Supplementary Information

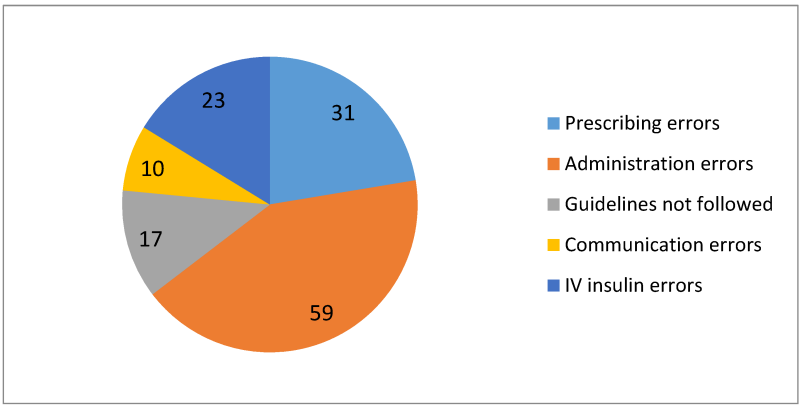

Figure S1: Frequency (%) and types of insulin prescribing errors identified by thematic analysis of all medication safety incident reports relating to insulin in a 6-month retrospective review (n=199).

Table S1: Summary content of local medication safety incident reports involving insulin reported after the introduction of electronic prescribing and medicines administration (EPMA) at the hospital. Many error types involved the discharge process. New types of error were identified since EPMA introduction, such as the erroneous prescribing of 'when required' insulin on discharge prescriptions.

Types of insulin errors reported involving electronic prescribing and medicines administration (EPMA)
Unintended 'when required' insulin on discharge prescription
Insulin not supplied by ward on discharge
Wrong equipment on discharge
Communication error on discharge
Wrong dose on discharge prescription
Insulin not prescribed when transferred from EPMA to paper
Insulin prescribed on both paper and EPMA resulting in wrong dose given
IV insulin chart not cross-referenced and lack of access to information
Wrong insulin prescribed
Insulin prescribed at wrong time

Table S2: Guidance measures for insulin discharge prescriptions developed my multi-disciplinary consensus. Guidelines were developed in line with national guidelines (such as the Joint British Diabetes Societies for Inpatient Care).

Standards for insulin prescribing on discharge
Order sets provided on EPMA should be used to prescribe insulin wherever possible.

The following prescription details are clear and correct at the time of discharge: • Preparation of insulin (e.g. Humalog Mix 25 vs Humalog) • Frequency (e.g. before breakfast and dinner) • Dose/dose range (e.g. 10 units) • Device (e.g. penfill, flexpen, vials) – please check with pharmacist/patient/nurse if unsure
Any guidance provided by the Diabetes Specialist Nurses (DSN) should be documented (both on the discharge prescription and diabetes management plan in notes) and followed.
Only insulin that is clinically appropriate is prescribed on discharge. For example, 'when required' insulin used during admission may not be required on discharge. • If prescribing 'when required' insulin on discharge, please ensure it is still needed (refer to the diabetes management plan). Clear instructions for use should be documented on the discharge prescription and explained to the patient.
Check for any changes to insulin therapy since admission. Ensure these are documented on the discharge note, with reasons. • This includes any change in dose, frequency or insulin preparation or device, or if insulin is started or stopped.
All of the correct equipment is provided along with any supplementary information required. Check if any changes have been made since being first prescribed by the DSN team.
Ensure that all relevant parties are informed about any changes to insulin, and that any arrangements for administration are made in a timely manner. Document who is administering insulin on the discharge prescription (e.g. the patient, family member, district nurse, carer).
If there is district nurse/carer involvement, ensure the insulin regimen aligns with the scheduled number of visits, especially if there is a recent change to plan.
Ensure that the patient only takes home the correct insulin that is currently prescribed (e.g. discard any discontinued insulin(s) with the patient's consent).

Table S3: Data collection measures and score criteria. If all of the above are applicable to the prescription, maximum score achievable = 13. If some measures are not applicable, total score is adjusted accordingly. For example, if no changes to insulin therapy since admission, and no 'when required insulin' prescribed, total score achievable = 7.

Measure	**Score**
Any changes to insulin therapy were clearly stated on the discharge note under the designated 'medication changes' section	0 for no information 1 for unclear/insufficient information 2 for clear/sufficient information
Reasons for any changes in insulin therapy are documented (e.g. persistent hypo/hyperglycaemia, or diabetes specialist nurse advice)	0 for no information 1 for unclear/insufficient information 2 for clear information
Insulin product, dose (number of units), frequency, time and device of subcutaneous insulin correct	1 point for each correct prescription element (max 5)
Evidence that any prescribed 'when required' insulin is clinically appropriate and has clear instructions for use	0 for prescribed when not needed and unclear instructions 1 for prescribed with unclear need and/or instructions 2 for prescribed, with clear need and instructions
Details of insulin administration were clearly stated (i.e. self-administration or details of any district nurse/caregiver involvement required)	0 if no information 1 for unclear/insufficient information 2 for clear/sufficient information