Early Success

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Ethnic variation in length of stay for diabetes emergencies: Findings from DEKODE database

NHS England

Summary

- Analysis of pooled data from the Digital Evaluation of Ketosis and Other Diabetes Emergencies (DEKODE) programme, covering 26 NHS hospitals, identified consistent variation in hospital length of stay for diabetic emergencies across ethnic groups.
- Asian and Black patients experienced longer admissions than White patients, even after adjusting for clinical severity.
- This highlighted opportunities to improve equity in inpatient and discharge pathways.

Contextual challenges

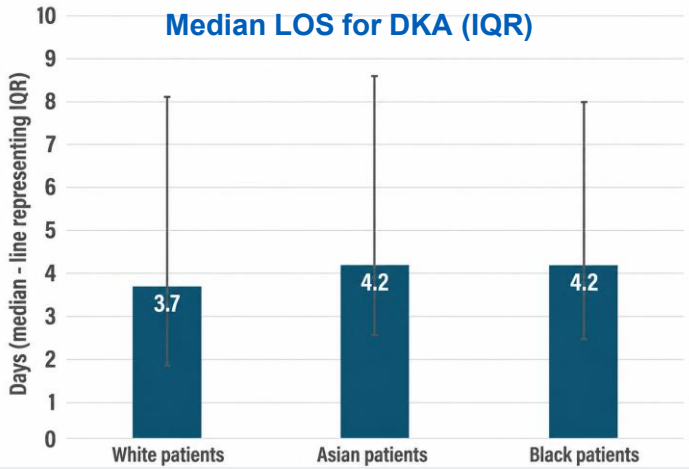
- Diabetic ketoacidosis (DKA), hyperosmolar hyperglycaemic state (HHS), and severe hypoglycaemia account for substantial bed utilisation.
- Length of stay is influenced by clinical, social, and discharge-related factors.
- National audits do not routinely report outcomes stratified by ethnicity.
- Health inequalities may be missed without ethnicity-stratified analysis.
- Limited system-level insight into post-acute delays affecting minority ethnic groups.

Approach

- Used pooled data from the Digital Evaluation of Ketosis and Other Diabetes Emergencies (DEKODE) programme.
- Included adults admitted with DKA, HHS, or severe hypoglycaemia (2020-2023) across 26 NHS trusts.
- Compared length of stay across White, Asian, and Black ethnic groups.
- Applied multivariable regression adjusting for age, sex, diabetes type, comorbidity, and biochemical severity.
- Analysed each emergency type separately to identify condition-specific patterns.

Results

- DKA: Asian and Black ethnicity independently associated with longer length of stay compared with White patients.
- HHS: Asian patients had significantly longer length of stay and longer time from resolution to discharge.
- Hypoglycaemia: No independent ethnic difference in length of stay identified.



Asian ethnicity independently predicted longer length of stay in HHS (adjusted p= 0.014)

Black ethnicity independently predicted longer length of stay in DKA (adjusted p < 0.001)

Considerations

- Black and Asian adults present younger and with more severe diabetic emergencies than White patients.
- Both groups have longer hospital stays.
- These differences persisted despite similar in-hospital mortality and ITU admission rates
- This suggests upstream and post-discharge factors, rather than inpatient care delivery drive disparities.
- Ethnicity-aware risk assessment, routine stratified audit and investigation of discharge pathway barriers are essential to reducing disparities in length of stay and improving equity in diabetes emergency care.
- The DEKODE dataset and analyses are currently submitted for journal publication; once published, this peer-reviewed evidence is expected to further strengthen their influence on practice.

Contact for further information

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