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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 2015-16 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 Chief Dental Officers 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. Two factors which contribute to currently high levels of provision are poor oral health 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 2015-16 and to compare this with data collected in 2014-15, 2013-14, 2012-13 and 2011-12.

1.2 Method

The data has been collated by making direct contact with dental provider managers requesting the 2015-16 information. This collation of data did not include dental treatment conducted via conscious sedation.

It is important to note that 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 7,908 dental GAs were performed in Wales during 2015-16. These are presented by LHB of provider in Table 1 and LHB of patient's residence in Table 2. This equates 1.17% of the under 18 population receiving a dental GA in Wales during 2015-16 (Table 3). Or *one in every 85 children* across Wales receives a GA for dental treatment.

Health Boards should have robust mechanisms in place to record and monitor data on dental general anaesthesia for the purpose of local clinical governance; consisting of individual record level data providing demographic information, details of treatment and anaesthetic type. This information should then be readily available when requested by Public Health Wales or Welsh Government. Some service providers are able to do this; some are able to provide a subset of the ideal monitoring information, whilst others have not been in a position to provide the full information requested, see Table 1.

Table 1 GAs for children's dental treatment by LHB of provider – 2015-16

LHB of Provider/ Commissioner	Provider	0-2yrs	3-17yrs	Total
Abertawe Bro Morgannwg	Parkway Clinic			1566
	Morrison Hospital	14	129	143
	Princess of Wales	1	72	73
Aneurin Bevan	Kensington Court	0	1342	1342
Aneurin Bevan	Aneurin Bevan (inc Royal Gwent)	48	286	334
Betsi Cadwaladr	CDS	2	1167	1169
Cwm Taf	Prince Charles	112	299	411
Cardiff and Vale	UDH	36	1004	1040
Cardiff and Vale	Royal Glamorgan (C&V CDS via SLA)	6	511	517
Hywel Dda	Parkway Clinic			1310
Powys			3	3
WALES TOTAL				7908

There appear to be some data anomalies in the recording of GA in children for Powys residents. Only three GAs for dental treatment for children under

18 were performed by a provider in Powys (Table 1). According to Powys Health Board, 28 children from Powys received treatment via GA from other LHBs in Wales. The data that the other Welsh LHBs sent to the WOHIU totalled 27 children for Powys (Table 2). ABMU Health Board (Morrison Hospital) for example stated they treated 7 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 - 2015-16

LHB of patient's residence	Provider	Number of patients from LHB
Aneurin Bevan	Kensington Court	1342
Aneurin Bevan	C&V - UDH	99
Aneurin Bevan	Royal Gwent*	330
Aneurin Bevan	Morrison Hospital	3
Aneurin Bevan	Princess of Wales	0
Aneurin Bevan	Prince Charles	76
Aneurin Bevan total		1850
Abertawe Bro Morgannwg	Parkway	1566
Abertawe Bro Morgannwg	Morrison Hospital	85
Abertawe Bro Morgannwg	Princess of Wales	50
Abertawe Bro Morgannwg	Prince Charles	6
Abertawe Bro Morgannwg	C&V CDS - at the Royal Glamorgan	0
Abertawe Bro Morgannwg	C&V - UDH	15
Abertawe Bro Morgannwg total		1722
Betsi Cadwaladr	CDS	1169
Betsi Cadwaladr total		1169
Cwm Taf	C&V CDS - at the Royal Glamorgan	490
Cwm Taf	C&V - UDH	72
Cwm Taf	Prince Charles	301
Cwm Taf	Morrison Hospital	1
Cwm Taf	Royal Gwent*	1
Cwm Taf total		865
Cardiff and Vale	C&V - UDH	850
Cardiff and Vale	C&V CDS - at the Royal Glamorgan	27
Cardiff and Vale	Morrison Hospital	1
Cardiff and Vale	Princess of Wales	1
Cardiff and Vale	Prince Charles	10
Cardiff and Vale	Royal Gwent*	2
Cardiff and Vale total		891
Hywel Dda	Parkway	1310
Hywel Dda	Morrison Hospital	46
Hywel Dda	Princess of Wales	22
Hywel Dda	Prince Charles	2
Hywel Dda	C&V CDS - at the Royal Glamorgan	0
Hywel Dda	C&V - UDH	4
Hywel Dda total		1384
Powys	Morrison Hospital	7
Powys	Royal Gwent*	1
Powys	C&V - UDH	0
Powys	Prince Charles	16
Powys	Powys Teaching LHB	3
Powys total		27
WALES TOTAL		7908

* minus 4 patients - Bath, Kennet and North Wiltshire PCT and 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	27	0.10
Cardiff & Vale	105416	891	0.85
Betsi Cadwaladr	148940	1169	0.78
Aneurin Bevan	133632	1850	1.38
Cwm Taf	66495	865	1.30
Hywel Dda	81028	1384	1.71
Abertawe Bro Morgannwg	110726	1722	1.56
WALES	674087	7908	1.17

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

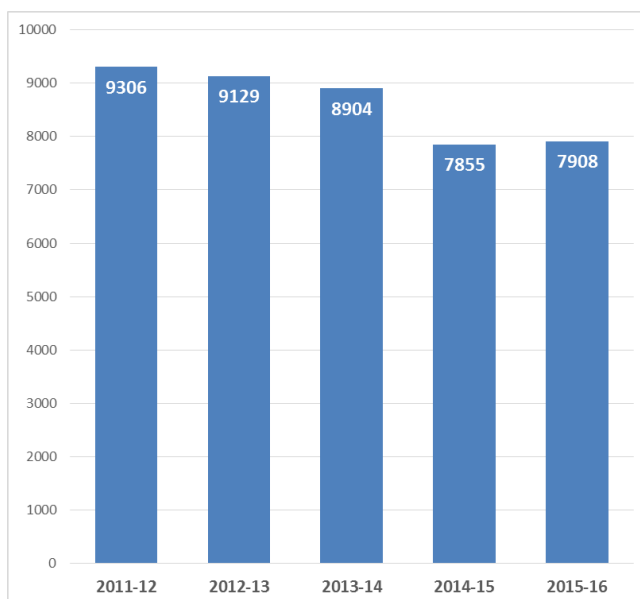
NB 1 GA does not equate 1 child. A few children may have had more than one.

The highest decay levels at ages [3, 5 and 12](#) are found in Cwm Taf and Aneurin Bevan LHB areas. The highest reported GA rates found in AMBU and particularly Hywel Dda LHBS are out of step with what would be expected given reported mean decay levels.

1.4 Comparison with previous years activity

Figure 1 compares the 2015-16 activity against the 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 2011-2016



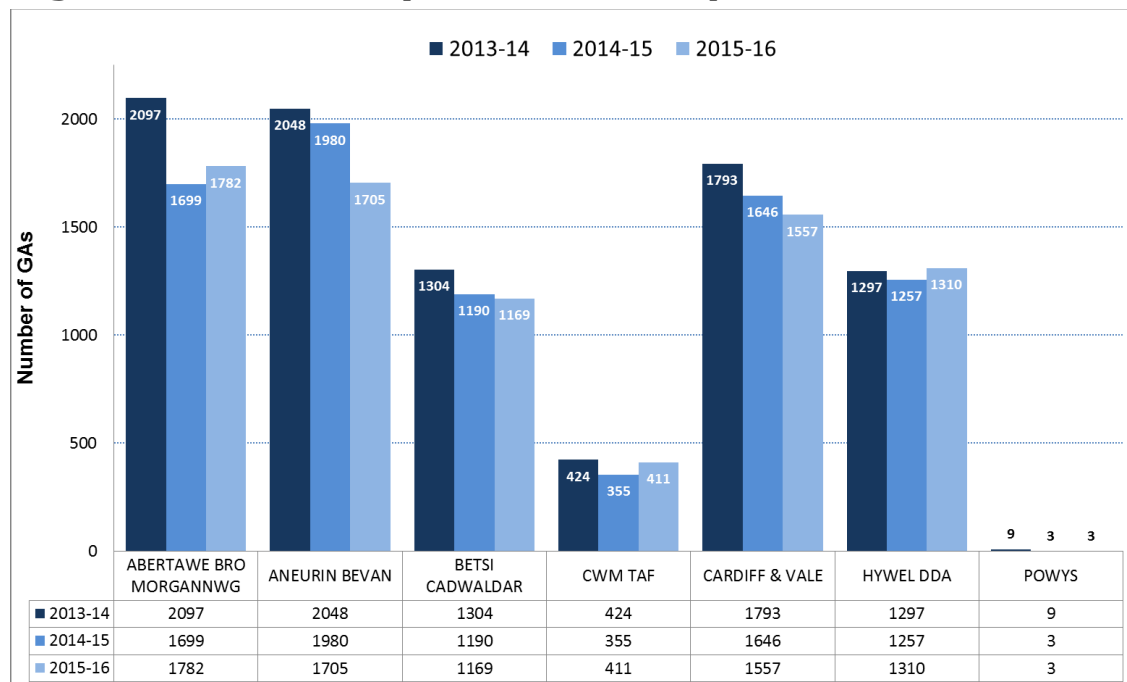
*2011-12 figure is adjusted to estimate the numbers that might have been reported by Aneurin Bevan for the Royal Gwent.

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 2015-16 was 7,908, which is 53 more patients when compared with 2014-15. But the 2015-16 figures still compare favourably with those reported between 2011 and 2013 (Figure 1). This represents a 15% (1,388) reduction in GAs in children since 2011-12 (assuming an adjusted 9,306 baseline).

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

Figure 2 GA activity 2013-2016 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 fell for Parkway, Kensington Court and UDH. However,

Parkway has exhibited increases in patient numbers between 2014-15 and 2015-16, an increase of 72 patients for ABMU and 53 for Hywel Dda.

Even though the numbers of children in Wales having GA for dental treatment appear to have fallen and now started to plateau – this does not equate to reduced experience of dental caries amongst Welsh children – it is a reflection of the changes to assessment and treatment protocols.

Professional opinion expressed by key stakeholders suggested that some of this fall may reflect availability of GA sessions and longer waiting times and may not be associated with a reduction in need. Availability of specialist Paediatric Dental Service and conscious sedation services also affect the utilisation of GA for dental treatment.

Compared with other LHB areas GA provision in ABMU and particularly Hywel Dda is higher than would be expected given the prevalence of decay.

Considering effective triage systems and specialist paediatric dental services were not in place in all health boards in Wales in 2015/16, 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 pathway for children and 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 plateaued to just under 8,000 in 2015/16. 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 2011-2016 presented by LHB of residence

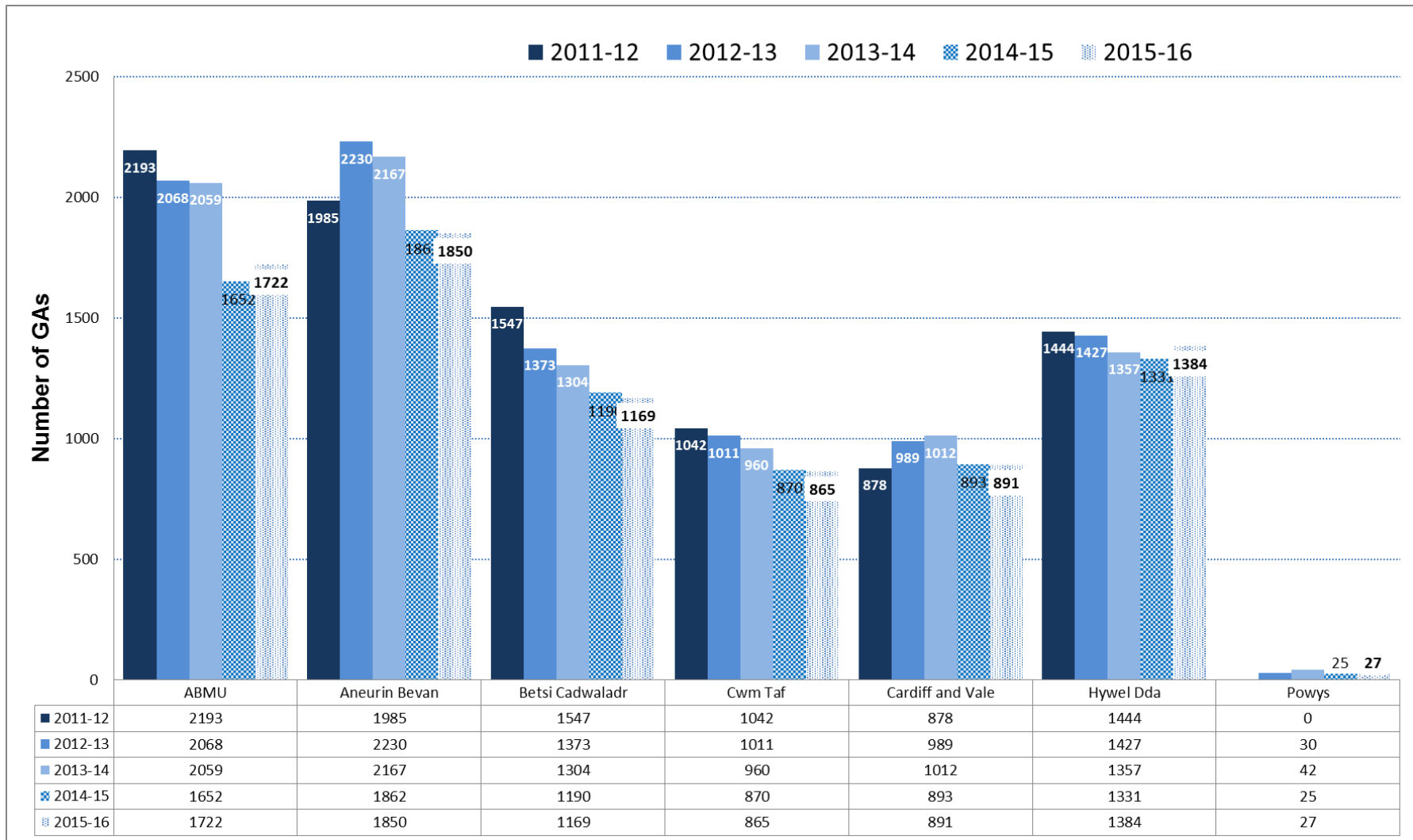
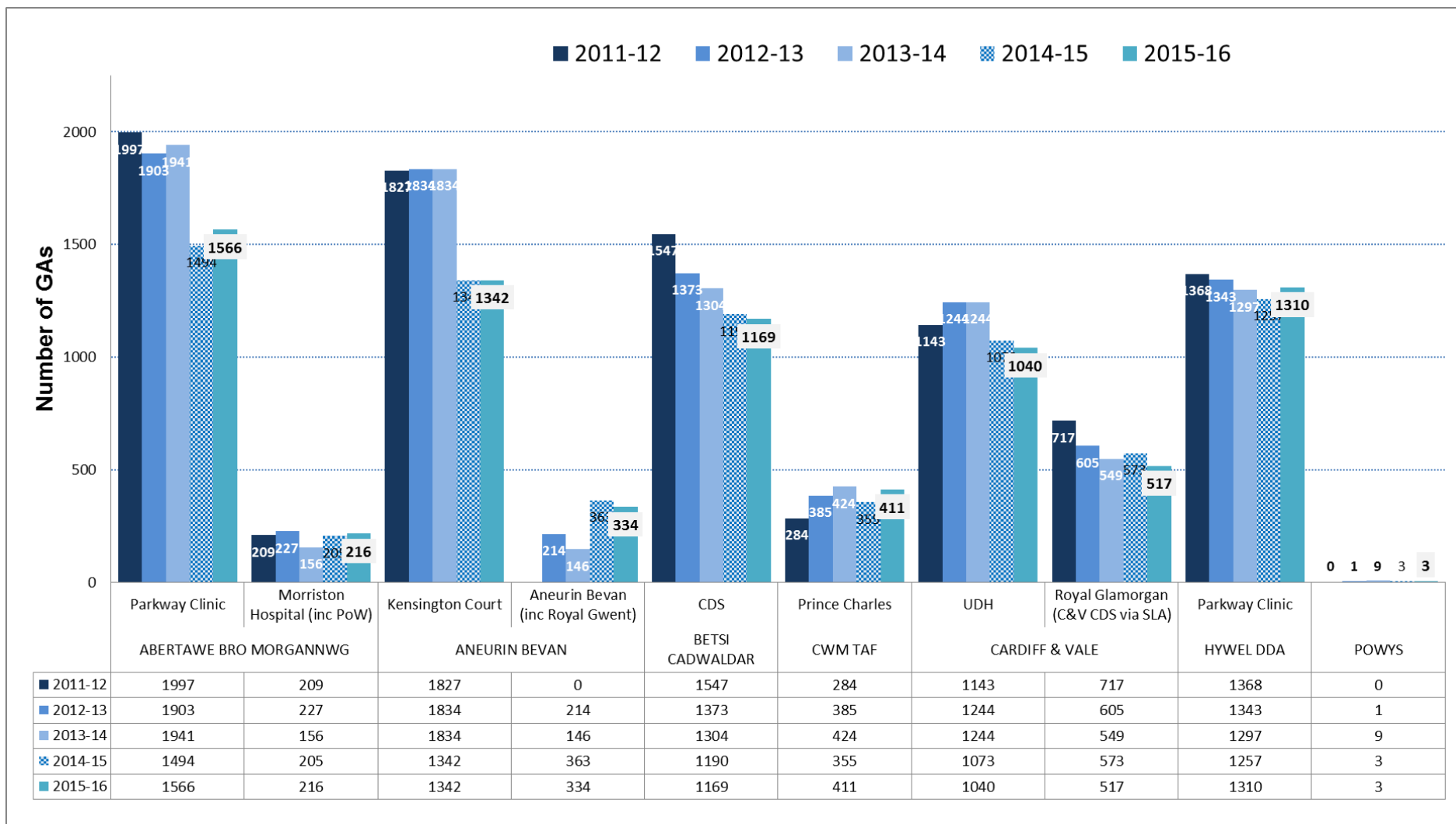


Figure 3(ii) GA activity 2011-2015 presented by provider within LHB boundaries



1.6 Recommendations

- 1.5.1 It is recommended that the Welsh Government and Health Boards continue to monitor GAs for children's dental treatment, once the changes to care pathways and referral processes become embedded in all Health Boards, we should then be in a position to assess any changes associated with improvements in oral health.
- 1.5.2 There needs to be central reporting of, and a standardised approach to the collection of child dental GA data, and for the data to be robust enough to fulfil governance requirements. Health Boards should have robust mechanisms in place to record and monitor data on dental general anaesthesia for the purpose of local clinical governance. This information should then be readily available for the purpose of reporting (national/regional/local) to inform service planning.
- 1.5.3 Within their Local Oral Health Plans, all Health Boards should develop medium and long term strategies to reduce the number of child dental GAs. Health Boards that do not have standardised assessment and treatment planning, link with conscious sedation and specialist Paediatric Service within their existing dental GA care pathway revisit their care pathway. Some health boards still need to consider whether historical contract volumes for GA reflect current need, and if development/improvement of conscious sedation and specialist Paediatric services within the primary/community setting could reduce the need for dental GA.