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Dental Public Health Team

CHILD DENTAL GENERAL ANAESTHETICS IN WALES

Authors: Maria Morgan

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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 2017-18 and to compare this with data collected since 2011-12. This information assists the Chief Dental Officer in monitoring GA provision and efforts to ensure it is used appropriately.

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.

As a result the Welsh Government's National Oral Health Plan prioritised this action:

Following recommendations by the Children and Young People Committee, the Welsh Government will develop and publish data about the number of children receiving dental treatment under GA each year. ([NOHAP](#), March 2013, page 28)

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. In some parts of Wales triage systems are seeking to more appropriately refer for alternatives to general anaesthesia.

1.1 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 2017-18 and to compare this with data collected annually since 2011-12.

1.2 Method

The data has been collated by making direct contact with dental service managers in Health Boards requesting the 2017-18 information. This collation of data did not include dental treatment conducted via conscious sedation.

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

1.3 Findings

A total of 6,070 dental GAs were performed in Wales during 2017-18. These are presented by LHB of provider in Table 1 and LHB of patient's residence in Table 2. This equates 0.90% of the under 18 population receiving a dental GA in Wales during 2017-18 (Table 3). Or *one in every 111 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 1 GAs for children's dental treatment by LHB of provider, 2017-18

LHB of Provider/ Commissioner	Provider	0-2yrs	3-17yrs	Total
Abertawe Bro Morgannwg	Parkway Clinic			642
	Morrison Hospital	15	165	180
	Princess of Wales			0
Aneurin Bevan	Kensington Court	0	1235	1235
Aneurin Bevan	Aneurin Bevan (inc Royal Gwent)	8	183	191
Betsi Cadwaladr	CDS	30	1082	1112
Cwm Taf	Prince Charles	65	306	371
Cardiff and Vale	UDH	36	1015	1051
Cardiff and Vale	Royal Glamorgan (C&V CDS via SLA)	15	683	698
Hywel Dda	Parkway Clinic			589
Powys		1		1
WALES TOTAL		170	4669	6070

*Figures for Kensington Court in Aneurin Bevan 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.

There appear to be some data anomalies in the recording of GA in children for Powys residents. Only one GAs for dental treatment for children under 18 were performed by a provider in Powys (Table 1). According to Powys Health Board, **19** children from Powys received treatment via GA from other LHBs in Wales. The data that the other Welsh LHBs sent to the WOHIU totalled **24** children for Powys (Table 2). Cwm Taf Health Board (Prince Charles) for example stated they treated 22 Powys residents (Table 2) whilst Powys HB indicated that this figure was 12. However, it should be noted that the anomalous numbers involved are small and have a minimal effect on the national picture.

Table 2 GAs for children's dental treatment by LHB of patient – 2017-18

LHB of patient's residence	Provider	Number of patients from LHB 17/18
Aneurin Bevan	Kensington Court	1235
Aneurin Bevan	C&V - UDH	50
Aneurin Bevan	Royal Gwent*	185
Aneurin Bevan	Morrison Hospital (inc PoW)	3
Aneurin Bevan	Prince Charles	37
Aneurin Bevan total		1510
Abertawe Bro Morgannwg	Parkway	642
Abertawe Bro Morgannwg	Morrison Hospital (inc PoW)	111
Abertawe Bro Morgannwg	Prince Charles	4
Abertawe Bro Morgannwg	C&V - UDH	7
Abertawe Bro Morgannwg total		764
Betsi Cadwaladr	Prince Charles	
Betsi Cadwaladr	CDS	1112
Betsi Cadwaladr total		1112
Cwm Taf	C&V CDS - at the Royal Glamorgan	688
Cwm Taf	C&V - UDH	59
Cwm Taf	Prince Charles	304
Cwm Taf	Morrison Hospital (inc PoW)	4
Cwm Taf	Royal Gwent*	2
Cwm Taf total		1057
Cardiff and Vale	C&V - UDH	934
Cardiff and Vale	C&V CDS - at the Royal Glamorgan	10
Cardiff and Vale	Morrison Hospital (inc PoW)	4
Cardiff and Vale	Prince Charles	3
Cardiff and Vale	Royal Gwent*	1
Cardiff and Vale total		952
Hywel Dda	Parkway	589
Hywel Dda	Morrison Hospital (inc PoW)	57
Hywel Dda	Prince Charles	1
Hywel Dda	Royal Gwent*	0
Hywel Dda	C&V - UDH	1
Hywel Dda total		648
Powys	Morrison Hospital (inc PoW)	1
Powys	Royal Gwent*	1
Powys	C&V - UDH	
Powys	Prince Charles	22
Powys	Powys Teaching LHB	1
Powys total		25
WALES TOTAL		6068

* minus 2 patients – West Gloucestershire PCT

Table 3 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 3 Prevalence of dental GAs amongst the under 18 population

LHB	Number of children aged <18	Number of GAs by LHB of patient's residence	% prevalence
Powys	27850	25	0.09
Cardiff & Vale	105416	952	0.90
Betsi Cadwaladr	148940	1112	0.75
Aneurin Bevan	133632	1510	1.13
Cwm Taf	66495	1057	1.59
Hywel Dda	81028	648	0.80
Abertawe Bro Morgannwg	110726	764	0.69
WALES	674087	6068	0.90

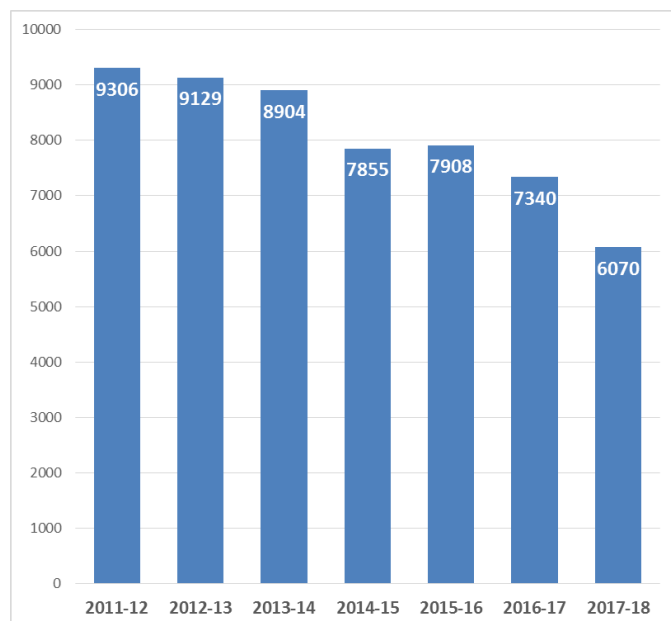
*2011 Census data (calculated from single year age groups).

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 and Aneurin Bevan LHB areas. Reported GA rates found in Hywel Dda and ABMU LHBs have improved but there is still room for improvement, dental GA numbers could be further reduced by improving triage, assessment, treatment planning and provision of treatment under conscious sedation.

1.4 Comparison with previous years activity

Figure 1 compares the 2017-18 activity against the 2016-17, 2015-16, 2014-15, 2013-14, 2012-13 and the 2011-12 data. The latter was the first to be collated for this exercise and acts as baseline data.

Figure 1 GA activity 2011-2018

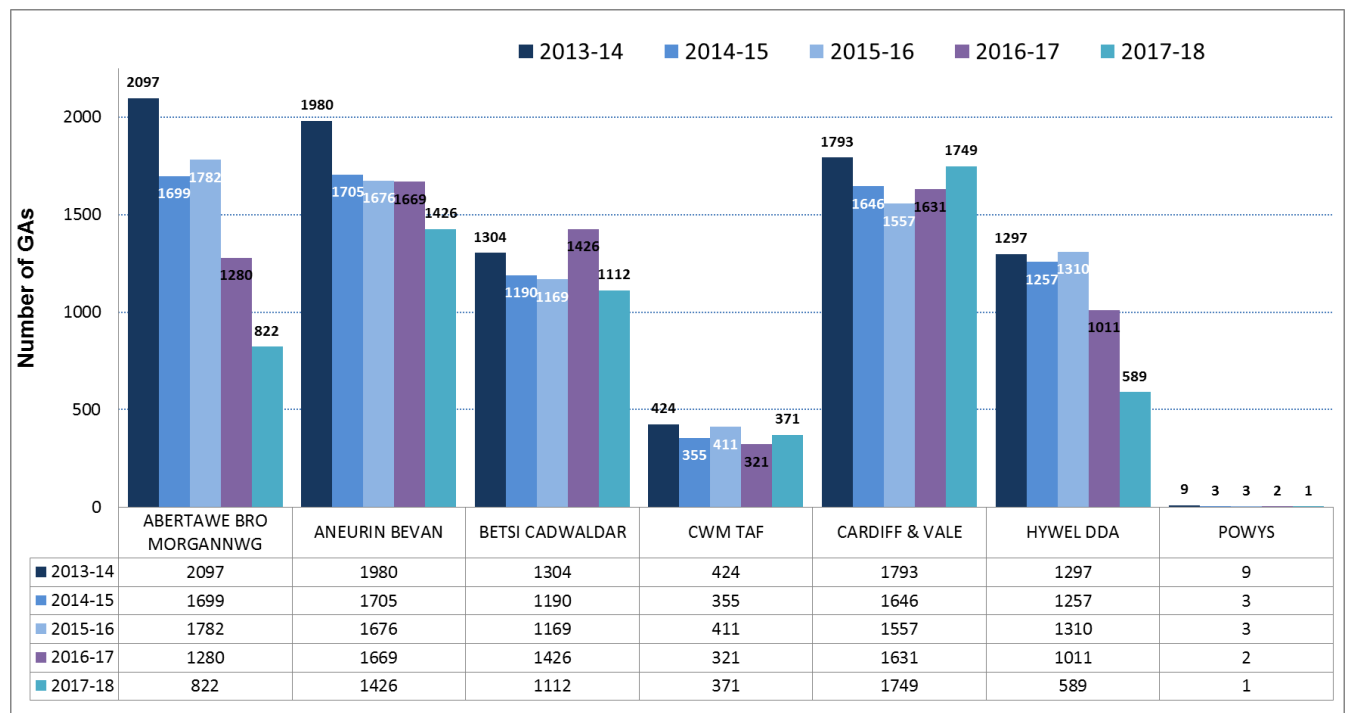
**2011-12 figure is adjusted to estimate the numbers that might have been reported by Aneurin Bevan for the Royal Gwent.*

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 2017-18 was 6,070, which is 1270 less patients when compared with 2016-17 (Figure 1). Furthermore, this represents a **35%** (3235) reduction in GAs in children since 2011-12 (assuming an adjusted 9,306 baseline).

Figure 2 presents the five most recent years of activity by LHB of provider.

Figure 2 GA activity 2013-2018 by Provider LHB



1.5 Discussion

It is important to acknowledge that key stakeholders have raised concerns about evidence of double counting and other data anomalies – so GA data needs to be interpreted with caution.

When reviewing the data presented by provider/commissioner it is evident that recent innovations of enhanced patient screening criteria and new care pathways have started to take effect. During 2014-15 GA activity for this vulnerable group started to fall for Parkway, Kensington Court and UDH. Between 2015-16 and 2017-18 Parkway provided 721 fewer GAs for dental

treatment for children in the Hywel Dda health board area (1310 in 2015-16; 589 in 2017-18) and 924 fewer in the ABMU health board area (1566 in 2015-16; 642 in 2017-18), Figure 3(ii).

The reduction in the numbers of children having GA for dental treatment in Wales is welcomed and is most likely to be a reflection of the changes to assessment and treatment protocols together with population level improvements in oral health.

Professional opinion expressed by key stakeholders suggests that as demand and need fall the availability of GA sessions needs to be reviewed. Availability of specialist Paediatric Dental Service and conscious sedation services needs to be increased to ensure there are viable and timely alternatives available.

Dental GA numbers have started to improve in ABMU and Hywel Dda health boards but there should be further local reflections on what more can be done to reduce the need and demand for dental treatment under GA as the current provision is still out of step with local childhood epidemiology data.

Considering effectiveness of triage systems, provision of conscious sedation services and specialist paediatric dental services varied between health boards in Wales in 2017/18, there seems to be considerable room for improvement in reducing dental general anaesthesia administered to children in Wales. 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 and non-clinical settings.

Conclusion

Numbers of general anaesthetic for dental treatment in children in Wales have reduced to 6,069 in 2017/18. This remains considerably lower than baseline figures from 2011. The decrease seems to be because of changes in care pathways and local referral processes in some Health Boards.

Figure 3(i) GA activity 2011-2018 presented by LHB of residence

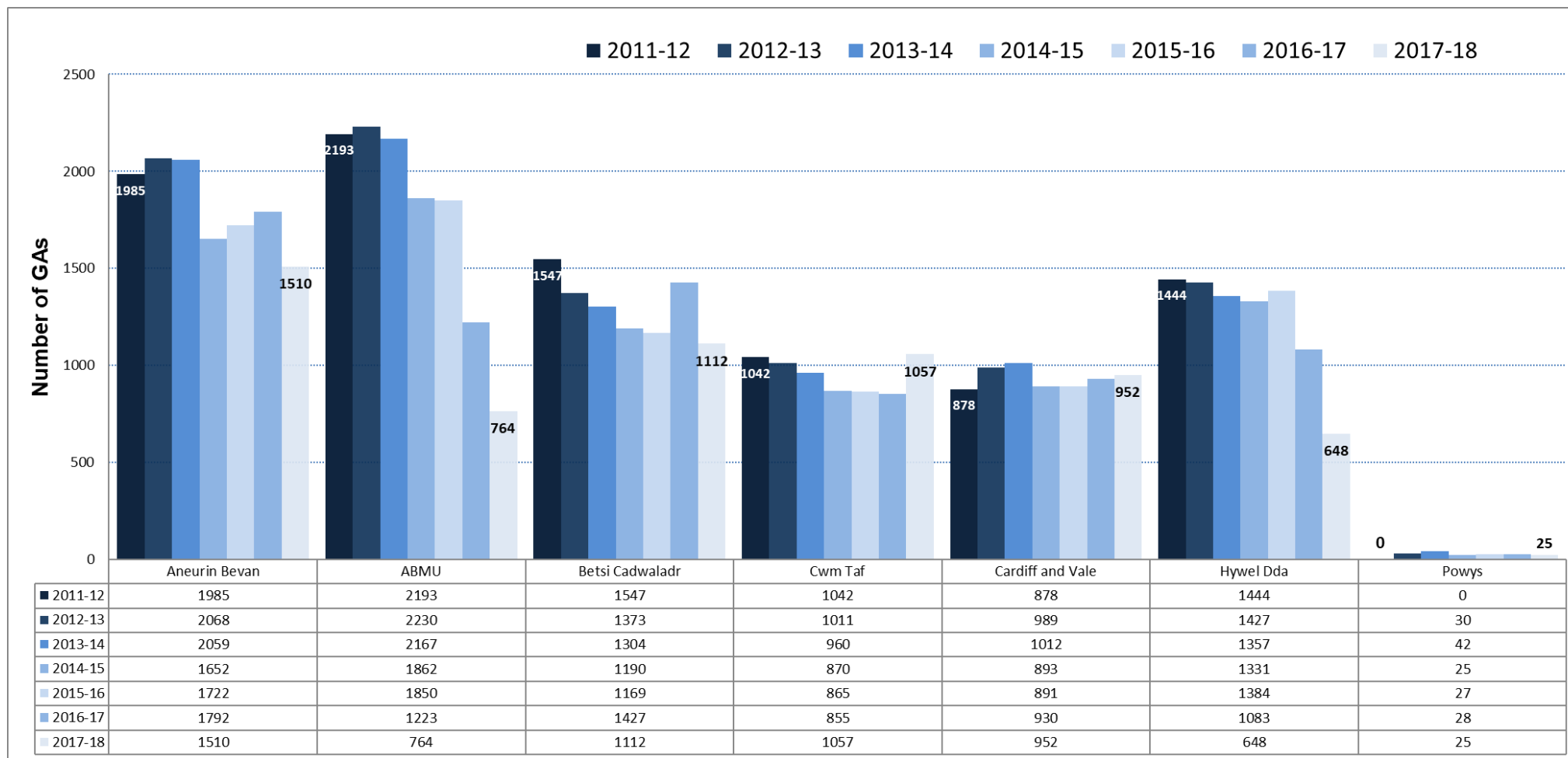
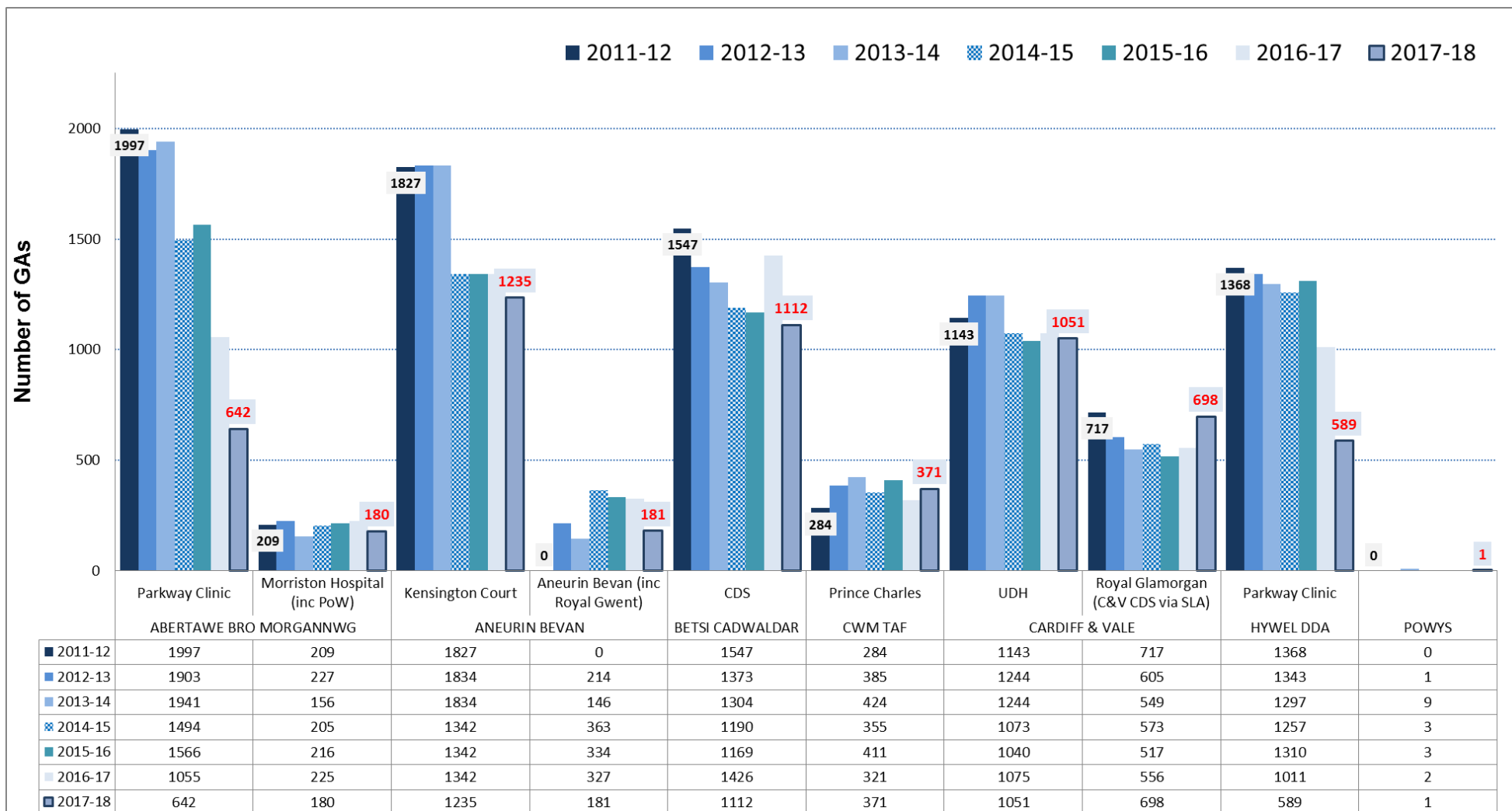


Figure 3(ii) GA activity 2011-2018 presented by provider within LHB boundaries



1.6 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. Health Boards should implement a care pathway for children referred by Primary Care for advanced or specialist dental care. Such care pathways should include standardised referral proforma, 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 proposed introduction of E-referral for dentistry should provide an opportunity for health boards to review, develop and implement an improvement plan.

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