

# Setting up a centralised DKA registry: a leap towards coordinating DKA management in the UK

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## Background

Diabetes-related ketoacidosis (DKA) is a common and potentially life-threatening complication in people with diabetes.<sup>1</sup> Despite national and international guidelines, interhospital guideline variation and mismanagement during admission are important contributory factors to increased DKA duration and length of stay.<sup>2,3</sup>

## Aim

To establish a common DKA registry to identify gaps in management, assess outcomes and share best practises across centres.

## Methods

Retrospective analysis of all DKA admissions between 1 January 2021 and 1 December 2021 across six hospitals in the UK was undertaken. People aged <18 years, admission pH >7.3 or self-discharged before treatment completion were excluded. Information was collected on fluid and insulin prescriptions, glucose and ketone monitoring, DKA duration and length of hospitalisation. Comparison between hospitals was performed using the Independent-Samples Kruskal-Wallis Test. Data was analysed using SPSS version 27.0 and presented in median interquartiles, frequencies and proportion as appropriate.

## Results

Since the objective was to identify best practice and not to compare, hospital names were coded A to F to ensure anonymity. A total of 465 DKA episodes across the six hospitals were included. There were differences observed in the DKA duration (median in hours; A-13.1, B-11, C-9.7, D-15.7, E-19.5, F-15.2;  $p<0.001$ ) and length of hospitalisation (median in days; A-4.6, B-5.4, C-2, D-3.9, E-4.5,

F-3.5;  $p<0.001$ ) across hospitals. Similarly, variations were noticed in appropriateness of glucose monitoring (A-110.9%, B-86.3%, C-95.9%, D-89.1%, E-92.6%, F-117.8%;  $p<0.001$ ), appropriateness of ketone monitoring (A-61.3%, B-83.6%, C-91.5%, D-67.3%, E-62.6%, F-69.6%;  $p<0.001$ ) and fluid prescription (A-83.6%, B-80.0%, C-102.8%, D-100%, E-100%, F-133.3%;  $p<0.001$ ). No significant differences were noted in the appropriateness of fixed rate intravenous insulin infusion (A-100%, B-100%, C-100.8%, D-98.8%, E-98%, F-100%;  $p=0.156$ ).

## Conclusion

With the exception of fixed rate intravenous insulin infusion, significant inter-hospital variation in other individual parameters were observed. A centralised DKA registry can help identify gaps in DKA management and dissemination of best practice across centres to aid improved patient outcomes. ■

## References

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