the limiting age to cover sealants. Applies to children rate only. Sealants are not covered on the "Wrap Contract."

Age Limit	Child Factor
14	1.000
16	1.003
19	1.005

SECTION 13 - GROUP DENTAL INSURANCE

**Step 20** - Denture / Bridge / Crown Replacement Frequency

This factor adjusts for the option to increase the replacement frequency for certain major services.

Replacement Frequency	Factor
Once every 10 years	1.000
Once every 7 years	1.003
Once every 5 years	1.006

SECTION 13 - GROUP DENTAL INSURANCE

**Step 21** - Root Canal Retreatment Frequency

This factor adjusts for the option to increase the frequency for retreating root canals.

Frequency	Factor
Retreat after 24 months	1.000
Retreat after 12 months	1.005

SECTION 13 - GROUP DENTAL INSURANCE

**Step 22** - Coverage for Restorations - Number of Surfaces

This factor adjusts for the option to cover restorations only up to 2 surfaces vs the standard 4.

Coverage	Factor
Up to 2 surfaces	0.989
Up to 4 surfaces	1.000



SECTION 13 - GROUP DENTAL INSURANCE

**Step 23** - Bitewing X-ray Frequency

This factor adjusts for the option to increase the frequency for bitewing x-rays.

Frequency	Factor
1 per 12 months	1.000
1 per 6 months	1.006
2 per 12 months	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 24** - Panoramic / Complete Series X-ray Frequency

This factor adjusts for the option to increase the frequency for panoramic & complete series x-rays.

Frequency	Factor
1 per 60 months	1.000
1 per 36 months	1.005
1 per 24 months	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 25** - Perio Scaling and Root Planing

This factor adjusts for the option to increase the frequency for perio scaling and root planing.

Frequency	Factor
1 per 36 months	0.997
1 per 24 months	1.000

## SECTION 13 - GROUP DENTAL INSURANCE

### Step 26 - Area

An area factor is applied by each geographic area. The factors reflect differences in cost and utilization in each geographic area.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 27** - Industry

Industry factors reflect varying levels of utilization and benefit awareness across industries and occupations. This rate manual uses a blended industry factor based on the participation level of the group sponsor. For a given group, the non-voluntary and voluntary factors shown for any given Standard Industrial Classification (SIC) are interpolated based on the participation level of the group. The non-voluntary participation baseline is 80% while the voluntary baseline is 40%. For example, a group with a 6020 SIC and 60% participation would have an industry factor of 1.105. Some industries below have 4.00 factors; these are not intended to be sold, but rather an indication of industries not eligible to be sold this dental coverage.

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
100	199	Agriculture	0.97	0.97
200	299	Agriculture	0.97	0.97
300	399	Agriculture	0.97	0.97
400	499	Agriculture	0.97	0.97
500	599	Agriculture	0.97	0.97
600	699	Agriculture	0.97	0.97
700	739	Agriculture	0.97	0.97
740	749	Agriculture	0.97	0.97
750	759	Agriculture	0.97	0.97
760	780	Agriculture	0.97	0.97
781	781	Agriculture	0.97	0.97
782	782	Agriculture	0.97	0.97
783	799	Agriculture	0.97	0.97
800	899	Agriculture	1.00	0.97
900	999	Agriculture	0.97	0.97
1000	1099	Mining	0.85	0.85
1100	1199	Mining	0.85	0.85
1200	1299	Mining	0.85	0.85
1300	1399	Mining	0.90	0.80
1400	1499	Mining	0.85	0.80
1500	1519	Construction	1.00	0.93
1520	1539	Construction	1.00	0.93
1540	1541	Construction	1.00	0.93
1542	1542	Construction	1.00	0.93
1543	1549	Construction	1.00	0.93
1550	1569	Construction	1.00	0.93
1570	1579	Construction	1.00	0.93
1580	1599	Construction	1.00	0.93
1600	1619	Construction	0.87	0.84
1620	1699	Construction	0.87	0.84
1700	1719	Construction	0.88	0.88
1720	1729	Construction	0.88	0.88
1730	1739	Construction	0.88	0.88
1740	1789	Construction	0.88	0.88
1790	1799	Construction	0.88	0.88
2000	2099	Manufacturing	0.89	0.89

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SIC Code	Range	Description	Non-voluntary	Voluntary
2100	2199	Manufacturing	0.89	0.89
2200	2299	Manufacturing	0.89	0.89
2300	2399	Manufacturing	0.89	0.89
2400	2430	Manufacturing	0.89	0.89
2431	2431	Manufacturing	0.89	0.89
2432	2499	Manufacturing	0.89	0.89
2500	2519	Manufacturing	0.89	0.89
2520	2529	Manufacturing	0.89	0.89
2530	2599	Manufacturing	0.89	0.89
2600	2699	Manufacturing	0.89	0.89
2700	2709	Manufacturing	1.02	1.02
2710	2710	Manufacturing	1.02	1.02
2711	2711	Manufacturing	1.02	1.02
2712	2719	Manufacturing	1.02	1.02
2720	2729	Manufacturing	1.02	1.02
2730	2749	Manufacturing	1.02	1.02
2750	2751	Manufacturing	1.02	1.02
2752	2752	Manufacturing	1.02	1.02
2753	2799	Manufacturing	1.02	1.02
2800	2809	Manufacturing	0.89	0.89
2810	2819	Manufacturing	0.89	0.89
2820	2829	Manufacturing	0.89	0.89
2830	2839	Manufacturing	0.94	0.89
2840	2843	Manufacturing	0.89	0.89
2844	2844	Manufacturing	0.89	0.89
2845	2849	Manufacturing	0.89	0.89
2850	2859	Manufacturing	0.89	0.89
2860	2869	Manufacturing	0.89	0.89
2870	2889	Manufacturing	0.89	0.89
2890	2899	Manufacturing	0.89	0.89
2900	2999	Manufacturing	0.89	0.89
3000	3088	Manufacturing	0.89	0.92
3089	3089	Manufacturing	0.89	0.92
3090	3099	Manufacturing	0.89	0.92
3100	3199	Manufacturing	0.89	0.89
3200	3299	Manufacturing	0.89	0.86
3300	3399	Manufacturing	0.87	0.87
3400	3439	Manufacturing	0.87	0.87
3440	3449	Manufacturing	0.87	0.87
3450	3459	Manufacturing	0.87	0.87
3460	3469	Manufacturing	0.87	0.87
3470	3479	Manufacturing	0.87	0.87
3480	3499	Manufacturing	0.87	0.87
3500	3529	Manufacturing	1.01	0.97
3530	3539	Manufacturing	1.01	0.97
3540	3549	Manufacturing	1.01	0.97

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
3550	3598	Manufacturing	1.01	0.97
3599	3599	Manufacturing	1.01	0.97
3600	3609	Manufacturing	1.12	1.12
3610	3619	Manufacturing	1.12	1.12
3620	3629	Manufacturing	1.12	1.12
3630	3639	Manufacturing	1.12	1.12
3640	3649	Manufacturing	1.12	1.12
3650	3659	Manufacturing	1.12	1.12
3660	3669	Manufacturing	1.12	1.12
3670	3673	Manufacturing	1.12	1.12
3674	3674	Manufacturing	1.12	1.12
3675	3679	Manufacturing	1.12	1.12
3680	3689	Manufacturing	1.12	1.12
3690	3699	Manufacturing	1.12	1.12
3700	3799	Manufacturing	0.98	0.95
3800	3840	Manufacturing	1.09	1.09
3841	3841	Manufacturing	1.09	1.09
3842	3899	Manufacturing	1.09	1.09
3900	3999	Manufacturing	0.97	0.97
4000	4099	Transportation	0.90	0.90
4100	4199	Transportation	0.90	0.90
4200	4212	Transportation	0.81	0.81
4213	4213	Transportation	0.81	0.81
4214	4219	Transportation	0.81	0.81
4220	4299	Transportation	0.89	0.89
4300	4399	Transportation	0.90	0.90
4400	4499	Transportation	0.90	0.90
4500	4599	Transportation	0.90	0.90
4600	4699	Transportation	0.90	0.90
4700	4799	Transportation	0.90	0.90
4800	4812	Communication	1.00	1.00
4813	4813	Communication	1.00	1.00
4814	4829	Communication	1.00	1.00
4830	4898	Communication	1.00	1.00
4899	4899	Communication	1.00	1.00
4900	4999	Transportation	0.98	0.91
5000	5009	Trade	0.85	0.94
5010	5019	Trade	0.85	0.94
5020	5029	Trade	0.96	0.96
5030	5039	Trade	0.96	0.92
5040	5049	Trade	1.13	0.96
5050	5059	Trade	0.85	0.94
5060	5069	Trade	1.06	1.08
5070	5079	Trade	0.94	0.94
5080	5089	Trade	0.96	0.96
5090	5099	Trade	0.96	0.96

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
5100	5139	Trade	0.96	0.96
5140	5149	Trade	0.96	0.96
5150	5199	Trade	0.96	0.96
5200	5269	Trade	0.96	0.96
5270	5299	Trade	0.96	0.96
5300	5399	Trade	0.87	0.88
5400	5499	Trade	0.92	1.00
5500	5599	Trade	0.98	0.98
5600	5699	Trade	1.06	0.94
5700	5799	Trade	1.03	1.05
5800	5812	Trade	0.85	0.85
5813	5899	Trade	0.85	0.85
5900	5999	Trade	0.94	0.94
6000	6019	Finance	1.03	1.18
6020	6029	Finance	1.03	1.18
6030	6060	Finance	1.03	1.18
6061	6061	Finance	1.03	1.18
6062	6062	Finance	1.03	1.18
6063	6099	Finance	1.03	1.18
6100	6161	Finance	1.03	1.06
6162	6162	Finance	1.03	1.06
6163	6199	Finance	1.03	1.06
6200	6210	Finance	0.97	1.13
6211	6211	Finance	0.97	1.13
6212	6281	Finance	0.97	1.13
6282	6282	Finance	0.97	1.13
6283	6299	Finance	0.97	1.13
6300	6399	Finance	1.05	1.08
6400	6410	Finance	1.05	1.25
6411	6411	Finance	1.05	1.25
6412	6499	Finance	1.05	1.25
6500	6509	Finance	0.93	1.00
6510	6511	Finance	0.93	1.00
6512	6512	Finance	0.93	1.00
6513	6519	Finance	0.93	1.00
6520	6529	Finance	0.93	1.00
6530	6530	Finance	0.93	1.00
6531	6531	Finance	0.93	1.00
6532	6539	Finance	0.93	1.00
6540	6549	Finance	0.93	1.00
6550	6559	Finance	1.00	1.00
6560	6599	Finance	0.93	1.00
6600	6699	Finance	0.93	1.10
6700	6799	Finance	0.97	1.05
7000	7099	Services	0.99	0.90
7200	7299	Services	1.04	0.96



## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
7300	7309	Services	0.95	0.95
7310	7310	Services	0.95	0.98
7311	7311	Services	0.95	0.98
7312	7319	Services	0.95	0.98
7320	7329	Services	0.95	0.95
7330	7339	Services	0.95	0.95
7340	7348	Services	0.95	0.95
7349	7349	Services	0.95	0.95
7350	7359	Services	0.95	0.95
7360	7369	Services	0.95	0.95
7370	7372	Services	0.98	1.03
7373	7373	Services	0.98	1.03
7374	7379	Services	0.98	1.03
7380	7391	Services	0.95	0.95
7392	7392	Services	0.95	0.95
7393	7399	Services	0.95	0.95
7500	7599	Services	0.94	0.90
7600	7699	Services	0.90	0.96
7800	7819	Services	0.96	4.00
7820	7829	Services	0.96	1.15
7830	7839	Services	0.96	0.90
7840	7849	Services	0.96	1.00
7910	7919	Services	0.98	1.03
7920	7929	Services	1.05	1.00
7930	7939	Services	0.98	0.85
7940	7949	Services	0.98	4.00
7991	7991	Services	0.98	1.03
7992	7992	Services	0.98	0.94
7993	7995	Services	0.98	1.08
7996	7996	Services	0.98	1.08
7997	7997	Services	0.98	1.08
7998	7998	Services	0.98	1.08
7999	7999	Services	0.98	1.08
8000	8009	Health Services	1.02	1.08
8010	8019	Health Services	1.02	1.08
8020	8029	Health Services	1.02	1.08
8030	8039	Health Services	1.02	1.08
8040	8049	Health Services	1.02	1.08
8050	8050	Health Services	1.02	0.94
8051	8051	Health Services	1.02	0.94
8052	8059	Health Services	1.02	0.94
8060	8060	Health Services	1.08	1.02
8061	8061	Health Services	1.08	1.02
8062	8068	Health Services	1.08	1.02
8069	8069	Health Services	1.08	1.02
8070	8071	Health Services	0.95	0.97
8072	8079	Health Services	0.95	0.99

## SECTION 13 - GROUP DENTAL INSURANCE

<u>SIC Code</u>	<u>Range</u>	<u>Description</u>	<u>Non-voluntary</u>	<u>Voluntary</u>
8080	8089	Health Services	1.08	1.02
8090	8092	Health Services	0.94	1.02
8093	8093	Health Services	0.94	1.02
8094	8099	Health Services	0.94	1.02
8100	8199	Services	1.04	1.17
8200	8209	Services	1.11	1.22
8210	8219	Services	1.11	1.22
8220	8229	Services	1.03	1.28
8230	8239	Services	1.08	1.16
8240	8249	Services	1.08	1.16
8250	8289	Services	1.08	1.16
8290	8299	Services	1.08	1.16
8300	8399	Services	0.97	0.97
8400	8499	Services	1.09	1.10
8600	8610	Services	0.99	1.23
8611	8611	Services	0.99	1.23
8612	8619	Services	0.99	1.23
8620	8629	Services	0.99	1.23
8630	8639	Services	0.99	1.10
8640	8659	Services	0.99	1.23
8660	8669	Services	0.99	1.21
8670	8698	Services	0.99	1.23
8699	8699	Services	0.99	1.23
8710	8719	Services	1.03	1.04
8720	8729	Services	1.09	1.04
8730	8739	Services	1.07	1.04
8740	8799	Services	0.99	1.09
8900	8999	Services	1.01	1.15
9100	9199	Public Admin	0.82	1.09
9200	9299	Public Admin	0.88	1.17
9300	9399	Public Admin	0.88	1.08
9400	9499	Public Admin	0.88	1.04
9500	9599	Public Admin	0.88	1.04
9600	9699	Public Admin	0.88	1.04
9700	9799	Public Admin	0.88	1.04
9900	9999	Misc.	0.94	1.04

SECTION 13 - GROUP DENTAL INSURANCE

**Step 28** - Contribution Level

This factor adjusts rates for high levels of employer contribution.

EER Contrib level	Factor
EER contributes 50% or more of plan premium	0.990
EER contributes less than 50% of plan premium	1.000

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 29** - Participation

The rates in this manual assume a certain level of employee and dependent participation. To the extent this level varies, the premium rates must be adjusted. Multiply the rates by the factor below based on the participation level of the group.

Participation	Factor
1%	1.230
2%	1.230
3%	1.230
4%	1.230
5%	1.230
6%	1.230
7%	1.230
8%	1.230
9%	1.230
10%	1.230
11%	1.230
12%	1.230
13%	1.230
14%	1.230
15%	1.230
16%	1.230
17%	1.230
18%	1.230
19%	1.230
20%	1.171
21%	1.171
22%	1.171
23%	1.171
24%	1.171
25%	1.171
26%	1.171
27%	1.171
28%	1.171
29%	1.171
30%	1.171
31%	1.171
32%	1.171
33%	1.171
34%	1.171
35%	1.171
36%	1.171
37%	1.171
38%	1.171
39%	1.171
40%	1.171
41%	1.169
42%	1.168
43%	1.166
44%	1.165
45%	1.163

## SECTION 13 - GROUP DENTAL INSURANCE

46%	1.162
47%	1.160
48%	1.159
49%	1.157
50%	1.156
51%	1.152
52%	1.148
53%	1.143
54%	1.139
55%	1.134
56%	1.129
57%	1.124
58%	1.119
59%	1.114
60%	1.108
61%	1.103
62%	1.097
63%	1.091
64%	1.085
65%	1.079
66%	1.073
67%	1.066
68%	1.060
69%	1.054
70%	1.048
71%	1.041
72%	1.035
73%	1.029
74%	1.023
75%	1.017
76%	1.011
77%	1.006
78%	1.000
79%	0.995
80%	0.990
81%	0.985
82%	0.980
83%	0.975
84%	0.971
85%	0.967
86%	0.967
87%	0.967
88%	0.967
89%	0.967
90%	0.967
91%	0.967
92%	0.967
93%	0.967
94%	0.967
95%	0.967
96%	0.967
97%	0.967
98%	0.967
99%	0.967
100%	0.967

SECTION 13 - GROUP DENTAL INSURANCE

**Step 30** - Prior Coverage

This factor is based on whether or not and what kind of dental coverage a group had in the past.

Status	Employee/Spouse	Child
Prior coverage incl Major	1.00	1.00
Prior coverage excl Major	1.04	1.00
No prior coverage	1.07	1.02

SECTION 13 - GROUP DENTAL INSURANCE

**Step 31** - Case Size

This factor is based on the number of participating employees in the dental plan, and is a reflection of higher per unit experience for smaller case sizes due to the highly controllable nature of dental benefits and the resulting ability for covered groups to select against the plan.

EE LIVES	SIZE FACTOR
1	1.145
2	1.145
3	1.145
4	1.145
5	1.145
6	1.145
7	1.145
8	1.145
9	1.145
10	1.131
11	1.118
12	1.105
13	1.092
14	1.078
15	1.065
16	1.052
17	1.038
18	1.038
19	1.037
20	1.036
21	1.035
22	1.035
23	1.034
24	1.033
25	1.033
26	1.032
27	1.031
28	1.030
29	1.030
30	1.029
31	1.028
32	1.027
33	1.027
34	1.026
35	1.025
36	1.025
37	1.024
38	1.023
39	1.022
40	1.021
41	1.020
42	1.018
43	1.016
44	1.015
45	1.013
46	1.012
47	1.010
48	1.009

SECTION 13 - GROUP DENTAL INSURANCE

	49	1.007
	50	1.007
	51	1.006
	52	1.006
	53	1.006
	54	1.005
	55	1.005
	56	1.005
	57	1.004
	58	1.004
	59	1.004
	60	1.004
	61	1.003
	62	1.003
	63	1.003
	64	1.002
	65	1.002
	66	1.002
	67	1.001
	68	1.001
	69	1.001
	70	1.000
	71	1.000
	72	1.000
	73	0.999
	74	0.999
	75	0.999
	76	0.999
	77	0.998
	78	0.998
	79	0.998
	80	0.997
	81	0.997
	82	0.997
	83	0.996
	84	0.996
	85	0.996
	86	0.995
	87	0.995
	88	0.995
	89	0.995
	90	0.994
	91	0.994
	92	0.994
	93	0.993
	94	0.993
	95	0.993
	96	0.992
	97	0.992
	98	0.992
	99	0.992
Equal to or More than	100	0.991



SECTION 13 - GROUP DENTAL INSURANCE

**Step 32** - Age and Gender Content

To determine the employee rate an adjustment is based upon the age and gender mix of the insured employees. The tables below give the appropriate factors:

These factors are not applied in states that prohibit them.

<b>Age:</b>	<b>Factor</b>	<b>% female:</b>	<b>Factor</b>
0 - 29	0.985	0%	0.969
30 - 34	0.990	10%	0.975
35 - 39	0.995	20%	0.981
40 - 44	1.000	30%	0.988
45 - 49	1.005	40%	0.994
50 - 54	1.010	50%	1.000
55 - 59	1.015	60%	1.006
60 - 64	1.020	70%	1.012
65+	1.025	80%	1.019
		90%	1.025
		100%	1.031

## SECTION 13 - GROUP DENTAL INSURANCE

### Step 33 - State Variations

On cases written in states requiring a 90-day benefit extension after termination of group coverage, multiply by 1.01

On cases written in New Mexico and affected by the 5% supplemental premium tax, multiply by 1.05

On cases written in Utah multiply by 1.012

### Step 34 - Administration

A 3% load is applied if the policyholder requests to self-administer their dental plan.

### Step 35 - Enrollment Option

Enrollment Type	Participation	Factor - Timely Major Wait = 0 months	Factor - Timely Major Wait = 6 months or more
Annual @ Issue / Future	All	1.000	1.000
Open @ Issue Only**	All	1.072	1.032
Annual Open	>= 85%	1.080	1.035
	75 - 84%	1.087	1.039
	65 - 74%	1.095	1.042
	Below 65%	1.107	1.047

\*\* Open @ Issue factors will only apply at proposal / issue. For future rates the factor is 1.000.

### Step 36 - Trend

The base rates in this manual are re-established (and re-filed) periodically to recalibrate the manual for accuracy as inflation and utilization change over time. Between these periodic changes, the ongoing impact of trend is accounted for in the manual by adjusting the rate with a trend factor.

The annualized trend factor assumed in this manual is 7.5%, and is applied from the date of the established base rate (1/1/2009) to six months past the quoted effective date (equaling the midpoint of the typical quoted coverage period of 12 months) on each respective case rated with this manual.

The coverage effective date must be within 90 days of the effective date assumed when the rate was quoted.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 37** - Deductible Basis

This factor adjusts for the option to track deductibles on a policy year or calendar year.

Deductible Basis	Factor
Policy	1.000
Calendar	1.001

SECTION 13 - GROUP DENTAL INSURANCE

**Step 38** - Durational Factor

This factor adjusts manual rates for lower expected utilization levels at future renewals. This factor does not apply to cases in the state of Florida.

Years since original plan effective date

	0	1	2	3+
Group has Major wait of 12 months or more	1.00	0.95	0.95	0.95
Group has Major wait of less than 12 months	1.00	0.97	0.93	0.92

SECTION 13 - GROUP DENTAL INSURANCE

**Step 39** - Rate Guarantee

If quoted rates are guaranteed for a period other than the standard 12 months, a load is applied to account for the extra cost trend as well as increasing risk due to the inability to change future rates if group risk criteria changes.

Rate Guarantee (Months)	Factor
<= 12	1.0000
13 - 15	1.0171
16 - 18	1.0302
19 - 27	1.0500
36 (UW review only)	10.0000

**Step 40** - Renewal Rate Cap

Groups may also request a maximum increase on their first renewal after the original rate guarantee ends. This is merely a cap; the potential rate change is not limited as long as it is below this cap.

Renewal Cap	Factor
N/A	1.0000
7% cap at 1st renewal	1.0286
9% cap at 1st renewal	1.0209

SECTION 13 - GROUP DENTAL INSURANCE

**Step 41** - Posterior Composite Fillings

This factor adjusts for the option to upgrade to composite fillings on posterior teeth rather than the standard amalgam filling.

Posterior Fillings	Factor
Amalgam	1.000
Composite	1.028

SECTION 13 - GROUP DENTAL INSURANCE

**Step 42** - Implants

This factor adjusts for the option to include coverage for implants.

Implant Coverage	Factor
No	1.000
Yes	1.016

SECTION 13 - GROUP DENTAL INSURANCE

**Step 43** - Porcelain Crowns

This factor adjusts for the option to include coverage for porcelain crowns.

Coverage	Factor
No	1.000
Yes	1.029



SECTION 13 - GROUP DENTAL INSURANCE

**Step 44** - Tooth Whitening

This factor adjusts for the option to include coverage for Tooth Whitening services.

Coverage	Factor
No	1.000
Yes	1.171

SECTION 13 - GROUP DENTAL INSURANCE

**Step 45** - Debridement

This factor adjusts for the option to include coverage for full mouth debridement.

Benefit limited to once per lifetime.

Coverage	Factor
No	1.000
Yes	1.030

SECTION 13 - GROUP DENTAL INSURANCE

**Step 46** - Missing Tooth Exclusion

This factor adjusts for the option to remove the missing tooth exclusion from the contract.

Missing Tooth Exclusion	Factor
Include	1.000
Exclude	1.035

SECTION 13 - GROUP DENTAL INSURANCE

**Step 47** - Non-surgical TMJ

This factor adjusts for the option to exclude coverage for non-surgical TMJ services.

Coverage	Factor
Yes	1.000
No	0.999

SECTION 13 - GROUP DENTAL INSURANCE

**Step 48** - Occlusal Guard Factor

This factor adjusts for the option to include coverage for occlusal guards.

Coverage	Factor
No	1.000
Yes	1.008

SECTION 13 - GROUP DENTAL INSURANCE

**Step 49** - Net Dental Rate

Net Dental Rate = Product of Steps 15 through 48.

SECTION 13 - GROUP DENTAL INSURANCE

**Step 50** - Expense Load

- A. Net Monthly Premium is calculated by summing the product of the Net Dental Rate and the associated number of lives. Ex.: Employee Rate \* Participating Employees + Spouse Rate \* Participating Spouses + Children Rate \* Participating Children Units.
- B. The Policy Fee is chosen from the table below and divided by 12, resulting in the Monthly Policy Fee.

ANNUAL POLICY FEE

Eligible Employees	Fee
0 - 25	0
>= 26	396

- C. Total Per Life Fees are calculated for Employees, Spouses and Children from the table below. These are then added together and divided by 12, resulting in the Total Monthly Per Life Fee.

ANNUAL PER LIFE FEE

Eligible Employees	Per Employee	Per Spouse	Per Child Unit
0 - 25	0.00	0.00	0.00
>= 26	15.60	0.00	0.00

- D. The sum of the Net Monthly Premium, the Monthly Policy Fee, and the Total Monthly Per Life Fee becomes the Initial Monthly Loaded Premium.

SECTION 13 - GROUP DENTAL INSURANCE

- E. The Final Monthly Loaded Premium is the sum of the Percent of Premium Expense Charge and the Initial Monthly Loaded Premium. The Percent of Premium Expense Charge table is made up of a Graded Expense Load (see table below), Commissions, and State Premium Tax. The factors below include a target profit margin of 5% of total premium.

Annual Premium	0 - 25	>= 26
First 3000	0.2007	0.1648
Next 2000	0.2007	0.1517
Next 5000	0.2007	0.1517
Next 10000	0.2007	0.1434
Next 10000	0.2007	0.1434
Next 10000	0.2007	0.1340
Next 10000	0.2007	0.1340
Next 15000	0.2007	0.1340
Next 15000	0.2007	0.1293
Next 20000	0.2007	0.1293
Next 50000	0.2007	0.1255
Next 50000	0.2007	0.1255
Next 50000	0.2007	0.1208
Remaining Premium	0.2007	0.1208

1. Based on premium ranges, the commission, premium tax and graded expense loads are added together, resulting in an expense charge of each premium range.
  2. As the initial expense charge table is based on gross annual premium (including all expenses), it must be converted into a table which will apply to the Initial Monthly Loaded Premium from (D.) above (which only includes the per policy and per life expenses).
  3. The appropriate Percent of Premium Expense Charge is then applied to the Initial Monthly Loaded Premium, resulting in the Final Monthly Loaded Premium.
- F. The Expense Load is calculated by dividing the Final Monthly Loaded Premium by the Net Monthly Premium from (A.) above. This Expense Load is multiplied to each of the Employee, Spouse, and Child Net Rates.



## SECTION 13 - GROUP DENTAL INSURANCE

### Step 51 - PPO Access Fee

This is the access fee charged by the PPO network. The current Access Fee for the DHA Network is \$0.84 per employee.

The fee is spread over employee and dependent rates as below.

If split rated:

$$\text{Fee} = \frac{\text{Table Fee} * \# \text{ Employees}}{(\# \text{ EE} + \# \text{ SP} + \# \text{ CH})}$$

If composite rated:

$$\text{Fee} = \frac{\text{Table Fee} * \# \text{ Employees}}{(\# \text{ EE} + \# \text{ Deps})}$$

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**Step 52 Vision Discount Rate**

A charge for a vision discount plan may be added to the premium bill for the group dental plan.

If vision discount is selected a fee is added to the Employee Rate of:     \$0.01

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Step 53 Gross Dental Rate

Gross Dental Rate = Net Dental Rate \* Expense Load + PPO Access Fee + Vision discount

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**Step 54** Rate Tiers

The following assumptions are used to develop the premium rate tiers as desired by the insured group.

One Tier

Composite = 2.04 x Employee Rate

Two Tier

EE = Employee Rate  
 EE + Dependants = Employee Rate + (0.92 x Spouse Rate) + (0.73 x Children Rate)

Three Tier

EE = Employee Rate  
 EE + 1 = Employee Rate + (0.76 x Spouse Rate) + (0.24 x (Children Rate / 1.9))  
 EE + 2 or more = Employee Rate + (0.78 x Spouse Rate) + Children Rate

Four Tier

EE = Employee Rate  
 EE + Spouse = Employee Rate + Spouse Rate  
 EE + Children = Employee Rate + Children Rate  
 EE + Family = Employee Rate + Spouse Rate + Children Rate

Per Child

EE = Employee Rate  
 Spouse Only = Spouse Rate  
 Per Child = Children Rate / 1.9

## SECTION 13 - GROUP DENTAL INSURANCE

**Step 55.1** - Family Share Max

Instead of using the individual annual maximum, the group can choose to share one annual maximum between family members. The rating factors are shown below and are based on the individual annual maximum chosen. The Family Max Share is only available when \$1000, \$1500, or \$2000 individual annual maximums.

Tier Structure	Tier	Individual Annual Max	Combined Max	Option	Premium Factor
4	EE	1000	-	Standard	1.000
4	EE+SP	1000	1500	Standard	1.000
4	EE+CH	1000	1500	Standard	1.000
4	EE+FAM	1000	2000	Standard	1.000
4	EE	1500	-	Standard	1.000
4	EE+SP	1500	2000	Standard	1.000
4	EE+CH	1500	2000	Standard	1.000
4	EE+FAM	1500	3000	Standard	1.000
4	EE	2000	-	Standard	1.000
4	EE+SP	2000	2500	Standard	1.000
4	EE+CH	2000	2500	Standard	1.000
4	EE+FAM	2000	4000	Standard	1.000
4	EE	1000	-	Buy-Up	1.000
4	EE+SP	1000	2000	Buy-Up	1.113
4	EE+CH	1000	2000	Buy-Up	1.082
4	EE+FAM	1000	3000	Buy-Up	1.103
4	EE	1500	-	Buy-Up	1.000
4	EE+SP	1500	2500	Buy-Up	1.072
4	EE+CH	1500	2500	Buy-Up	1.051
4	EE+FAM	1500	4000	Buy-Up	1.072
4	EE	2000	-	Buy-Up	1.000
4	EE+SP	2000	3000	Buy-Up	1.061
4	EE+CH	2000	3000	Buy-Up	1.041
4	EE+FAM	2000	5000	Buy-Up	1.051
3	EE	1000	-	Standard	1.000
3	EE+1	1000	1500	Standard	1.000
3	EE+2+	1000	2000	Standard	1.000
3	EE	1500	-	Standard	1.000
3	EE+1	1500	2000	Standard	1.000
3	EE+2+	1500	3000	Standard	1.000
3	EE	2000	-	Standard	1.000
3	EE+1	2000	2500	Standard	1.000
3	EE+2+	2000	4000	Standard	1.000
3	EE	1000	-	Buy-Up	1.000
3	EE+1	1000	2000	Buy-Up	1.113
3	EE+2+	1000	3000	Buy-Up	1.103
3	EE	1500	-	Buy-Up	1.000
3	EE+1	1500	2500	Buy-Up	1.072
3	EE+2+	1500	4000	Buy-Up	1.067
3	EE	2000	-	Buy-Up	1.000
3	EE+1	2000	3000	Buy-Up	1.061
3	EE+2+	2000	5000	Buy-Up	1.051
2	EE	1000	-	Standard	1.000
2	EE+DEP	1000	2000	Standard	1.000
2	EE	1500	-	Standard	1.000
2	EE+DEP	1500	3000	Standard	1.000
2	EE	2000	-	Standard	1.000
2	EE+DEP	2000	4000	Standard	1.000
2	EE	1000	-	Buy-Up	1.000
2	EE+DEP	1000	3000	Buy-Up	1.124
2	EE	1500	-	Buy-Up	1.000
2	EE+DEP	1500	4000	Buy-Up	1.082
2	EE	2000	-	Buy-Up	1.000
2	EE+DEP	2000	5000	Buy-Up	1.061

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**Step 55.2** - Preventive Max Waiver

If a group selects both Preventive Max Waiver and Family Share Maximum, all of the family's preventive claims are not counted against the family's combined maximum. If both Preventive Max Waiver and Family Share Maximum are selected use the factors below; otherwise use a 1.00 factor here.

Tier Structure	Tier	Individual Annual Max	Combined Max	Option	Premium Factor
4	EE	1000	-	Standard	1.000
4	EE+SP	1000	1500	Standard	1.022
4	EE+CH	1000	1500	Standard	1.007
4	EE+FAM	1000	2000	Standard	1.017
4	EE	1500	-	Standard	1.000
4	EE+SP	1500	2000	Standard	1.000
4	EE+CH	1500	2000	Standard	1.000
4	EE+FAM	1500	3000	Standard	1.004
4	EE	2000	-	Standard	1.000
4	EE+SP	2000	2500	Standard	1.000
4	EE+CH	2000	2500	Standard	1.000
4	EE+FAM	2000	4000	Standard	1.000
4	EE	1000	-	Buy-Up	1.000
4	EE+SP	1000	2000	Buy-Up	1.005
4	EE+CH	1000	2000	Buy-Up	1.005
4	EE+FAM	1000	3000	Buy-Up	1.005
4	EE	1500	-	Buy-Up	1.000
4	EE+SP	1500	2500	Buy-Up	1.005
4	EE+CH	1500	2500	Buy-Up	1.005
4	EE+FAM	1500	4000	Buy-Up	1.005
4	EE	2000	-	Buy-Up	1.000
4	EE+SP	2000	3000	Buy-Up	1.005
4	EE+CH	2000	3000	Buy-Up	1.005
4	EE+FAM	2000	5000	Buy-Up	1.005
3	EE	1000	-	Standard	1.000
3	EE+1	1000	1500	Standard	1.022
3	EE+2+	1000	2000	Standard	1.017
3	EE	1500	-	Standard	1.000
3	EE+1	1500	2000	Standard	1.000
3	EE+2+	1500	3000	Standard	1.004
3	EE	2000	-	Standard	1.000
3	EE+1	2000	2500	Standard	1.000
3	EE+2+	2000	4000	Standard	1.000
3	EE	1000	-	Buy-Up	1.000
3	EE+1	1000	2000	Buy-Up	1.005
3	EE+2+	1000	3000	Buy-Up	1.005
3	EE	1500	-	Buy-Up	1.000
3	EE+1	1500	2500	Buy-Up	1.005
3	EE+2+	1500	4000	Buy-Up	1.005
3	EE	2000	-	Buy-Up	1.000
3	EE+1	2000	3000	Buy-Up	1.005
3	EE+2+	2000	5000	Buy-Up	1.005
2	EE	1000	-	Standard	1.000
2	EE+DEP	1000	2000	Standard	1.055
2	EE	1500	-	Standard	1.000
2	EE+DEP	1500	3000	Standard	1.026
2	EE	2000	-	Standard	1.000
2	EE+DEP	2000	4000	Standard	1.015
2	EE	1000	-	Buy-Up	1.000
2	EE+DEP	1000	3000	Buy-Up	1.005
2	EE	1500	-	Buy-Up	1.000
2	EE+DEP	1500	4000	Buy-Up	1.005
2	EE	2000	-	Buy-Up	1.000
2	EE+DEP	2000	5000	Buy-Up	1.005

SECTION 13 - GROUP DENTAL INSURANCE

**Orthodontia**

Optional Orthodontia coverage can be elected at an additional cost. The standard Orthodontia plan contains the following provisions:

Children are covered up to age 26, if banded prior to age 19.

Benefits include full or partial bands and fixed or removable appliances.

Normally offered to dependent children. Optional adult ortho coverage is available. Adult only ortho coverage is only available when the base plan is also adult only.

**Step O-1** - Base Ortho Rate

The monthly Orthodontia base rates are provided below:

Coverage Category	Prior Ortho Coverage	No Prior Ortho Coverage
Employee	0.409	0.454
Spouse	0.409	0.454
Children (Standard Contract)	3.979	4.678
<b>Children (Wrap Contract)</b>	<b>0.409</b>	<b>0.454</b>

SECTION 13 - GROUP DENTAL INSURANCE

**Step O-2** - Coinsurance and Lifetime Max Benefit

The lifetime maximum benefit and rate of benefit percentage can be varied. These factors apply:

Coinsurance Percentage	Lifetime Ortho Maximum					
	\$500	\$750	\$1,000	\$1,250	\$1,500	\$2,000
25%	0.53	0.77	0.90	1.16	1.25	1.26
40%	0.57	0.78	0.98	1.32	1.59	1.86
50%	0.59	0.79	1.00	1.47	1.75	2.13
55%	0.60	0.80	1.01	1.56	1.81	2.41
60%	0.61	0.81	1.02	1.61	1.98	2.64
65%	0.62	0.83	1.04	1.70	2.13	2.86
70%	0.63	0.86	1.06	1.80	2.30	3.08
75%	0.65	0.89	1.08	1.92	2.46	3.30
80%	0.67	0.92	1.10	2.06	2.63	3.51



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**Step O-3** - Timely Applicant Deferral Period

The period of deferral of benefits after Orthodontic coverage begins can vary between 0, 12 or 24 months. Refer to the following table for the factors:

Orthodontia Deferral Period in Months	Factor
0	1.00
12	0.88
24	0.82

**Step O-4** - Initial Ortho Claim Cost

Initial Ortho Rate = The product of Steps O-1 through O-3.

**Step O-5** - Distribution

Apply the same distribution factor as applied to the dental plan (Step 10).

**Step O-6** - PPO Discount

Based upon the ortho discount of the network.

Plan Type	In-Network Factor	Out-of-Network Factor
PPO	1.00	1.00

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**Step O-7** - Blended Ortho Claim Cost

(In-Network Initial Ortho Claim Cost \* In-Network Distribution factor  
\* In-Network Ortho Discount factor) + (Out-of-Network Initial Ortho Claim Cost  
\* [1 - In-Network Distribution factor] \* Out-of-Network Ortho Discount factor)

**Step O-8** - Area

Apply the same factor as applied to dental rate.

**Step O-9** - Industry

Apply the same factor as applied to dental rate.

**Step O-10** - Participation

Apply the same factor as applied to dental rate.

**Step O-11** - Case Size

Apply the same factor as applied to dental rate.

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### **Step O-12** - Ortho Size

The Ortho Size factor is 1.00 if there are 10 or more child units or 15 or more composite units. Otherwise

1. Add the initial ortho net rates to the initial plan rates to get initial total net rates. When composite rated, the dependent rate is .92 times the spouse rate plus .73 times the child rate.
2. Take the initial total net rates times the number of lives and sum the products.
3. Multiply the initial ortho net rate by (10 minus the number of child units) if split rated or (15 minus the number of dependent units) if composite rated.
4. The ORTHO SIZE factor is the result of the above step 3 divided by the result of step 2, rounded to three places, plus 1.

### **Step O-13** - Net Ortho Rate

Net Ortho Rate = Blended Ortho Claim Cost multiplied by the plan variation factors (Steps O-8 through O-12).

### **Step O-14** - Expense Load

Apply the same factor as applied to dental rate.

### **Step O-15** - Gross Ortho Rate

Gross Ortho Rate = Product of Net Ortho Rate and Expense Load.

Apply the same rate tier formulas from Step 53 to the ortho rates.

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**Step 56** - Final Dental Rate

Final Dental Rate = Gross Dental Rate + Gross Ortho Rate

SECTION 13 - GROUP DENTAL INSURANCE

**Step 57** - Experience Rating

Experience Rating of Insurance Transferred from another Carrier

In any case where the group has been insured with another carrier for the same or similar coverage, and the number of employee lives equals or exceeds 100, and the experience of the prior carrier(s) is made available, the rates herein will be modified by combining them with such experience according to the following procedures:

Step 1. For all such years (but no more than three), separately adjust the premium to the current manual basis by multiplying by the ratio of the manual rates as of the proposed rate effective date with us to the charged rate for each prior year.

Step 2. For all such years (but no more than three), separately adjust the incurred claims by multiplying by the following factors:

- (i) a factor which is the ratio of the manual premium for the plan inforce, to the manual premium for the proposed plan, both calculated as of the proposed rate effective date;
- (ii) a factor, which is the adjustment for the value of network differences, from the prior carrier;
- (iii) a factor which is the adjustment for trend from the midpoint of each experience period to the midpoint of the proposed rating period.

Step 3. For each prior year of experience, separately divided the result of step 2 by the result of step 1.

Step 4. Determine a weighted average actual loss ratio by multiplying each year's loss ratio (the result of step 3) by the appropriate weight given below:

one year prior experience	weight = 100%
two years prior experience	most recent year weight = 60% prior year weight = 40%
three years prior experience	most recent year weight = 60% prior year weight = 24% second prior year weight = 16%

Step 5. Determine the credibility ratio using the following formula:

$$Z = \frac{\text{Lives} * \text{Years}}{\text{Lives} * \text{Years} + 22000/(\text{Lives} * \text{Years})}$$

Where

Lives = Number of employees + 1.6 \* Number of employees with dependent coverage

Years =  $0.52 + 0.44 * \text{Months} + 0.02 * [\text{Max}(\text{Months} - 12, 0) + \text{Max}(\text{Months} - 24, 0)]$

Months = Total number of months of experience used in the experience analysis (not to exceed 36)

Step 6. Compute the credibility-weighted loss ratio as follows:

$$Z * \text{weighted average actual loss ratio (Step 4)} + (1-Z) * \text{expected loss ratio}$$

The expected loss ratio is equal to 1 / Expense Load, where Load is determined in Step 50 and 51.

Step 7. Determine the ratio of the credibility-weighted loss ratio from Step 6 above to the expected loss ratio.

Step 8. Multiply the manual rate for the proposed plan by the ratio determined in Step 7.

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### **Step 58** - Post-Manual Adjustments

Sales representatives have limited authority within actuarially determined risk levels to make adjustments to the calculated manual rate if favorable risk criteria are present and not otherwise reflected in the rate manual. Examples include stable rate histories, inforce with a single prior carrier for specified number of years, other coverages are sold in addition to dental, the employer has been in business for a specified time period and has stable or growing number of employees, or the employer is contributing some of the premium cost for the members.