Dental Practice-Based Research Network
www.DentalPBRN.org

DPBRN12: Prevalence of Questionable Occlusal Caries Lesions

Summary of Overall Results – Graphs

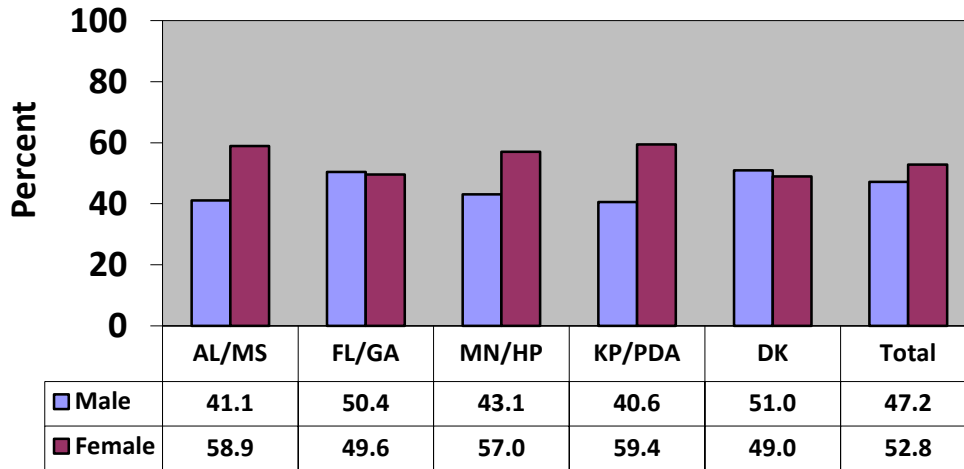**Date Prepared: May 19, 2011**

Questions asked regarding the characteristics of the patients receiving restorative treatment

1. Patient Gender
   a ☐ Male
   b ☐ Female

Question 1: Gender

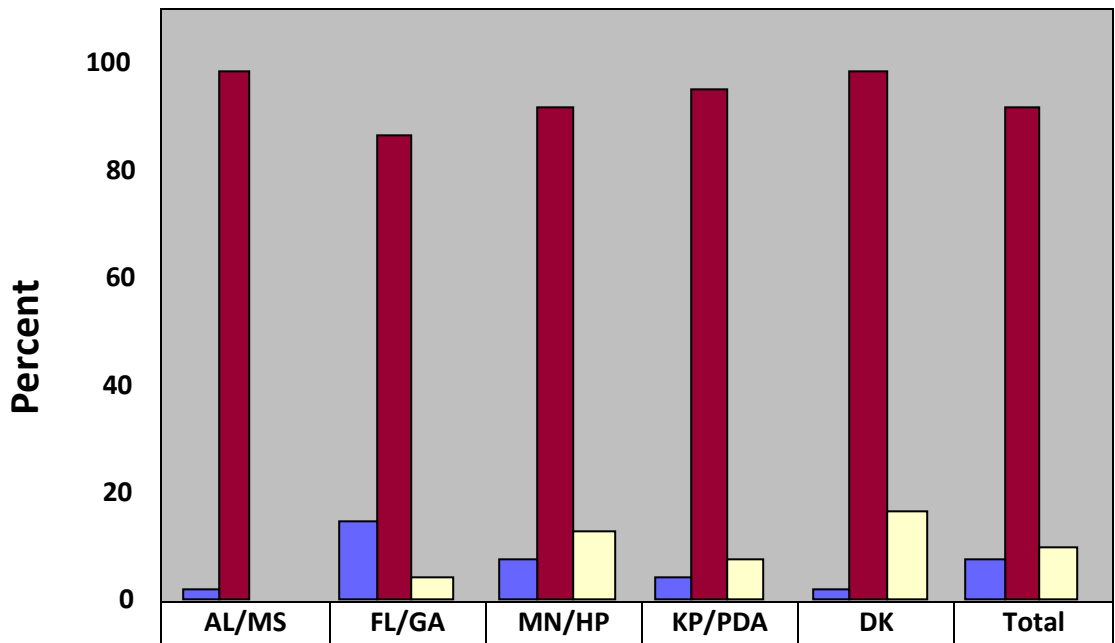|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Male	41.1	50.4	43.1	40.6	51.0	47.2
☐ Female	58.9	49.6	57.0	59.4	49.0	52.8

- Overall, 53% of enrolled patients were female, lower for FL/GA and DK.

3. Patient ethnicity

    a ☐ not reported or unknown (I do not wish to provide this information)
    b ☐ Hispanic or Latino
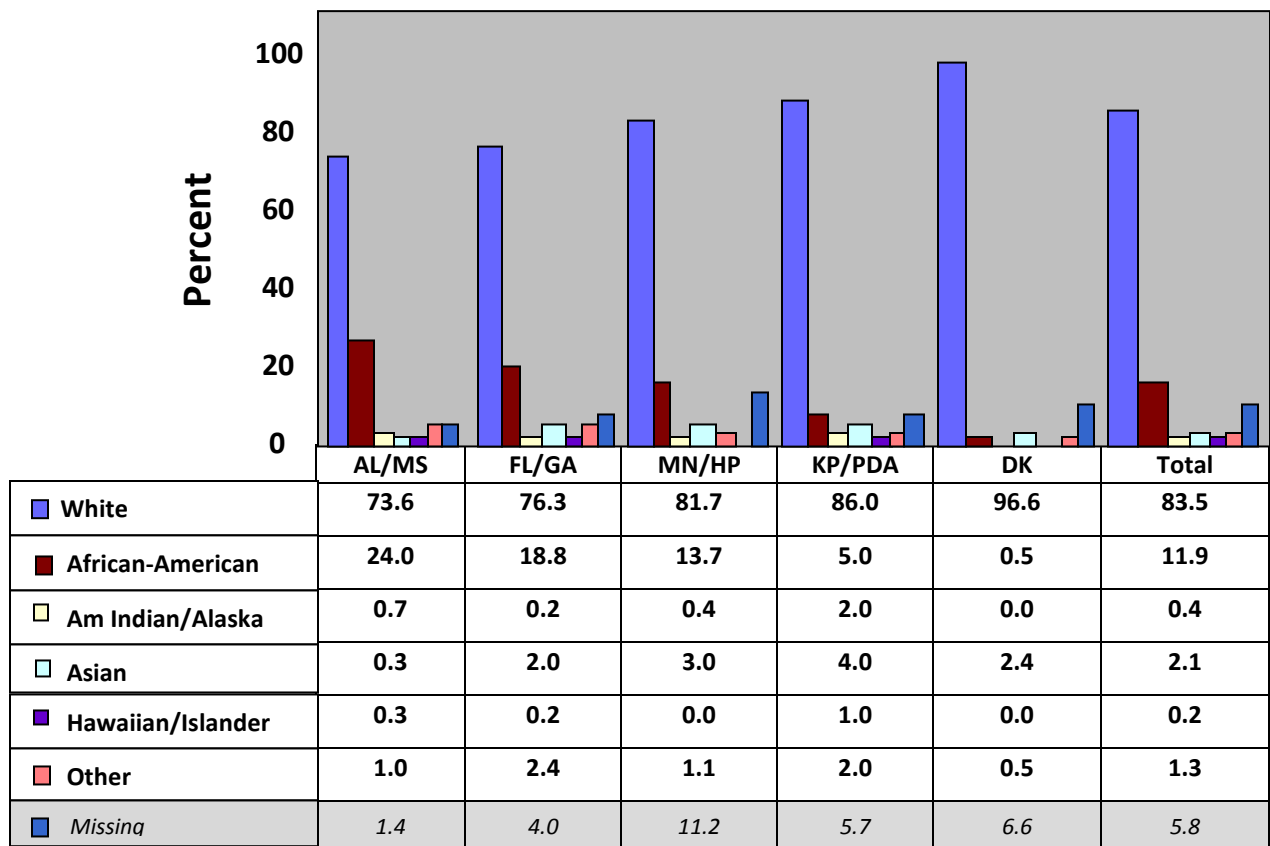   c ☐ Not Hispanic or Latino

Question 3: Ethnicity

	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Hispanic/Latino	1.4	15.3	6.3	4	1.6	6.4
☐ Not Hispanic/Latino	98.6	84.7	93.7	96	98.4	93.6
☐ Missing	0.0	4.0	14.2	6.6	17.6	9.8

- 6% of patients whose ethnicity was available were of Hispanic/Latino ethnicity, notably higher in FL/GA.

3

4. Patient race

   a ☐ not reported or unknown (I do not wish to provide this information)
   b ☐ White
   c ☐ Black or African-American
   d ☐ American Indian or Alaska Native
   e ☐ Asian
   f ☐ Native Hawaiian or Other Pacific Islander
   g ☐ Other (please specify) _____

Question 4: Race

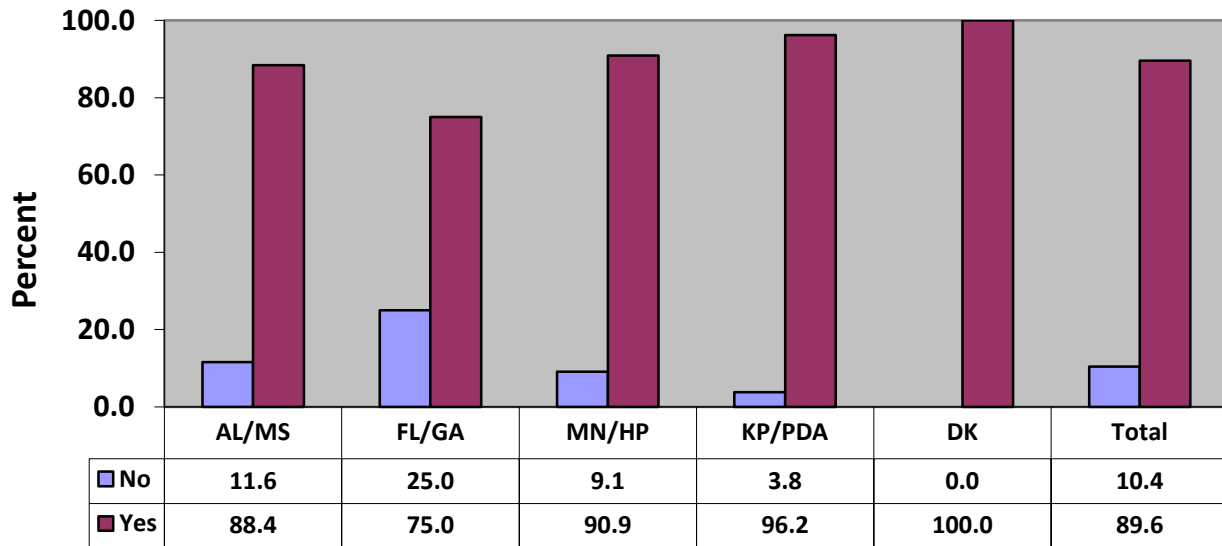|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
White	73.6	76.3	81.7	86.0	96.6	83.5
African-American	24.0	18.8	13.7	5.0	0.5	11.9
Am Indian/Alaska	0.7	0.2	0.4	2.0	0.0	0.4
Asian	0.3	2.0	3.0	4.0	2.4	2.1
Hawaiian/Islander	0.3	0.2	0.0	1.0	0.0	0.2
Other	1.0	2.4	1.1	2.0	0.5	1.3
Missing	1.4	4.0	11.2	5.7	6.6	5.8

- 84% of patients were White, 12% Black/African-American, with considerable differences by region: DK 97% White, and FL/GA, AL/MS being 19-24% Black/ African-American.
- Race-specific percents were calculated based on available data, specifically, the missing were excluded when calculating other percents.

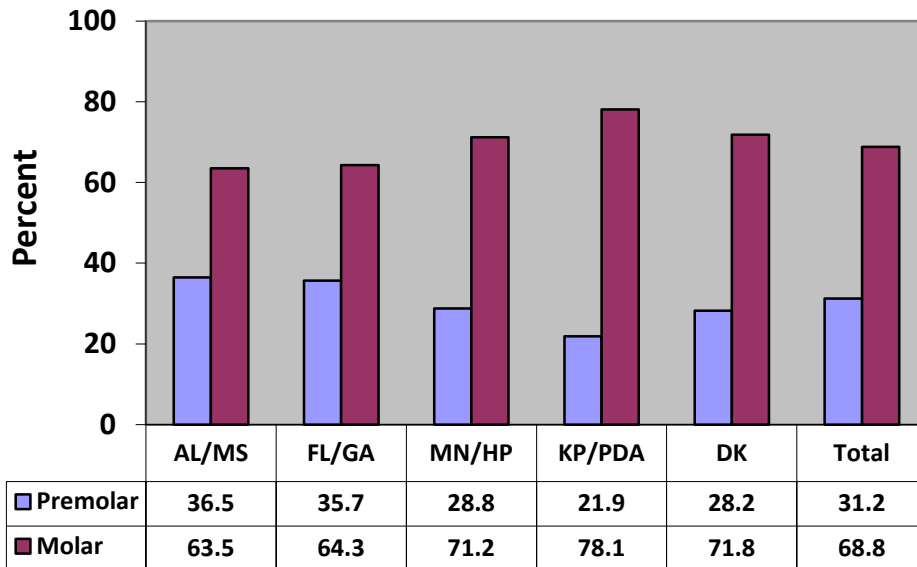5. Does the patient have any dental insurance or third party coverage?

    a ☐ No
    b ☐ Yes

Question 5: Insurance

	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
No	11.6	25.0	9.1	3.8	0.0	10.4
Yes	88.4	75.0	90.9	96.2	100.0	89.6

- Overall, 90% had some type of dental insurance; all of DK and only 75% of FL/GA.

Tooth Position

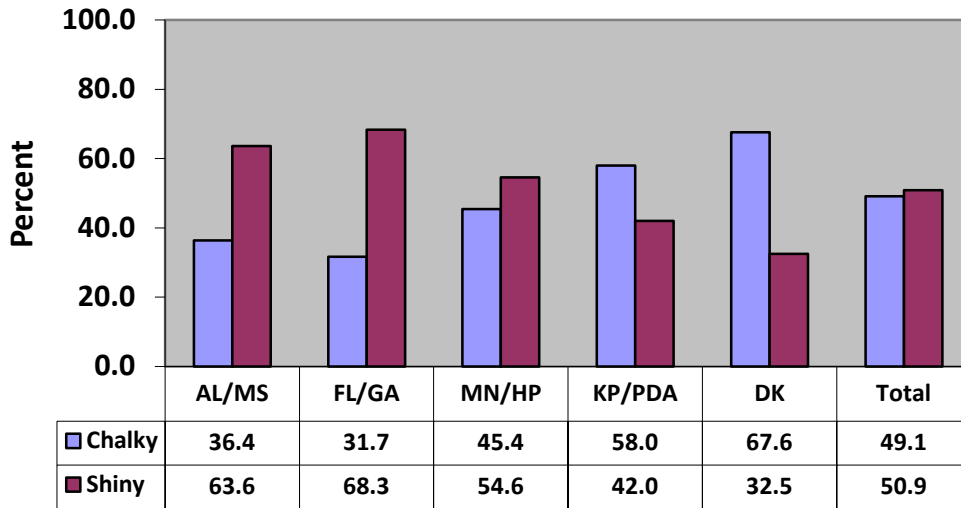|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
Premolar	36.5	35.7	28.8	21.9	28.2	31.2
Molar	63.5	64.3	71.2	78.1	71.8	68.8

- 31% of lesions involved premolars, lower in KP/PDA (22%) and higher in AL/MS and FL/GA, 36%.

- Among lesions involving premolars, 43% were maxillary and 45% were 1st premolars, similar across regions.

- Among lesions involving molars
  - equal with regard to maxillary or mandibular, similar across regions, in contrast:
  - 37% were 1st, 53% were 2nd, and 10% were 3rd molars, differing across regions, especially 3rd molars: low of 5% in KP/PDA, high of 14% in DK, with the remaining ranging 7-10%.

7. Which **one** best describes the luster of the questionable area?
   a ☐ Chalky appearance
   b ☐ Shiny appearance

Question 7: Appearance

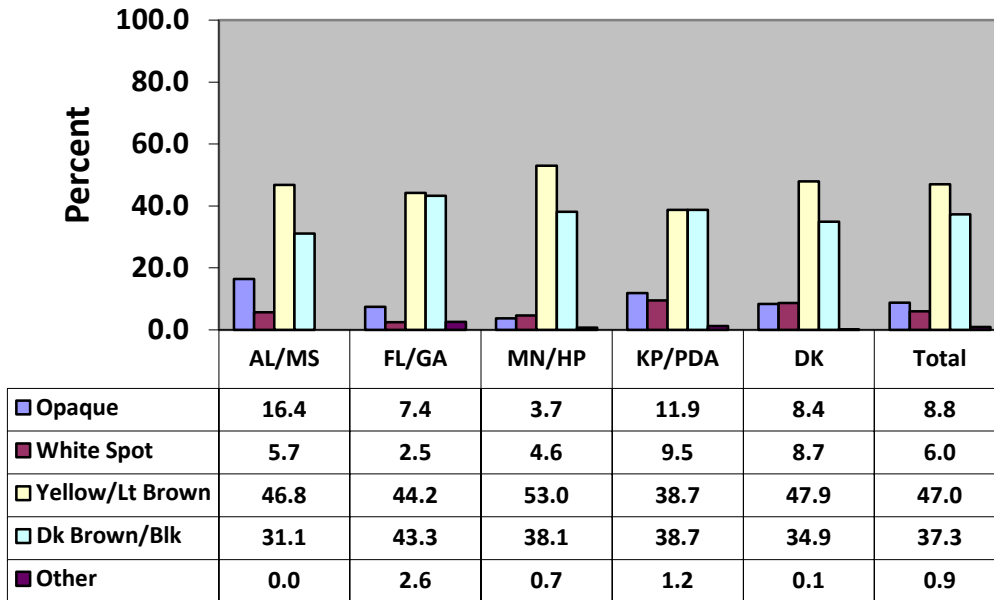|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Chalky	36.4	31.7	45.4	58.0	67.6	49.1
■ Shiny	63.6	68.3	54.6	42.0	32.5	50.9

- Overall, about half of the lesions had a chalky and half had a shiny luster; this differed across regions. FL/GA and ALMS had only 32-36% with a chalky luster compared to 68% in DK.

8. Which **one** best describes the color of the questionable area?

a ☐ Opaque
b ☐ White spot
c ☐ Yellow/light brown discoloration
d ☐ Dark brown/black discoloration
e ☐ Other _____

Question 8: Color

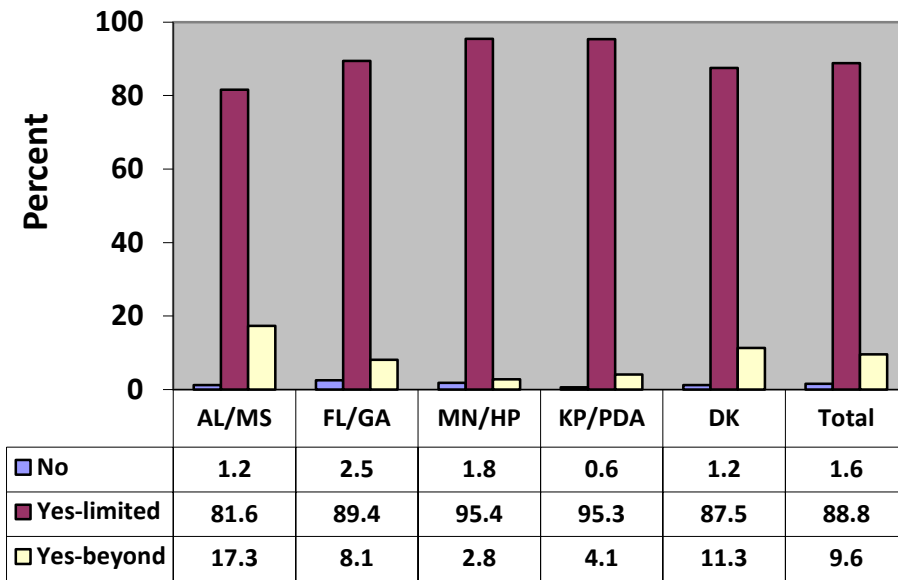|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
Opaque	16.4	7.4	3.7	11.9	8.4	8.8
White Spot	5.7	2.5	4.6	9.5	8.7	6.0
Yellow/Lt Brown	46.8	44.2	53.0	38.7	47.9	47.0
Dk Brown/Blk	31.1	43.3	38.1	38.7	34.9	37.3
Other	0.0	2.6	0.7	1.2	0.1	0.9

- Most common color of lesion was yellow/light brown, 47%, followed by dark brown/black, 37%, with much fewer being opaque (9%) or white (6%). Though these percents differed across region, the "ranking" varied very little, namely, yellow/light brown was always most common either followed by or tied with dark brown/black.

9. Is the questionable area associated with a fissure or pit?

a ☐ No
b ☐ Yes – limited to the pit or fissure
c ☐ Yes – extending beyond the pit or fissure

Question 9: Fissure or Pit

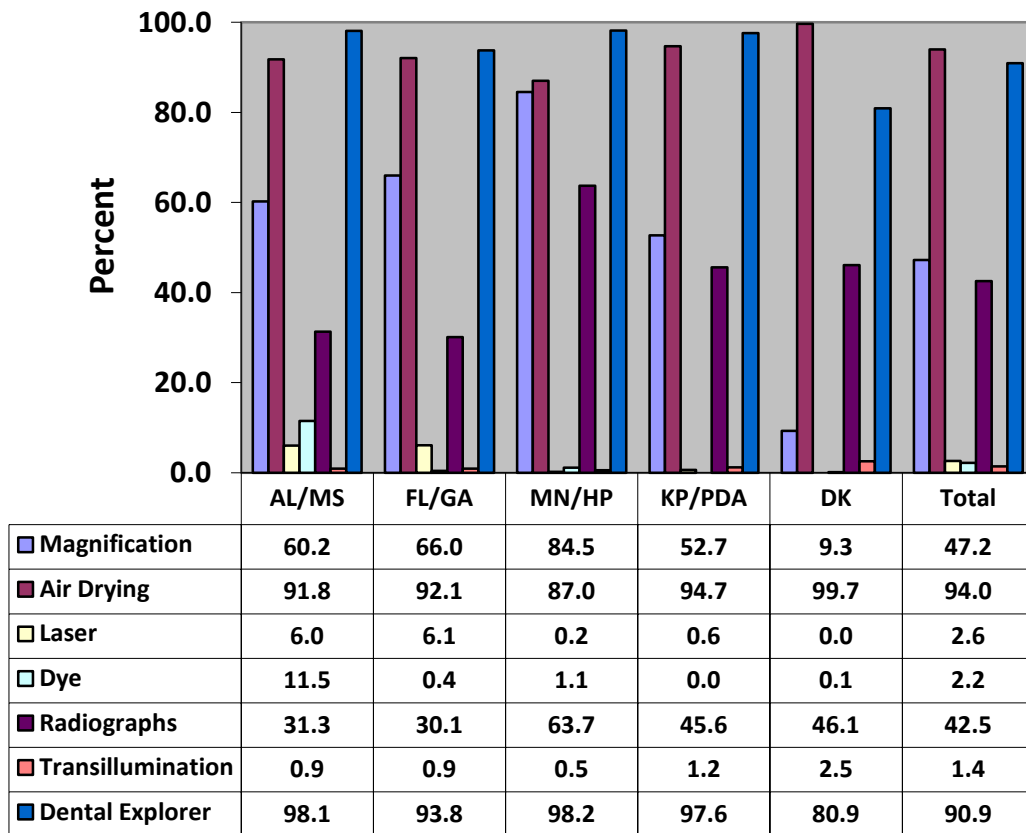|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ No	1.2	2.5	1.8	0.6	1.2	1.6
■ Yes-limited	81.6	89.4	95.4	95.3	87.5	88.8
☐ Yes-beyond	17.3	8.1	2.8	4.1	11.3	9.6

- Nearly 90% had a limited association with a fissure or pit, ranged from 82% in AL/MS to 95% in MN/HP and KP/PDA.

10. Which aids were used in **making (not confirming)** the diagnosis? (Check all that apply)

a ☐ Magnification (please indicate power_ _)
b ☐ Air drying
c ☐ Dental explorer
d ☐ Laser fluorescence such as DIAGNOdent®
    (measurement_____)
e ☐ Caries Detecting Dye
f ☐ Radiographs
g ☐ Transillumination
h ☐ Other _____

Question 10: Aids

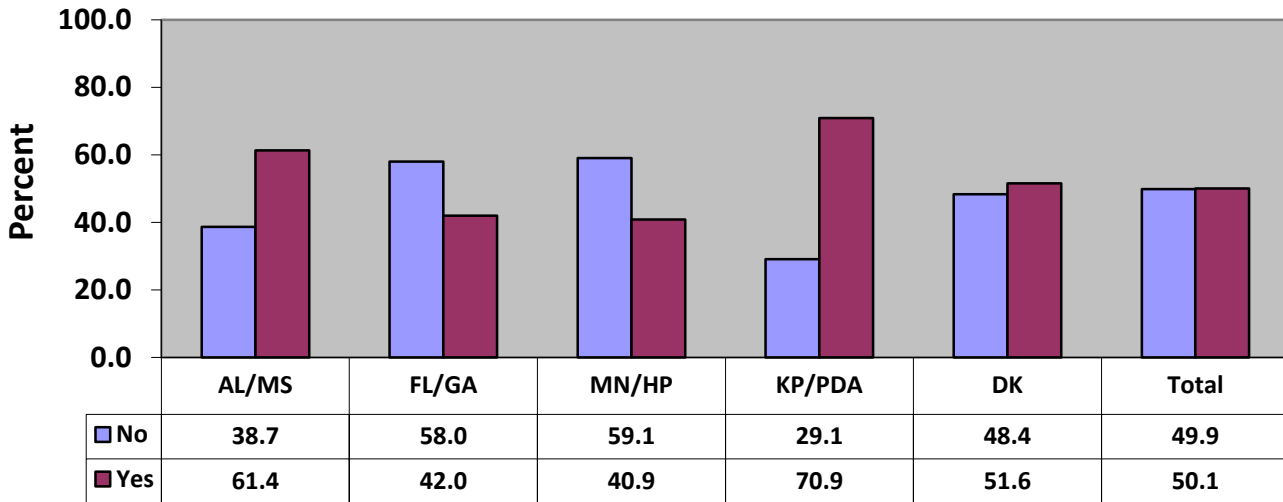|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Magnification	60.2	66.0	84.5	52.7	9.3	47.2
☐ Air Drying	91.8	92.1	87.0	94.7	99.7	94.0
☐ Laser	6.0	6.1	0.2	0.6	0.0	2.6
☐ Dye	11.5	0.4	1.1	0.0	0.1	2.2
☐ Radiographs	31.3	30.1	63.7	45.6	46.1	42.5
☐ Transillumination	0.9	0.9	0.5	1.2	2.5	1.4
☐ Dental Explorer	98.1	93.8	98.2	97.6	80.9	90.9

- Air drying and dental explorer were by far the most common aids used in diagnosing these lesions. Air drying was used in 94% of lesions (range 87% in KP/PDA to 100% in DK) and dental explorer in 91% (range 81%in DK to 98% in AL/MS and MN/HP) .

- Radiographs were next most commonly used aid – used in less than half, 42% of lesions.

- Laser fluorescence was used almost solely by AL/MS and FL/GA, and in only 6%, and caries detecting dye was use almost solely in AL/MS, in 11%.

If you did not use an explorer, please skip to question 13

11. When you used a dental explorer, did you experience roughness of the enamel surface upon light exploration?

a ☐ No
b ☐ Yes

Question 11: Dental Explorer - Roughness

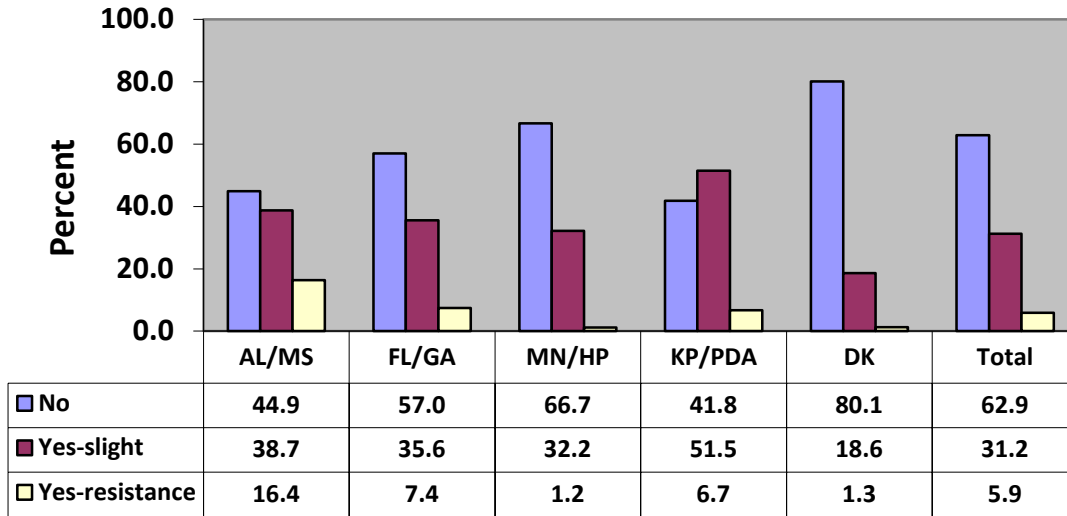|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ No	38.7	58.0	59.1	29.1	48.4	49.9
■ Yes	61.4	42.0	40.9	70.9	51.6	50.1

- Among lesions diagnosed with aid of dental explorer, half were "rough," much higher in KP/PDA (71%) than MN/HP or FL/GA (41-42%).

12. When you used a dental explorer, did you experience retention of the explorer in a groove or fissure?

a ☐ No
b ☐ Yes-Slight stick
c ☐ Yes-Resistance to removal

Question 12: Dental Explorer-Retention

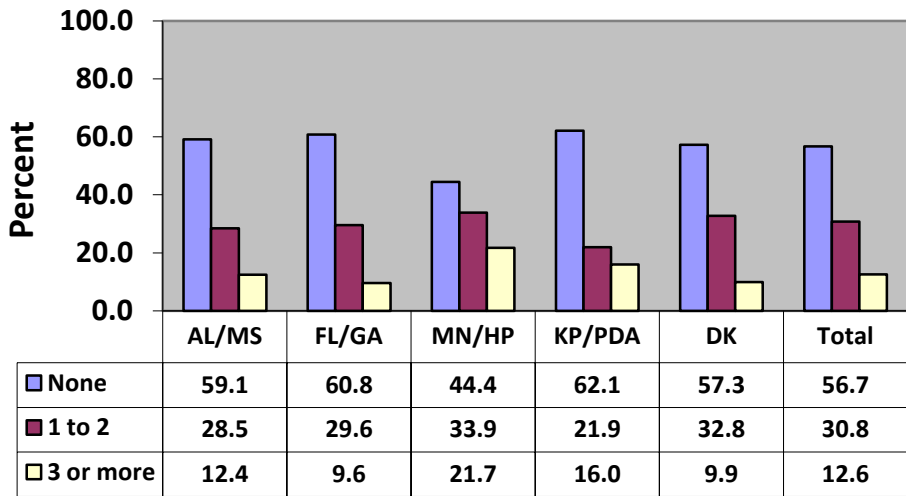|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ No	44.9	57.0	66.7	41.8	80.1	62.9
☐ Yes-slight	38.7	35.6	32.2	51.5	18.6	31.2
☐ Yes-resistance	16.4	7.4	1.2	6.7	1.3	5.9

- Among lesions diagnosed with aid of dental explorer, in 63% no resistance was noted, 31% slight, and 6% definite resistance. This differed considerably across regions, e.g., in AL/MS, 16% definite resistance and in DK, 80% no resistance at all.

For questions 13 –18, how would you characterize the patient's dental history in the following areas? (Check one answer per question).

13. **Caries**
a ☐ No caries lesions treated in the past 2 years
b ☐ 1-2 caries lesions treated in the past 2 years
c ☐ 3 or more lesions treated in the past 2 years

Question 13: History - Caries

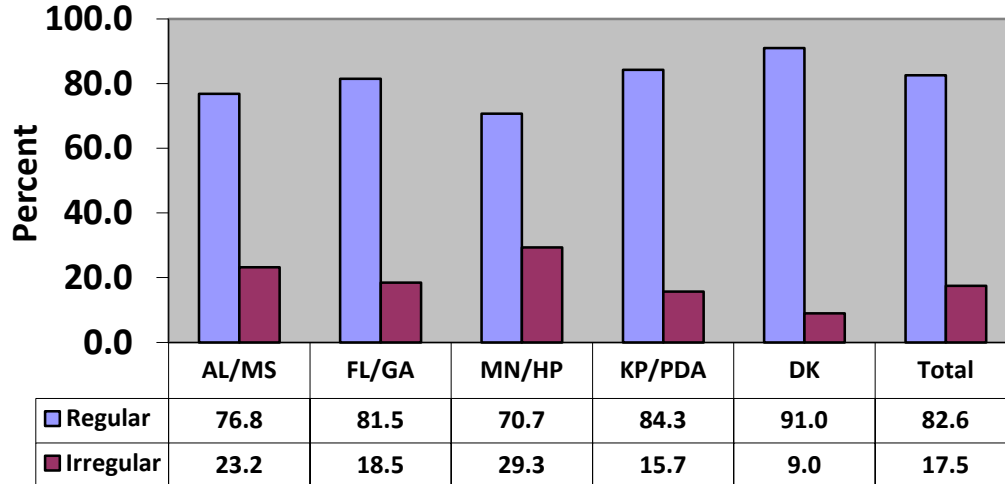|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ None	59.1	60.8	44.4	62.1	57.3	56.7
■ 1 to 2	28.5	29.6	33.9	21.9	32.8	30.8
☐ 3 or more	12.4	9.6	21.7	16.0	9.9	12.6

- Patient dental history was completed separately for each lesion, for the most part, though not always, responses were identical.
- Overall, in the prior 2 years, 57% had no caries, 31% had 1-2, and 13% had 3 or more caries. MN/HP had 44% with no caries and 22% with 3 or more.

14. **Recall**
a ☐ Regular recall care intervals
b ☐ Irregular recall care interval

Question 14: History - Recall

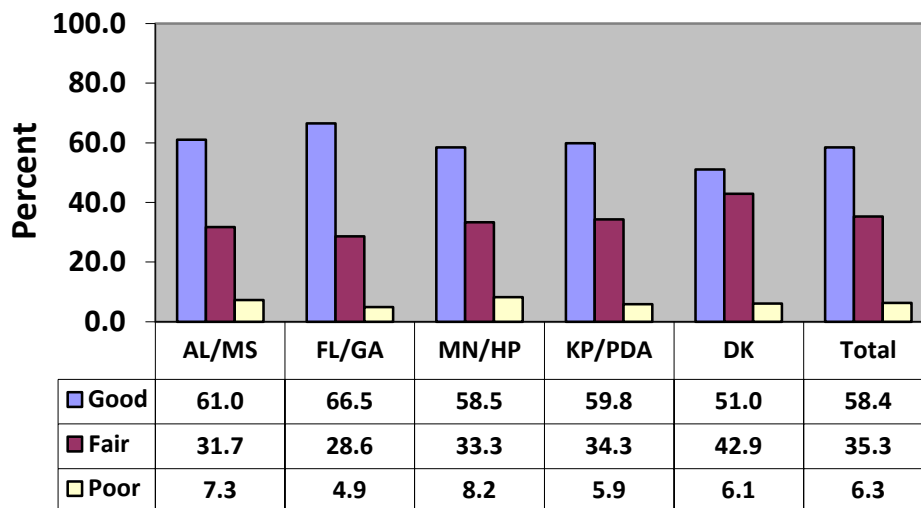|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Regular	76.8	81.5	70.7	84.3	91.0	82.6
☐ Irregular	23.2	18.5	29.3	15.7	9.0	17.5

- Nearly 83% had regular recall intervals, highest in DK (91%) and lowest in MN/HP (71%).

15. **Homecare**
a ☐ Good oral self-care
b ☐ Fair oral self-care
c ☐ Poor oral self-care

Question 15: History - Homecare

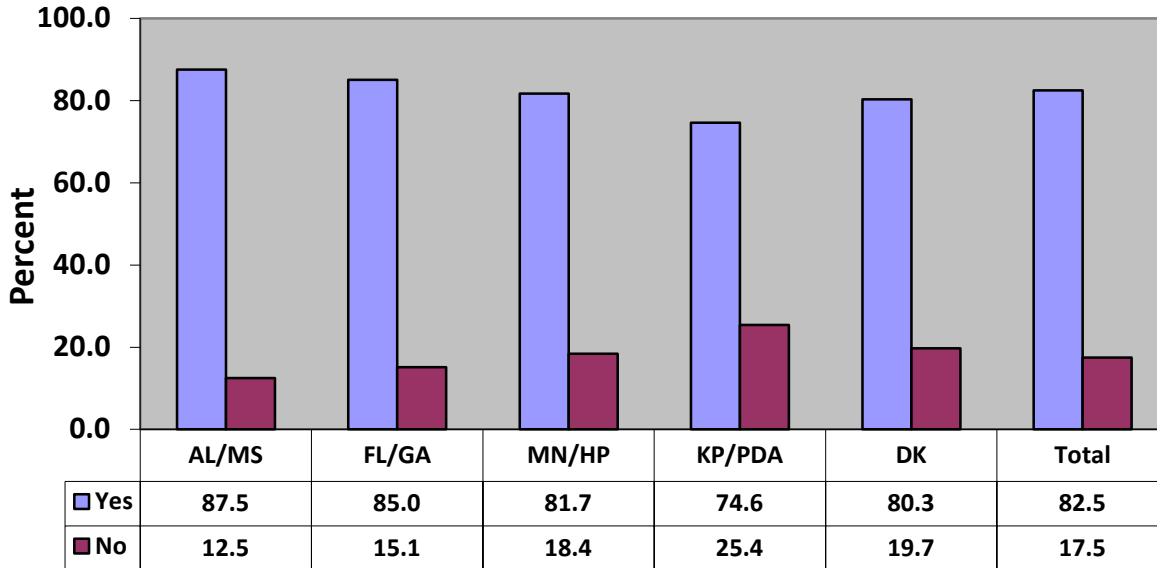|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Good	61.0	66.5	58.5	59.8	51.0	58.4
☐ Fair	31.7	28.6	33.3	34.3	42.9	35.3
☐ Poor	7.3	4.9	8.2	5.9	6.1	6.3

- 58% had good oral self care, 35% fair and 6% poor. FL/GA had the best profile for oral self-care.

16. Restorations
a ☐   Has restorations
b ☐   Does not have restorations

Question 16: History - Restorations

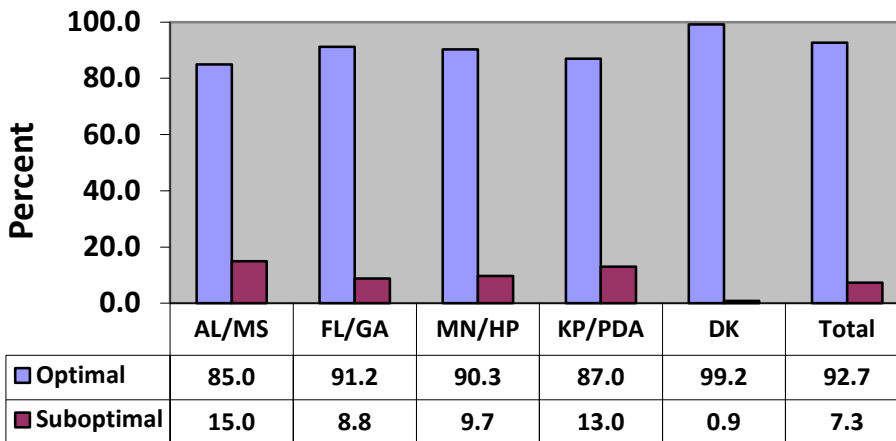|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Yes	87.5	85.0	81.7	74.6	80.3	82.5
☐ No	12.5	15.1	18.4	25.4	19.7	17.5

- 82% had some restorations, ranging from 75% in KP/PDA to 87% in AL/MS.

17. Fluoride
a ☐   Optimal Fl level (inc Fl toothpaste) or receives Fl treatments
b ☐   Suboptimal Fl level and does not receive Fl treatment

Question 17: History - Fluoride

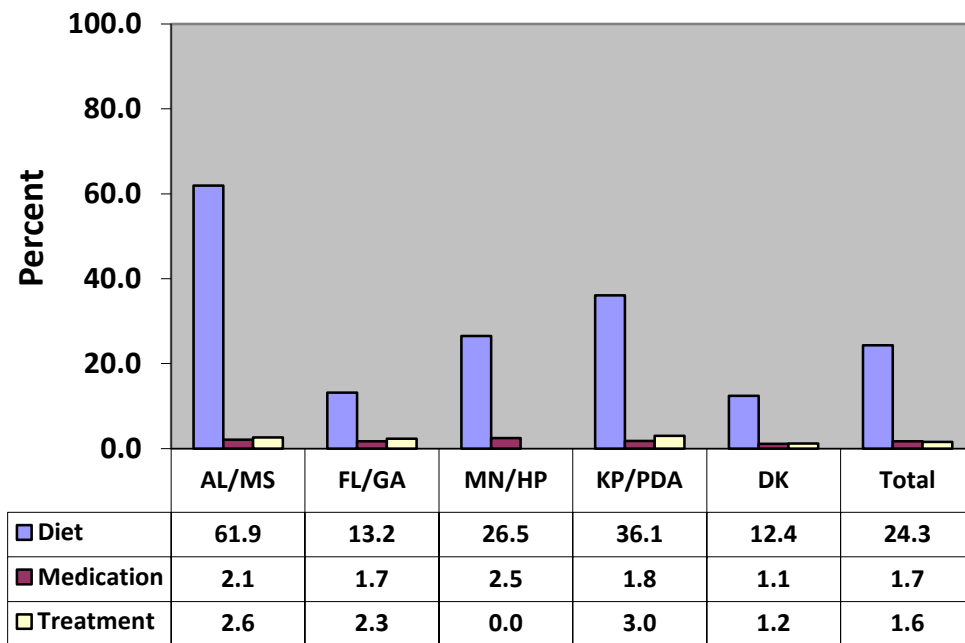|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Optimal	85.0	91.2	90.3	87.0	99.2	92.7
☐ Suboptimal	15.0	8.8	9.7	13.0	0.9	7.3

- 7% had suboptimal Fl level, higher in AL/MS and KP/PDA (13-15%) and lowest in DK (<1%).

15

18. **Miscellaneous** (Check all that apply)
a ☐ Cariogenic Diet
b ☐ Medication/Disease induced xerostomia/hyposalivation
c ☐ Active Orthodontic treatment

Question 18: History - Miscellaneous

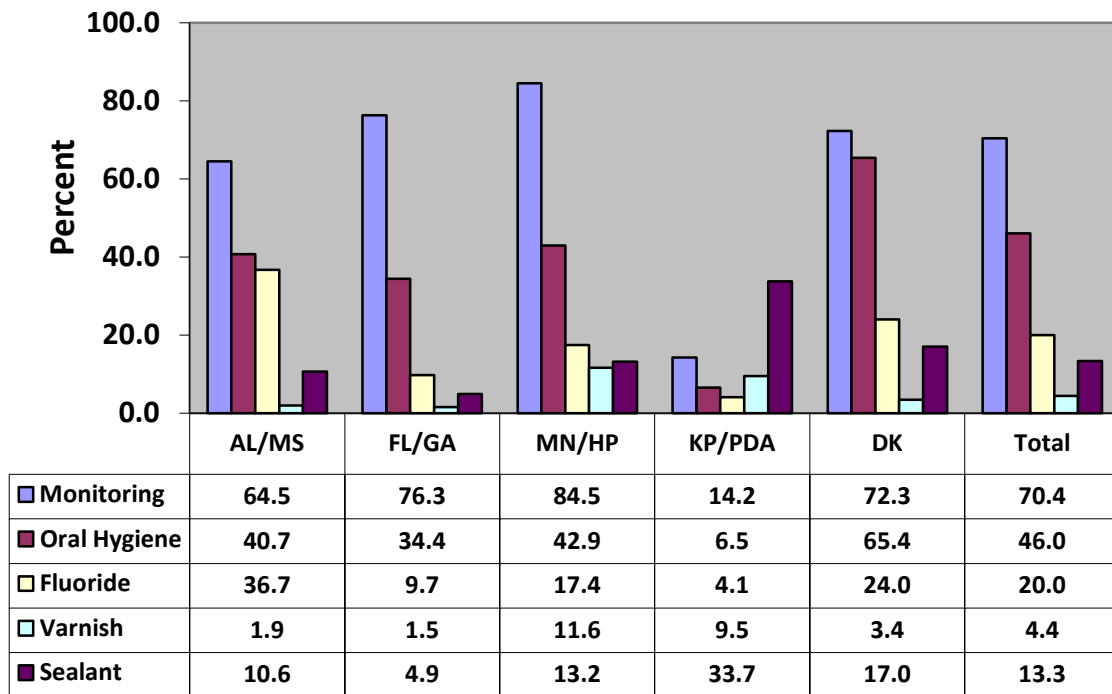|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Diet	61.9	13.2	26.5	36.1	12.4	24.3
■ Medication	2.1	1.7	2.5	1.8	1.1	1.7
☐ Treatment	2.6	2.3	0.0	3.0	1.2	1.6

- 24% ate a cariogenic diet, much higher in AL/MS (62%) and lower in FL/GA and DK (12-13%).
- Medication and orthodontic treatment were quite rare, <2% overall.

19. I chose to treat the tooth today by: (Please check all that apply)

a ☐ Monitoring
b ☐ Oral hygiene instruction
c ☐ Applying/prescribing fluoride
d ☐ Applying varnish
e ☐ Sealant placement (etch tooth with **no** preparation, with
    sealant material/composite resin placed over it)
f ☐ Enameloplasty (removing superficial grooves and other
    defects with or without fluoride/resin material)
g ☐ Preventive Resin Restoration (i.e. minimal tooth preparation,
    composite resin placed, with sealant material placed over it)
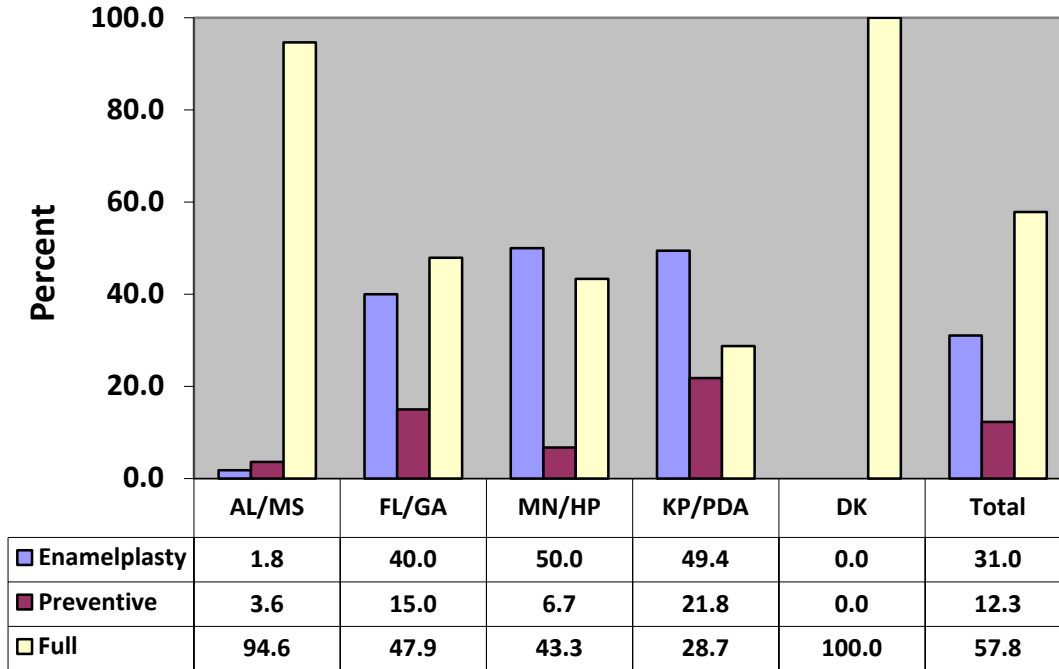h ☐ Full Restoration
I ☐ Other _____

If you chose a,b,c, d, or e please **STOP**

Question 19: Treatment

	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
☐ Monitoring	64.5	76.3	84.5	14.2	72.3	70.4
■ Oral Hygiene	40.7	34.4	42.9	6.5	65.4	46.0
☐ Fluoride	36.7	9.7	17.4	4.1	24.0	20.0
☐ Varnish	1.9	1.5	11.6	9.5	3.4	4.4
■ Sealant	10.6	4.9	13.2	33.7	17.0	13.3

- Monitoring was the most common (70%) treatment option indicated, followed by oral hygiene instruction (46%). Applying varnish was the non-restorative option indicated by fewest practitioners (4%).

Question 19: Treatment - Restorations (Type)

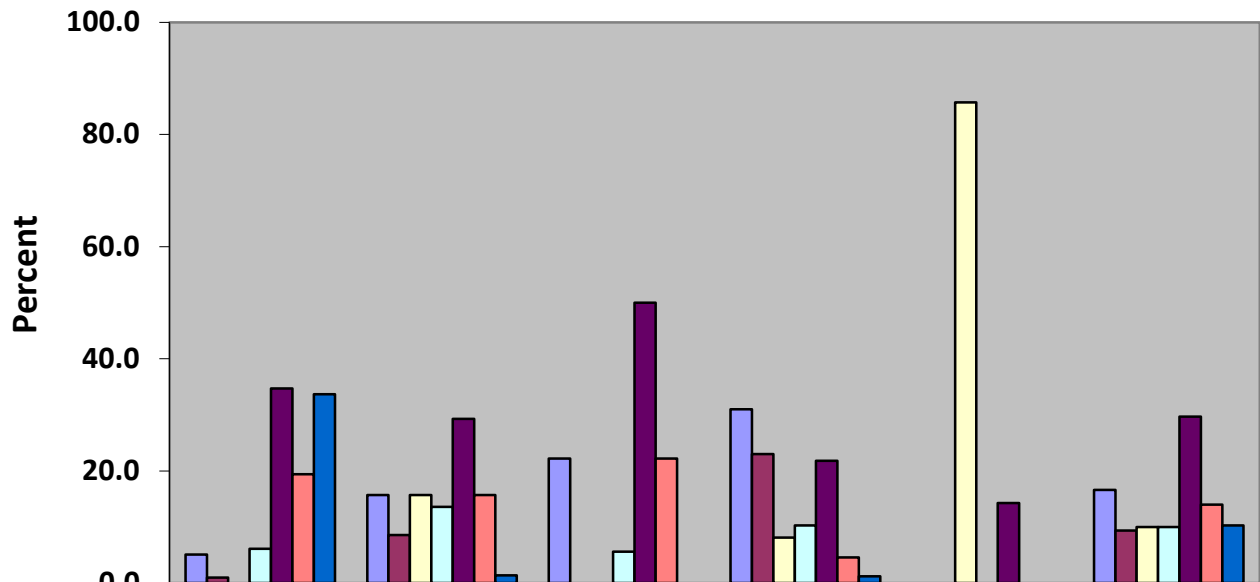|	AL/MS	FL/GA	MN/HP	KP/PDA	DK	Total
■ Enamelplasty	1.8	40.0	50.0	49.4	0.0	31.0
■ Preventive	3.6	15.0	6.7	21.8	0.0	12.3
□ Full	94.6	47.9	43.3	28.7	100.0	57.8

- 14% of lesions were treated with some type of restoration, with full-restoration being most common choice of restorative treatment, 8.1% overall and 58% of restorative treatments.

- There was substantial variation in treatment of these lesions across regions, e.g., monitoring was indicated by 72-76% of practitioners in FL/GA and DK but by only 14% in KP/PDA. Any type of restorative treatment ranged from <1% in DK to 26% in AL/MS.

20. If you chose to restore this tooth, what did you find?

a ☐ No caries
b ☐ Inactive/ re-mineralized caries
c ☐ Active caries (Outer ½ of Enamel)
d ☐ Active caries (Inner ½ of Enamel)
e ☐ Active caries (Outer ⅓ of Dentin)
f ☐ Active caries (Middle ⅓ of Dentin)
g ☐ Active caries (Inner ⅓ of Dentin)
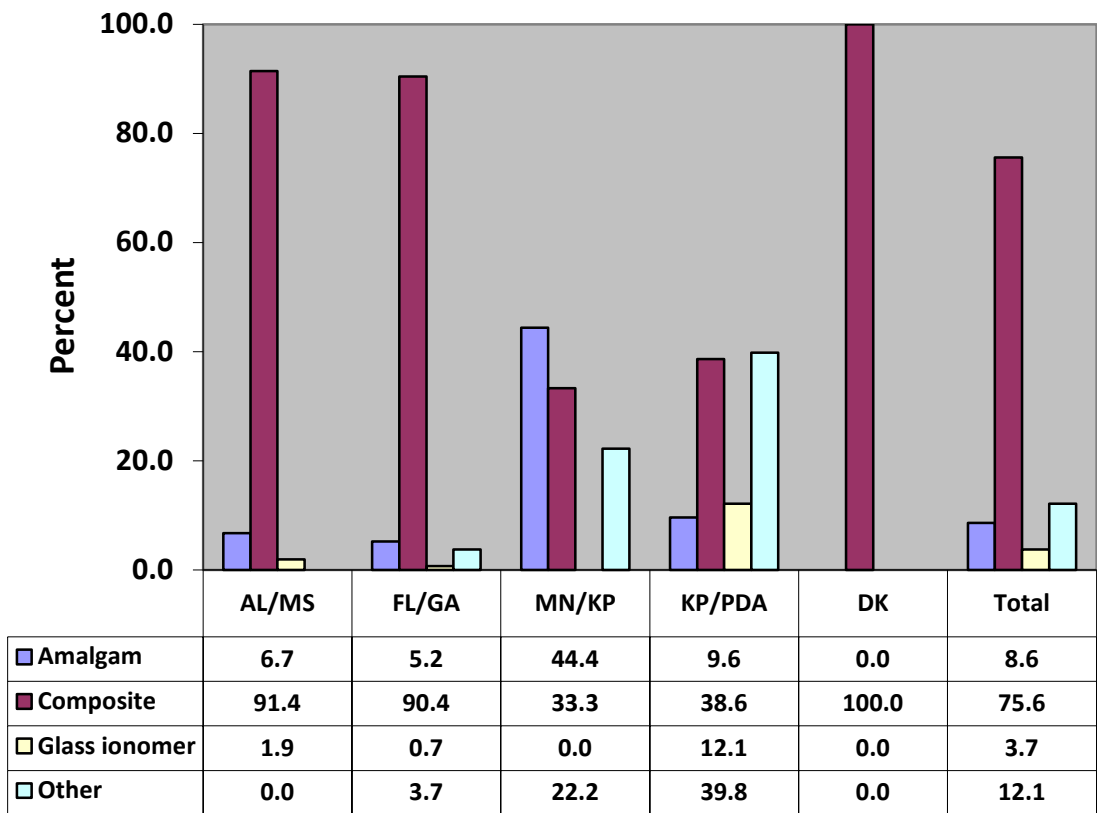
Question 20: Restoration Findings

	AL/MS	FL/GA	MN/KP	KP/PDA	DK	Total
☐ No Caries	5.1	15.7	22.2	31.0	0.0	16.6
☐ Inactive	1.0	8.6	0.0	23.0	0.0	9.4
☐ Outer 1/2 Enamel	0.0	15.7	0.0	8.1	85.7	10.0
☐ Inner 1/2 Enamel	6.1	13.6	5.6	10.3	0.0	10.0
☐ Outer 1/3 Dentin	34.7	29.3	50.0	21.8	14.3	29.7
☐ Mid 1/3 Dentin	19.4	15.7	22.2	4.6	0.0	14.0
☐ Inner 1/3 Dentin	33.7	1.4	0.0	1.2	0.0	10.3

- Of lesions which had some type of restorative treatment, 74% had active decay, of these 27% were within the enamel.

- There was substantial variation across region egarding findings, e.g., percent with active decay ranged from 46% in KP/PDA to 94-100% in AL/MS and DK. Similarly, among those with active decay, percent within the enamel ranged from 6% in AL/MS to 87% in DK.

21. If you chose to restore this tooth, what type of material did you
    use?
  a ☐ Amalgam
  b ☐ Composite
  c ☐ Glass ionomer
  d ☐ Other _____

Question 21: Restoration Material

	AL/MS	FL/GA	MN/KP	KP/PDA	DK	Total
☐ Amalgam	6.7	5.2	44.4	9.6	0.0	8.6
■ Composite	91.4	90.4	33.3	38.6	100.0	75.6
☐ Glass ionomer	1.9	0.7	0.0	12.1	0.0	3.7
☐ Other	0.0	3.7	22.2	39.8	0.0	12.1

- Composite was used in 76% of lesions restored; this differed by region in that 3 regions used it almost exclusively, while 2 used it in only 30-39% of lesions.