CLEFT REGISTRY & AUDIT NETWORK

Promoting excellence in cleft care

Cleft Registry and Audit NEtwork Database

Part of the Clinical Effectiveness Unit, of the Royal College of Surgeons of England

2020 Annual Report: Appendices

Results of the audit in England, Wales and Northern Ireland for children born with a cleft between January 2000 and December 2019

On behalf of the Cleft Development Group

Appendices

Appendix 1: CRANE Project Team

Members of CRANE Project Team

Craig Russell	Clinical Project Lead / Consultant Surgeon	Clinical Effectiveness Unit / NHS Greater Glasgow and Clyde
Jibby Medina	Research Fellow	Clinical Effectiveness Unit
Kate Fitzsimons	Research Fellow	Clinical Effectiveness Unit
Hussein Wahedally	Data Manager	Clinical Effectiveness Unit
Jan van der Meulen	Clinical Epidemiologist	Clinical Effectiveness Unit / London School of Hygiene and Tropical Medicine
Min Hae Park	Assistant Professor	Clinical Effectiveness Unit
Catherine Foster	CEU Research Coordinator	Clinical Effectiveness Unit

Appendix 2: Governance and funding

Ownership

The database is funded by the National Health Service through the National Specialised Commissioning Group for England, the Wales Specialised Health Services Committee, and the Northern Ireland Specialist Services Commissioning Team; who have responsibility for the delivery of care to children born with cleft lip and palate in England, Wales and Northern Ireland. An independent body, the Cleft Development Group UK, which represents patient representative groups, clinicians and commissioners, has the overall responsibility for running the database.

Cleft Development Group

The Cleft Development Group is a body with two distinct roles. Firstly, it is responsible for making arrangements for the running and commissioning of the CRANE Database.

Secondly, it is responsible for providing guidance on all aspects of the delivery of cleft care in England, Wales, and – when asked – by Northern Ireland. It includes representatives from all the stakeholders in cleft care in the UK, including commissioners, public health consultants/regional cleft leads, specialists in the provision of cleft care, and parents and patients. It also has representatives from the health services in Wales, Scotland and Northern Ireland, as well as a representative from the Republic of Ireland cleft service.

The Cleft Development Group CRANE web page provides detail on the CDG Membership and Terms of Reference.

Funding

Funding of the CRANE Database is currently coordinated and agreed by representatives of the National Specialised Commissioning Group for England, the Wales Specialised Health Services Committee, and the Northern Ireland Specialist Services Commissioning Team. Funds are raised through a levy calculated on a weighted per capita basis from the commissioning bodies in England, Wales and Northern Ireland. The levy is currently collected by Specialised Commissioning (East Midlands).

Appendix 3: Regional Cleft Centres / Managed Clinical Networks and associated cleft care teams

The CRANE Database covers England, Wales and Northern Ireland. Cleft care is currently delivered by eight Regional Cleft Centres and two Managed Clinical Networks (MCN). Several of the Regional Cleft Centres are split between two hospitals, where the primary surgery is usually undertaken, and therefore Hospitals / cleft care teams in a region may submit data separately to the CRANE Database, as shown in the Table below.

Regional Cleft Centre / MCN	Hospitals / Cleft care teams
Northern & Yorkshire	Royal Victoria Infirmary, Newcastle Leeds General Infirmary, Leeds
North West & North Wales & Isle of Man	Alder Hey Children's Hospital, Liverpool Royal Manchester Children's Hospital, Manchester
Trent	Nottingham City Hospital, Nottingham
West Midlands	Birmingham Children's Hospital, Birmingham
East	Addenbrooke's Hospital, Cambridge
North Thames*	Great Ormond Street Hospital (GOSH), London Broomfield Hospital, Chelmsford
The Spires**	John Radcliffe Hospital, Oxford & Salisbury District Hospital, Salisbury
South Wales & South West	Morriston Hospital, Swansea University Hospitals Bristol***
South Thames	Guy's and St Thomas' Trust (GSTT), London
Northern Ireland	Royal Belfast Hospital for Sick Children, Belfast

Notes:
MCN – Managed Clinical Network.
*Data for GOSH and Broomfield cleft care teams combined upon request by the Spires' Clinical Director (January 2017).
**Data for Oxford and Salisbury cleft care teams combined upon request by the Spires' Clinical Director (June 2016).
***Frenchay Hospital, Bristol service moved to University Hospitals Bristol during 2014.

Appendix 4: Diagnosis and Procedure Codes, Hospital Episode Statistics (HES)

International classification of Disease 10th Revision (ICD-10) diagnostic codes for cleft lip and/or palate.

Code	Description
Q35	Cleft palate
Q36	Cleft lip
Q37	Cleft palate with cleft lip

Classification of Surgical Operations and Procedures 4th Revision (OPCS-4) codes for cleft lip and cleft palate repairs.

Code	Description
F031	Correction of deformity to lip
F291	Correction of deformity to palate

International classification of Disease 10th Revision (ICD-10) diagnostic codes for syndromes and malformations used to identify 'syndromic' cleft patients in CRANE-HES linked research work (Chapter 5). A patient was defined as 'syndromic' if there was a record of any of the following codes in any of the fourteen diagnosis code fields for any of their HES episodes.

Code	Description
D821	Di George's syndrome
Congenital malformations of the nervous system (Q00-Q07)	
Q00	Anencephaly and similar malformations
Q01	Encephalocele
Q02	Microcephaly
Q03	Congenital hydrocephalus
Q04	Other congenital malformations of brain
Q05	Spina bifida
Q06	Other congenital malformations of spinal cord
Q07	Other congenital malformations of nervous system
Q16	Congenital malformations of ear causing impairment of hearing
Q18	Other congenital malformations of face and neck
Congenital malformations of the circulatory system (Q20-Q28)	
Q20	Congenital malformations of cardiac chambers and connections
Q21	Congenital malformations of cardiac septa
Q22	Congenital malformations of pulmonary and tricuspid valves
Q23	Congenital malformations of aortic and mitral valves
Q24	Other congenital malformations of heart
Q25	Congenital malformations of great arteries
Q26	Congenital malformations of great veins
Q27	Other congenital malformations of peripheral vascular system
Q28	Other congenital malformations of circulatory system
Q380	Congenital malformations of lips, not elsewhere classified
Q75	Other congenital malformations of skull and face bones
Q86	Congenital malformation syndromes due to known exogenous causes, not elsewhere classified
Q87	Other specified congenital malformation syndromes affecting multiple systems
Chromosomal abnormalities, not elsewhere classified (Q90-99)	
Q90	Down's syndrome
Q91	Edwards' syndrome and Patau's syndrome
Q92	Other trisomies and partial trisomies of the autosomes, not elsewhere classified
Q93	Monosomies and deletions from the autosomes, not elsewhere classified
Q95	Balanced rearrangements and structural markers, not elsewhere classified
Q96	Turner's syndrome
Q97	Other sex chromosome abnormalities, female phenotype, not elsewhere classified
Q98	Other sex chromosome abnormalities, male phenotype, not elsewhere classified
Q99	Other chromosome abnormalities, not elsewhere classified

Appendix 5: Distribution of reasons provided for not collecting outcome data for CRANE-consented children at 5 years of age

	Child growth		Dental health		Facial growth		Speech		Psychology	
Reason for not collecting speech data	N	%	N	%	N	%	N	%	N	%
Patient deceased or emigrated	22	3.1	19	2.2	3	2.1	36	3.6	9	1.6
Patient transferred in or out of area	57	8.0	57	6.5	15	10.7	130	13.2	35	6.1
Syndromic diagnosis	24	3.4	19	2.2	11	7.9	9	0.9	10	1.7
Clinically contraindicated (non-syndromic)	16	2.2	17	1.9	7	5.0	226	22.9	6	1.0
Lack of staff facilities or equipment	177	24.8	320	36.5	20	14.3	45	4.6	247	43.2
Patient DNA / cancelled / did not consent / cooperate	180	25.2	230	26.3	63	45.0	219	22.2	148	25.9
Other	238	33.3	214	24.4	21	15.0	323	32.7	214	20.5
Total	714	100.0	876	100.0	140	100.0	988	100.0	572	100.0

Appendix 6: Dental health – raw data

Table A. Number and % of 5-year old CRANE-consented children born 2004-13 with dmft data according to birth year; as well as dental outcomes, average Treatment Index and average Care Index by birth year.

Birth year	All eligible cases	Eligible cases with dmft reported		At least one (>0) dmft		dmft > 5		Treatment Index		Care Index	
	N	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
2004	766	457	(59.7)	199	(43.5)	58	(12.7)	415	(74.4)	415	(68.2)
2005	854	499	(58.4)	213	(42.7)	69	(13.8)	457	(72.6)	457	(68.1)
2006	913	532	(58.3)	217	(40.8)	73	(13.7)	500	(77.2)	502	(68.9)
2007	967	615	(63.6)	253	(41.1)	91	(14.8)	586	(78.5)	587	(69.9)
2008	981	609	(62.1)	265	(43.5)	90	(14.8)	602	(71.4)	604	(62.4)
2009	927	594	(64.1)	255	(42.9)	89	(15.0)	591	(74.9)	592	(65.9)
2010	971	549	(56.5)	195	(35.5)	74	(13.5)	539	(79.3)	541	(72.9)
2011	957	573	(59.9)	209	(36.5)	71	(12.4)	566	(76.2)	568	(70.6)
2012	932	516	(55.4)	213	(41.3)	88	(17.1)	512	(75.6)	513	(68.6)
2013	908	495	(54.5)	182	(36.8)	65	(13.1)	489	(77.4)	493	(70.9)
Total	9,176	5,439	(59.3)	2,201	(40.5)	768	(14.1)	5,257	(75.8)	5,272	(68.6)
P-value for difference between birth years		*p<0.001*		*p=0.024*		*p=0.601*		*p=0.212*		*p=0.069*	

Note: Registered in CRANE by 13 July 2020. Exclusions (not mutually exclusive): Children who died before the age of 5 years, submucous cleft palates, and born with a non-specified cleft type.

Appendix 7: Facial growth – raw data

Table A. Number (%) of CRANE-registered[a] and consented children born with a complete unilateral cleft lip and palate, who have Five Year Old Index data or reasons this outcome was not collected at 5 years of age, according to birth year.

Birth year	All eligible cases*	Eligible cases with Five Year Old Index scores		Reason reported for not collecting outcome		Total cases acc. for		Missing data	
	N	N	%	N	%	N	%	N	%
2004	135	98	72.6	1	0.7	99	73.3	36	26.7
2005	157	117	74.5	7	4.5	124	79.0	33	21.0
2006	151	120	79.5	4	2.6	124	82.1	27	17.9
2007	166	123	74.1	19	11.4	142	85.5	24	14.5
2008	171	129	75.4	8	4.7	137	80.1	34	19.9
2009	163	115	70.6	21	12.9	136	83.4	27	16.6
2010	165	111	67.3	10	6.1	121	73.3	44	26.7
2011	171	119	69.6	26	15.2	145	84.8	26	15.2
2012	184	110	59.8	29	15.8	139	75.5	45	24.5
2013	139	61	43.9	15	10.8	76	54.7	63	45.3
Total	1602	1103	68.9	140	8.7	359	77.6	359	22.4

[a] Registered in CRANE by 13 July 2020.

[b] Exclusions (not mutually exclusive): children who died before the age of 5 years and those with submucous cleft palates.

Table B. Number (%) of CRANE-registered consented children born between 2004 and 2013 with a complete unilateral cleft lip and palate, according to Five Year Old Index scores and birth year.

Birth year	All eligible cases*	Eligible cases with Five Year Old Index scores		Good facial growth (scores 1 or 2)		Fair facial growth (score 3)		Poor facial growth (scores 4 or 5)	
	N	N	%	N	%	N	%	N	%
2004	135	98	72.6	39	39.8	28	28.6	31	31.6
2005	157	117	74.5	50	42.7	44	37.6	23	19.7
2006	151	120	79.5	53	44.2	37	30.8	30	25.0
2007	166	123	74.1	57	46.3	42	34.1	24	19.5
2008	171	129	75.4	50	38.8	42	32.6	37	28.7
2009	163	115	70.6	56	48.7	33	28.7	26	22.6
2010	165	111	67.3	41	36.9	35	31.5	35	31.5
2011	171	119	69.6	39	32.8	52	43.7	28	23.5
2012	184	110	59.8	49	44.5	34	30.9	27	24.5
2013	139	61	43.9	22	36.1	22	36.1	17	27.9
Total	1602	1103	68.9	456	41.3	369	33.5	278	25.2

Appendix 8: Speech – raw data

Data completeness

Table A. Number (%) of CRANE-registered[a] and consented children born with a cleft affecting the palate, who have speech outcome data or reasons this outcome was not collected at 5 years of age, according to birth year.

	Consented eligible cases[b]	All 16 CAPS-A scores reported		<16 CAPS-A scores reported		Reason reported for not collecting outcome		Total cases acc. for	Missing data	
Birth year	N	n	(%)	n	(%)	n	(%)	(%)	n	(%)
2007	663	433	(65.3)	15	(2.3)	181	(27.3)	(94.9)	34	(5.1)
2008	665	438	(65.9)	8	(1.2)	140	(21.1)	(88.1)	79	(11.9)
2009	663	444	(67.0)	9	(1.4)	156	(23.5)	(91.9)	54	(8.1)
2010	646	452	(70.0)	10	(1.5)	149	(23.1)	(94.6)	35	(5.4)
2011	636	441	(69.3)	11	(1.7)	170	(26.7)	(97.8)	14	(2.2)
2012	642	454	(70.7)	20	(3.1)	107	(16.7)	(90.5)	61	(9.5)
2013	607	318	(52.4)	5	(0.8)	85	(14.0)	(67.2)	199	(32.8)
Total	4,522	2,980	(65.9)	78	(1.7)	988	(21.8)	(89.5)	476	(10.5)

[a] Registered in CRANE by 13 July 2020.

[b] Exclusions (not mutually exclusive): [**] Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome.

Resonance and Nasal Airflow

In Table B, ratings are colour-coded as green when the child's palate is functioning well in terms of the assessed parameter. No action, either speech therapy or surgery, would be required with green ratings. Amber for hyponasality is indicative of nasal obstruction, while amber or red for hypernasality, nasal emission or nasal turbulence are indicative of structurally-related speech difficulties that may involve palate function and/or palatal fistulae. These difficulties may require surgical treatment.

Table B. Number (%) of CRANE-registered[a] and consented children born with a cleft palate in 2007-2013, according to the four parameters for resonance and nasal airflow

Description	Score	N	(%)
RESONANCE – HYPERNASALITY			
Absent	0	2,292	(76.9)
Borderline – minimal	1	350	(11.7)
Mild – evident on close vowels	2	183	(6.1)
Moderate – evident on open and close vowels	3	84	(2.8)
Severe – evident on vowels and voiced consonants	4	71	(2.4)
RESONANCE – HYPONASALITY			
Absent	0	2,473	(83)
Mild – partial dentalization of nasal consonants and adjacent vowels	1	463	(15.5)
Marked – dentalization of nasal consonants and adjacent vowels	2	44	(1.5)
NASAL AIRFLOW – AUDIBLE NASAL EMISSION			
Absent on pressure consonants	0	2,717	(91.2)
Occasional: pressure consonants affected <10% of the sample	1	194	(6.5)
Frequent: pressure consonants affected >10% of the sample	2	69	(2.3)
NASAL AIRFLOW – NASAL TURBULENCE			
Absent on pressure consonants	0	2,361	(79.2)
Occasional: pressure consonants affected <10% of the sample	1	527	(17.7)
Frequent: pressure consonants affected >10% of the sample	2	92	(3.1)
Total		2,980	(100)

[a] Registered in CRANE by 13 July 2020.

Cleft Speech Characteristics (CSCs)

Table C presents the cleft speech characteristics (CSCs). A colour coding of green indicates the CSC is absent or considered to be a minor speech characteristic unlikely to require intervention. A colour coding of amber or red indicates the CSC is affecting one or more consonants to the extent that therapy and / or surgery may be required.

Table C. Number (%) of CRANE-registered[a] consented children born with a cleft palate in 2007-2013, according to the twelve Cleft Speech Characteristics (CSCs) parameters.

Cleft Speech Characteristics (CSCs)		Score	N	(%)
ANTERIOR ORAL CSCs	1. Dentalisation / Interdentalisation	A	2,396	(80.4)
		B	584	(19.6)
	2. Lateralisation / Lateral	A	2,753	(92.4)
		B	137	(4.6)
		C	90	(3)
	3 Palatalisation / Palatal	A	2,272	(76.2)
		B	347	(11.6)
		C	361	(12.1)
POSTERIOR ORAL CSCs	4. Double Articulation	A	2,880	(96.6)
		B	88	(3)
		C	12	(0.4)
	5. Backed to Velar / Uvular	A	2,586	(86.8)
		C	162	(5.4)
		D	232	(7.8)
NON ORAL CSCs	6. Pharyngeal Articulation	A	2,922	(98.1)
		C	29	(1)
		D	29	(1)
	7. Glottal Articulation	A	2,797	(93.9)
		C	89	(3)
		D	94	(3.2)
	8. Active Nasal Fricatives	A	2,698	(90.5)
		C	168	(5.6)
		D	114	(3.8)
	9. Double Articulation	A	2,915	(97.8)
		C	42	(1.4)
		D	23	(0.8)
PASSIVE CSCs	10. Weak and or nasalised consonants	A	2,808	(94.2)
		C	76	(2.6)
		D	96	(3.2)
	11. Nasal realisation of plosives	A	2,885	(96.8)
		C	49	(1.6)
		D	46	(1.5)
	12. Gliding of fricatives	A	2,923	(98.1)
		C	42	(1.4)
		D	15	(0.5)
		Total	2,980	(100)

[a] Registered in CRANE by 13 July 2020.

Speech Outcome Standards

Table D. Raw data for line graphs. Number (%) of CRANE-registered and consented children with a non-syndromic cleft palate who have reported speech outcomes at 5 years of age and have met each speech outcome standard, according to birth year.

Birth year	All eligible CP cases	Eligible CP cases with all 16 CAPS-A parameters reported		Normal speech		No structurally-related speech difficulties		No cleft-related articulation difficulties	
	N	N	%	N	%	N	%	N	%
2007	353	209	59.2	146	69.9	150	71.8	162	77.5
2008	374	234	62.6	159	67.9	160	68.4	188	80.3
2009	375	224	59.7	164	73.2	182	81.3	182	81.3
2010	349	222	63.6	166	74.8	167	75.2	183	82.4
2011	355	234	65.9	176	75.2	183	78.2	188	80.3
2012	347	238	68.6	169	71.0	176	73.9	191	80.3
2013	335	153	45.7	109	71.2	113	73.9	122	79.7
Total	2488	1514	60.9	1089	71.9	1131	74.7	1216	80.3

** Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome recorded on CRANE.

Table E. Raw data for line graphs. Number (%) of CRANE-registered and consented children with non-syndromic unilateral cleft lip and palate who have reported speech outcomes at 5 years of age and have met each speech outcome standard, according to birth year.

Birth year	All eligible UCLP cases	Eligible UCLP cases with all 16 CAPS-A parameters reported		Normal speech		No structurally-related speech difficulties		No cleft-related articulation difficulties	
	N	N	%	N	%	N	%	N	%
2007	216	154	71.3	87	56.5	110	71.4	100	64.9
2008	218	155	71.1	82	52.9	101	65.2	95	61.3
2009	194	148	76.3	82	55.4	93	62.8	95	64.2
2010	197	149	75.6	80	53.7	106	71.1	94	63.1
2011	203	145	71.4	75	51.7	102	70.3	85	58.6
2012	215	162	75.3	82	50.6	109	67.3	97	59.9
2013	191	117	61.3	60	51.3	81	69.2	68	58.1
Total	1434	1030	71.8	548	53.2	702	68.2	634	61.6

** Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome recorded on CRANE.

Table F. Raw data for line graphs. Number (%) of CRANE-registered and consented children with non-syndromic bilateral cleft lip and palate who have reported speech outcomes at 5 years of age and have met each speech outcome standard, according to birth year.

Birth year	All eligible BCLP cases	Eligible BCLP cases with all 16 CAPS-A parameters reported		Normal speech		No structurally-related speech difficulties		No cleft-related articulation difficulties	
	N	N	%	N	%	N	%	N	%
2007	94	70	74.5	25	35.7	46	65.7	28	40.0
2008	73	49	67.1	20	40.8	34	69.4	20	40.8
2009	94	72	76.6	23	31.9	47	65.3	27	37.5
2010	100	81	81.0	29	35.8	46	56.8	33	40.7
2011	78	62	79.5	21	33.9	37	59.7	23	37.1
2012	80	54	67.5	22	40.7	38	70.4	23	42.6
2013	81	48	59.3	13	27.1	26	54.2	16	33.3
Total	600	436	72.7	153	35.1	274	62.8	170	39.0

** Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome recorded on CRANE.

Table G. Potential ratings for resonance, nasal airflow and cleft speech characteristics assessed in children with a cleft affecting the palate at five years of age

		Possible score[1]		
Description		Green	Amber	Red
Resonance	Hypernasality		*	*
	Hyponasality			
Nasal airflow	Audible nasal emission			*
	Nasal turbulence			*
Anterior oral CSCs	Dentalisation/interdentalisation			
	Lateralisation/lateral		**	
	Palatalisation/palatal		**	
Posterior oral CSCs	Double articulation		**	
	Backed to velar/uvular		**	**
Non-oral CSCs	Pharyngeal articulation		**	**
	Glottal articulation		**	**
	Active nasal fricatives		**	**
	Double articulation		**	**
Passive CSCs	Weak and/or nasalised consonants		* **	* **
	Nasal realisation of plosives		* **	* **
	Gliding of fricatives		* **	* **

* These scores indicate structurally-related speech difficulties that may involve palate function and/or palatal fistulae. These difficulties could require surgical treatment.
**These scores indicate that the CSC is affecting one or more consonants to the extent that therapy and/or surgery may be required.

Table H. Raw data for Figure 5.3. Number and % of children, born 2006 to 2012 with a non-syndromic cleft affecting the palate, meeting each standard according to timing of their last primary palate repair in their HES records

	Total	STANDARD 1		STANDARD 2a		STANDARD 3	
Age at last primary palate repair	N	N	(%)	N	(%)	N	(%)
<6 months	212	134	(63.2%)	151	(71.2%)	149	(70.3%)
6 months to <13 months	1290	815	(63.2%)	944	(73.2%)	918	(71.2%)
13 months to <36 months	151	71	(47.0%)	98	(64.9%)	78	(51.7%)
Total	1653	1020	(61.7%)	1193	(72.2%)	1145	(69.3%)
P value		***0.001***		*0.094*		***<0.001***	

Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome, identified in Hospital Episode Statistics (HES) – See Appendix 4.

[1] Greyed out boxes indicate the score is not possible for that CAPS-A parameter

Table I. Raw data for Figures 5.4 to 5.6:

STANDARD 1 – *normal speech*

	CP			UCLP			BCLP		
Age of last primary palate repair	Total N	N (%) meeting standard		Total N	N (%) meeting standard		Total N	N (%) meeting standard	
<6 months	65	49	(75.4%)	115	68	(59.1%)	32	17	(53.1%)
6 months to <13 months	650	506	(77.8%)	453	245	(54.1%)	187	64	(34.2%)
13 months to <36 months	51	31	(60.8%)	52	25	(48.1%)	48	15	(31.3%)
Total	766	586	(76.5%)	620	338	(54.5%)	267	96	(36.0%)
P value		***0.021***			*0.388*			*0.091*	

STANDARD 2a - *speech without difficulties resulting from structural anomalies*

	CP			UCLP			BCLP		
Age of last primary palate repair	Total N	N (%) meeting standard		Total N	N (%) meeting standard		Total N	N (%) meeting standard	
<6 months	65	55	(84.6%)	115	75	(65.2%)	32	21	(65.6%)
6 months to <13 months	650	504	(77.5%)	453	314	(69.3%)	187	126	(67.4%)
13 months to <36 months	51	32	(62.7%)	52	38	(73.1%)	48	28	(58.3%)
Total	766	591	(77.2%)	620	427	(68.9%)	267	175	(65.5%)
P value		**0.017**			0.552			0.501	

STANDARD 3 – *speech without cleft=related articulation difficulties*

	CP			UCLP			BCLP		
Age of last primary palate repair	Total N	N (%) meeting standard		Total N	N (%) meeting standard		Total N	N (%) meeting standard	
<6 months	65	55	(84.6%)	115	77	(67.0%)	32	17	(53.1%)
6 months to <13 months	650	559	(86.0%)	453	285	(62.9%)	187	74	(39.6%)
13 months to <36 months	51	36	(70.6%)	52	27	(51.9%)	48	15	(31.3%)
Total	766	650	(84.9%)	620	389	(62.7%)	267	106	(39.7%)
P value		**0.013**			0.175			0.146	

Exclusions (not mutually exclusive): children who died before the age of 5 years, children with submucous cleft palates, and those with a diagnosed syndrome, identified in Hospital Episode Statistics (HES) – See Appendix 4.