

Dental Practice-Based Research Network  
[www.DentalPBRN.org](http://www.DentalPBRN.org)

## Dental Practice-Based Research Network (DPBRN) 2008 Network-Wide Meeting

May 15 – 17, 2008  
Atlanta, GA

Dear DPBRN Practitioner-Investigator,

Welcome fellow DPBRN members. We are very excited about DPBRN's first network-wide meeting! Thank you for registering. More than 150 of your fellow practitioner-investigators will attend. They will be coming from Denmark, Norway, and Sweden, and from the U.S. states of Alabama, Florida, Georgia, Minnesota, Mississippi, Oregon, and Washington.

We plan to have a very interactive meeting. In addition to hearing presentations at the meeting, you will engage in discussion groups, called "breakout sessions", with fellow practitioner-investigators from other DPBRN regions. This will be an opportunity for you to interact with other practitioner-investigators and to discuss the implications of DPBRN studies on your clinical practice. This "breakout session" format has worked well during previous annual meetings of DPBRN regions. Practitioner-investigators have learned from each others' experiences and have enjoyed these interactions. Some highlights of these meetings are provided on the "News from the Net" part of our web page at <http://www.DPBRN.org/>.

You will also receive a separate mailing from our meeting contractor, Meetings Plus, Inc. This will include information about your travel arrangements and certain meeting registration materials. To supplement that mailing, we now include some materials to help you prepare for the meeting:

- 1) a summary of overall findings from DPBRN Study 1;
- 2) a report on what responses you provided in DPBRN Study 1;
- 3) a DPBRN article recently published in the Journal of the American Dental Association;
- 4) a consent form that would give us permission to use photos and related materials from the meeting.

As you are aware, DPBRN comprises 5 regions: AL/MS: Alabama/Mississippi; FL/GA: Florida/Georgia; HP/MN: dentists employed by HealthPartners and private practitioners in Minnesota; PDA: Permanente Dental Associates in cooperation with the Kaiser Permanente Center for Health Research, and SK: Denmark, Norway, and Sweden.

We are pleased to provide you with the results from DPBRN Study 1: Assessment of Caries Diagnosis and Treatment. This study focused on methods that DPBRN dentists use to diagnose and treat caries lesions. The aims were to: 1) quantify the percentages of DPBRN dentists who report using selected methods for caries diagnosis; 2) quantify the percentage who report using a caries-risk assessment protocol of any variety; 3) quantify the percentages who report intervening surgically at caries stages E1, E2, D1, D2, or D3. To accomplish these aims, a questionnaire was sent to all DPBRN dentists

who perform restorative dentistry in their practices (n = 915). A total of 532 DPBRN members returned completed surveys. This document summarizes their responses.

The results show the considerable variation across the DPBRN regions found in the techniques used to diagnose caries. In addition, the use of caries risk assessment varies substantially by region and by year of graduation from dental school. Treatment options chosen by DPBRN dentists vary widely according to the specific case scenario, the use of caries risk assessment, and participating region. Finally, as you will see, the decision to intervene surgically in the caries process differs by the depth of the caries lesion, patient caries risk, and participating region.

These graphs will allow you to compare your results to those of others in your region and network-wide. Knowing how other network members practice may provide insight for your practice. We believe that these summary data will, in addition to helping DPBRN understand the current practices among DPBRN practitioner-investigators, help formulate new questions for new research studies.

Please review the enclosed documents closely and come to the meeting in Atlanta prepared to discuss them. Please bring these materials to the meeting.

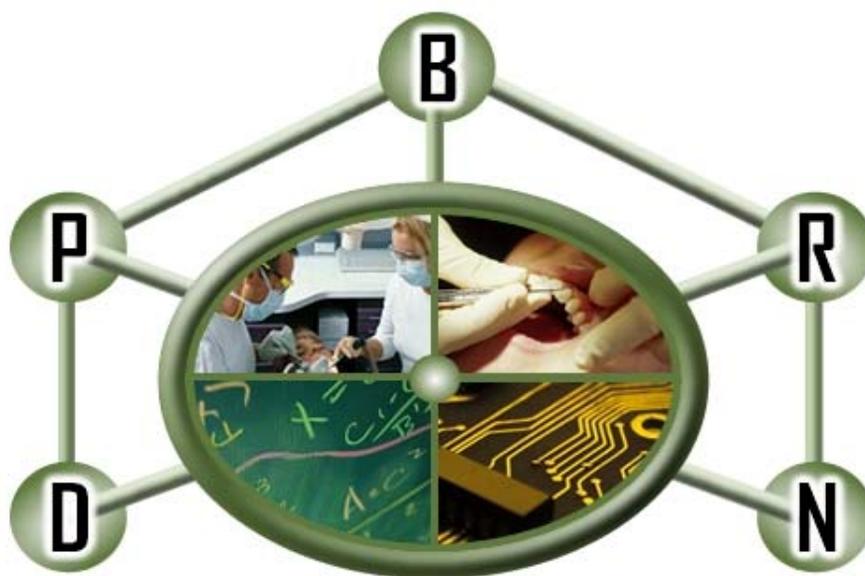
Please plan to attend all sessions – your attendance and input will be very important. A meeting of this magnitude - in which we bring together practitioner-investigators from all the DPBRN regions - is very expensive. These costs are funded through a grant from the U.S. National Institutes of Health - *please keep this obligation in mind as you prepare for this important meeting.* Thank you for making DPBRN a great success!

With regards,  
The DPBRN Executive Committee

### Questions

Questions regarding logistical aspects (registration / air travel / reimbursements, etc.) may be directed to **Roxanne Hall** at [rhall@mpi-evv.com](mailto:rhall@mpi-evv.com) or **Kristina Plouchard** at [kplouchard@mpi-evv.com](mailto:kplouchard@mpi-evv.com)  
877-240-4200 (US) / 812-424-4200 (International) / 812-424-4201 (Fax)

Questions regarding educational aspects may be directed to **Andrea Mathews** at [ahmathews@uab.edu](mailto:ahmathews@uab.edu)



**Dental Practice-Based Research Network**  
[www.DentalPBRN.org](http://www.DentalPBRN.org)

**Study 1: Assessment of Caries Diagnosis and Caries Treatment**

Summary of Key Findings

in preparation for the

2008 Network-Wide Meeting  
Atlanta, GA

May 15-17, 2008

Prepared for: DR <NAME>

### 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:**

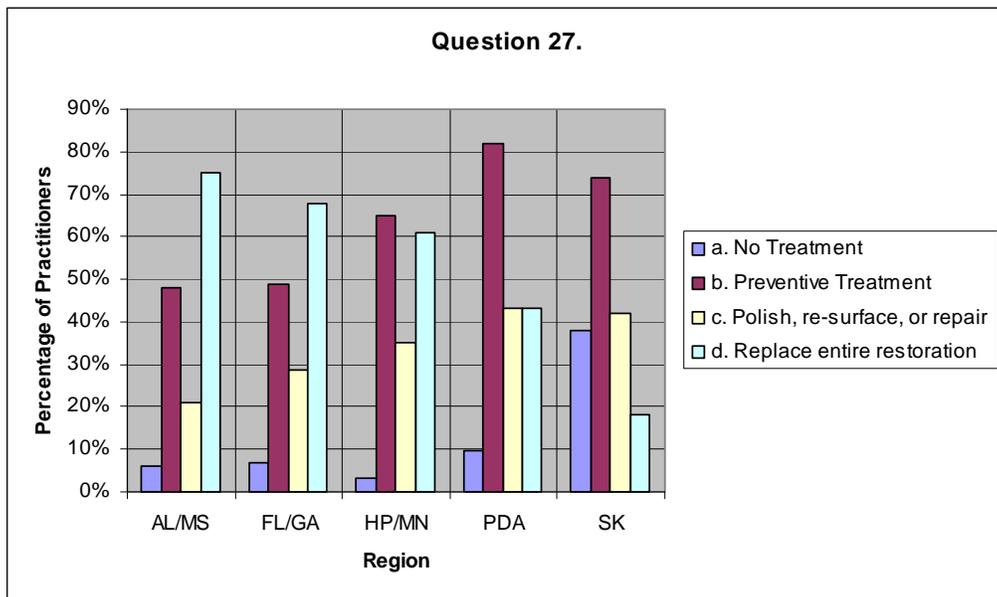
- 1) Questions regarding treatment scenarios (pages 3-13)
- 2) Questions regarding diagnostic methods (pages 14-17)
- 3) Questions regarding preventive methods (pages 18-21)

**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.

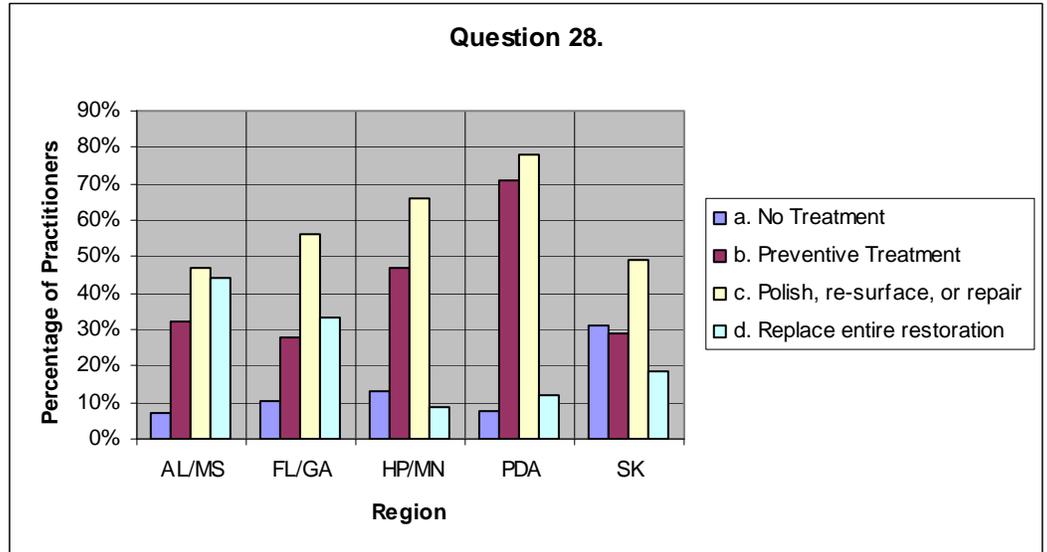
- Note that there was substantial variation across regions in whether to provide any treatment. No treatment was recommended by 38% of practitioner-investigators in the SK region, compared to only 3% in the HP/MN region.
- Recommendation to use fluoride (either in-office, prescription, or non-prescription) 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%).

**When you completed the questionnaire, you responded: <Q27>**

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%	3%	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.

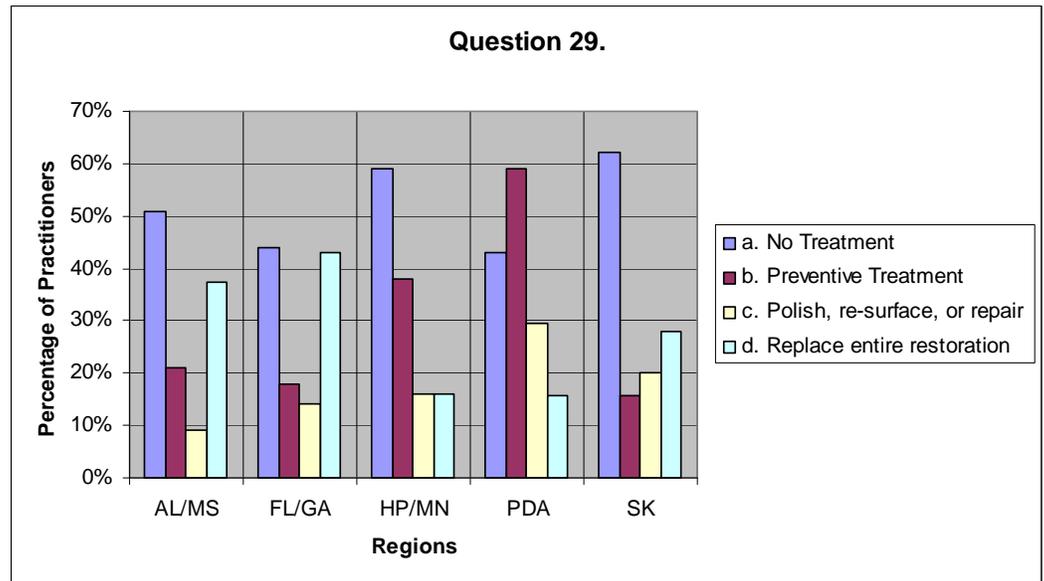
Practitioner-investigators in the HP/MN and PDA regions typically recommended to polish, re-surface, or repair more often than practitioner-investigators in the other regions.

**When you completed the questionnaire, you responded: <Q28>**

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.

**When you completed the questionnaire, you responded: <Q29>**

**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

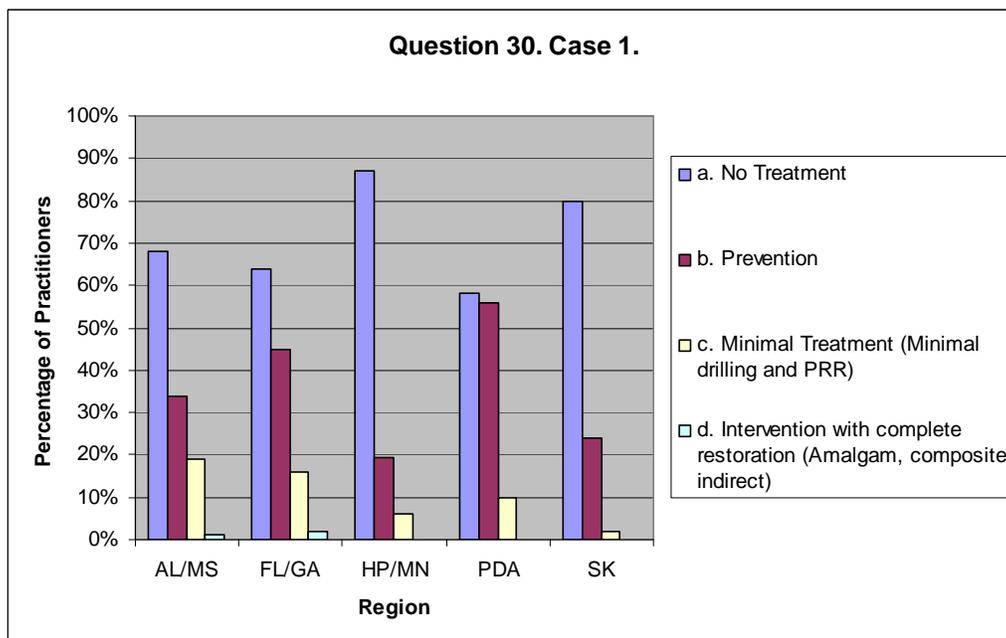
Case 2

Case 3

Case 4

Case 5

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

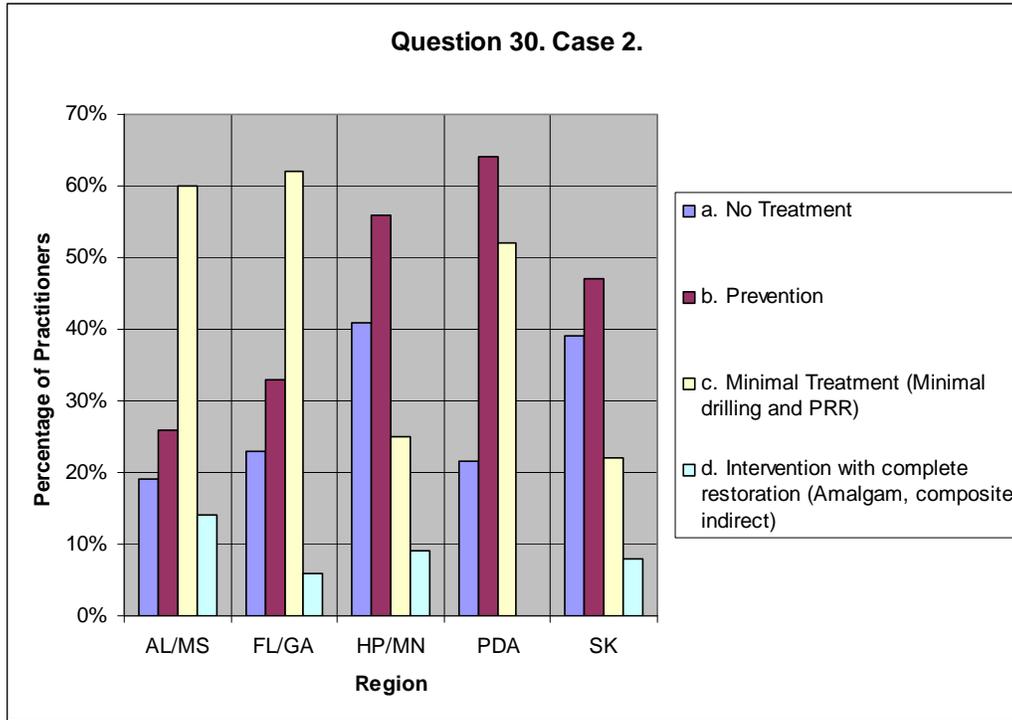


Question 30. Case 1.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	68%	64%	87%	58%	80%
b. Prevention	34%	45%	19%	56%	24%
c. Minimal Treatment (Minimal drilling and PRR)	19%	16%	6%	10%	2%
d. Intervention with complete restoration (Amalgam, composite indirect)	1%	2%	0%	0%	0%

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

**When you completed the questionnaire, you responded: <Q30 C1>**

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



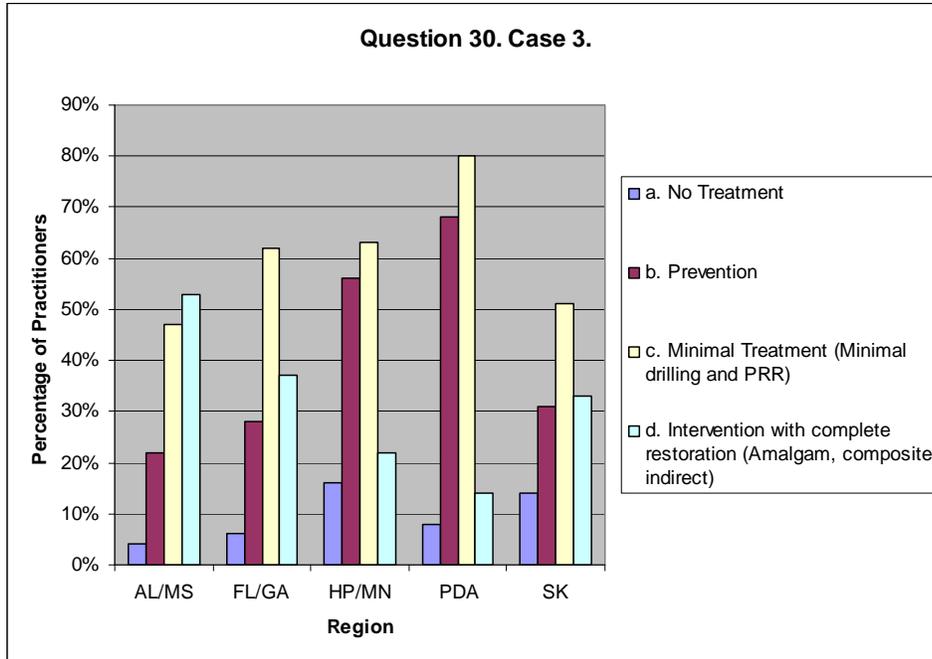
**Case 2.**

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.

**When you completed the questionnaire, you responded: <Q30 C2>**

**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.

**When you completed the questionnaire, you responded: <Q30 C3>**

**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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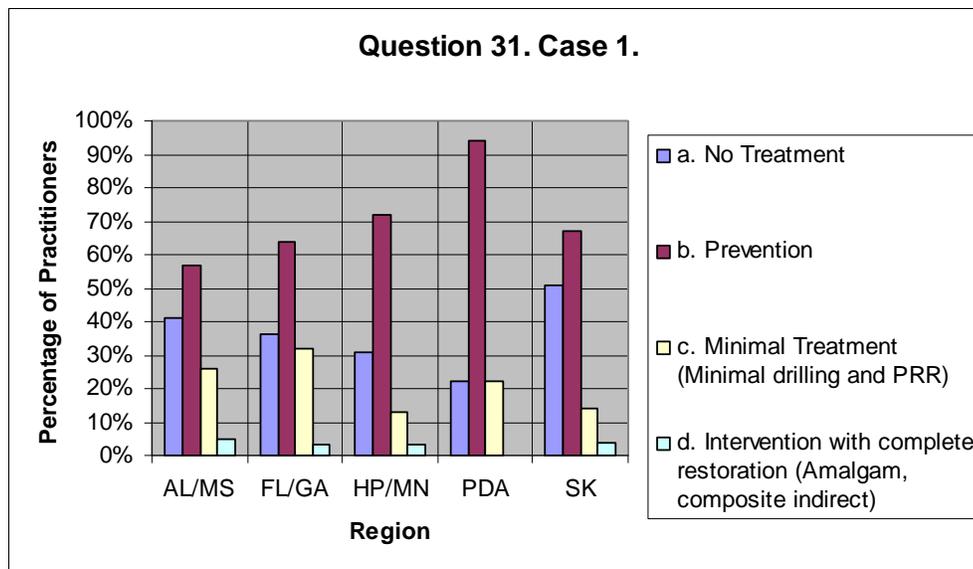
Case 1

Case 2

Case 3

Case 4

Case 5

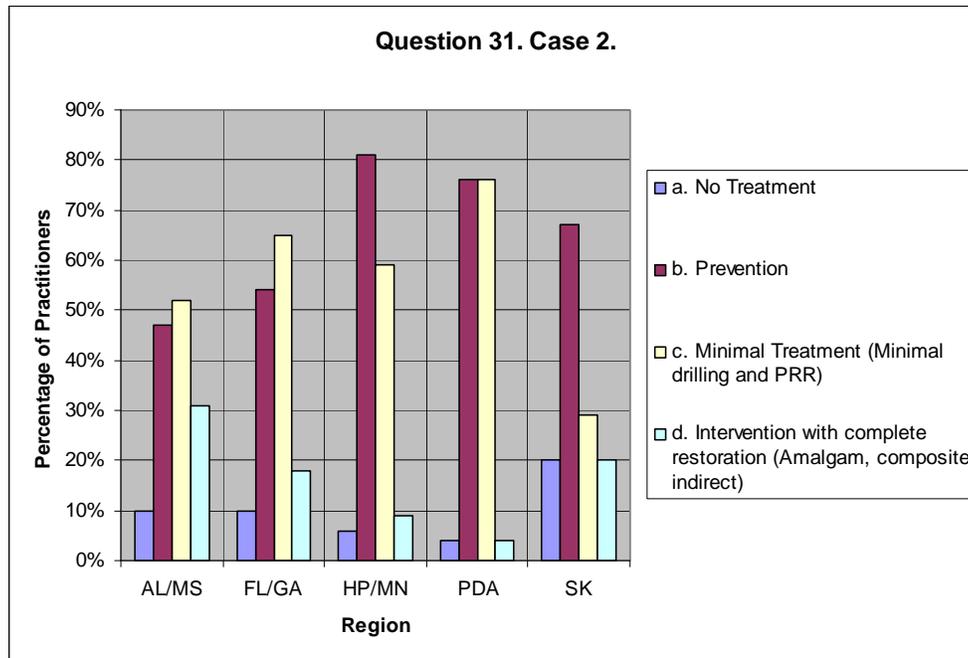


Question 31. Case 1.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	41%	36%	31%	22%	51%
b. Prevention	57%	64%	72%	94%	67%
c. Minimal Treatment (Minimal drilling and PRR)	26%	32%	13%	22%	14%
d. Intervention with complete restoration (Amalgam, composite indirect)	5%	3%	3%	0%	4%

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

**When you completed the questionnaire, you responded: <Q31 C1>**

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



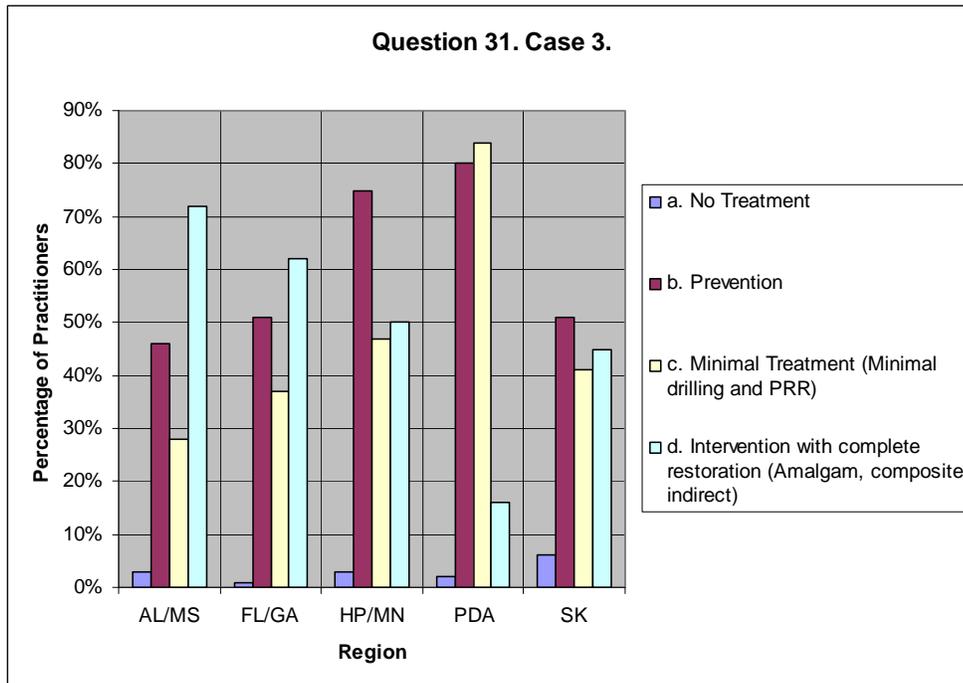
**Case 2.**

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.

**When you completed the questionnaire, you responded: <Q31 C2>**

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



**Case 3.**

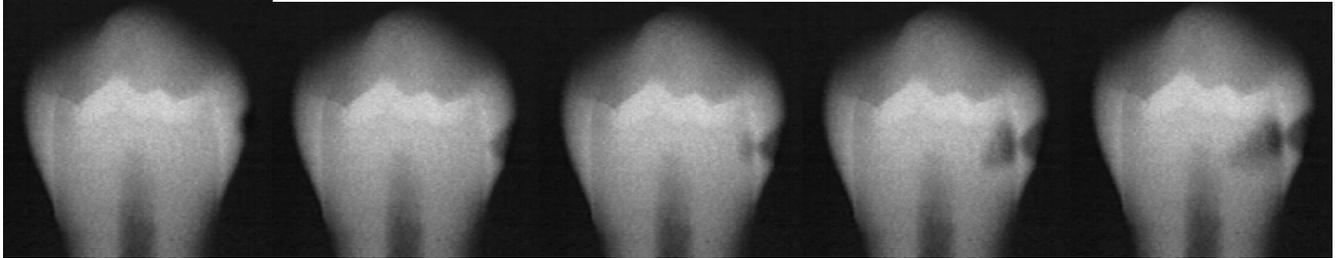
Question 31. Case 3.	AL/MS	FL/GA	HP/MN	PDA	SK
a. No Treatment	3%	1%	3%	2%	6%
b. Prevention	46%	51%	75%	80%	51%
c. Minimal Treatment (Minimal drilling and PRR)	28%	37%	47%	84%	41%
d. Intervention with complete restoration (Amalgam, composite indirect)	72%	62%	50%	16%	45%

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

**When you completed the questionnaire, you responded: <Q31 C3>**

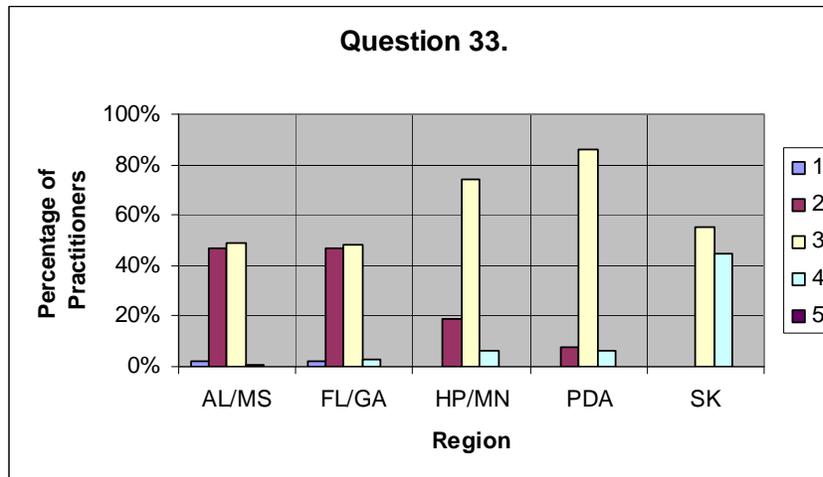
For question 33 and 34: The patient is a 30-year old female with no relevant medical history. She has no complaints and is in your office today for a routine visit. She has been attending your practice on a regular basis for the past 6 years.

33. The patient has no dental restorations, no dental caries, and is not missing any teeth.



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1 2 3 4 5



**Question 33. Lesion depth at which it is best to do a permanent restoration, according to picture shown on form and patient profile**

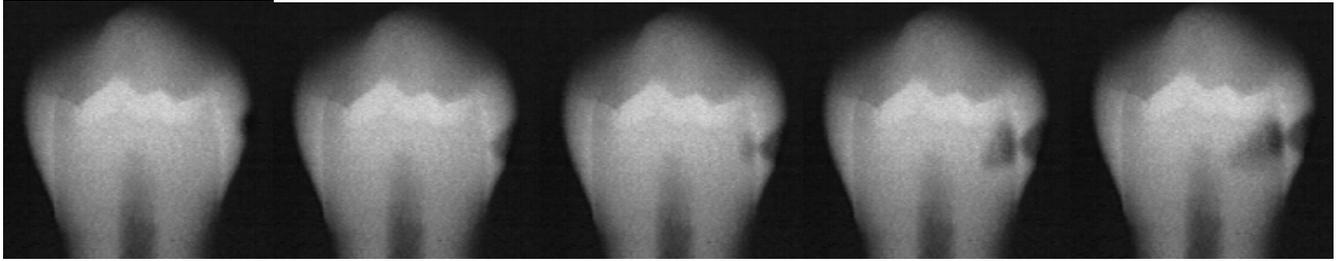
	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
1	2%	2%	--	--	--
2	47%	47%	19%	8%	--
3	49%	48%	74%	86%	55%
4	1%	3%	6%	6%	45%
5	--	--	--	--	--

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

45% of practitioner-investigators in the SK region recommend waiting until the lesion reaches a D2 depth before intervening with a permanent restoration on this low-caries risk scenario. Practitioner-investigators in the other DPBRN regions recommend intervening earlier. For example, 49% of practitioner-investigators in the AL/MS and FL/GA regions would intervene at the E1 or E2 depth.

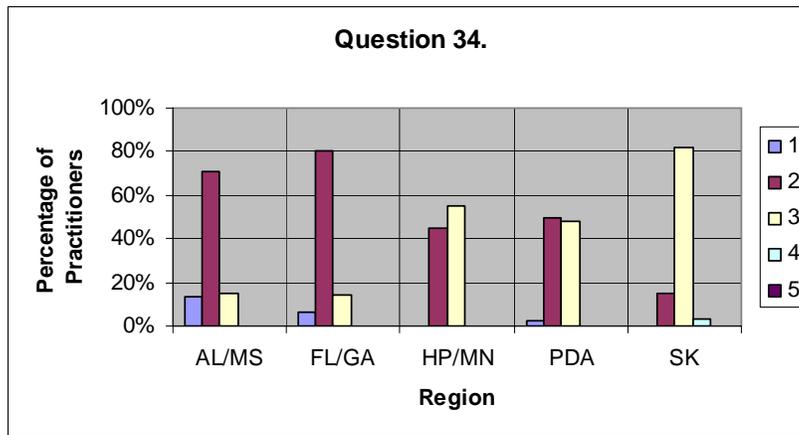
When you completed the questionnaire, you responded: <Q33>

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.

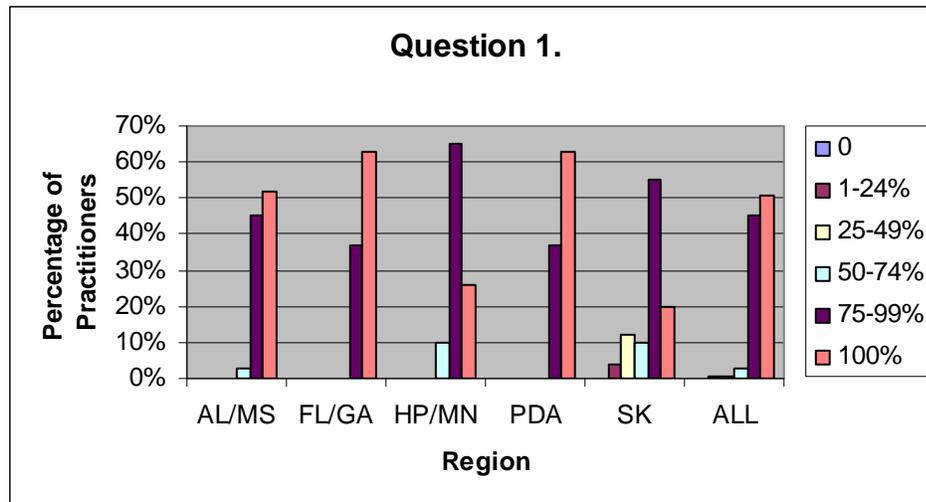
Practitioner-investigators in the SK region had significantly different recommendations than practitioner-investigators in the other DPBRN regions. SK dentists mainly recommended intervening at the E2 or D1 depth in this higher-risk scenario.

**When you completed the questionnaire, you responded: <Q34>**

## 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%



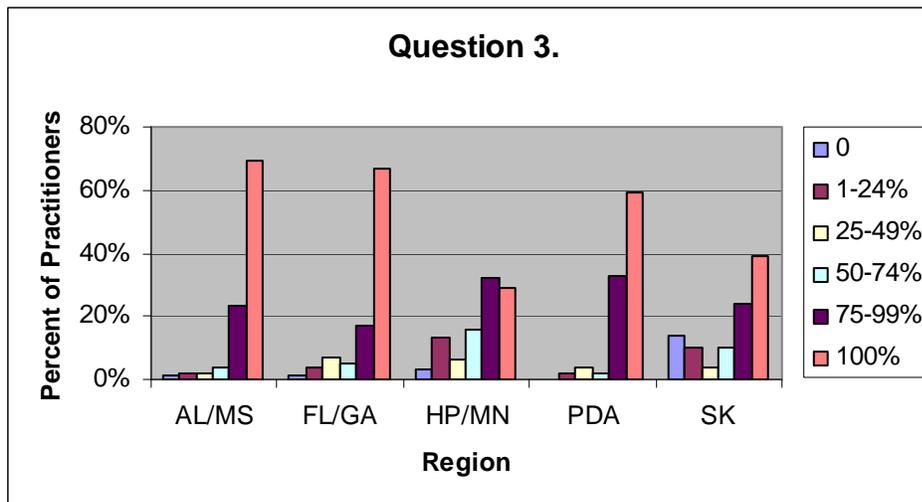
**Question 1. Percent of patients on whom radiography is used to diagnose caries on proximal surface**

	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%	37%	55%
100%	52%	63%	26%	63%	63%	20%

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

**When you completed the questionnaire, you responded: <Q1>**

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**

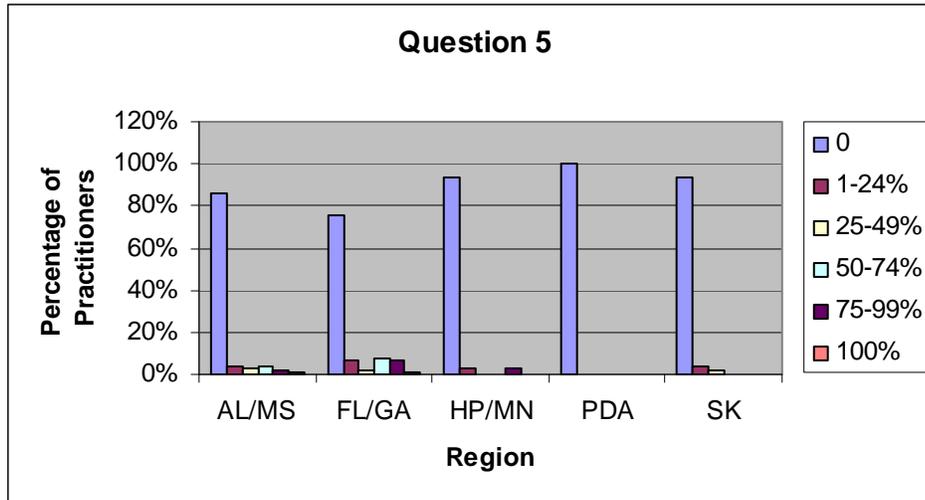
	Region (%)				
	AL/MS	FL/GA	HP/MN	KP	SK
0%	1%	1%	3%	0%	14%
1-24%	2%	4%	13%	2%	10%
25-49%	2%	7%	6%	4%	4%
50-74%	4%	5%	16%	2%	10%
75-99%	23%	17%	32%	33%	24%
100%	69%	67%	29%	59%	39%

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

**When you completed the questionnaire, you responded: <Q3>**

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.

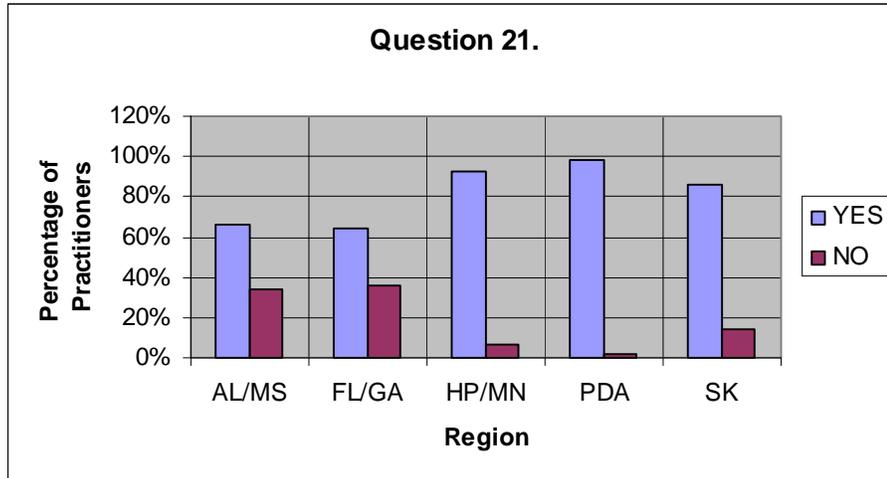
When you completed the questionnaire, you responded: <Q5>

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

1 – Yes

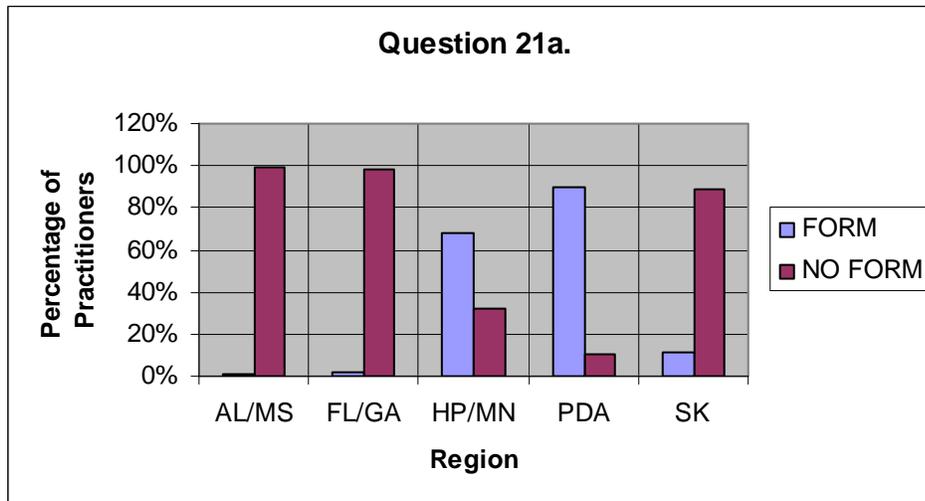
- a. I record the assessment on a special form that is kept in the patient chart. (Please include a copy of the form used when returning this questionnaire.)
- b. I do not use a special form to make the assessment.

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**

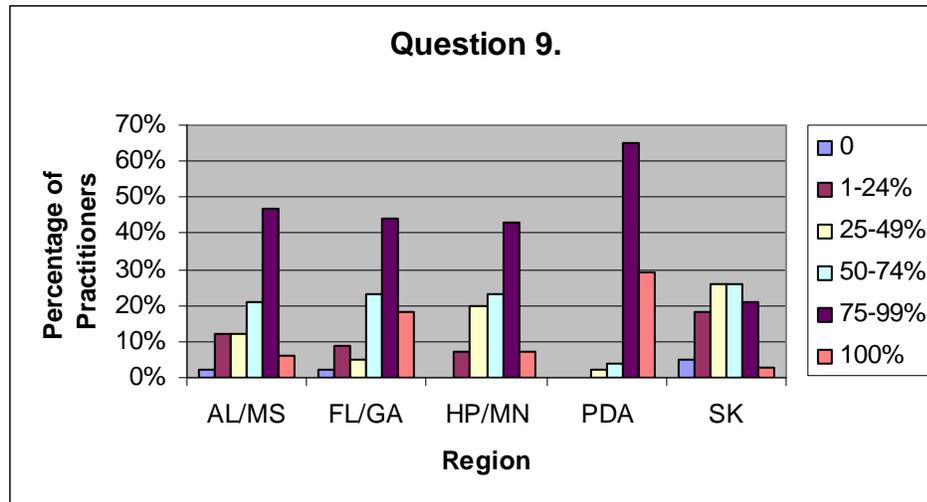
	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
Form	1%	2%	68%	90%	11%
No form	99%	98%	32%	10%	89%

When you completed the questionnaire, you responded: Q21 – <Q21>, Q21a – <Q21a>

## 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%



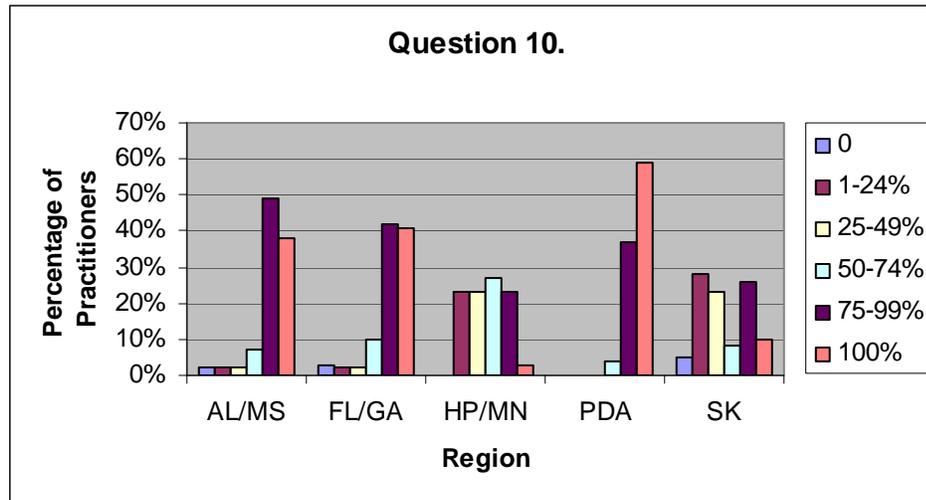
**Question 9. Percent of 6-to-18-year-old patients on whom dental sealants are applied on occlusal surfaces of at least one of their permanent teeth**

	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.

**When you completed the questionnaire, you responded: <Q9>**

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**

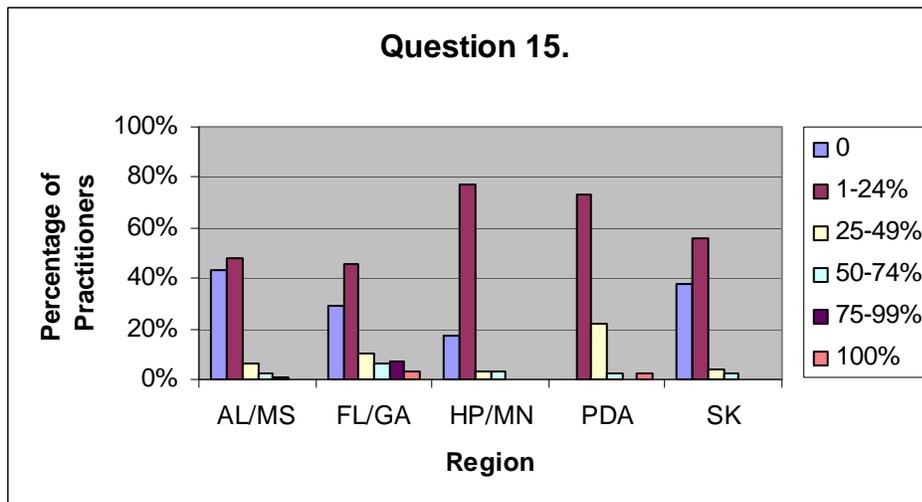
	Region (%)				
	AL/MS	FL/GA	HP/MN	PDA	SK
0%	2%	3%	--	--	5%
1-24%	2%	2%	23%	--	28%
25-49%	2%	2%	23%	--	23%
50-74%	7%	10%	27%	4%	8%
75-99%	49%	42%	23%	37%	26%
100%	38%	41%	3%	59%	10%

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.

**When you completed the questionnaire, you responded: <Q10>**

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%



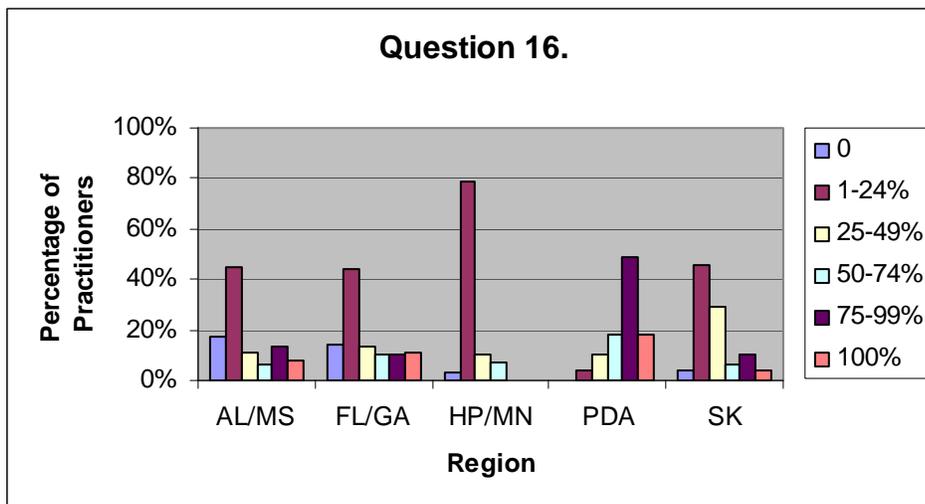
**Question 15. Percent of patients more than 18 years old with at least one posterior tooth on whom dental sealants are applied on occlusal surfaces of at least one tooth**

	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.

**When you completed the questionnaire, you responded: <Q15>**

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.

**When you completed the questionnaire, you responded: <Q16>**