

The In-vitro Diagnostic Medical Devices Directive - a view from the Regulatory Authority

Jan Guerin, *In-vitro* Diagnostic Specialist, Medical Devices Department, Irish Medicines Board, Dublin.

The *In-vitro* Diagnostic Medical Devices (IVD) Directive 98/79/EEC, which was transposed into Irish law via the Statutory Instrument S.I. No. 304 of 2001 European Communities Regulations, has been mandatory since December 7th 2003. This Directive introduces, for the first time, common regulatory requirements dealing specifically with the safety, quality and performance of *in-vitro* diagnostic medical devices (IVDs) across Europe.

Broadly, an IVD is a device intended by a manufacturer for use for the *in-vitro* examination of specimens derived from the human body to provide information regarding a physiological, pathological or therapeutic state. For the purposes of the legislation IVDs are classified on the bases of the risk associated with the relative dangers to the public and / or a patient treatment / diagnosis by an IVD failing to perform as intended.

This presentation will focus on the role of the Irish Medicines Board as the Competent Authority for the IVD Directive. An overview of the legislation will be presented along with some of the key issues regarding the principles of CE marking an IVD. The role of both the user and manufacturer will be discussed along with the Competent Authority's view on in-house manufacture and the reporting of adverse incidents associated with IVDs.

As new technologies are being developed to meet the evolving needs of the diagnostic and therapeutic environment it is important to maintain a balance between the need to regulate these products without stifling innovation.

A review of the year after the implementation of the IVD Directive from a manufacturers point of view.

Paul Kenny.

As anticipated the IVDD resulted in a number of major changes to the way manufacturers operate. The two biggest impacts were in the area of labelling and vigilance and manufacturers are still coming to terms with these areas and are anticipating even further changes!

Implications of the EU Blood Directive for Hospital Blood Banks

Leslie Hopkins, SVUH

The aim of the EU Blood Directive is to ensure that blood and its components are of comparable quality and safety throughout the transfusion chain in all Member States,

The Directive must be transposed into Irish Law by 8th February 2005 (although there is provision for a 9-month concession to enable Member States to become compliant under the new legislation).

The Directive applies mainly to "Blood Establishments" which are defined as: "any structure or body that is responsible for any aspect of the collection and testing of human blood or blood components, whatever their intended purpose, and their processing, storage and distribution when intended for transfusion. Blood Establishments must be inspected and licensed by the Irish Medicines Board (IMB), which has been appointed by the Minister as the nominated competent authority.

This presentation will only address the impact of the Directive on a Hospital Blood Bank which is defined as: "a hospital unit which stores and distributes and may perform compatibility tests on blood and blood components exclusively for use within hospital facilities, including hospital based transfusion activities."

Hospital blood banks will be assessed by the IMB to ensure that they comply with the following Articles:

Article 10: Personnel (training and qualifications);

Article 11: Quality System;

Article 12; Documentation (operational procedures, training and reference manuals, guidelines and reporting forms);

Article 14: Traceability (from donor to recipient and vice versa); Article 15: Notification of serious adverse events and reactions;

Article 22: Storage, transport and distribution conditions;

Article 24: Data protection and confidentiality.

A hospital blood bank that irradiates blood products, performs pre-deposit autologous donation or performs any testing of blood and blood components (other than compatibility testing) will fall into the category of a blood establishment. The status of a hospital that transports blood off-site is unclear. Where there is a formal arrangement to transport blood between hospitals those hospital blood banks may also be deemed to be blood establishments. In any case, the system for transporting blood must be validated.

The particular issues facing hospital blood banks in meeting the requirements of the Directive are those of staffing, training, equipment and financial resources. These are the issues that still need to be addressed.

FRESH BLOOD SURVEY

Ivan Shirley

Control material suitable for all analysers has always been a problem in External Quality Assurance (EQA) schemes. Analysers react differently to the stabilised control material used, therefore it is difficult to compare results between analyser groups.

Some EQA schemes have moved to using fresh blood as control material to eliminate this problem.

The aim of the survey was to investigate the use of fresh EDTA anticoagulated blood in a once off trail.

The fresh blood was sent to all the laboratories in the scheme and the results obtained will be discussed.

Myocardial Markers session of the Clinical Chemistry Workshop

Alan Carr

Irish labs participate as a group in the Labquality Myocardial Markers scheme.

A short presentation will be made at the workshop to highlight:

The change in popularity of the different markers as reflected in the number of results submitted in the scheme

The CV's of the different markers

The performance of the Irish labs relative to the overall performance of participants

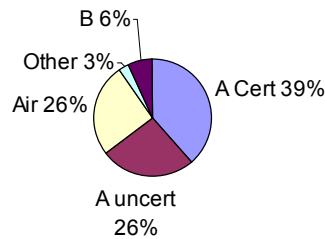
The topic will be thrown open for discussion and opinions as to whether some markers should be classed as obsolete or not will be invited.

**IEQAS CLINICAL CHEMISTRY SURVEY: Handling of lyophilised EQA samples, Calibrators and Controls
September 2004 (Conference handout)**

RESULTS

31 of 39 (79%) participants returned survey forms (results expressed as % of 31 returns).

Reconstitution and pipettes



Grade A glass volumetric: 65% of labs

Air displacement: 26%

Other: 1 Pyrex 10ml disposable

Checks by weighing: 1 lab

Dedicated pipette for EQA: 52%

Regular pipette calibration: 16% – incl. 2 Grade A

Comments from participants:

- Use Grade A volumetric
- Preferably reconstituted by same person (2 labs)
- Take care opening vial before addition of water
- Tap down vials before & after breaking seal. Stand for 5-10 mins before mixing
- Problems using calibrated adjustable pipette; glass pipettes used for QC and calibration material
- Certified pipettes became unreliable re volume after a while; better to replace regularly after checking calibration
- Hard to reconstitute

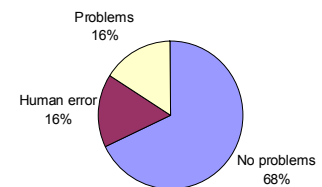
Problems with EQA (ALL results from a lab too high/low)

32% experienced problems

Half stated human error.

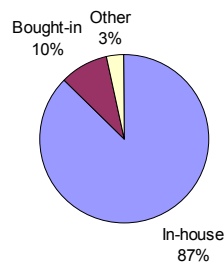
Others, cause unknown (repeat samples OK):

- 2 Grade A pipettes
- 2 air-displacement pipettes
- 1 Grade B; twice with IEQAS samples; never other EQA



(more obvious with new Summary Report showing % diff)

Water



Bought-in water:

1. non-sterile purified BP
2. Analar (problems with contaminated distilled water)
3. Pinewood Healthcare Purified water

Other: Lip

Temperature of water for reconstitution

- 65% reported 20°C/RT
- 26% labs didn't answer
- 6% labs reported 25°C
- 1 lab reported 27°C

Problems traced to water:

1. No air conditioning in lab - temp of water in reservoir too hot >25°C
2. Very occasional Calcium problems
3. Incorrect water used caused ↑ Ca⁺⁺ level
4. Contaminated distilled water
5. When lab used Elga in-house purification

Sample storage and use

Replies varied widely. The only real cause for concern is freezing 1.2ml (EQA, Calibrator, control?) in 1.3ml container – is there adequate space for mixing on thawing?

Other comments/suggestions from labs

- Retain printouts
- Bilirubin Calibrator and Controls very unstable, depending on manufacturer (Roche Calibrator in particular)
- Shield from light (TBilirubin, CK); Timing important (ALP, Phos etc); Overheating (hand) possible with 'gas controls'