

# Quantity of patient contact with a paediatric diabetes service - is there correlation with HbA1c?

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## Paediatric Best Practice Tariff Criteria for Diabetes

- Offer a minimum of **four clinic appointments per year** with a multidisciplinary team (MDT), i.e. a paediatric diabetes specialist nurse, dietician and doctor.
- Offer additional contact with the diabetes specialist team e.g. check ups, telephone contacts, school visits, troubleshooting, advice, support etc.
- Minimum of **eight additional contacts per year**.

## Population

- District General Hospital
- 159 patients – one patient joint care with another hospital



21 new diagnoses



19 transitioning to  
young person services



118 remaining

- Age range: 3 to 20 years old, median 14.6 years old
- Time since diagnosis: 3 months to 16 years, median 4.8 years

## Objectives

For the year **April 2014 – March 2015**:

- Assess if this DGH achieves the recommended number of MDT + additional contacts as per BPT Guidelines
- Assess if there is any correlation between number of contacts and HbA1c readings.

## Method

Analysis of an existing database created by paediatric specialist nurses containing data for each patient during year 1<sup>st</sup> April 2014 to 31<sup>st</sup> Mar 2015:

- Age
- Date of diagnosis
- HbA1c recordings
- Number of MDT attendances
- Number of additional contacts with diabetes team, including:



Telephone  
consultations



Text  
messages



Home  
visits



School  
visits

## References

1. Department of Health Payment by Results team (2013) *Payment by Results Guidance for 2013-2014*. Leeds: Department of Health. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/214902/PbR-Guidance-2013-14.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/214902/PbR-Guidance-2013-14.pdf) [Accessed 28/09/2015]
2. National Paediatric Diabetes Audit, Royal College of Paediatricians and Child Health (2014). *National Paediatric Diabetes Audit Report 2013-2014*. London: Royal College of Paediatricians and Child Health. Available at: <http://www.rcpch.ac.uk/system/files/protected/page/NPDA%202012-13%20Core%20Report%202nd%20FINAL%20v%203.3.pdf> [Accessed 28/09/2015]
3. NICE (2015) Diabetes type 1 and type 2 in children and young people: diagnosis and management. Available at: <https://www.nice.org.uk/guidance/ng18/resources/diabetes-type-1-and-type-2-in-children-and-young-people-diagnosis-and-management-1837278149317> [Accessed 28/09/15]

## Conclusions and limitations

- It is feasible to meet BPT guidelines for the number of MDT and additional contacts with paediatric diabetes patients in a DGH setting.
- Children with higher HbA1c had more MDT contacts, which is likely to represent increased input due to recognised poor control.
- Otherwise there was no correlation between HbA1c and total number of contacts or any contact subgroup. Therefore we cannot recommend any particular type of contact as an area to focus on in order to improve patients' HbA1c.
- Perhaps in order to improve HbA1c control the team needs to develop an individualised approach targeting contributing factors, in addition to simply increasing amount of contact.
- Limitations: lack of information about reasons for contacts and who initiated the contact i.e. patient vs. diabetes team.

## Results

Of 118 patients (total population excluding new diagnoses/patients transitioning to adult care/patient with joint care with another hospital):

Patients attending  
≥ four MDT appointments

**93%**

Of the nine patients (7%) that did not attend ≥ four MDT appointments:

- Eight had an appointment scheduled for April 2015
- One had mental health issues which had been noted to affect attendance at scheduled appointments

Patients receiving  
≥ eight additional contacts

**100%**

## Further Analysis

Pie chart/table showing HbA1c control (N=118)

### HbA1c <58mmol/mol

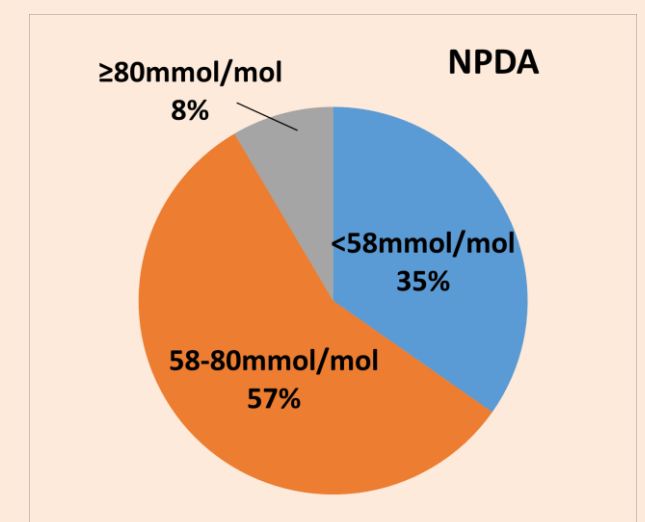
Median no. of MDT contacts/year = 4  
Median no. of additional contacts/year = 15  
Median time since diagnosis = 4.5 years

### HbA1c 58-80mmol/mol

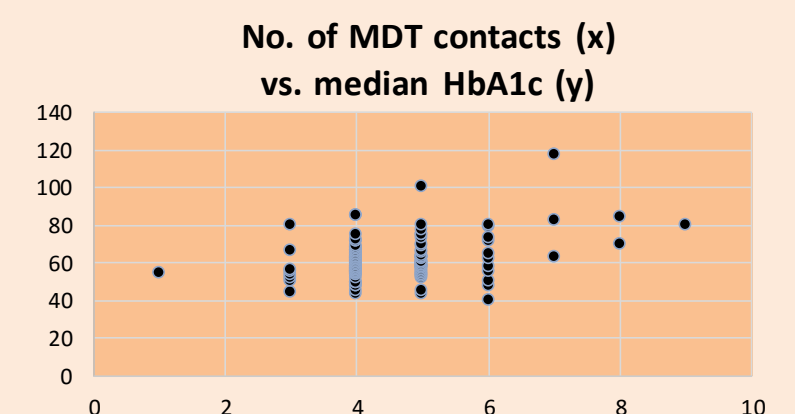
Median no. of MDT contacts/year = 4  
Median no. of additional contacts/year = 22  
Median time since diagnosis = 5.0 years

### HbA1c >80mmol/mol

Median no. of MDT contacts/year = 5.5  
Median no. of additional contacts/year = 15.5  
Median time since diagnosis = 6.3 years



| HbA1c range (NICE 2015) | Percentage |
|-------------------------|------------|
| ≤48mmol/mol (Ideal)     | 7%         |
| ≤53mmol/mol (Document)  | 14%        |
| 53<n≤69mmol/mol         | 64%        |
| ≥69mmol/mol (High)      | 21%        |



## Any correlation between number of contacts and HbA1c?

Pearson's correlation coefficient for...

**No. of MDT contacts vs. median HbA1c = 0.36 (P<0.001)**  
a weak positive correlation (statistically significant)

No. of additional contacts vs. median HbA1c = 0.09 (P=0.34)

Total no. of contacts vs. median HbA1c = 0.11 (P=0.18)