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## Dental Public Health Team

# CHILD DENTAL GENERAL ANAESTHETICS IN WALES

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**Purpose and Summary of Document:**

The aim of this work is to determine an overall figure for general anaesthesia (GA) dental procedures carried out on children aged 0-17 in Wales during 2019-20 and to compare this with data collected since 2011-12. This information should be helpful for health boards in their local dental service planning and inform Welsh Government's dental policy on dental services and oral health.

**Work Plan reference:**

Dental Public Health Team Work plan

# **1 Child Dental General Anaesthetics in Wales**

## **Background**

The 2011 inquiry into Children's Oral Health by the National Assembly for Wales Children and Young People's Committee recommended that:

*The Welsh Government should ensure that data on the number of general anaesthetics administered to children and young people for dental work in Wales is collated and reported as part of the monitoring of Designed to Smile.*

A written response by Welsh Government to the Committee agreed with this recommendation, acknowledging that:

*This may be a useful indicator of the success of Designed to Smile but it is important to collect these data on an all-Wales basis in a robust standardised way.*

General anaesthesia is not without risks and therefore should only be utilised when needed. Key factors which contribute to high levels of use of general anaesthesia for dental extractions include poor oral health, lack of/inadequate triage, assessment and dental care planning for children under the care of and referred by the General Dental Services and difficulty in accessing appropriate alternatives to general anaesthesia. Given the improvements seen in oral health in recent years there should be a decrease in need for use of general anaesthesia. Recent implementation of a national E-referral system should support health boards to establish appropriate triage, assessment and treatment planning which should reduce the number of children who require treatment under general anaesthesia.

## **Purpose**

The aim of this work is to determine an overall figure for general anaesthesia (GA) dental procedures carried out on children aged 0-17 in Wales during 2019-20 and to compare this with data collected annually since 2011-12.

### **1.1 Method**

The data has been collated by making direct contact with dental service managers in Health Boards requesting the 2019-20 information. This collation of data did not include dental treatment under conscious sedation.

In April 2019 there were boundary changes to health boards in Wales affecting Abertawe Bro Morgannwg and Cwm Taf Health Boards which have now become Swansea Bay and Cwm Taf Morgannwg Health Boards, this has had an impact on reporting of trends at the health board level (Table 1).

**Table 1 Boundary changes to two Welsh Health Boards, April 2019**

Unitary Authority	Health Board Pre April 19	Health Board Post April 19
Swansea	Abertawe Bro Morgannwg	Swansea Bay
Neath Port Talbot	Abertawe Bro Morgannwg	Swansea Bay
Bridgend	Abertawe Bro Morgannwg	Cwm Taf Morgannwg
Rhondda Cynon Taf	Cwm Taf	Cwm Taf Morgannwg
Merthyr Tydfil	Cwm Taf	Cwm Taf Morgannwg

In the middle of March 2020, the effects of the coronavirus pandemic started to impact on the delivery of health services. This report relates to April 2019 – March 2020; – thus it is expected that the pandemic would have impacted on activity during March 2020.

It is important to note that information systems are not in place in Health Boards across the whole of Wales to produce accurate and timely data relating to dental general anaesthesia.

## 1.2 Findings

A total of 5,342 dental GAs were performed in Wales during 2019-20. These are presented by LHB of provider in Table 2 and LHB of patient's residence in Table 3. This equates 0.85% of the under 18 population receiving a dental GA in Wales during 2019-20 (Table 4). Or *one in every 117 children* across Wales receives a GA for dental treatment.

Health Boards should have robust mechanisms in place to record dental general anaesthesia data on their HOSPITAL information systems. They should closely monitor data on dental general anaesthesia, including rate of repeat general anaesthesia, for the purpose of local clinical governance. The dataset should consist of individual record level data providing demographic information, details of treatment and anaesthetic type.

**Table 2 GAs for children's dental treatment by LHB of provider, 2019-20**

<b>LHB of Provider/ Commissioner</b>	<b>Provider</b>	<b>0-2yrs</b>	<b>3-17yrs</b>	<b>Total</b>
Aneurin Bevan	Kensington Court	0	923	923
Aneurin Bevan	Aneurin Bevan (inc Royal Gwent)	9	157	166
Betsi Cadwaladr	CDS	47	1001	1048
Cwm Taf Morgannwg	Prince Charles	33	354	387
Cwm Taf Morgannwg	Royal Glamorgan	2	440	442
Cardiff and Vale	UDH	13	765	778
Hywel Dda	Parkway Clinic	0	649	649
Powys	Parkway Clinic	0	51	51
Powys	Health Board	1	25	26
Swansea Bay	CDS/Parkway Clinic		694	694
Swansea Bay	Morrison Hospital & PoW	8	170	178
<b>WALES TOTAL</b>		<b>113</b>	<b>5229</b>	<b>5342</b>

*\*Figures for Parkway Clinic in Hywel Dda and Powys need to be interpreted with caution, as they may include total GA numbers rather than unique numbers of patients.*

If GA data is originally collected via a provider outside the Health Board Hospital setting then this data should be entered into the Health Board's HOSPITAL information system upon receipt of that data from the provider. This information should then be readily available when requested by Public Health Wales on behalf of the Welsh Government.

**Table 3 GAs for children's dental treatment by LHB of patient – 2019-20**

LHB of patient's residence	Provider	Number of patients from LHB 19/20
Aneurin Bevan	Kensington Court	923
Aneurin Bevan	C&V - UDH	45
Aneurin Bevan	Royal Gwent*	163
Aneurin Bevan	Morrison Hospital (inc PoW)	3
Aneurin Bevan	CT CDS - at the Royal Glamorgan	6
Aneurin Bevan	Powys	4
Aneurin Bevan	Prince Charles	36
<b>Aneurin Bevan total</b>		<b>1180</b>
Betsi Cadwaldr	Powys	1
Betsi Cadwaladr	CDS	1048
<b>Betsi Cadwaladr total</b>		<b>1049</b>
Cwm Taf Morgannwg	SB CDS/Parkway	180
Cwm Taf Morgannwg	CT CDS - at the Royal Glamorgan	429
Cwm Taf Morgannwg	C&V - UDH	41
Cwm Taf Morgannwg	Prince Charles	322
Cwm Taf Morgannwg	Morrison Hospital (inc PoW)	2
Cwm Taf Morgannwg	Powys	7
Cwm Taf Morgannwg	Royal Gwent*	1
<b>Cwm Taf total</b>		<b>982</b>
Cardiff and Vale	C&V - UDH	688
Cardiff and Vale	CT CDS - at the Royal Glamorgan	3
Cardiff and Vale	Morrison Hospital (inc PoW)	2
Cardiff and Vale	Prince Charles	3
<b>Cardiff and Vale total</b>		<b>696</b>
Hywel Dda	Parkway	649
Hywel Dda	Morrison Hospital (inc PoW)	43
Hywel Dda	Prince Charles	
Hywel Dda	C&V - UDH	2
<b>Hywel Dda total</b>		<b>694</b>
Powys	Morrison Hospital (inc PoW)	4
Powys	Royal Gwent*	1
Powys	C&V - UDH	
Powys	Prince Charles	23
Powys	Parkway Clinic	51
<b>Powys total</b>		<b>79</b>
Swansea Bay	SB CDS/Parkway	514
Swansea Bay	Morrison Hospital (inc PoW)	124
Swansea Bay	Prince Charles	
Swansea Bay	CT CDS - at the Royal Glamorgan	4
Swansea Bay	Powys	14
Swansea Bay	C&V - UDH	2
<b>Swansea Bay total</b>		<b>658</b>
<b>WALES TOTAL</b>		<b>5338</b>

\*1 West Gloucestershire PCT resident - Royal Gwent  
3 LHB residence unassigned for PCH

Table 4 provides a view on the number of GAs per unit child population. Given the main indication for a GA is to manage teeth affected by tooth decay we would expect higher GA provision in areas with higher decay levels.

**Table 4 Rate of dental GAs amongst the under 18 population**

<b>LHB</b>	<b>Number of children aged &lt;18</b>	<b>Number of GAs by LHB of patient's residence</b>	<b>% prevalence</b>
Powys	24496	79	0.32
Cardiff & Vale	100945	696	0.69
Betsi Cadwaladr	139227	1049	0.75
Swansea Bay	75292	658	0.87
Hywel Dda	73724	694	0.94
Aneurin Bevan	122573	1180	0.96
Cwm Taf Morgannwg	91649	982	1.07
<b>WALES</b>	<b>627906</b>	<b>5338</b>	<b>0.85</b>

\*2011 Census data (calculated from single year age groups) – 2016 mid-year estimates  
 NB 1 GA does not equate 1 child. A few children may have had more than one.

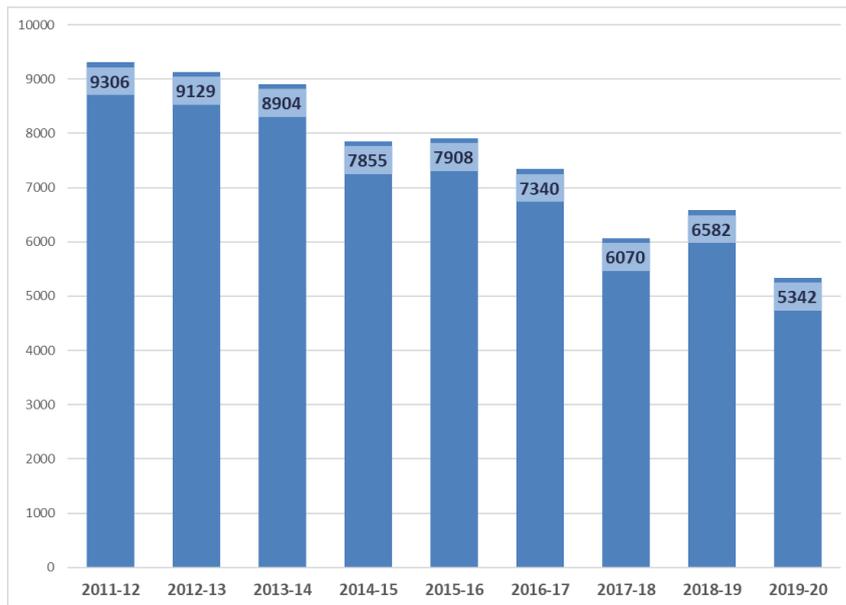
The highest decay levels at ages [3](#), [5](#) and [12](#) are found in Cwm Taf Morgannwg and Aneurin Bevan LHB areas.

The numbers of children having dental treatment via GA in Hywel Dda increased last reporting year (from 589 in 2017/18 to 1115 in 2018-19) and were out of step with findings from children's dental surveys. It is encouraging that this has now decreased to 649 in 2019-20.

There is considerable room for improvement, dental GA numbers could be reduced by improving triage, assessment, treatment planning and provision of treatment under conscious sedation.

### **1.3 Comparison with previous years activity**

Figure 1 compares the 2019-20 activity against the data for each year going back to 2011-12. The latter was the first to be collated for this exercise and acts as baseline data.

**Figure 1 GA activity 2011-2020**

*\*2011-12 figure is adjusted to estimate the numbers that might have been reported by Aneurin Bevan for the Royal Gwent.*

First of all it is important to note that the 2011-12 figures did not include data from the Royal Gwent in Aneurin Bevan, because it was not reported. To make a fairer comparison between the four reporting years, the 2011-12 baseline has been adjusted to include 214 GAs (which was the figure for 2012-13). If we were to assume that approximately the same number of GAs were carried out in Aneurin Bevan in 2011-12, then the **amended Wales baseline** for that year would be  $9,092 + 214 = \mathbf{9,306}$ .

The number of GAs for dental treatment in children in Wales in 2019-20 was 5,342, which is 1,240 less patients when compared with 2018-19 (Figure 1). There has been a **42%** (3,874) reduction in GAs in children since 2011-12 (assuming an adjusted 9,306 baseline). It is important to acknowledge that previous figures have not included all the activity in Powys. Also we believe there is some double counting across Wales – as information may relate to session activity as opposed to individual children. These factors may have contributed to the increase.

## 1.4 Discussion

It is important to acknowledge that there are concerns about double counting and other data anomalies – so GA data needs to be interpreted with caution. This highlights the need for a robust information system in each health board.

When reviewing the recent years' data presented by provider/commissioner it is evident that enhanced patient assessment criteria and care pathways

in some health boards have started to take effect. During 2014-15 GA activity for this vulnerable group started to fall for some providers. For example, in 2013-14 Kensington Court provided GAs to 1,834 children receiving dental treatment in Aneurin Bevan. This has fallen to 923 in 2018/19, a reduction of 911.

Further reduction in dental GA will require Health Boards making improvements in their existing dental care pathways for children. It will also require ongoing improvement of dental health of children through effective delivery of evidence based primary and secondary prevention through clinical (e.g. dental practices) and non-clinical settings (e.g. primary schools and nurseries).

## Conclusion

Numbers of children receiving dental treatment via general anaesthetic in Wales has reduced from 6,576 in 2018/19 to 5432 in 2019/20 and remains considerably lower than baseline figures from 2011 (9,306). Changes in care pathways and local referral processes in some Health Boards have contributed to a reduction over the past 10 years.

## 1.5 Recommendations

It is recommended that the Welsh Government and Health Boards continue to monitor demand and need of GAs for children's dental treatment and make ongoing improvements to ensure children receive the most appropriate care in the most appropriate setting.

Health Boards should have computerised information systems to accurately capture the number of children who receive dental treatment under general anaesthesia. Development of such information systems within health boards will promote robustness of the dataset and support local monitoring processes in place to improve Quality and Safety. This information should then be readily available for the purpose of reporting (national/regional/local) to inform service planning.

Within their Local Oral Health Plans, all Health Boards should develop medium and long-term action plans to reduce the number of child dental GAs. Implementation of E-referral system for dentistry should support Health Boards to implement a care pathway for children referred by Primary Care for advanced or specialist dental care. Such care pathways should include triage (including full assessment and dental care planning) and delivery of the required dental care by the most appropriate team in the most appropriate setting. Integration of ongoing prevention in the care planning, provision of appropriate level of conscious sedation and specialist paediatric dental services are important to ensure effectiveness of the care

pathway. The implementation of electronic referral management system (eRMS) has provided an opportunity for health boards to ensure ongoing monitoring, review, develop and implement an improvement plan. Health Boards should also use e-RMS system to record and monitor appropriateness of referrals and outcomes achieved from treatment provided by enhanced/specialist dental services.

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