

Does Adherence to a High HbA1c Policy Improve Outcomes in a Paediatric Diabetic Clinic Population?

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Disclaimer: The authors have no conflicts of interest to declare.

Background

- HbA1c is a measure of average blood sugar values over a 3 month period
- Lower HbA1c is linked to better glycaemic control and reduced risk of complications
- 2012 the "Best Practice Tariff" was introduced in England which includes having a High HbA1c Policy.
- 2013 RBHSC created a high HbA1c Policy aimed at patients with HbA1c of 64mmol/mol (8%) or above
- 2015 NICE advises a target HbA1c of 48mmol/mol (6.5%) (previous target, 58mmol/mol (7.5%))

Aims

To determine:

- Is the policy being implemented correctly?
- Is the policy effective in reducing HbA1c levels?
- Is admission to hospital for education effective?

Method

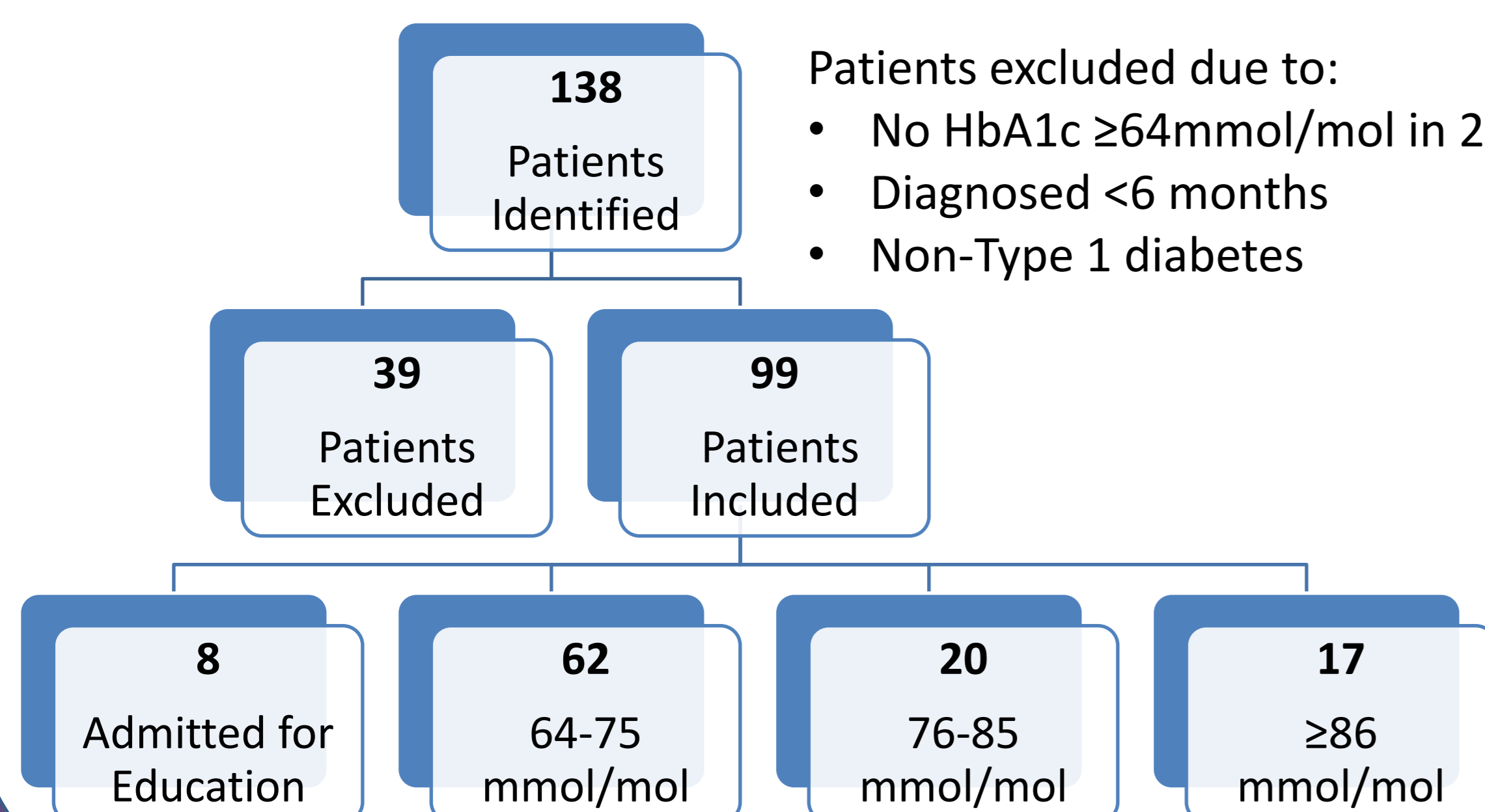
- Retrospective audit
- Search of twinkle database in RBHSC:
 - All current patients
 - HbA1c of 58mmol/mol or greater on last test
- Examined each patient record on twinkle
 - From January 2015 to March 2016
- Patients grouped according to first high HbA1c level in 2015
- Variables included: HbA1c results, age, sex, pen/pump treatment, telephone calls made, clinic appointments offered and attended, appointments with the dietitian and nurse led clinic, psychology referrals and admissions to hospital

High HbA1c Policy

64-75mmol/mol	76-86mmol/mol	>86mmol/mol
<ul style="list-style-type: none"> 3 monthly clinic review Telephone contact 4-6 weekly 	<ul style="list-style-type: none"> 3 monthly clinic review Telephone contact 2 weekly 6 week nurse led clinic and dietetic review Consider psychology 	<ul style="list-style-type: none"> 1-2 monthly clinic review Telephone contact weekly Regular nurse led clinic and dietetic reviews Consider psychology If no improvement at 3 months consider admission for education

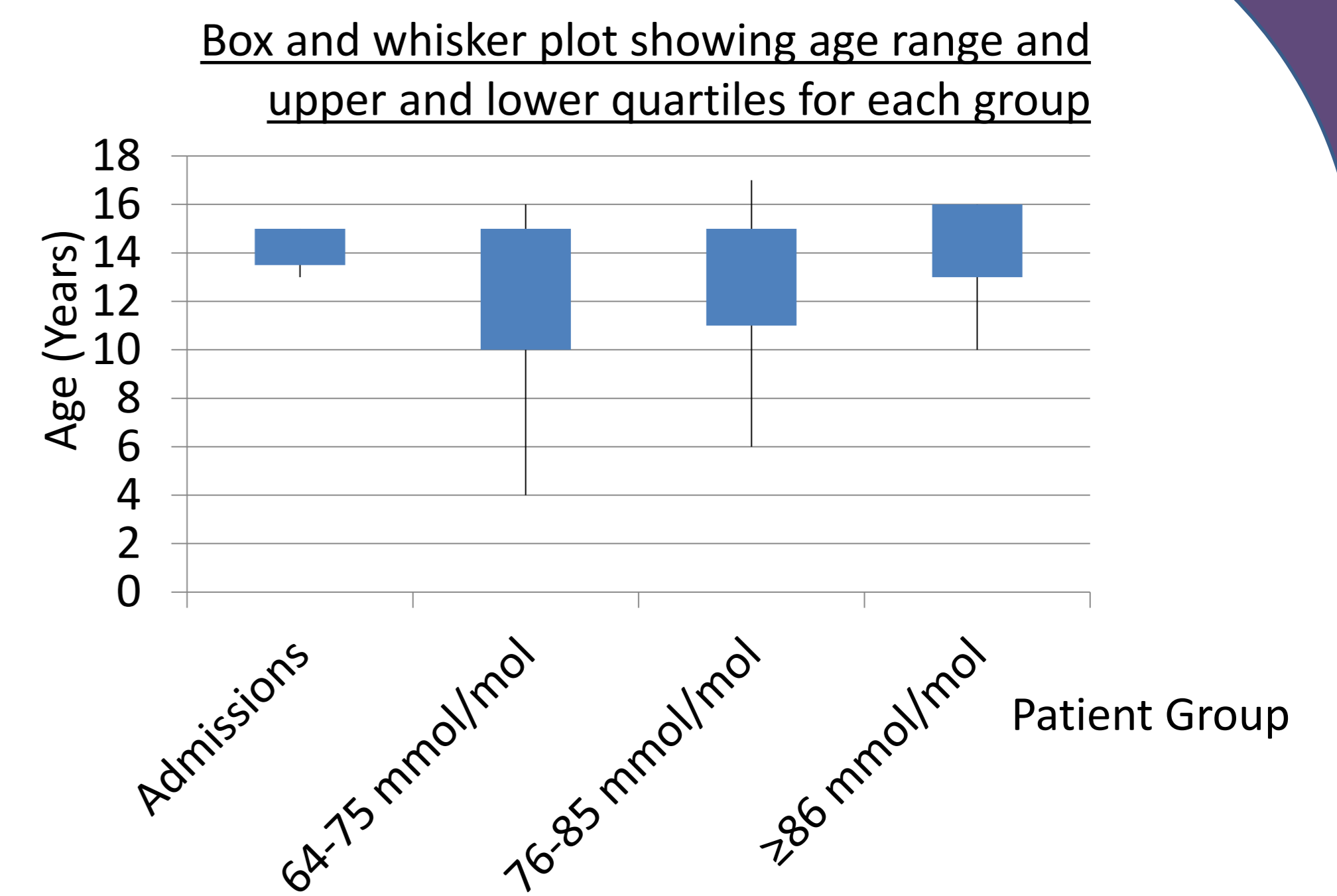
Breakdown of Patient Groups:

(grouped according to first HbA1c result in 2015)



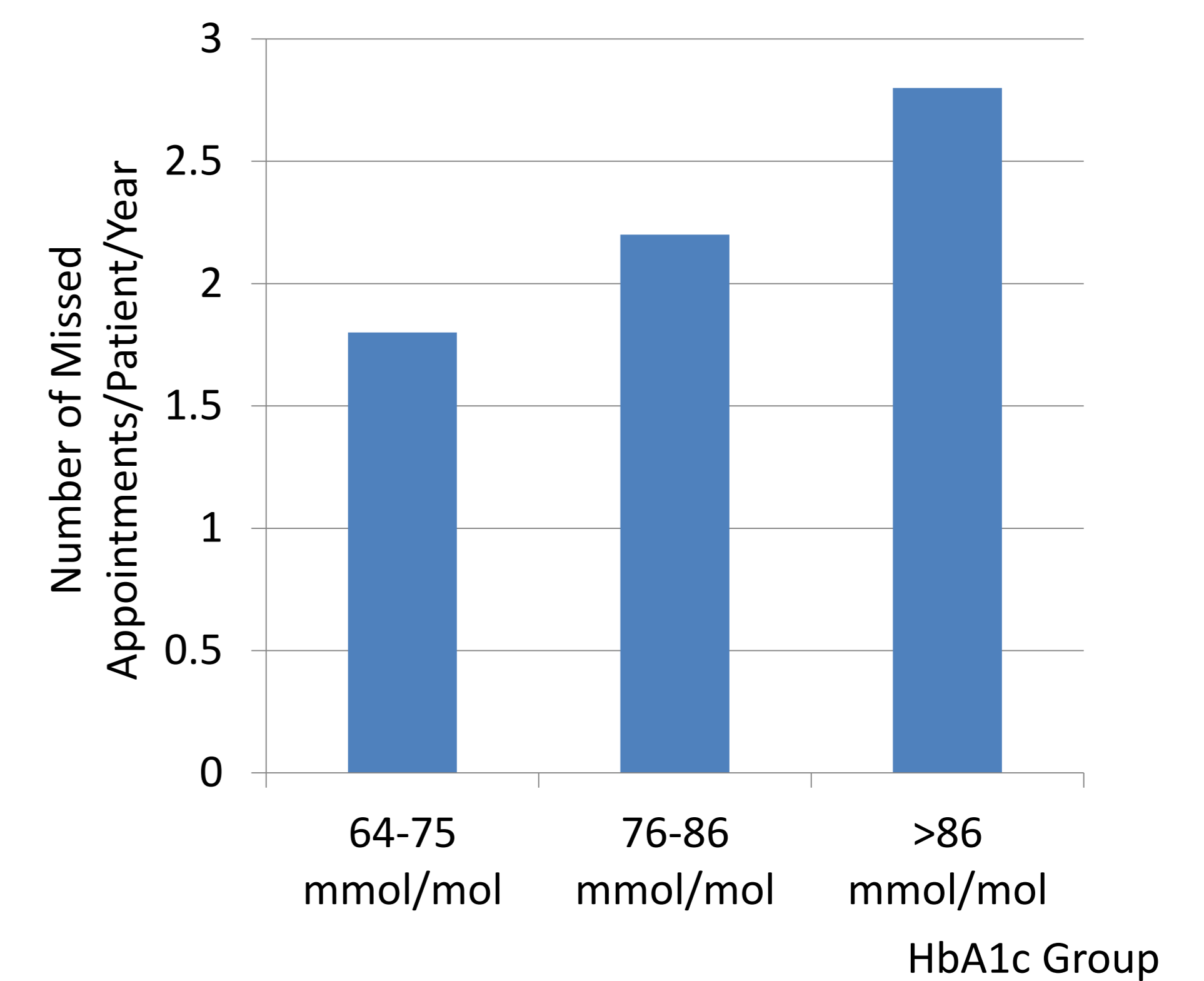
Demographics

- 75% of patients admitted were female but 47-52% were female in the other groups
- Higher HbA1c was linked to increasing age
- 11 (17.7%) of the 64-75mmol/mol group used an insulin pump compared to zero in the other groups.



Appointments

- 72.7% of patients were offered timely appointments
- Patients with higher HbA1c levels were more likely to miss appointments
- 16 Patients with 100% attendance had a mean decrease in HbA1c of 0.69mmol/mol compared to an increase of 2.3mmol/mol for the whole 64-75mmol/mol group.
- Less than 50% of patients in each group had appointments with the dietitian, psychology or the nurse led clinic.



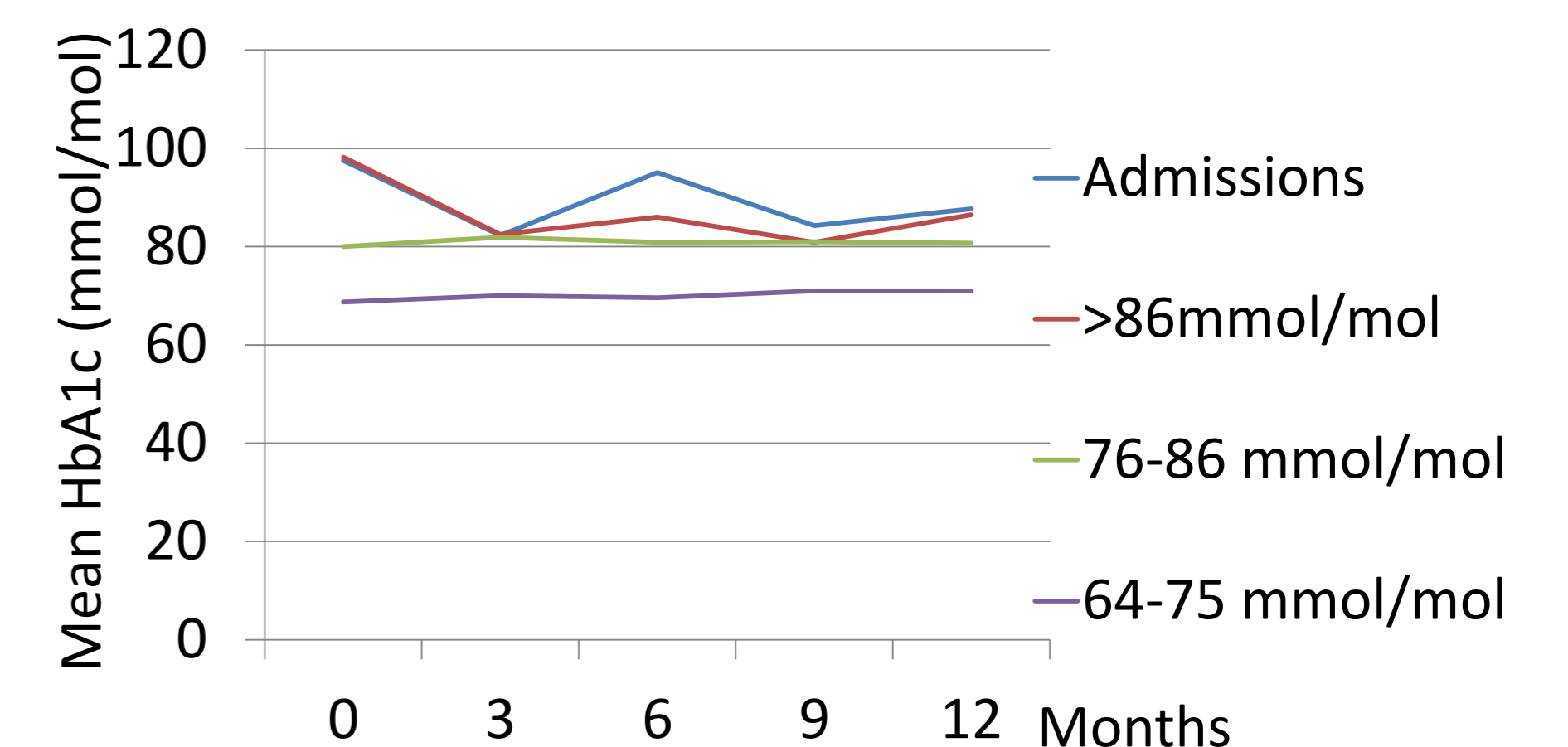
Telephone Calls

- No patients had the recommended number of phone calls
- Mean number of phone calls was between 3 and 5/patient/year for each group with a range of 0 to 20
- 6/7 patients with the most telephone calls had a reduction in HbA1c

Patient	Phone Calls /year (n)	Initial HbA1c (mmol/mol)	Final HbA1c (mmol/mol)	Change in HbA1c (mmol/mol)
A	12	84	74	-10
B	14	76	98	+22
C	15	72	63	-9
D	15	70	63	-7
E	17	79	66	-13
F	20	67	63	-4
G	27	122	86	-36

Mean HbA1c

- Patients in the >86mmol/mol and admission groups had a reduced mean HbA1c at the end of 1 year (reduction of 11.7 and 9.8mmol/mol respectively)
- 50-76% of patients had a reduced HbA1c at the end of the year



Summary

- Higher HbA1c is linked with increasing age and more missed clinic appointments
- Most patients received timely clinic appointments but too few telephone calls and appointments with the nurse, psychologist and dietitian
- Patients with most telephone calls showed a good reduction in HbA1c
- Most patients had a reduced HbA1c at the end of 1 year

Recommendations

- Increase in nurse led clinics
- Traffic light system to explain HbA1c to patients
- Give patients exact dates to telephone for advice



Belfast Health and Social Care Trust