

Dental Practice-Based Research Network
www.DentalPBRN.org

Study 1: Assessment of Caries Diagnosis and Caries Treatment

Summary of Key Findings

Regional distribution of practitioners in Study 1

Region N (%)						
AL/MS	FL/GA	HP/MN	PDA	NA	SK	Total
306 (55%)	106 (19%)	32 (6%)	51 (9%)	11 (2%)	51 (9%)	557 (100%)

These results include responses from practitioner-investigators in each of DPBRN's five regions as of April 2006. An additional 11 dentists responded, but they are not practitioner-investigators in one of the five DPBRN regions and are labeled "NA" in this chart. Another 25 Caries Risk Assessment Study DPBRN practitioner-investigators responded after the official deadline for Study 1 ended, but because they completed the same questionnaire, these dentists were also included in this report.

Results are summarized into three sections:

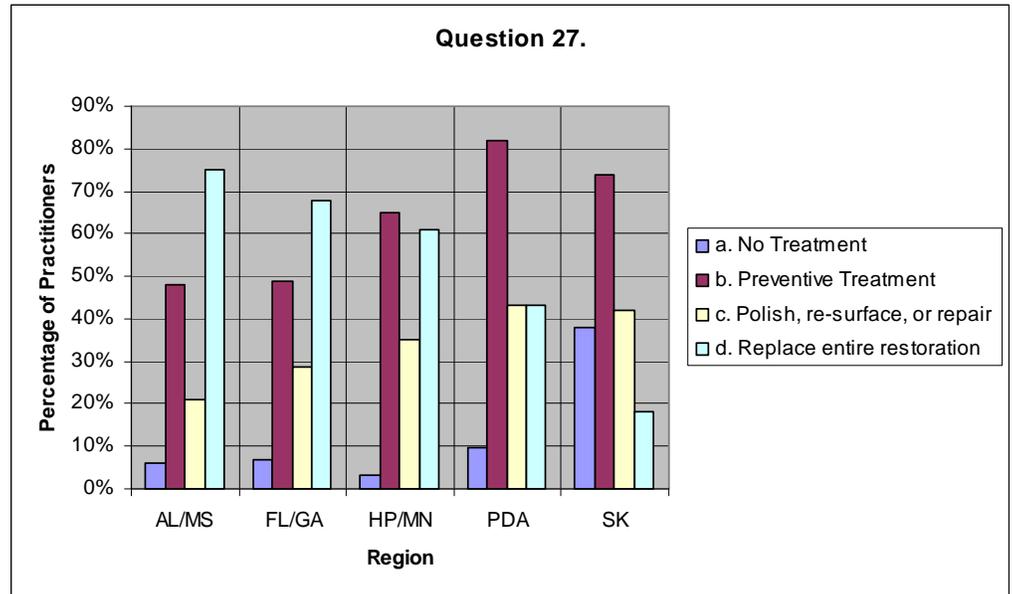
- 1) Questions regarding treatment scenarios (pages 3-13)
- 2) Questions regarding diagnostic methods (pages 14-17)
- 3) Questions regarding preventive methods (pages 18-21)

For Questions 27-29: The patient is a 30-year old female with no relevant medical history. She has no complaints and is in your office today for a routine visit. She has been attending your practice on a regular basis for the past 6 years.

27. The patient has 5 existing restorations and is not missing any teeth. Indicate what treatment you would provide to the restoration shown by the arrow in the first picture on the left.



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Question 27.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	6%	7%	3%	10%	38%
b. Preventive Treatment	48%	49%	65%	82%	74%
c. Polish, re-surface, or repair	21%	29%	35%	43%	42%
d. Replace entire restoration	75%	68%	61%	43%	18%

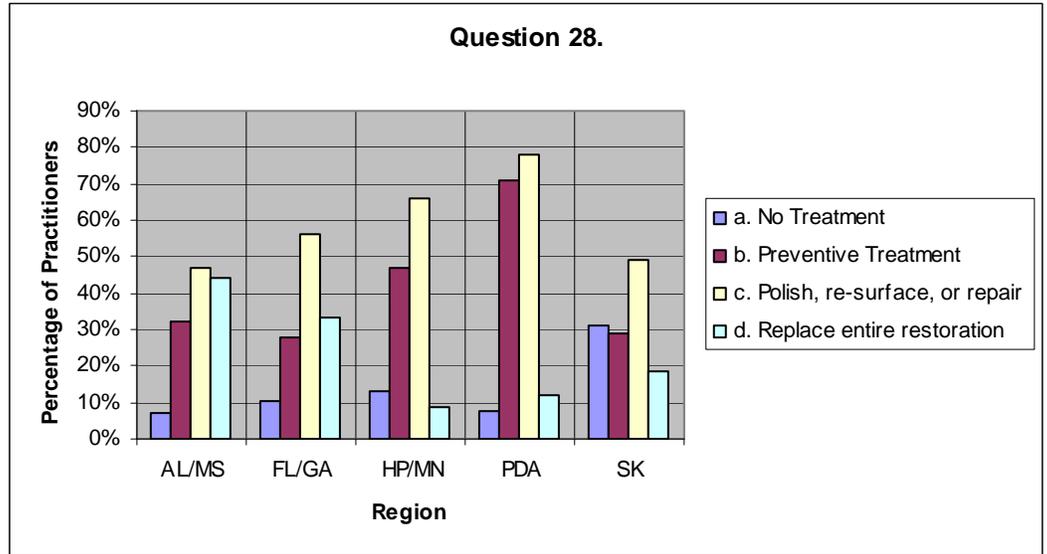
Percentages in a single column can add to more than 100% because more than one choice was allowed.

- Note that there was substantial variation across regions in whether to provide any treatment. No treatment was recommended by 38% of practitioner-investigators in the SK region, compared to only 3% in the HP/MN region.
- Recommendation to use fluoride (either in-office, prescription, or non-prescription) also varied substantially across regions.
- A recommendation to replace the entire restoration was very common for practitioner-investigators in the AL/MS (75%) and FL/GA (68%) regions, but not for practitioner-investigators in the SK region (18%).

28. Now imagine the patient has no other dental restorations than the one shown, no dental caries, and is not missing any teeth. Indicate what treatment you would provide to the restoration in the second picture on the left.



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Question 28.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	7%	11%	13%	8%	31%
b. Preventive Treatment	32%	28%	47%	71%	29%
c. Polish, re-surface, or repair	47%	56%	66%	78%	49%
d. Replace entire restoration	14%	33%	9%	12%	18%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

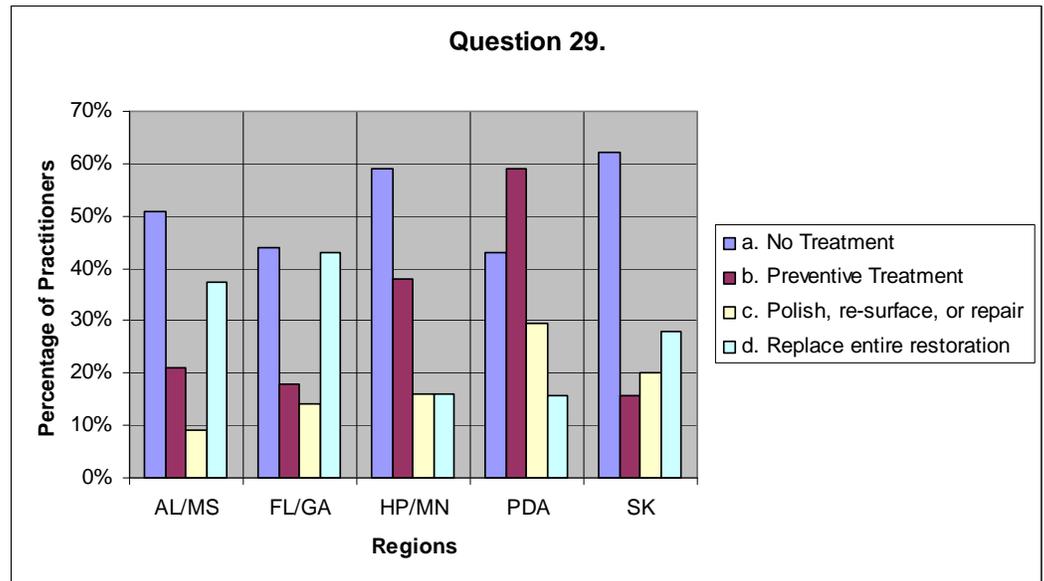
Replacement was most commonly recommended by dentists in the AL/MS and FL/GA DPBRN regions.

Practitioner-investigators in the HP/MN and PDA regions typically recommended to polish, re-surface, or repair more often than practitioner-investigators in the other regions.

29. The same patient has no other dental restorations than the one shown, no dental caries, and is not missing any teeth. Indicate what treatment you would provide to the restoration in the third picture on the left.



Courtesy of Dr. Ivar Mjör



Question 29.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	51%	44%	59%	43%	62%
b. Preventive Treatment	21%	18%	38%	59%	16%
c. Polish, re-surface, or repair	9%	14%	16%	29%	20%
d. Replace entire restoration	37%	43%	16%	16%	28%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

Practitioner-investigators in the AL/MS and FL/GA regions chose the replacement option more often than practitioner-investigators in the HP/MN and PDA regions.

For Question 30: The patient is a 30 year old female with no relevant medical history. She has no complaints and is in your office today for a routine visit. She has been attending your practice on a regular basis for the past 6 years.

30. Indicate how you would treat the tooth shown if the patient has no other teeth with dental restorations or dental caries and is not missing any teeth.



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Case 1

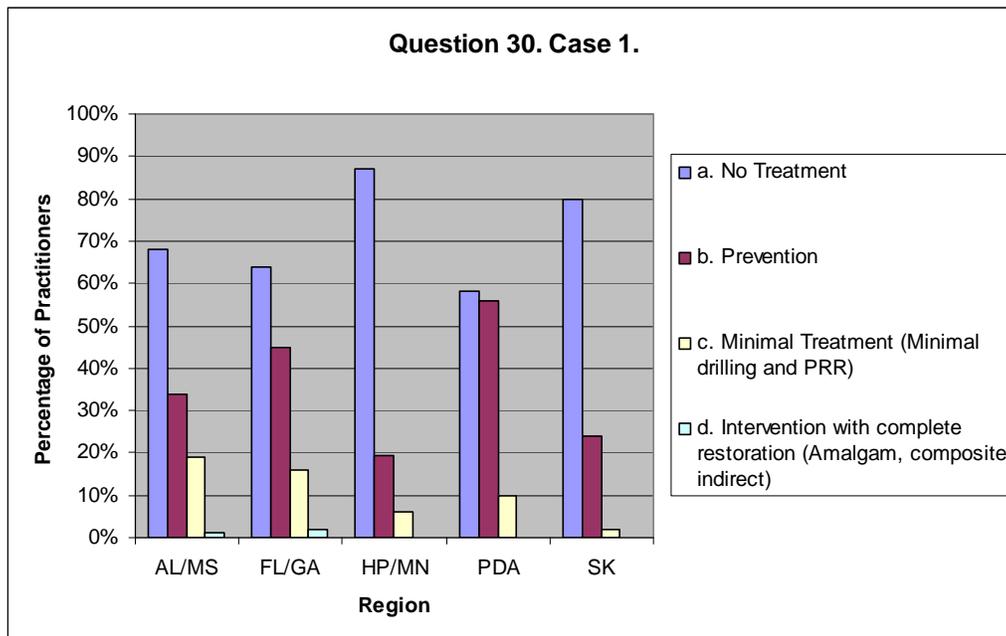
Case 2

Case 3

Case 4

Case 5

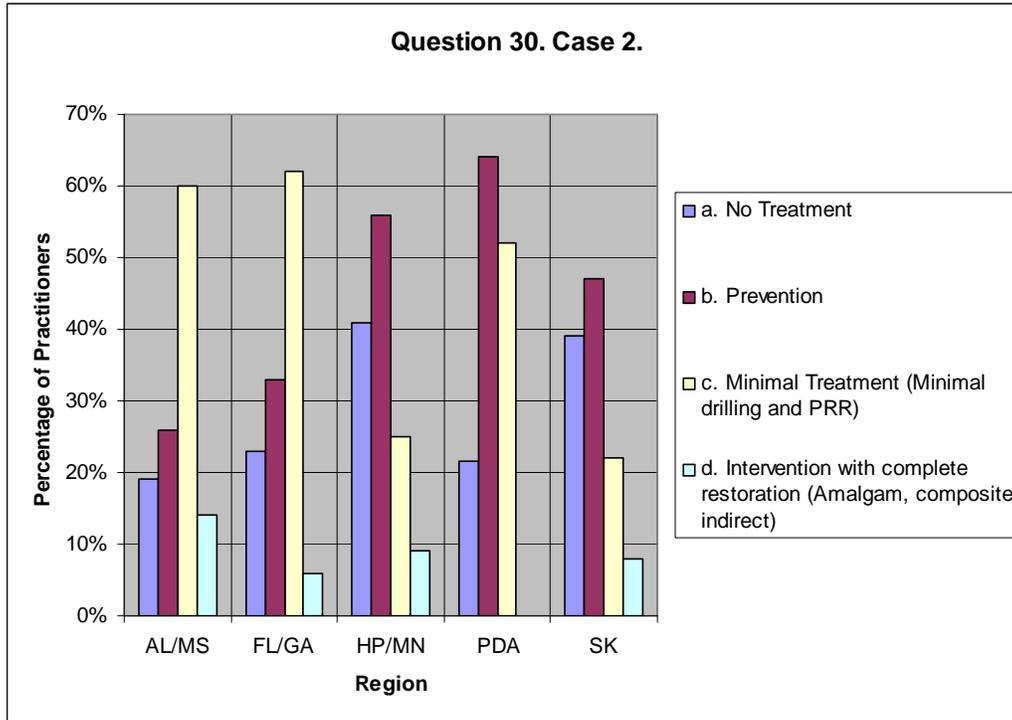
Question 30, Case 1: Treatments that would be provided according to picture shown and patient profile.



Question 30. Case 1.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	68%	64%	87%	58%	80%
b. Prevention	34%	45%	19%	56%	24%
c. Minimal Treatment (Minimal drilling and PRR)	19%	16%	6%	10%	2%
d. Intervention with complete restoration (Amalgam, composite indirect)	1%	2%	0%	0%	0%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

Question 30, Case 2. Treatments that would be provided according to picture shown and patient profile.

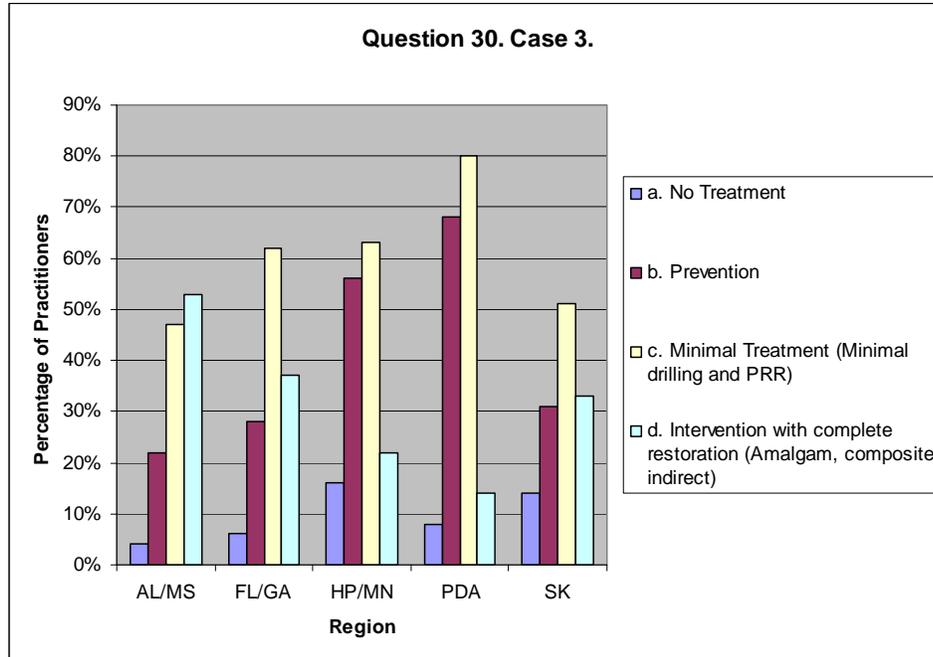


Case 2.

Question 30. Case 2.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	19%	23%	41%	22%	39%
b. Prevention	26%	33%	56%	64%	47%
c. Minimal Treatment (Minimal drilling and PRR)	60%	62%	25%	52%	22%
d. Intervention with complete restoration (Amalgam, composite indirect)	14%	6%	9%	0%	8%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

Question 30, Case 3. Treatments that would be provided according to picture shown on form and patient profile.



Case 3.

<u>Question 30. Case 3.</u>	<u>AL/MS</u>	<u>FL/GA</u>	<u>HP/MN</u>	<u>PDA</u>	<u>SK</u>
a. No Treatment	4%	6%	16%	8%	14%
b. Prevention	22%	28%	56%	68%	31%
c. Minimal Treatment (Minimal drilling and PRR)	47%	62%	63%	80%	51%
d. Intervention with complete restoration (Amalgam, composite indirect)	53%	37%	22%	14%	33%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

For Question 31: The patient is a 30 year old female with no relevant medical history. She has no complaints and is in your office today for a routine visit. She has been attending your practice on a regular basis for the past 6 years.

31. If the same patient has 12 teeth with existing dental restorations, heavy plaque and calculus, multiple Class V white spot lesions, and is missing five teeth.



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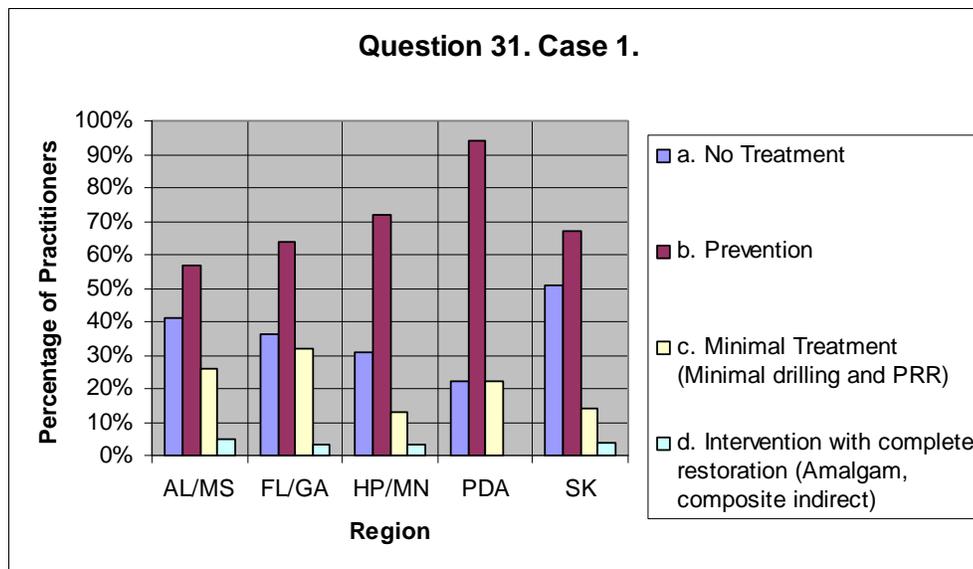
Case 1

Case 2

Case 3

Case 4

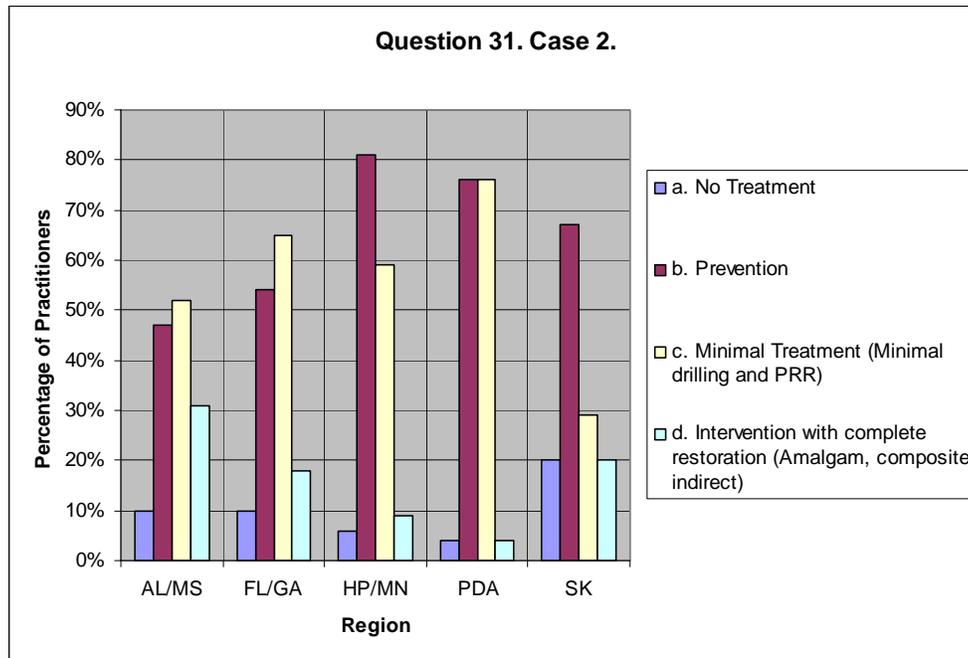
Case 5



Question 31. Case 1.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	41%	36%	31%	22%	51%
b. Prevention	57%	64%	72%	94%	67%
c. Minimal Treatment (Minimal drilling and PRR)	26%	32%	13%	22%	14%
d. Intervention with complete restoration (Amalgam, composite indirect)	5%	3%	3%	0%	4%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

Question 31, Case 2. Treatments that would be provided according to picture shown and patient profile.

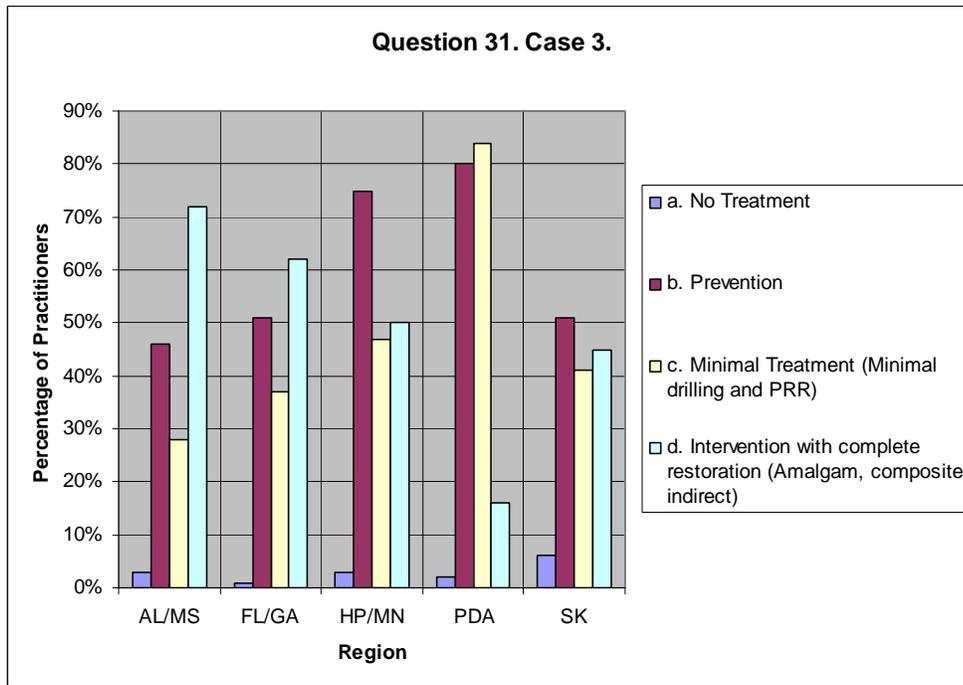


Case 2.

Question 31. Case 2.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	10%	10%	6%	4%	20%
b. Prevention	47%	54%	81%	76%	67%
c. Minimal Treatment (Minimal drilling and PRR)	52%	65%	59%	76%	29%
d. Intervention with complete restoration (Amalgam, composite indirect)	31%	18%	9%	4%	20%

Percentages in a single column can add to more than 100% because more than one choice was allowed.

Question 31, Case 3. Treatments that would be provided according to picture shown and patient profile.

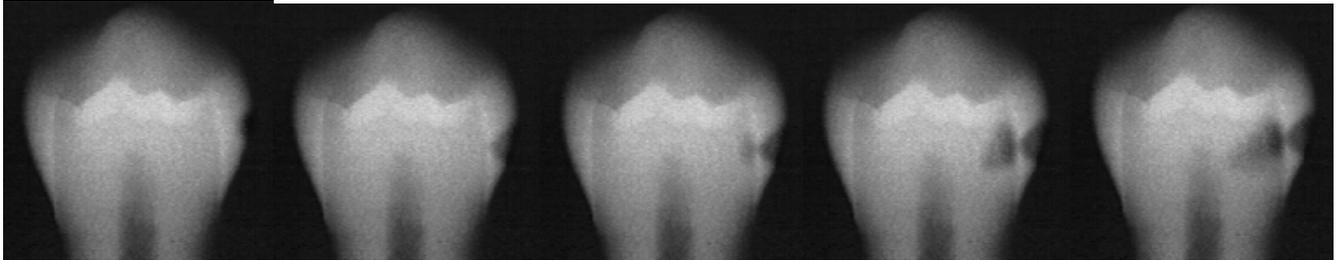


Case 3.

Question 31. Case 3.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	3%	1%	3%	2%	6%
b. Prevention	46%	51%	75%	80%	51%
c. Minimal Treatment (Minimal drilling and PRR)	28%	37%	47%	84%	41%
d. Intervention with complete restoration (Amalgam, composite indirect)	72%	62%	50%	16%	45%

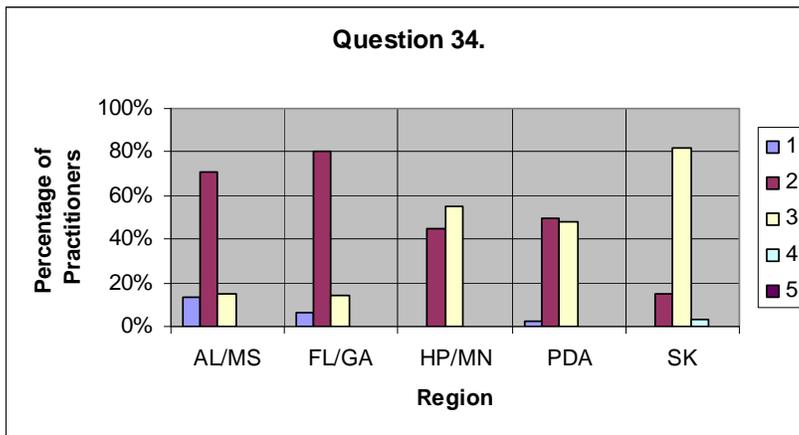
Percentages in a single column can add to more than 100% because more than one choice was allowed.

34. The patient has 12 teeth with existing dental restorations, heavy plaque and calculus, multiple Class V white spot lesions, and is not missing any teeth. At what lesion depth do you think it would be best to do a permanent restoration instead of only doing preventive therapy?



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1 2 3 4 5



Question 34. Lesion depth at which it is best to do a permanent restoration, according to picture shown on form and patient profile

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
1	13%	6%	--	2%	--
2	71%	80%	45%	50%	15%
3	15%	14%	55%	48%	82%
4	--	--	--	--	3%
5	--	--	--	--	--

This scenario is for a patient at higher risk for caries.

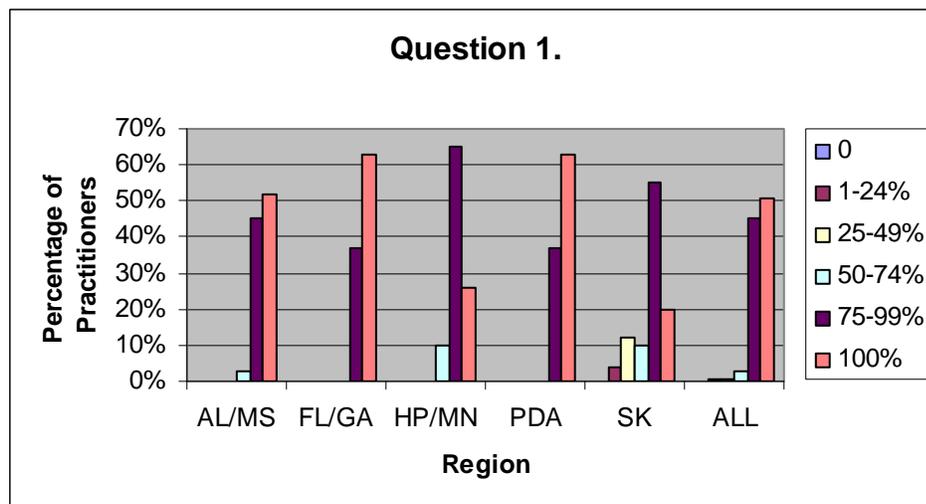
Practitioner-investigators in the AL/MS and FL/GA regions had similar recommendations, and these were different than recommendations by practitioner-investigators in the PDA and HP/MN regions.

Practitioner-investigators in the SK region had significantly different recommendations than practitioner-investigators in the other DPBRN regions. SK dentists mainly recommended intervening at the E2 or D1 depth in this higher-risk scenario.

Questions regarding diagnostic methods

1. When you examine patients to determine if they have a caries lesion on a **proximal** (mesial or distal) surface, on a posterior tooth, on what percent of these patients do you use **radiographs** to help diagnose the lesion?

- 1 – Never or 0%
- 2 – 1 to 24%
- 3 – 25 to 49%
- 4 – 50 to 74%
- 5 – 75 to 99%
- 6 – Every time or 100%

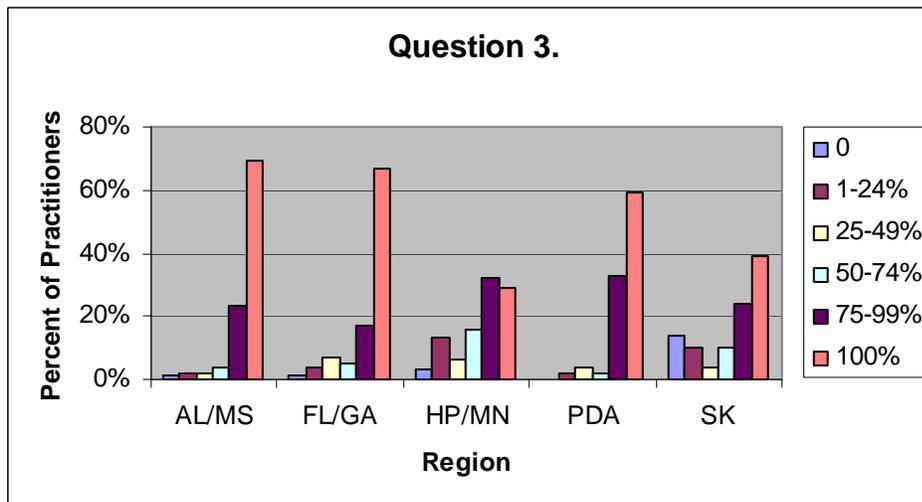


Question 1. Percent of patients on whom radiography is used to diagnose caries on proximal surface

	Region (%)					
	AL/MS	FL/GA	HP/MN	KP	SK	
0%	--	--	--	--	--	--
1-24%	--	--	--	--	--	4%
25-49%	--	--	--	--	--	12%
50-74%	3%	--	10%	--	--	10%
75-99%	45%	37%	65%	37%	--	55%
100%	52%	63%	26%	63%	--	20%

Practitioner-investigators in the SK region are less likely to use radiographs for the diagnosis of interproximal lesions.

3. When you examine patients to determine if they have a primary occlusal caries lesion, on what percent of these patients do you use a **dental explorer** to help diagnose the lesion?
- 1 – Never or 0%
 - 2 – 1 to 24%
 - 3 – 25 to 49%
 - 4 – 50 to 74%
 - 5 – 75 to 99%
 - 6 – Every time or 100%



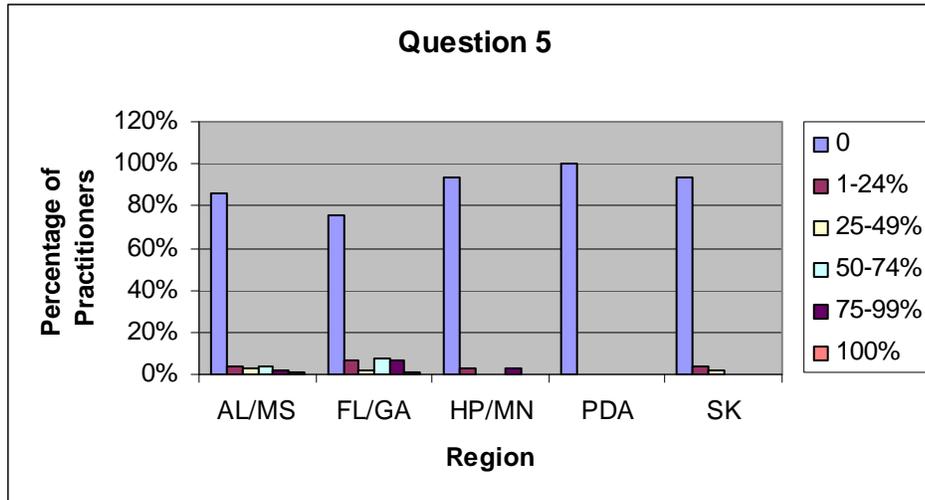
Question 3. Percent of patients on whom dental explorer is used to diagnose primary occlusal caries

	Region (%)				
	AL/MS	FL/GA	HP/MN	KP	SK
0%	1%	1%	3%	0%	14%
1-24%	2%	4%	13%	2%	10%
25-49%	2%	7%	6%	4%	4%
50-74%	4%	5%	16%	2%	10%
75-99%	23%	17%	32%	33%	24%
100%	69%	67%	29%	59%	39%

Practitioner-investigators in the HP/MN and SK regions are less likely to use the dental explorer to diagnose occlusal caries.

5. When you examine patients to determine if they have a **primary caries** lesion on the **occlusal** surface, on what percent of these patients do you use **laser fluorescence** (for example, Diagnodent®)?

- 1 – Never or 0%
- 2 – 1 to 24%
- 3 – 25 to 49%
- 4 – 50 to 74%
- 5 – 75 to 99%
- 6 – Every time or 100%



Question 5. Percent of patients on whom laser fluorescence is used to determine primary caries on occlusal surface

	Region (%)				
	AL/MS	FL/GA	HP/MN	KP	SK
0%	86%	76%	94%	100%	94%
1-24%	4%	7%	3%	--	4%
25-49%	3%	2%	--	--	2%
50-74%	4%	8%	--	--	--
75-99%	2%	7%	3%	--	--
100%	1%	1%	--	--	--

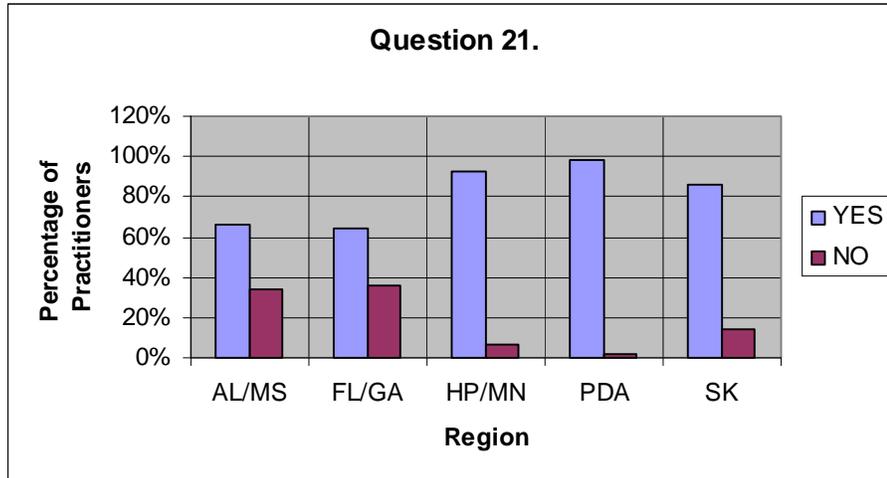
Laser fluorescence is not used often for the diagnosis of primary caries on the occlusal surface.

21. Do you assess caries risk for individual patients in any way?

1 – Yes

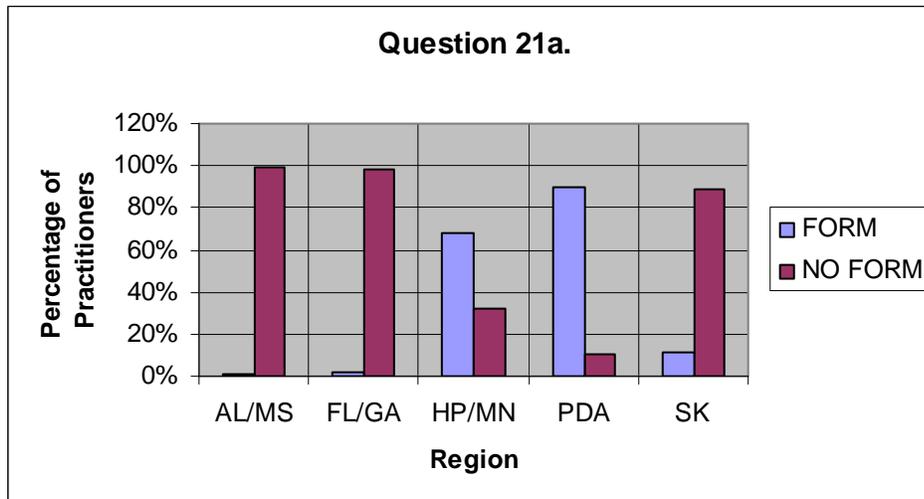
- a. I record the assessment on a special form that is kept in the patient chart. (Please include a copy of the form used when returning this questionnaire.)
- b. I do not use a special form to make the assessment.

2 – No



Question 21. Assessment of caries risk for individual patients

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
Yes	66%	64%	93%	98%	86%
No	34%	36%	7%	2%	14%



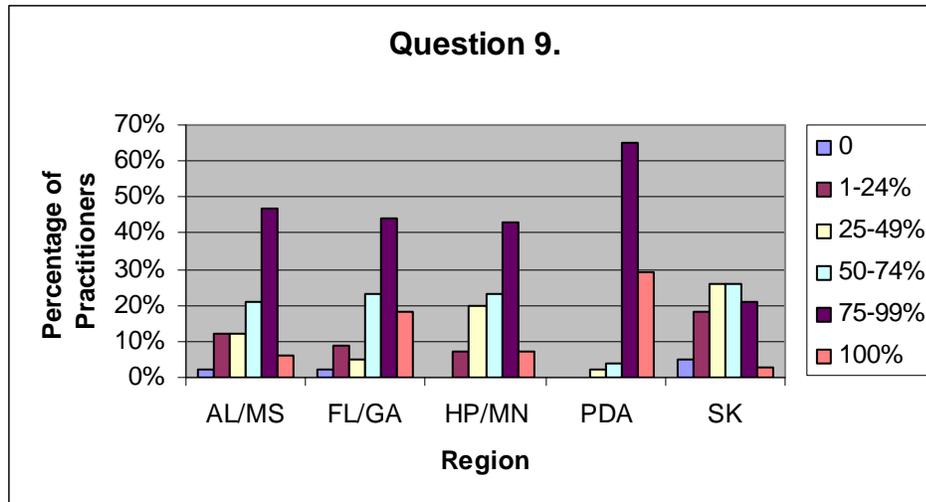
Question 21a. Assessment of caries risk for individual patients recorded on form kept in patient's chart

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
Form	1%	2%	68%	90%	11%
No form	99%	98%	32%	10%	89%

Questions regarding preventive methods

9. Of patients **6 to 18 years old**, for what percent do you apply **dental sealants** on the occlusal surfaces of at least one of their permanent teeth?

- 1 – Never or 0%
- 2 – 1 to 24%
- 3 – 25 to 49%
- 4 – 50 to 74%
- 5 – 75 to 99%
- 6 – Every time or 100%

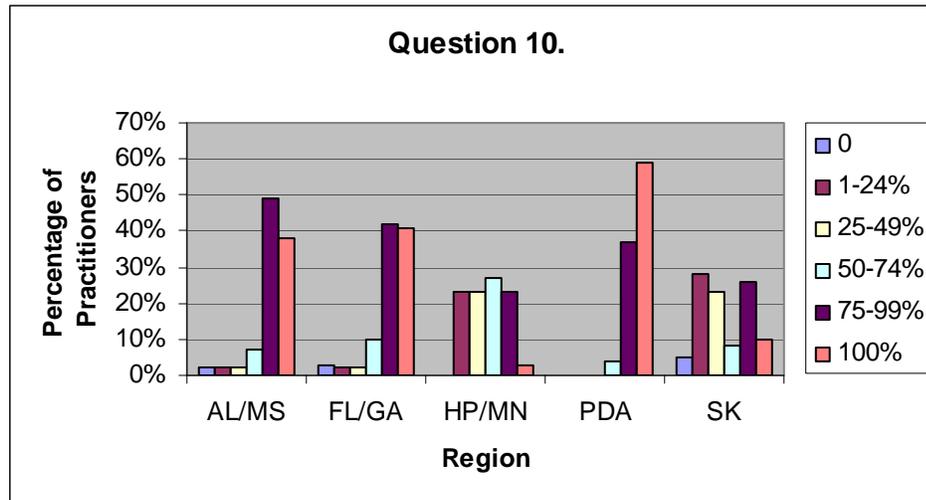


Question 9. Percent of 6-to-18-year-old patients on whom dental sealants are applied on occlusal surfaces of at least one of their permanent teeth

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
0%	2%	2%	--	--	5%
1-24%	12%	9%	7%	--	18%
25-49%	12%	5%	20%	2%	26%
50-74%	21%	23%	23%	4%	26%
75-99%	47%	44%	43%	65%	21%
100%	6%	18%	7%	29%	3%

Almost all practitioner-investigators in the PDA region use dental sealant in 75% or more of their patients. Practitioner-investigators in the SK region are least likely to use dental sealants.

10. Of patients **6 to 18 years old**, for what percent do you administer an **in-office fluoride application**, such as fluoride gel, fluoride varnish, or fluoride rinse?
1 – None or 0%
2 – 1 to 24%
3 – 25 to 49%
4 – 50 to 74%
5 – 75 to 99%
6 – All or 100%



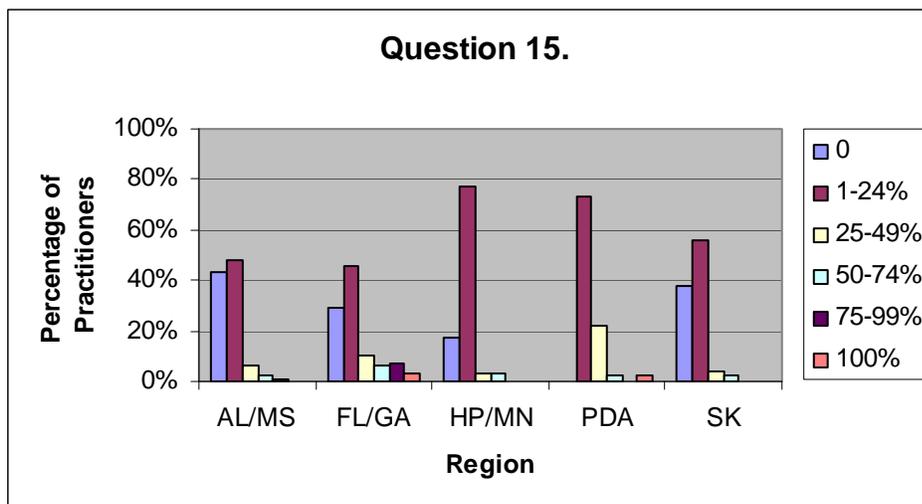
Question 10. Percent of 6-to-18-year-old patients on whom in-office fluoride application is administered

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
0%	2%	3%	--	--	5%
1-24%	2%	2%	23%	--	28%
25-49%	2%	2%	23%	--	23%
50-74%	7%	10%	27%	4%	8%
75-99%	49%	42%	23%	37%	26%
100%	38%	41%	3%	59%	10%

Practitioner-investigators in the SK and HP/MN regions are less likely to administer in-office fluoride as compared to practitioner-investigators in the AL/MS, FL/GA, and PDA regions.

15. Of patients **more than 18 years old** with at least one posterior tooth, for what percent do you apply **dental sealants** on the occlusal surface of at least one tooth?

- 1 – None or 0%
- 2 – 1 to 24%
- 3 – 25 to 49%
- 4 – 50 to 74%
- 5 – 75 to 99%
- 6 – All or 100%

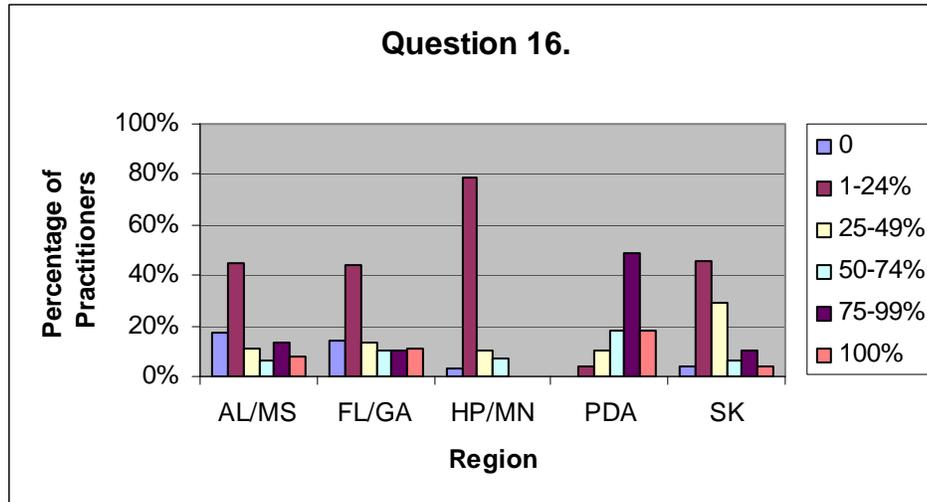


Question 15. Percent of patients more than 18 years old with at least one posterior tooth on whom dental sealants are applied on occlusal surfaces of at least one tooth

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
0%	43%	29%	17%	--	38%
1-24%	48%	46%	77%	73%	56%
25-49%	6%	10%	3%	22%	4%
50-74%	2%	6%	3%	2%	2%
75-99%	1%	7%	--	--	--
100%	--	3%	--	2%	--

AL/MS, FL/GA, and SK regions have similar findings, which are different than results for the HP/MN and PDA regions, with regard to using dental sealants on patients more than 18 years old.

16. Of patients **more than 18 years old** with at least one tooth, for what percent do you administer an **in-office fluoride application**, such as fluoride gel, fluoride varnish, or fluoride rinse?
- 1 – None or 0%
 - 2 – 1 to 24%
 - 3 – 25 to 49%
 - 4 – 50 to 74%
 - 5 – 75 to 99%
 - 6 – All or 100%



Question 16. Percent of patients more than 18 years old with at least one tooth on whom an in-office fluoride application is administered

	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
0%	17%	14%	3%	--	4%
1-24%	45%	44%	79%	4%	46%
25-49%	11%	13%	10%	10%	29%
50-74%	6%	10%	7%	18%	6%
75-99%	13%	10%	--	49%	10%
100%	8%	11%	--	18%	4%

Practitioner-investigators in the PDA region administer in-office fluoride more often than practitioner-investigators in the AL/MS and SK regions.

Practitioner-investigators in the HP/MN region do not administer in-office fluoride very often.