

Recurrent Diabetic Ketoacidosis: Why is it different? What can we do about it?

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Workshop Format

- Present the size of the problem and explain why recurrent admission with DKA is a different problem to those with a single admission.
- Explain an intervention that we piloted to reduce admissions for a sub-group of people with repeated admissions.
- Use most of the workshop to explore other people's experience with dealing with this group of individuals.

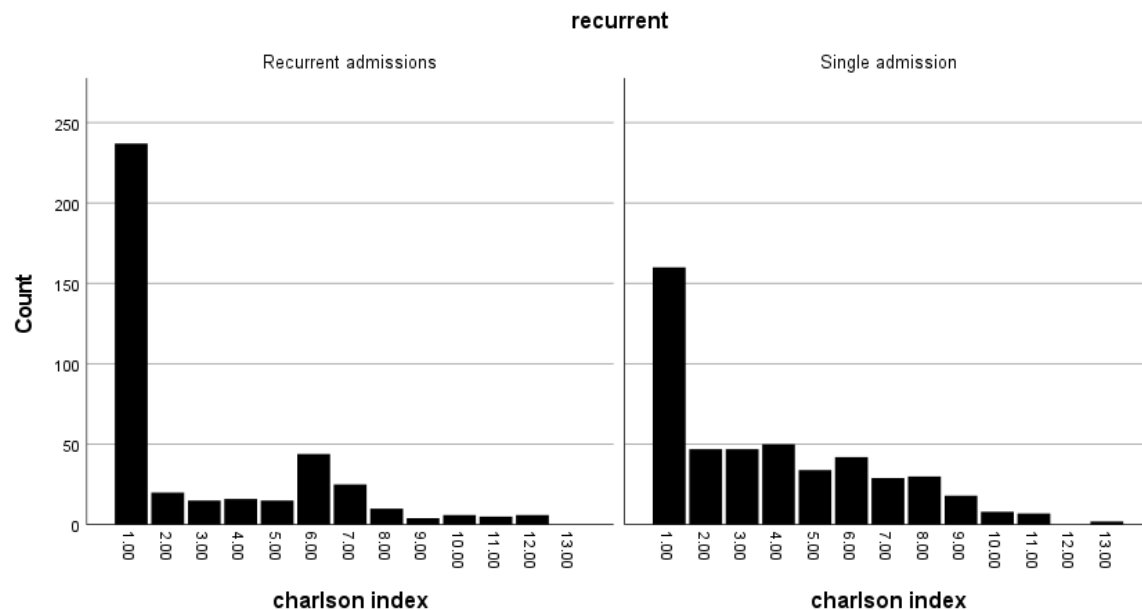
Examining the Plymouth data

- Presenting all admissions with DKA between January 2019 and December 2022 (36 months)
- Comparing the group that attended with more than one admission with those that had a single admission.
- Total of 877 admissions
 - 403 where people came in more than once (recurrent)
 - 474 people who attended on one occasion (single)

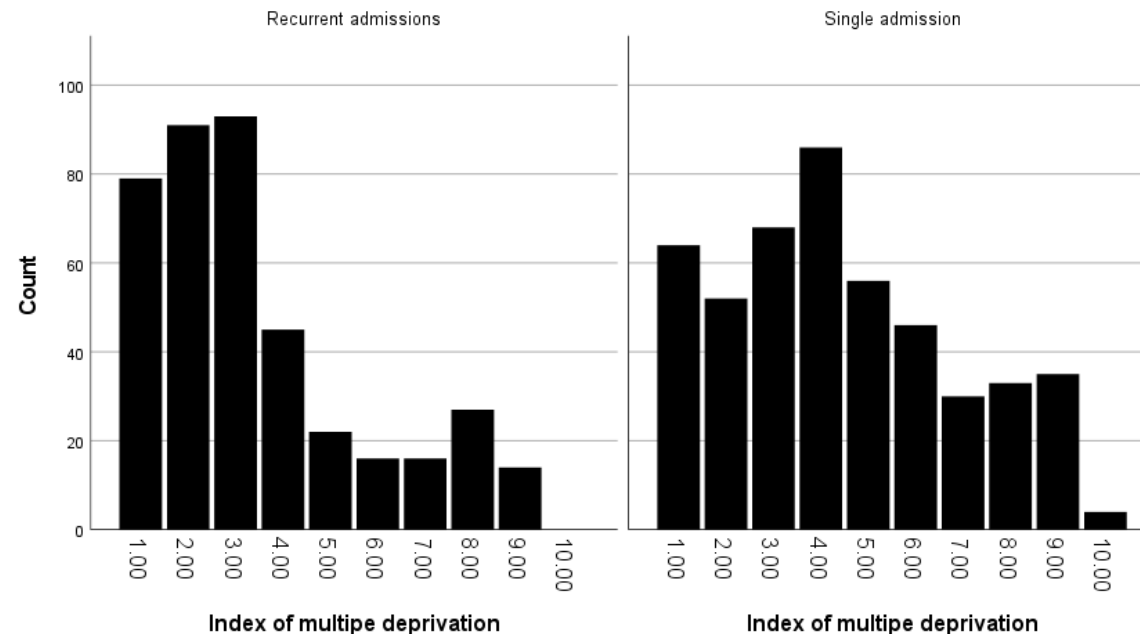
	Recurrent Admission Group	Single Admission Group	P value for difference
pH	7.22 (0.16)	7.22 (0.17)	NS
Glucose	25.42 (10.61)	24.09 (14.48)	NS
Potassium	4.68 (1.04)	4.60 (1.05)	NS
Bicarbonate	15.26 (13.79)	15.58 (8.92)	NS
HbA1c	100 (27)	93 (29)	P <0.001

Comparison of biochemistry on admission for the recurrent and single admission groups. The groups look very similar apart from a higher HbA1c in those that attend more than once.

Comparison of Charlson Comorbidity Index for the two groups



Comparison of index of multiple deprivation (1 = more deprived) for the two groups.



Charlson Comorbidity index (a measure of the complexity and severity of illness an individual has max score 24).
 Index of multiple deprivation (a post-code based measure of relative deprivation by area - 1 most deprived 10 least deprived)



	Recurrent admissions			Single admission	
N		403		474	P value for difference between groups
Proportion Female	N (%)	56%		46%	0.004
Length of stay (days)	Mean (SD)	6.5 (14.2)		9.3 (13.6)	
	Median (IQR)	2 (4)		4 (9)	< 0.001
Age (years)	Mean (SD)	38.9 (20.4)		48.6 (23.6)	< 0.001
History of alcohol or other substance misuse	N (%)	95 (24)		58 (12)	< 0.001
History of psychiatric disease	N (%)	228 (56)		109 (23)	< 0.001
Index of multiple deprivation	Mean (SD)	3.6 (0.9)		3.9 (0.8)	< 0.001
Charlson Comorbidity index	Mean (SD)	2.9 (2.9)		3.8 (2.8)	< 0.001

PREVENTION OF ED ADMISSION WITH DKA

Emma Green
Diabetes Specialist Nurse

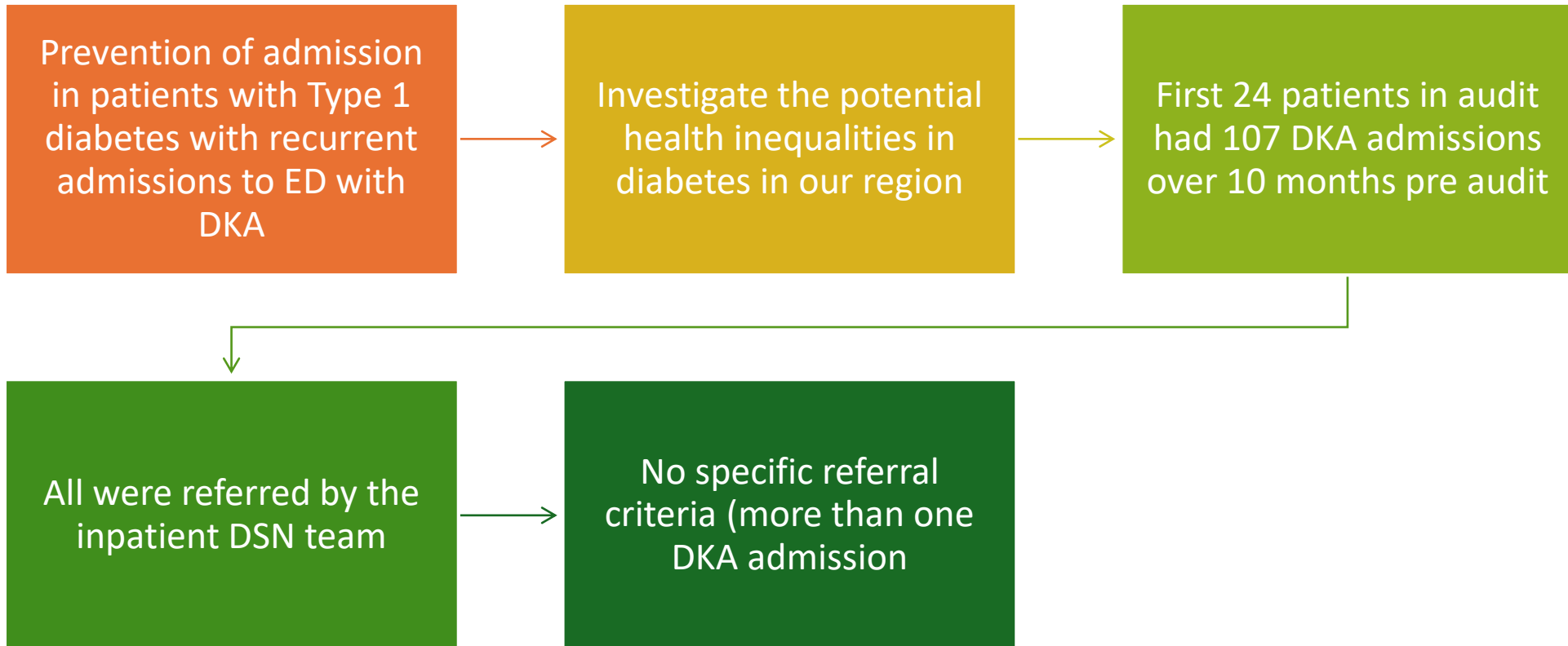
AIM of intervention

Reduction of attendance to the Emergency Department with DKA

Improve the engagement of non attending patients to our service

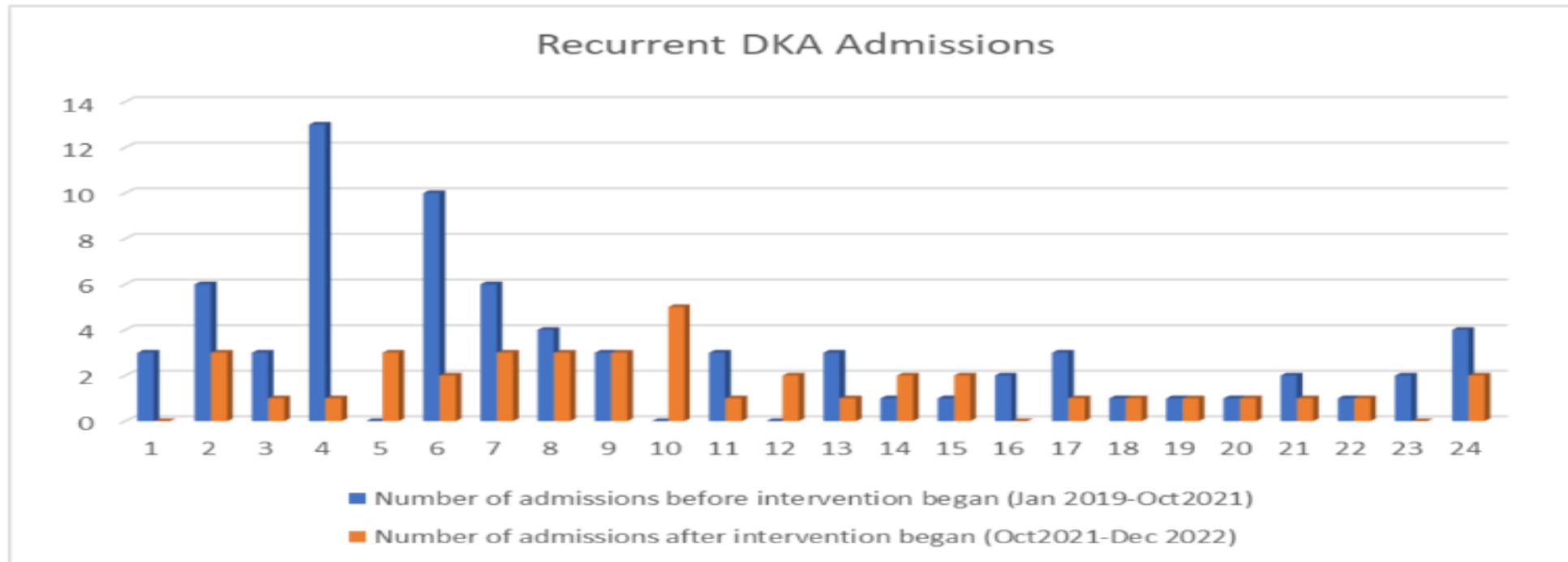
Reduce the risk of complications of Diabetes in this group of patients

AUDIT



AUDIT DATA

Figure 1 shows the number of admissions per individual before and after establishment of the outreach service. This small group of 24 young people accumulated 107 admissions during the study period. The intervention reduced the frequency of admissions but also improved adherence to treatment, reducing the risk of diabetes complications in the future.





Findings

POSTCODE/ SOCIAL
DEMOGRAPHIC/UNEMPLOYMENT

NOT ACCESSING OTHER HEALTH
SERVICES/DNA RATES

MENTAL HEALTH ISSUES/CARE
LEAVERS

DRUG/ALCOHOL USE/SMOKING

LACK OF EASILY ACCESSIBLE SUPPORT
FOR THIS GROUP- ED first option



TEXT/ WORK MOBILE PHONE



HOME VISITS



COMMUNITY SPECIALIST CLINIC IN THE POSTCODE WITH MOST ADMISSIONS



SUPPORT TO ACCESS OTHER SERVICES



OPEN/PATIENT LED CONSULTS



COORDINATOR OF THEIR CARE/PRESCRIPTIONS/COMMUNICATION WITH GP/MDT



HAS IT WORKED?

OF THE 116 FREQUENT ED
ATTENDERS THIS TOTALLED
406 admissions pre
intervention

AFTER INTERVENTION
these same patients had 99
admissions

For the 24 selected in audit,
the majority had a
significant reduction in
admission and improved
engagement in health care.

SUMMARY

OUTREACH SERVICE

COMMUNITY HUB

MDT APPROACH

ACCESS TO TECH

‘The missing part of our current service’