



## **Rapid Response Report**

**Subject:**

**Safer administration of insulin**

**For action by:**

Chief Executive, HSC Board for cascade to :  
*Assistant Director of Pharmacy and Medicines Management*  
*Director of Integrated Care, HSCB*  
*Assistant Director, Primary Care, HSCB*

Chief Executives, HSC Trusts for cascade to:  
*Medical Directors*  
*Directors of Nursing*  
*Directors of Pharmacy*  
*CSCG leads*  
*Community Nurses*

Chief Executive RQIA for cascade to:  
*Independent hospitals and clinics*  
General Practitioners  
Community Pharmacists

**For Information to:**

Chief Executive, Public Health Agency  
Director of Public Health/Medical Director, Public Health Agency  
Director of Nursing, Public Health Agency  
Dir. of Performance Management & Service Improvement, HSCB  
Assistant Director of Performance Management, HSC Board  
Director of Integrated Care, HSCB  
Assistant Director, Primary Care, HSCB  
Professor David Woolfson, Head of School of Pharmacy, QUB  
Professor Linda Johnston, Head of Nursing & Midwifery, QUB  
Professor Hugh McKenna, Head of Life & Health Sciences, UU  
Dr Owen Barr, Head of School of Nursing, UU  
Professor Paul McCarron, Head of School of Pharmacy, UU  
Post Graduate Dean, NIMDTA  
Staff Tutor of Nursing, Open University  
Director, Safety Forum  
Lead, NI Medicines Governance Team  
NI Medicines Information Service  
NI Centre for Pharmacy Learning and Development

**Summary of Contents:**

The purpose of this circular is to aid the safe administration of insulin

**Enquiries:**

Any enquiries about the content of this circular should be addressed to:  
Safety & Quality Unit  
DHSSPS  
Room D2.4  
Castle Buildings  
Stormont  
BELFAST  
BT4 3SQ  
**Tel:** 028 9052 2239  
[qualityandsafety@dhsspsni.gov.uk](mailto:qualityandsafety@dhsspsni.gov.uk)

**Circular Reference:** HSC (SQSD)12/10

**Date of Issue:** 14 July 2010

**Related documents**

CREST: Safe and effective use of insulin in secondary care  
<http://www.gain-ni.org/Library/Guidelines/insulin.pdf>

NI Medicines Governance Team: Safe use of insulin in secondary care  
<http://www.medicinesgovernanceteam.hscni.net/Recommendations>

**Superseded documents**

N/A

**Status of Contents:**

For completion of actions and assurance templates by 14 January 2011

**Implementation:**

Immediate

SQSD material can be accessed on:  
<http://www.dhsspsni.gov.uk/index/phealth/sqs.htm>

Dear colleagues

### **Safer administration of insulin**

Insulin is a naturally-secreted hormone which the body needs for correct function and plays a key role in the regulation of protein, fat and carbohydrate metabolism. It facilitates glucose circulating in blood to be absorbed by cells. Injecting insulin is an essential part of the daily regimen for many diabetics. In the UK, diabetes affects approximately 2.3 million people.

Deaths and severe harm incidents have resulted from administration errors with insulin products. In general, using insulin is safe. However, there is a potential for serious harm if it is not administered and handled properly.

The content of the attached circular at Annex A has been reviewed by relevant professional colleagues in the Department and approved for regional dissemination.

I would ask you to bring this to the attention of relevant practitioners and key health and social care staff within your organisation. They should consider the best practice for their setting and take appropriate steps to minimise the risks to patients.

I would also draw your attention to the attached 'assurance template' which is a means of recording the response from the Trusts and Board in circumstances where SQS Circulars require action to be taken by a given date.

Yours sincerely

A handwritten signature in black ink, appearing to read "Jim Livingstone". The signature is written in a cursive, slightly slanted style.

**Dr J F Livingstone**  
Director, Safety, Quality & Standards

## **Safer administration of insulin**

### **Issue**

1. Insulin is a naturally-secreted hormone which the body needs for correct function and plays a key role in the regulation of protein, fat and carbohydrate metabolism. It facilitates glucose circulating in blood to be absorbed by cells. Injecting insulin is an essential part of the daily regimen for many diabetics. In the UK, diabetes affects approximately 2.3 million people.
2. Deaths and severe harm incidents have resulted from administration errors with insulin products. In general, using insulin is safe. However, there is a potential for serious harm if it is not administered and handled properly.
3. Common causes of errors with insulin are inaccurate dosing and administration, leading to too much circulating glucose (hyperglycaemia) or too little circulating glucose (hypoglycaemia). Commonly higher than required doses of insulin are administered in error, which result in hypoglycaemia. This can happen suddenly and if left untreated, can cause confusion, clumsiness, or fainting. Severe hypoglycaemia can lead to seizures, coma, and death.

### **National Context**

4. Between August 2003 and August 2009 the National Patient Safety Agency (NPSA) received 3,881 wrong dose incident reports involving insulin. These included one death and one severe harm incident due to 10-fold dosing errors from abbreviating the term 'Unit'. Three deaths and 17 other incidents between January 2005 and July 2009 were also reported where an intravenous syringe was used to measure and administer insulin.
5. Two common errors have been identified:
  - the inappropriate use of non-insulin (IV) syringes, which are marked in ml and not in insulin units;
  - the use of abbreviations such as 'U' or 'IU' for units. When abbreviations are added to the intended dose, the dose may be misread, e.g. 10U is read as 100.
6. Some of these errors have resulted from insufficient training in the use of insulin by healthcare professionals.
7. NPSA/2010/RRR013: Safer administration of insulin and the supporting information is available on:  
<http://www.nrls.npsa.nhs.uk/resources/?entryid45=74287>

## **Local Context**

8. All HSC organisations and staff in the independent sector who prescribe and administer insulin should ensure that:
  - i. All regular and single insulin (bolus) doses are measured and administered using an insulin syringe or commercial insulin pen device. Intravenous syringes must never be used for insulin administration.
  - ii. The term 'units' is used in all contexts. Abbreviations, such as 'U' or 'IU', are never used.
  - iii. All clinical areas and community staff treating patients with insulin have adequate supplies of insulin syringes and subcutaneous needles, which staff can obtain at all times.
  - iv. An insulin syringe must always be used to measure and prepare insulin for an intravenous infusion. Insulin infusions are administered in 50ml intravenous syringes or larger infusion bags. Consideration should be given to the supply and use of ready to administer infusion products e.g. prefilled syringes of fast acting insulin 50 units in 50ml sodium chloride 0.9%.
  - v. A training programme should be put in place for all healthcare staff (including medical staff) expected to prescribe, prepare and administer insulin. An e-learning programme is available from:  
[www.diabetes.nhs.uk/safe\\_use\\_of\\_insulin](http://www.diabetes.nhs.uk/safe_use_of_insulin)
  - vi. Policies and procedures for the preparation and administration of insulin and insulin infusions in clinical areas are reviews to ensure compliance with the above

## **Action Required**

9. You will wish to bring the contents of this document to the attention of staff, particularly those involved in governance and risk management within your organisation. Organisations need to be aware of this best practice circular in order to assist in complying with the Quality Standards for Health and Social Care –
  - Criteria 4.3(i) (the appropriate management of risk);
  - Criterion 5.3.1(f)(viii) (ensuring safe practice in medicines management);
  - Criterion 5.3.3(f) (implementation of evidence-based practice through guidance, for example, NPSA guidance);and
  - Criteria 8.3(l) (effective communication and information)
10. HSC Trusts should take immediate action to implement this Rapid Response Report as outlined in paragraph 8 above by 14 January 2011. Trusts should provide assurance on this action to the HSC Board by completing Section 1 of the attached template.

11. The HSC Board should complete Section 2 of the attached assurance template and forward to the Department by 11 February 2011.

## **SQS CIRCULARS: ASSURANCE TEMPLATE FOR HSC BOARD AND TRUSTS**

**Circular number: HSC (SQSD) 12/10 Safer administration of insulin  
For Implementation by: 14 January 2011**

(Section 1 is to be completed by HSCT and forwarded to HSCB for consideration. Section 2 should then be completed by HSCB and forwarded to DHSSPS)

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### **SECTION 1:**

To: Chief Executive, HSC Board

I can confirm that the required actions set out in the above circular have been implemented in full by the due date.

I can confirm that the actions in the above correspondence have been partially implemented by the due date. The issues impacting on full implementation along with the timescales for resolving these issues are set out in the box below:

I can confirm that the organisation has been unable to implement any actions of the above circular for the reasons set out in the box below. (The actions being taken/required to resolve or clarify the issues preventing implementation and the timescales for this should be outlined):

I confirm that the HSC Trust's Chief Executive and designated senior manager have been advised of this response and are content that it should be submitted to the HSC Board.

Response submitted by: \_\_\_\_\_ (Name & contact details of person submitting response) on behalf of \_\_\_\_\_ HSC Trust. Date: \_\_\_\_\_

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### **SECTION 2:**

To: Director, Safety, Quality & Standards Directorate, DHSSPS

I note the response from the Trust and –

I can confirm that the HSC Board is content the action(s) taken, referred to in Section 1, complies with the requirements of the above circular.

I can confirm that further action, as outlined in the box below, is needed to ensure compliance with the requirements of the above circular

I confirm that the HSC Board's Chief Executive and designated senior manager have been advised of this response and are content that it should be submitted to the Department.

Response submitted by: \_\_\_\_\_ (Name & contact details of person submitting response) on behalf of HSC Board. Date: \_\_\_\_\_