Inpatient diabetes – easy-to-emulate IT solution to support and enhance the ‘Think Glucose’ project

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Background

• ‘Think Glucose’ is a national initiative led by the NHS Institute for Innovation and Improvement. It aims to improve inpatient diabetes care including effective use of the inpatient diabetes specialist team (IPDST). The national initiative developed a comprehensive ‘traffic light’ system to give medical and nursing staff as to which patients should be referred to IPDST. The traffic lights include 31 types of cases – 16 types of ‘always-refer’ cases (red), 8 types of ‘sometimes-refer’ cases (amber) and 7 types of ‘rarely-refer’ cases (green) (Figure 1). It is difficult for busy clinical staff to keep all these possibilities in their heads, and even with reminder cards, leaflets and posters, staff do not have these readily at hand when needed. Previously, referral to IPDST required phone, fax or internal mail, with their built-in delays and patients being missed.

Figure 1. The ‘Think Glucose’ traffic light system

IT solution

• Most NHS Hospital Trusts have an internal, online, electronic system to order investigations. Depending on the test being ordered, this brings up a form to be filled in and, on completion, sent electronically to the laboratory or imaging department concerned. We used our Trust’s investigation ordering system (iSoft Clinical Manager [iCM]) to develop an electronic form for ‘Think Glucose’ assessment and mandated all clinical staff to ensure the assessment was carried out on all diabetes patients as soon as possible after admission. The quick-and-easy form incorporates the 31 traffic light cases with simple tick boxes for those which apply (Figure 2). There is also a section for safety data on glucose and feet assessment within 4 hours of admission (Figure 3). Once submitted, the form appears instantly in a generic NHS email account that can be accessed by the staff as to which patients should be referred to IPDST. The traffic lights include routine diabetes care, simple educational need, minor, self treated hypoglycaemia, well controlled diabetes, routine dietetic advice, good self-management skills, routine diabetes care, stress hyperglycaemia, persistent hyperglycaemia, parenteral or enteral nutrition, impared consciousness, vomiting, sepsis, hypoglycaemia, diabetic ketoacidosis, hyperglycaemic hyperosmolar non-ketotic syndrome, nil by mouth and hyperglycaemia.

Figure 2. The traffic light system reproduced as an iCM electronic form

Results

• Over the year following implementation, the number of patients seen by the IPDST increased from 83/month to 452/month, whilst at the same time ensuring that the patients seen are only those requiring it according to the national traffic light criteria.

Figure 5. ‘Think Glucose’ activity data month by month

Conclusion

• All hospitals with electronic test ordering systems could easily emulate our system.

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References

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