
A Regional and Provincial Analysis

Ministry of Health
Healthy Children Women Seniors and Injury Prevention
Population Health and Wellness
May 6, 2008
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British Columbia School Screening Dental Program, A Regional and Provincial Analysis

Introduction:

In 1990, a standardized public health dental screening program was implemented in British Columbia. This dental screening program involved public health dental care professionals who performed dental screening as part of classroom dental health education sessions. During the screening program, kindergarten children were assessed for:

- evidence of no visible dental decay (caries-immune)
- evidence of no visible decay but evidence of existing restorations
- evidence of pain or infection at the time of screening
- evidence of visible dental decay (caries) in one or more teeth, and
- location of decay by quadrant of the mouth.

In March 2005, government announced a commitment to improve early childhood development. The dental health initiative was one part of an integrated cross-ministry strategy for addressing dental, hearing, and vision concerns in the early childhood years (birth to five years of age). Health Authorities received increased funding to enhance early childhood dental health programs. The goal was to provide programs that would offer the best opportunity to improve the dental health and well-being of infants and children. The Early Childhood Dental Health initiative included:

- Provision of increased public health dental health services through registered dental hygienists and certified dental assistants, so that health authorities could increase prevention of early childhood caries and improve identification of higher risk, more vulnerable segments of the population
- Increased access to dental treatment, especially for low-income families, and
- Public awareness and education program related to early childhood caries.

Health authority dental staff have continued to monitor the impact of early intervention programs on dental health through ongoing dental surveys of kindergarten children. The kindergarten survey provides a measurement of the success of these services in improving the dental health of the young children. In 2006-2007, a province wide dental survey was conducted by health authority public health dental staff to assess the dental health of kindergarten children.

This report provides a comparative summary to 2001-2002 data and is based on the British Columbia School Screening Dental Program, A Regional and Provincial Analysis April 2003 document. Although 1993-2000 screening data is included in some graphs, this report will only compare screening results collected from 2001 to 2002 with kindergarten dental survey data collected in 2006 to 2007.

The rationale for limiting comparisons to the 2001-2002 and 2006-07 data is that for this time period there was greater consistency of screening practices and data recording.
practices. It is important to note however, that there are limitations in performing direct comparisons as the 2006-2007 data was based on a universal survey where as the 2001-2002 data was more targeted to specific communities and schools.

In 2006-2007 school year, 35,602 children participated in the provincial dental survey (91% of all those enrolled).  

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1 Provincial dental totals FINAL 2008_04_09 KMT
### Screening Criteria and Definitions

<table>
<thead>
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<th>Category</th>
<th>Definition</th>
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<td>Caries Immune</td>
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<tr>
<td>No Visible Decay</td>
<td>No evidence of visible decay but evidence of existing restorations</td>
</tr>
<tr>
<td>Visible Decay</td>
<td>Evidence of obvious decay in one or more teeth</td>
</tr>
<tr>
<td>Decay in Quadrants</td>
<td>Evidence of decay in one or more teeth in 1, 2, 3, or 4 quadrants</td>
</tr>
<tr>
<td>Urgent referrals</td>
<td>Children who were referred for further treatment due to the urgency of their conditions</td>
</tr>
<tr>
<td>Non-urgent referrals</td>
<td>Children who did not have urgent conditions but were referred for further treatment</td>
</tr>
</tbody>
</table>

### Target Population

The population for this program is school children (kindergarten) between the ages of 4 and 6 in the different communities in the province.
Interior Health Authority

East Kootenay
Kootenay Boundary
Okanagan
Thompson Cariboo Shuswap

Important Notes:

- For comparative purposes, the area of Okanagan has been kept as North Okanagan and Okanagan Similkameen.

- Cariboo was part of Northern region in the 2003 report. Data from Cariboo is now included as part of Thompson Cariboo Shuswap region.

- Revelstoke was part of North Okanagan region in the 2003 report. Data from Revelstoke is now included as part of Thompson Cariboo Shuswap region.
# Interior Regional School Districts

<table>
<thead>
<tr>
<th>Region</th>
<th>S.D#</th>
<th>School District Name</th>
<th>Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Kootenay</td>
<td>5</td>
<td>South East Kootenay</td>
<td>Cranbrook, Elkford, Fernie, Sparwood, South Country (Grasmere and Jaffrey)</td>
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<tr>
<td></td>
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<td>Rocky Mountain</td>
<td>Edgewater, Golden, Invermere, Kimberly, Marysville, Windermere</td>
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<td></td>
<td>8</td>
<td>Kootenay Lake</td>
<td>Canyon, Crawford Bay, Creston, Erickson, Wynndel, Yahk</td>
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<td>Kaslo, Nelson, Salmo, South Slocan, Winlaw</td>
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<td>Arrow Lakes</td>
<td>Burton, Edgewood, Nakusp, New Denver (Lucerne)</td>
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<td>Kootenay Columbia</td>
<td>Castlegar, Fruitvale, Robson, Rossland, Trail</td>
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<td>51</td>
<td>Boundary</td>
<td>Big White, Beaverdell, Christina Lake, Grand Forks, Greenwood, Midway, Rock Creek</td>
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<td>North Okanagan</td>
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<td>North Okanagan/Shuswap</td>
<td>Armstrong, Ashton Creek, Falkland, Enderby, Grindrod, Sicamous, Salmon Arm,</td>
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<td>Nicola-Similkameen</td>
<td>Princeton</td>
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<td>Okanagan- Skaha</td>
<td>Naramata, Penticton, Summerland,</td>
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<td>Thompson Cariboo Shuswap</td>
<td>19</td>
<td>Revelstoke</td>
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<td>Cariboo Chilcotin</td>
<td>100 Mile, 108 Mile, 150 Mile, Tatla Lake, Likely, Horsefly, Nemiah Valley, Williams Lake</td>
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<td>Merritt</td>
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<td>Kamloops/Thompson</td>
<td>Barriere, Clearwater, Kamloops, Logan Lake, Pinantan Lake, Rayleigh, Savona, Vavenby, Westwold</td>
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<td>Gold Trail</td>
<td>Ashcroft, Cache Creek, Clinton, Gold Bridge, Lillooet, Lytton,</td>
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<td>83</td>
<td>North Okanagan/Shuswap</td>
<td>Malakwa, Sorrento, Canoe</td>
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</tbody>
</table>
East Kootenay

In 2006-2007 school year, 669 children had their teeth examined in East Kootenay (89.4% of all those enrolled).

Of those screened, 62.6% were caries immune. 21.8% showed no visible decay but restorations present and 15.5% showed visible decay.

84.4% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 8.4%, the percent of children with no visible decay increased by 4.8%, and the rate of children with evidence of visible decay increased by 3.5%.

In comparison to 2001-2002 screening data, the percentage of decay in all quadrants increased.

In 2006-2007, 8.4% of children in the East Kootenay showed decay in 1 quadrant, 4.3% showed decay in 2 quadrants while 1.6% and 1.2% showed decay in 3 and 4 quadrants respectively.

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2 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum”
3 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum” and BC School Screening Dental Program 2003 pg. 5
4 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum”
Kootenay-Boundary

In 2006-2007 school year, 555 children had their teeth examined in West Kootenay (89.2% of all those enrolled).

Of those screened, 58.2% were caries immune. 17.5% showed no visible decay but restorations present and 24.3% showed visible decay.

75.7% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 5.8%, the percent of children with no visible decay decreased by 1.5%, and the rate of children with evidence of visible decay increased by 7.3%.

In comparison to 2001-2002 data, the percentage of decay in 1 quadrant continues to increase. The percentage of decay in 2 quadrants decreased and the percentage of decay in 3 and 4 quadrants increased slightly.

In 2006-2007, 13.7% of children in the Kootenay Boundary showed decay in 1 quadrant. 5.2% showed decay in 2 quadrants while 2.9% and 2.5% showed decay in 3 and 4 quadrants respectively.

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5 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum”
6 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum” and BC School Screening Dental Program 2003 pg. 6
North Okanagan

In 2006-2007 school year, 684 children had their teeth examined in North Okanagan (91.1% of all those enrolled).

Of those screened, 63.3% were caries immune. 21.8% showed no visible decay but restorations present and 14.9% showed visible decay.

85.1% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune increased by 1.3%, the percent of children with no visible decay decreased by 3.2%, and the rate of children with evidence of visible decay increased slightly by 1.9%.

The percentage of children with decay all quadrants was slightly higher in 2006-07 than in 2000-02.

In 2006-2007, 6.3% of children in the North Okanagan showed decay in 1 quadrant. 5.3% showed decay in 2 quadrants while 2.0% and 1.3% showed decay in 3 and 4 quadrants respectively.

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7 IHA Dental Survey Results 2006-07 Submission: Sheet “KSum” and BC School Screening Dental Program 2003 pg. 7
8 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum”
9 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum” and BC School Screening Dental Program 2003 pg. 8
Okanagan Similkameen

In 2006-2007 school year, 1859 children had their teeth examined in Okanagan Similkameen (91.3% of all those enrolled).

Of those screened, 64.4% were caries immune. 19.4% showed no visible decay but restorations present and 16.1% showed visible decay.

83.8% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune increased by 1.4%, the percent of children with no visible decay increased by 2.4%, and the rate of children with evidence of visible decay decreased slightly by 3.9%.

In comparison to 2001-02 data, the percentage of decay in all quadrants decreased.

In 2006-2007, 6.9% of children in the Okanagan Similkameen showed decay in 1 quadrant. 5.5% showed decay in 2 quadrants while 2.2% and 1.6% showed decay in 3 and 4 quadrants respectively.

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10 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum”
11 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum”
12 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum” and BC School Screening Dental Program 2003 pg. 9
Thompson Cariboo Shuswap

In 2006-2007 school year, a total of 1698 children had their teeth examined in Thompson Cariboo Shuswap (91.3% of all those enrolled).

Of all those screened, 52.7% were caries immune. 22.3% showed no visible decay but restorations present and 25% showed visible decay.

75% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 1.3%, the percent of children with no visible decay increased by 1.3%, and the rate of children with evidence of visible decay remained the same.

In comparison to 2001-2002 data, the percentage of children with decay in 1 and 3 quadrants increased. The percentage of children with decay in 2 and 4 quadrants decreased.

In 2006-2007, 10.4% of children in the Thompson Cariboo Shuswap showed decay in 1 quadrant. 7.1% showed decay in 2 quadrants while 4.2% and 3.4% showed decay in 3 and 4 quadrants respectively.

13 IHA Dental Survey Results 2006-07 Submission: Sheet “OKSum”
14 IHA Dental Survey Results 2006-07 Submission: Sheet “TCSSum”
15 IHA Dental Survey Results 2006-07 Submission: Sheet “TCSSum” and BC School Screening Dental Program 2003 pg. 11
Regional Analysis – Interior Health Authority

In 2006-2007 school year, 5465 children had their teeth examined in Interior Health Authority (90.8% of all those enrolled).

Of those screened, 59.8% were caries immune.

20.7% showed no visible decay but restorations present and 19.5% showed visible decay.

80.5% of children had no evidence of decay at the time of the survey.

- Okanagan Similkameen, North Okanagan and East Kootenay had the highest percentage of caries immune in the Interior region while Thompson Cariboo Shuswap had the lowest.
- Thompson Cariboo Shuswap, North Okanagan and East Kootenay had the highest percentage of children with no visible decay and restorations present.
- Thompson Cariboo Shuswap and Kootenay Boundary had the highest percentage of children with visible decay.
- Thompson Cariboo Shuswap region has the highest percentage of visible decay, the lowest percentage of children caries immune, and the highest number of children with no visible decay but restorations present.

Since 2001-02, the percentage of children caries immune has decreased in 3 of 5 service areas for Interior.

East Kootenay, Kootenay Boundary and Thompson Okanagan Shuswap had fewer children caries immune in 2006-07 than in 2001-02.

16 IHA Dental Survey Results 2006-07 Submission: Sheet “TCSSum”
17 IHA Dental Survey Results 2006-07 Submission: Sheet “IHSum”
18 BC School Screening Dental Program 2003 pg. 13 and IHA Dental Survey Results 2006-07 Submission
Since 2001-02, the percentage of children with no visible decay and restorations present has increased in 3 of 5 service areas for Interior.

East Kootenay had the greatest increase in the number of children with no visible decay and restorations present in 2006-07.

Since 2001-02, the percentage of children with visible decay has increased in 3 of 5 service areas for Interior.

East Kootenay had the greatest increase in the number of children with visible decay in 2006-07.

The percentage of caries immune for the Interior region has continued to decrease. The percentage of children with no visible decay but restorations present and percentage of children with visible decay present has increased.

Since 2001-02, there has been:

2% decrease in the number of children caries immune.

2% increase in the number of children with no visible decay restorations present.

1% increase in visible decay

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19 BC School Screening Dental Program 2003 pg. 13 and IHA Dental Survey Results 2006-07 Submission
20 BC School Screening Dental Program 2003 pg. 13 and IHA Dental Survey Results 2006-07 Submission
Kootenay Boundary and Thompson Cariboo Shuswap had the highest percentage of decay in 1 quadrant.

Thompson Cariboo Shuswap has the highest rate of decay in quadrant 2, 3 and 4.

The provincial percentage of Urgent Referrals for 2006-07 was 2.1%.

The provincial percentage for non-urgent referrals was 14.7% for 2006-07.

- Kootenay Boundary and Okanagan Similkameen had the highest percentage of both urgent and non-urgent referrals.

- Four of five health service areas were above the provincial average for urgent referrals. These were Kootenay Boundary, Okanagan Similkameen, Thompson Cariboo Shuswap and North Okanagan.

- Three of five health service areas were above the provincial average for non-urgent referrals. These were Okanagan Similkameen, Thompson Cariboo Shuswap and Kootenay Boundary.

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21 IHA Dental Survey Results 2006-07 Submission: Sheet “IHSum” and BC School Screening Dental Program 2003 pg. 15
22 IHA Dental Survey Results 2006-07 Submission: Sheet “IHSum”
23 Provincial Dental Totals FINAL 2008 and IHA Dental Survey Results 2006-07 Submission
Fraser Health Authority

Fraser Valley
South Fraser
Simon Fraser

Fraser Regional School Districts

<table>
<thead>
<tr>
<th>Region</th>
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<th>School District Name</th>
<th>Communities</th>
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<td>Fraser Valley</td>
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<td>Chilliwack</td>
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<td>Fraser Cascade</td>
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<tr>
<td>South Fraser</td>
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<td>Langley</td>
<td>Langley, Aldergrove</td>
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<td>Burnaby</td>
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<td>Maple Ridge</td>
<td>Maple Ridge, Pitt Meadows</td>
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<td>43</td>
<td>Coquitlam</td>
<td>Coquitlam, Port Coquitlam, Port Moody, Anmore, Belcarra</td>
</tr>
</tbody>
</table>
Fraser Valley

In 2006-2007 school year, 2788 children had their teeth examined in Fraser Valley (91% of all those enrolled).

Of those screened, 62.4% were caries immune. 26.4% showed no visible decay but restorations present and 11.2% showed visible decay.

88.8% of children had no evidence of decay at the time of the survey.

In 2006-07, the percentage of children caries immune increased by 1.4%, while the percent of children with no visible decay and evidence of visible decay remained relatively the same.

In comparison to 2001-2002 screening data, the percentage of decay in quadrants 1 and 3 remained the same. The percentage of decay in 2 quadrants decreased while the percentage of decay in 4 quadrants increased.

In 2006-2007, 5% of children in the Fraser Valley showed decay in 1 quadrant. 3.8% showed decay in 2 quadrants while 1.1% and 1.3% showed decay in 3 and 4 quadrants respectively.

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24 Dental FHA graphs
25 British Columbia School Screening Dental Program final pg. 19 and Dental FHA graphs

Provincial Dental Kindergarten Survey 2006 Summary
**South Fraser**

In 2006-2007 school year, 6693 children had their teeth examined in South Fraser (90% of all those enrolled).

Of those screened, 58.1% were caries immune. 20.3% showed no visible decay but restorations present and 21.5% showed visible decay.

78.4% of children had no evidence of decay at the time of the survey.

In 2006-07, the percentage of children caries immune has increased by 2.1%, while the percent of children with no visible decay remained the same and the percentage of children with evidence of visible decay increased slightly.

In comparison to 2001-2002 screening data, the percentage of decay in 1, and 4 quadrants increased. The percentage of decay in 2 and 3 quadrants decreased.

In 2006-2007, 7.1% of children in the South Fraser showed decay in 1 quadrant. 7.5% showed decay in 2 quadrants while 2.7% and 4.2% showed decay in 3 and 4 quadrants respectively.

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26 British Columbia School Screening Dental Program final pg. 19 and Dental FHA graphs
27 Dental FHA graphs
28 British Columbia School Screening Dental Program final pg. 19 and Dental FHA graphs
Simon Fraser

In 2006-2007 school year, 4775 children had their teeth examined in Simon Fraser (91% of all those enrolled).

Of those screened, 65.8% were caries immune. 23.2% showed no visible decay but restorations present and 11% showed visible decay.

89% of children had no evidence of decay at the time of the survey.

In comparison to 2001-2002 screening data, the percentage of decay in all quadrants decreased.

In 2006-2007, the percentage of children caries immune increased by 2.8%, the percent of children with no visible decay and the percent of children with evidence of visible decay decreased by 1.8% and 1% respectively.

In 2006-2007, 4.1% of children in the Simon Fraser showed decay in 1 quadrant. 4.8% showed decay in 2 quadrants while 0.9% and 1.2% showed decay in 3 and 4 quadrants respectively.

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29 British Columbia School Screening Dental Program final pg. 20 and Dental FHA graphs
30 Dental FHA graphs
31 British Columbia School Screening Dental Program final pg. 22 and Dental FHA graphs
32 Dental FHA graphs
Regional Analysis - Fraser Health Authority

In 2006-2007 school year, 14256 children had their teeth examined in Fraser Health Authority (90.5% of all those enrolled).

Of those screened, 61.6% were caries immune. 22.5% showed no visible decay but restorations present and 16% showed visible decay.

84.1% of children had no evidence of decay at the time of the survey.

• Simon Fraser had the highest percentage of caries immune in the Fraser region while South Fraser had the lowest.
• Fraser Valley had the highest percentage of children with no visible decay and restorations present.
• South Fraser had the highest percentage of children with visible decay.
• South Fraser region has the highest percentage of visible decay, the lowest percentage of children caries immune, and the lowest number of children with no visible decay but restorations present.

Since 2001-02, the percentage of children caries immune has increased in all service areas for Fraser.
Since 2001-02, the percentage of children with no visible decay has decreased in all service areas for Fraser.

Since 2001-02, the percentage of children with visible decay has decreased in all service areas for Fraser.

The percentage of caries immune for Fraser region has increased since 2001-02 and the percentage of children with no visible decay and visible decay has decreased.

Since 2001-02, there has been:

4% increase in the number of children caries immune.

0.5% decrease in the number of children with no visible decay restorations present.

2% decrease in visible decay.

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35 Dental FHA graphs and British Columbia School Screening Dental Program final pg. 23
36 Dental FHA graphs and British Columbia School Screening Dental Program final pg. 23
37 Dental FHA graphs and British Columbia School Screening Dental Program final pg. 25
Children in South Fraser had higher percentages of decay in all quadrants than children in other in service areas for Fraser.

The provincial percentage of Urgent Referrals for 2006-07 was 2.1%.

The provincial percentage for non-urgent referrals was 14.7% for 2006-07.

- South Fraser had the highest percentage of urgent and non-urgent referrals in 2006-07.
- South Fraser was at the provincial average for urgent referrals.
- All Fraser health service areas were below the provincial average for non-urgent referrals.

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38 Dental FHA graphs
39 Provincial dental totals FINAL 2008_04_09 KMT
Dental survey data was not available for Richmond or Northshore/Coast Garibaldi prior to 2006-07.

**Vancouver Coastal School Districts**

<table>
<thead>
<tr>
<th>Region</th>
<th>S.D#</th>
<th>School District Name</th>
<th>Communities</th>
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<tbody>
<tr>
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<td>North Shore/Coast Garibaldi</td>
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<td>45</td>
<td>West Vancouver</td>
<td>West Vancouver, Lions Bay, Bowen Island</td>
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</table>
Vancouver

In 2006-2007 school year, 4072 children had their teeth examined in Vancouver (91.6% of all those enrolled).

Of those screened, 54.8% were caries immune. 22.9% showed no visible decay but restorations present and 22.9% showed visible decay.

77.7% of children had no evidence of decay at the time of the survey.

In 2006-2007, more children were caries immune (an increase by 7.8%), the percent of children with no visible decay decreased by 2.1%, and the rate of children with evidence of visible decay decreased by 5.1%

In comparison to 2001-2002 screening data, the percentage of decay in all quadrants decreased in 2006-07.

In 2006-2007, 6.6% of children in the Vancouver showed decay in 1 quadrant. 11.2% showed decay in 2 quadrants while 3.3% and 3.2% showed decay in 3 and 4 quadrants respectively.

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40 Copy of Dental – VCH Dental Data 06-07 Revised
41 Copy of Dental – VCH Dental Data 06-07 Revised and BC School Screening Dental Program 2003 pg 29
Richmond

In 2006-2007 school year, 1473 children had their teeth examined in Richmond (92.1% of all those enrolled).

Of those screened, 51.1% were caries immune. 19.5% showed no visible decay but restorations present and 29.5% showed visible decay.

71.1% of children had no evidence of decay at the time of the survey.

In 2006-2007, 10% of children in the Richmond showed decay in 1 quadrant. 11.5% showed decay in 2 quadrants while 5% and 6.2% showed decay in 3 and 4 quadrants respectively.
Northshore/ Coast Garibaldi

In 2006-2007 school year, 2254 children had their teeth examined in Northshore/ Coast Garibaldi (92.9% of all those enrolled).

Of those screened, 72.4% were caries immune. 17.7% showed no visible decay but restorations present and 9.9% showed visible decay.

90.1% of children had no evidence of decay at the time of the survey.

In 2006-2007, 4.3% of children in the Northshore/ Coast Garibaldi showed decay in 1 quadrant. 3.8% showed decay in 2 quadrants while 0.9% and 1.3% showed decay in 3 and 4 quadrants respectively.

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45 Copy of Dental – VCH Dental Data 06-07 Revised
46 Copy of Dental – VCH Dental Data 06-07 Revised
Regional Analysis - Vancouver Coastal Health Authority

In 2006-2007 school year, 7799 children had their teeth examined in Vancouver Coastal Health Authority (92.1% of all those enrolled).

Of those screened, 59.2% were caries immune. 20.8% showed no visible decay but restorations present and 20.4% showed visible decay.

80% of children had no evidence of decay at the time of the survey.

- Northshore/ Coast Garibaldi had the highest percentage of caries immune in the Vancouver Coastal HA while Richmond had the lowest.
- Vancouver had the highest percentage of children with no visible decay and restorations present.
- Richmond had the highest percentage of children with visible decay. 48

Richmond had the highest percentage of decay in all quadrants.

Northshore/ Coast Garibaldi had the lowest percentage of decay in all quadrants.
Richmond had the highest percentage of both urgent and non-urgent referrals in Vancouver Coastal Health Authority.

Richmond was above the provincial average for urgent referrals.

Richmond and Vancouver were above the provincial average for non-urgent referrals.\textsuperscript{51}

The provincial percentage of Urgent Referrals for 2006-07 was 2.1%.

The provincial percentage for non-urgent referrals was 14.7% for 2006-07.

\textsuperscript{50} Copy of Dental – VCH Dental Data 06-07 Revised and Provincial Dental Totals FINAL 2008_04_09 KMT
\textsuperscript{51} Copy of Dental – VCH Dental Data 06-07 Revised
**Vancouver Island Health Authority**

South Vancouver Island  
Central Vancouver Island  
North Vancouver Island

**Vancouver Island School Districts**

<table>
<thead>
<tr>
<th>Region</th>
<th>S.D#</th>
<th>School District Name</th>
<th>Communities</th>
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<td>61</td>
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<td>63</td>
<td>Saanich</td>
<td>Saanich</td>
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<tr>
<td></td>
<td>64</td>
<td>Gulf Islands</td>
<td>Gulf Islands</td>
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<tr>
<td>Central Vancouver Island</td>
<td>68</td>
<td>Nanaimo-Ladysmith</td>
<td>Nanaimo, Ladysmith, Gabriola Island</td>
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<td></td>
<td>69</td>
<td>Qualicum</td>
<td>Parksville, Qualicum, Bowser, Lasqueti</td>
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<td>Alberni</td>
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<td>Cowichan Valley</td>
<td>Chemainus, Crofton, Duncan, Mill Bay, Shawnigan Lake, Lake Cowichan, Kuper</td>
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<td>Comox Valley</td>
<td>Courtney, Comox, Black Creek, Cumberland, Hornby Island, Denman Island, Union Bay</td>
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<td>Campbell River</td>
<td>Campbell River, Cortes Island, Quadra Island, Sayward</td>
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<td>84</td>
<td>Vancouver Island West</td>
<td>Zeballoy, Gold River</td>
</tr>
<tr>
<td>North Vancouver Island</td>
<td>85</td>
<td>Vancouver Island North</td>
<td>Sointula, Port McNeil, Port Hardy, Port Alice, Alert Bay, Woss</td>
</tr>
</tbody>
</table>

Provincial Dental Kindergarten Survey 2006 Summary 29
South Vancouver Island

In 2006-2007 school year, 2498 children had their teeth examined in South Vancouver Island (90.9% of all those enrolled).

Of those screened, 69.1% were caries immune. 21.5% showed no visible decay but restorations present and 9.4% showed visible decay.

90.6% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune increased by 2.1%, the percent of children with no visible decay increased by 0.5%, and the rate of children with evidence of visible decay decreased by 2.6%.

In 2006-2007, 4.8% of children in the South Island showed decay in 1 quadrant. 2.9% showed decay in 2 quadrants while 0.7% and 1% showed decay in 3 and 4 quadrants respectively.

In comparison to 2001-2002 screening data, the percentage of decay in 1, 2, and 3 quadrants decreased. The percentage of decay in quadrant 4 remained the same at 1%.
Central Vancouver Island

In 2006-2007 school year, 1825 children had their teeth examined in Central Vancouver Island (89.9% of all those enrolled).

Of all those screened, 60.9% were caries immune. 26.6% showed no visible decay but restorations present and 12.5% showed visible decay. 87.5% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 1.1%, the percent of children with no visible decay increased by 0.6%, and the rate of children with evidence of visible decay increased by 0.5%.

In comparison to 2001-2002 screening data, the percentage of decay in decreased in quadrant 1. The percentage of decay in quadrants 2, 3, and 4 increased.

In 2006-2007, 5.5% of children in the Central Vancouver Island showed decay in 1 quadrant. 4.5% showed decay in 2 quadrants while 1.4% and 1.1% showed decay in 3 and 4 quadrants respectively.

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55 VIHA Dental by School 2006-2007 to MoH
56 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 34
57 VIHA Dental by School 2006-2007 to MoH
North Vancouver Island

In 2006-2007 school year, 990 children had their teeth examined in North Vancouver Island (93.1% of all those enrolled).

Of all those screened, 62.4% were caries immune. 23.6% showed no visible decay but restorations present and 13.9% showed visible decay.

86% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune increased by 8.4%, the percent of children with no visible decay decreased by 2.4%, and the rate of children with evidence of visible decay decreased by 6.1%

In comparison to 2001-2002 screening data, the percentage of decay in all quadrants decreased.

In 2006-2007, 5.7% of children in the North Vancouver Island showed decay in 1 quadrant. 5.2% showed decay in 2 quadrants while 1.6% and 1.5% showed decay in 3 and 4 quadrants respectively.

58 VIHA Dental by School 2006-2007 to MoH
59 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 36
60 VIHA Dental by School 2006-2007 to MoH
Regional Analysis - Vancouver Island Health Authority

In 2006-2007 school year, 5313 children had their teeth examined in Vancouver Island Health Authority (91% of all those enrolled).

- South Vancouver Island had the highest percentage of caries immune in the Vancouver Island region while Central Vancouver Island was slightly lower than North Vancouver Island.
- North Vancouver Island had the highest percentage of children with no visible decay and restorations present.
- North Vancouver Island had the highest percentage of children with visible decay.

Of those screened, 65.1% were caries immune. 23.6% showed no visible decay but restorations present and 11.3% showed visible decay.

88.7% of children had no evidence of decay at the time of the survey.

Since 2001-02, the percentage of children caries immune has increased in two of three health service areas for Vancouver Island.

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61 VIHA Dental by School 2006-2007 to MoH
62 VIHA Dental by School 2006-2007 to MoH
63 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 37-39
Since 2001-02, the percentage of children with no visible decay but restorations present has increased in 2 of 3 health service areas for Vancouver Island.

Since 2001-02, the percentage of children with visible decay decreased in two of three health service areas for Vancouver Island.

The percentage of children with visible decay decreased from 14% in 2001-2002 to 11.3% in 2006-2007.

Since 2001-02 there has been:

4% increase in the number of children caries immune.

1.4% decrease in the number of children with no visible decay but restorations present.

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64 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 37-39
65 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 37-39
South Vancouver Island had the highest percentage of urgent referrals while North Vancouver Island had the highest percentage of non-urgent referrals. Vancouver Island was below the provincial average for both urgent and non-urgent referrals.

North Vancouver Island had the highest percentage of decay in all quadrants.

The provincial percentage of Urgent Referrals for 2006-07 was 2.1%.

The provincial percentage for non-urgent referrals was 14.7% for 2006-07.

66 VIHA Dental by School 2006-2007 to MoH and British Columbia School Screening Dental Program final pg. 38
67 VIHA Dental by School 2006-2007 to MoH
68 Provincial Dental Totals FINAL 2008_04_09 KMT
## Northern Health Authority

### Northwest

<table>
<thead>
<tr>
<th>Region</th>
<th>S.D#</th>
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<th>Communities</th>
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<tbody>
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<td>Masset, Sandspit, Queen Charlotte City, Port Clements</td>
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<tr>
<td></td>
<td>52</td>
<td>Prince Rupert</td>
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<tr>
<td></td>
<td>54</td>
<td>Buckley Valley</td>
<td>Smithers, Houston, Telkwa, Quick</td>
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<tr>
<td></td>
<td>82</td>
<td>Coast Mountain</td>
<td>Terrace, Kitimat, South Hazelton, New Hazelton, Hazelton, Kitwanga, Stewart</td>
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<tr>
<td></td>
<td>87</td>
<td>Stikine</td>
<td>Atlin, Dease Lake</td>
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### Northern Interior

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<td>Northern Interior</td>
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<td>Prince George</td>
<td>Prince George, Mackenzie, Valemount, McBride, Hixon, Bear Lake, McLeod Lake</td>
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<td>Nechacko Lakes</td>
<td>Vanderhoof, Fort St James, Fort Fraser, Fraser Lake, Burns Lake, Granisle</td>
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### Northeast

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<td></td>
<td>60</td>
<td>Peace River North</td>
<td>Fort St. John, Hudson’s Hope, Taylor</td>
</tr>
<tr>
<td></td>
<td>81</td>
<td>Fort Nelson</td>
<td>Fort Nelson</td>
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</tbody>
</table>
Northwest

In 2006-2007 school year, 653 children had their teeth examined in Northwest (95.7% of all those enrolled).

Of those screened, 49.3% were caries immune. 17.9% showed no visible decay but restorations present and 32.9% showed visible decay.

67.2% of children had no evidence of decay at the time of the survey.

In 2006-2007, fewer children were caries immune (a decrease by 10.7%), the percent of children with no visible decay decreased by 7.1%, and the rate of children with evidence of visible decay increased by 17.9%.

The percentage of decay in all quadrants has increased.

In 2006-2007, 11% of children in the Northwest showed decay in 1 quadrant. 13.6% showed decay in 2 quadrants while 4.9% and 3.4% showed decay in 3 and 4 quadrants respectively.

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69 SD Dental Data NW2006 – 2007 Survey
70 SD Dental Data NW2006 – 2007 Survey and British Columbia School Screening Dental Program final pg. 43
71 SD Dental Data NW2006 – 2007 Survey
Northern Interior

In 2006-2007 school year, 1306 children had their teeth examined in Northern Interior (86.5% of all those enrolled).

Of those screened, 63.6% were caries immune. 18.2% showed no visible decay but restorations present and 18.2% showed visible decay.

81.8% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 1.4%, the percent of children with no visible decay/restorations present increased by 1.2%, and the rate of children with evidence of visible decay increased by 0.2%.

In comparison to 2001-2002 screening data, the percentage of decay in 1 and 3 quadrants decreased. The percentage of decay in quadrant 2 and 4 increased.

In 2006-2007, 6.8% of children in the Northern Interior showed decay in 1 quadrant. 7.7% showed decay in 2 quadrants while 1.8% and 1.9% showed decay in 3 and 4 quadrants respectively.

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72 NIN 2006_07_dental_screening
73 NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 Survey and British Columbia School Screening Dental Program final pg. 44
74 NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 Survey and British Columbia School Screening Dental Program final pg. 44
Northeast

In 2006-2007 school year, 810 children had their teeth examined in Northeast (95% of all those enrolled).

Of those screened, 58.8% were caries immune. 19.3% showed no visible decay but restorations present and 21.9% showed visible decay.

78.1% of children had no evidence of decay at the time of the survey.

In 2006-2007, the percentage of children caries immune decreased by 2.2%, the percent of children with no visible decay remained relatively the same, and the rate of children with evidence of visible decay increased by 1.9%.

In comparison to 2001-2002 screening data, the percentage of decay in 1 and 4 quadrants increased. The percentage of decay in quadrants 2 and 3 decreased.

In 2006-2007, 9.8% of children in the Northeast showed decay in 1 quadrant. 5.8% showed decay in 2 quadrants while 3.0% and 3.3% showed decay in 3 and 4 quadrants respectively.

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75 Copy of School Stats 2006-07 North East
76 Copy of School Stats 2006-07 North East and British Columbia School Screening Dental Program final pg. 46
77 Copy of School Stats 2006-07 North East
Regional Analysis - Northern Health Authority

In 2006-2007 school year, 2769 children had their teeth examined in Northern Health Authority (91% of all those enrolled).

Of those screened, 58.8% were caries immune. 18.5% showed no visible decay but restorations present and 22.8% showed visible decay.

77.3% of children had no evidence of decay at the time of the survey.

Northwest had the highest percentage of children with visible decay.

Since 2001-02, the percentage of children caries immune has decreased in all service areas for Northern.

Northern Interior had the highest percentage of caries immune in the Northern region.

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78 Provincial dental totals FINAL 2008_04_09 KMT
79 Provincial dental totals FINAL 2008_04_09 KMT, British Columbia School Screening Dental Program final, Copy of School Stats 2006-07 North East, NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 and SD dental data NW 2006-07 survey
Since 2001-02, the percentage of children with no visible decay restorations present has increased in two of three service areas for Northern.

Northeast had the highest percentage of children with no visible decay and restorations present.

Since 2001-02, the percentage of children with visible decay increased in two of three service areas for Northern.

The Northwest had the highest percentage of children with visible decay.

Northwest had the highest percentage of decay in all quadrants.

The percentage of caries immune for the Northern region has decreased since 2001-02.

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80 British Columbia School Screening Dental Program final, Copy of School Stats 2006-07 North East, NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 and SD dental data NW 2006-07 survey
81 British Columbia School Screening Dental Program final, Copy of School Stats 2006-07 North East, NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 and SD dental data NW 2006-07 survey
82 Copy of School Stats 2006-07 North East, NIN 2006_07_dental_screening and SD Dental Data NW2006 – 2007 and SD dental data NW 2006-07 survey
The percentage of visible decay has increased from 17% in 2001-2002 to 22.8 in 2006-2007.

Since 2001-02, there has been:

- 3.2% decrease in the number of children caries immune.
- 1.5% decrease in the number of children with no visible decay restorations present.
- 5.8% increase in the number of children with visible decay.

Northwest had the highest percentage of both urgent and non-urgent referrals in Northern Health Authority. All health service areas in Northern were above the provincial average for urgent referrals and non-urgent referrals.
Provincial Analysis

In 2006-2007 school year, 35,602 children participated in the provincial dental survey (91% of all those enrolled).

![Percentage of Kindergarten Children Surveyed by Health Authority and BC in 2006-07](chart)

In 2006-2007, the provincial percentage of children:
- caries immune was 61.1%
- with no visible decay but restorations present was 21.7%, and
- with visible decay was 17.3%.

82.8% of children had no evidence of decay at the time of the survey.

![Provincial Dental Survey Results, 2001-02 vs 2006-07](chart)

Since 2001-02, the provincial percentage of children:
- caries immune has increased by 2.1%
- with no visible decay but restorations present has decreased by 1.3%, and
- with visible decay has decreased by 1.7%.

In 2006-07, 82.8% of children were either caries immune or had no visible decay (0.8% higher than in 2001-02).  

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85 Provincial dental totals FINAL 2008_04_09 KMT
86 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 54-55
87 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 54
In 2006-2007:
2 of 5 health authorities were above the provincial average for caries immune.
3 of 5 health authorities were below the provincial average for no visible decay and restorations present.
3 of 5 health authorities were above the provincial average for visible decay.

In 2006-2007, two health authorities (Vancouver Island and Fraser) were above the provincial average for caries immune. North Shore/Garibaldi, South Vancouver Island, Simon Fraser had the highest percentage of caries immune. Northwest, Richmond and Thompson Cariboo Shuswap had the lowest.

Since 2001-02, the percentage of children caries immune has increased in three of five health authorities.

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88 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 54-55
89 Provincial dental totals FINAL 2008_04_09 KMT
90 Provincial dental totals FINAL 2008_04_09 KMT
In 2006-2007, two health authorities (Vancouver Island and Fraser) were above the provincial average for no visible decay and restorations present.

Since 2001-02, the percentage of children with no visible decay but restorations present has decreased in four of five health authorities.

In 2006-2007, Vancouver Island Health Authority and Fraser Health Authority were below the provincial average for visible decay.

Northwest, Richmond and Thompson Cariboo Shuswap had the highest rate of visible decay.

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91 Provincial dental totals FINAL 2008_04_09 KMT
92 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final
93 Provincial dental totals FINAL 2008_04_09 KMT
Since 2001-02, the percentage of children with visible decay has decreased in three of five health authorities.

In 2006-07 three health authorities (Interior, Northern and Vancouver Coastal) were above the provincial average for decay in one quadrant.

Kootenay Boundary, Thompson Cariboo Shuswap and Northwest had the highest percentage of total decay in one quadrant.

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94 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 59
95 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 59
96 Provincial dental totals FINAL 2008_04_09 KMT
In 2006-2007, two health authorities (Vancouver Coastal and Northern) were above the provincial average for decay in two quadrants.

- Northwest, Vancouver and Richmond had the highest rate of decay in two quadrants.
- South Vancouver Island and Northshore/Garibaldi had the lowest rate of decay in two quadrants.

In 2006-2007, three health authorities (Vancouver Coastal, Northern and Interior) were above the provincial average for decay in three quadrants.

- Richmond, Northwest and Thompson Cariboo Shuswap had the highest rates of decay in three quadrants.
- South Vancouver Island, Simon Fraser and Northshore/Garibaldi had the lowest percentage of decay in three quadrants.

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97 Provincial dental totals FINAL 2008_04_09 KMT
98 Provincial dental totals FINAL 2008_04_09 KMT
Richmond, Northwest and Thompson Cariboo Shuswap had the highest rates of decay in four quadrants.

South Vancouver Island, Central Vancouver Island, East Kootenay and Simon Fraser had the lowest percentage of decay in four quadrants.

In 2006-2007, three health authorities (Vancouver Coastal, Northern and Fraser) were above the provincial average for decay in four quadrants.

The percentage of decay has decreased in quadrants 1 and 2 since 2001-02. The percentage of decay in quadrants 3 and 4 has increased slightly since 2001-02.¹⁰⁰

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⁹⁹ British Columbia School Screening Dental Program final pg. 54-55
¹⁰⁰ Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final pg. 59
In 2006-2007, two health authorities (Northern and Interior) were above the provincial average for Urgent Referrals.

Kootenay Boundary, Okanagan Similkameen, and Northwest had the highest rates of urgent referrals.

In 2006-2007, three health authorities (Northern, Vancouver Coastal, and Interior) were above the provincial average for Non-urgent Referrals.

Okanagan Similkameen, Northwest, Richmond and Vancouver had the higher percentage of non-urgent referrals.
Conclusion

The 2006-07 kindergarten dental survey provides a measurement of the success of early intervention programs in improving the dental health of the young children. The 2006-07 dental survey data showed that while there was an overall improvement in the oral health of children surveyed, some parts of the province continue to experience worse dental health. The Core Public Health Functions for BC: Evidence Review. Dental Public Health, 2006 indicates that the Federal, Provincial and Territorial Dental Directors suggested a Canadian goal of 60% of children at age 5-6 be caries free. Provincial dental survey results indicate that this target was attained in 2006-07.

In the 2006-07 school year, 82.8% of surveyed kindergarten children in B.C. (91% of those enrolled) were decay free at the time of the survey. Of these children, 61.1% had no evidence of having had decay (no decay and no fillings present).

Since 2001-02, the percentage of children with no evidence of decay has increased in three of five health authorities, the percentage of children with no visible decay but restorations present has decreased in four of five health authorities, and the percentage of children with visible decay has decreased in three of five health authorities.

Since 2001-02, the percentage of decay in quadrants 1 and 2 have decreased by 0.5% while the percentage of decay in 3 and 4 quadrants has increased by 0.2% and 0.4% respectively.

While BC has met the target for children with no visible decay, it remains clear that children in some parts of the province remain consistently worse off in their dental health. Children in the Northwest, Richmond, Thompson Cariboo Shuswap, Vancouver and Kootenay Boundary show higher rates of visible decay than the provincial average. These same health service delivery areas also show lower rates of no decay but restorations present than the provincial average. In addition, three of these service areas (Richmond, Northwest and Thompson Cariboo Shuswap) had the highest rates of decay in four quadrants.

Health authority dental staff has continued to monitor the impact of early intervention programs on dental health through ongoing dental surveys of kindergarten children. Since 2001-02, the percentage of children in BC with visible decay has decreased and the percentage of children with no visible decay (caries immune) has increased showing an improvement in oral health.

104 Provincial dental totals FINAL 2008_04_09 KMT
105 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final
106 Provincial dental totals FINAL 2008_04_09 KMT and British Columbia School Screening Dental Program final
The Dental Public Health Program has identified three key components for early childhood dental health. These are dental health promotion, dental disease prevention and surveillance. The provincial dental survey is key for monitoring trends between regions and within communities as well as for evaluating the effectiveness of multiple prevention strategies in an effort to decrease the rate of dental caries in young children. Subsequent kindergarten surveys will be important for monitoring trends and identifying changes in the oral health status of children.

Appendix 1

Area Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>EK</td>
<td>East Kootenay</td>
</tr>
<tr>
<td>KB</td>
<td>Kootenay Boundary</td>
</tr>
<tr>
<td>NO</td>
<td>North Okanagan</td>
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<tr>
<td>OS</td>
<td>Okanagan Similkameen</td>
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<tr>
<td>TCS</td>
<td>Thompson Cariboo Shuswap</td>
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<td>FV</td>
<td>Fraser Valley</td>
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## Appendix 2

**Provincial Kindergarten Dental Survey Data by Health Service Delivery Area – 2006-2007**

<table>
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<tr>
<th>HS/Region</th>
<th>Screened</th>
<th>Enrolled</th>
<th>Screened (%)</th>
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<th>Visible Decay</th>
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<th>2 Quad</th>
<th>3 Quad</th>
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<th>Urgent referrals (%)</th>
<th>Non-urgent referrals (%)</th>
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Source: Provincial dental totals FINAL 2008_04_09 KMT