National Paediatric Diabetes Audit

Notes on Data Analysis

for audit period 2017-18

Demographic data

The table below summarises the rules applied to demographic data.

Table 1: Rules applied to demographic data

Variable	Rules applied
Date of birth	Where more than one date of birth was recorded for an individual, the most common was applied across all records.

Variable	Rules applied
Deprivation quintile	Deprivation data was based on the Indices of Multiple Deprivation (IMD)

Table 2: Key health checks (care processes) - inclusion criteria 2017/18

Data item	Criteria for inclusion 2017/18	Criteria for inclusion 2016/17 (changes highlighted in bold)	▮▮▮▮▮▮▮▮▮▮▮▮▮▮ data items in 2017/18
HbA1c	HbA1c value between 2 and 195 (including values recorded as a % or in mmol/mol) and observation date within the audit period.	*Same as 2017/18.*	*No change.*

Table 3: Additional health checks (care processes) - inclusion criteria 2017/18

Data item	Criteria for inclusion 2017/18	Criteria for inclusion 2016/17 (changes highlighted in bold)	Notes on changes to analysis or reporting of data items in 2017/18
Psychological assessment	Psychological screening observation date within the audit period. *OR* Patient assessed as requiring additional psychological/CAMHS support outside of MDT clinic.28 reW* nBT/F1 8.52 Tf1 0 0 1 362.12 403.6 T		

Care at diagnosis - Inclusion criteria

NG18 (NICE, 2015) and NG20 (NICE, 2015) recommend that children and young people with Type 1 diabetes receive

micro-albuminuria or macro-albuminuria. The local interpretation is necessary for inclusion as different methodologies are used in different areas of the country with different cut off ranges.

Summary of outcome measures

The table below provides a summary of the outcome measures reported in 2017/18.

Table 5: Outcome measures reported in 2017/18

Outcome measure	Summary of measure
Unadjusted mean and median HbA1c (mmol/mol)	Where more than one unique HbA1c was recorded for an individual, the median value for the year was calculated and used to calculate the overall mean and median HbA1c.
HbA1c target levels	The following HbA1c target levels were included: Percentage with an HbA1c ≤ 48 mmol/mol Percentage with an HbA1c ≤ 53 mmol/mol Percentage with an HbA1c < 58 mmol/mol Percentage with an HbA1c ≤ 69 mmol/mol Percentage with an HbA1c > 75 mmol/mol Percentage with an HbA1c > 80 mmol/mol
Adjusted mean HbA1c	A multivariate regression model was used to estimate the effect of age, sex, ethnicity, duration of diabetes, and deprivation on mean HbA1c. The output of the model was then used to estimate the predicted, patient level HbA1c. At unit level, the adjusted mean HbA1c is equal to the sum of the patient level results divided by the sum of the expected HbA1c, multiplied by the population mean.

measure. Although there may be 60 patients with a submitted value, if only 30 of them have an interpretation submitted e.g. normo-albuminuria, microalbuminuria or macroalbuminuria, the denominator will fall to 30. The denominator for the outcome measure could also be greater than that used for the health check if the PDU had a lot of new patients or patients left the service before a health check had been performed.

Outliers

Unit results are described within the report as being higher, similar to or lower than the national average based on whether they fall within or outside of 2 standard deviations from the mean. Negative outlier results are considered to represent an 'alert' if they fall outside of two standard deviations or an 'alarm' if they fall outside of three standard deviations, as per Department of

References

Department for Communities and Local Government. English indices of deprivation 2015. 2015. https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015

Jackson LV, Thalange NK & Cole TJ (2007) Blood pressure centiles for Great Britain. *Arch Dis Child* 92: 298–303

Pan H, Cole TJ. (2012) LMS growth, a Microsoft Excel add-in to access growth references based on the LMS method (version 2.77). Harlow Healthcare, South Shields. Available at: http://www.healthforallchildren.com/shop-base/shop/software/lmsgrowth

Welsh Government. Welsh index of multiple deprivation 2014. 2015. https://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en

Further information

For further information on the audit or to view NPDA data, please visit:

The NPDA webpage on the RCPCH website - https://www.rcpch.ac.uk/work-we-do/quality-improvement-patient-safety/national-paediatrics-diabetes-audit

NPDA results online - http://npda-results.rcpch.ac.uk/

Data.gov.uk

Alternatively, feel free to contact the NPDA team at npda@rcpch.ac.uk or 020 7092 6157.