Data Linkage to Reduce Severe Hypoglycaemia

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Background

The Scottish Ambulance Service (SAS) are working with NHS Fife Diabetes Service with the support of SCI-Diabetes, the University of Dundee, National Services Scotland and MSD to better manage hypoglycaemia in their patients with diabetes. The emphasis is on appropriate follow-up of patients who experience a hypoglycaemic event that results in an ambulance call-out. The aim of the project is to improve patient care, increase capacity and upskill attending paramedics.

Aims & Objectives

Having access to real-time data and information from health and care records is vital to supporting health and care providers to improve outcomes. The data shown in SCI-Diabetes allows the patients identified to be contacted to discuss prevention of further episodes. This leads to improvements in patient safety and reduces ambulance service workload through reduction in call outs.

Routinely-collected patient data are securely shown in the SCI-Diabetes web interface alongside the ambulance service callout reports, to allow the clinical team to review medical history and identify approaches to make necessary treatment changes, or to provide further education to those individuals affected at the point of contact.

Methodology

The NHS Fife Diabetes team has defined a triage process to effectively follow-up and manage people with diabetes who have called out the SAS to manage a hypoglycaemic event.

National Services Scotland processes ambulance service reports, uses Emergency Care Summary data to identify CHI number and sends SCI-Diabetes real-time messages where reports contain a blood glucose result. SCI-Diabetes then links the reports to the national diabetes system and presents data back to the Fife team to manage.

Results

Analysis of NHS Fife callout reports containing a blood glucose <4 mmol/L (indicating a hypoglycaemic event) have reduced when comparing data from 2017 (1044 callouts for 672 patients) and 2018 (756 callouts for 488 patients). This equates to a 38% reduction in callouts for hypoglycaemic events in NHS Fife. This reduction equates to an approximate £230k saving for NHS Fife and the SAS, which could extrapolate to a £5.05m cost saving when rolled out across the whole of NHS Scotland. Plans for wider rollout are currently under development, pending the outcome of this study.

Anecdotal evidence from the NHS Fife Diabetes team indicates that the availability of SAS callout reports also allowed them to identify and contact patients who have been admitted to hospital and then discharged over a weekend. Previously these patients were not known to the service and appropriate follow-up would not be routinely arranged.

* The project is a result of a joint working project between MSD and the Scottish Ambulance Service