

Successful Harmonisation of Hb Units in the UK

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UK NEQAS (H) Deputy Director

Pathology Harmony; a pragmatic and scientific approach to unfounded variation in the clinical laboratory

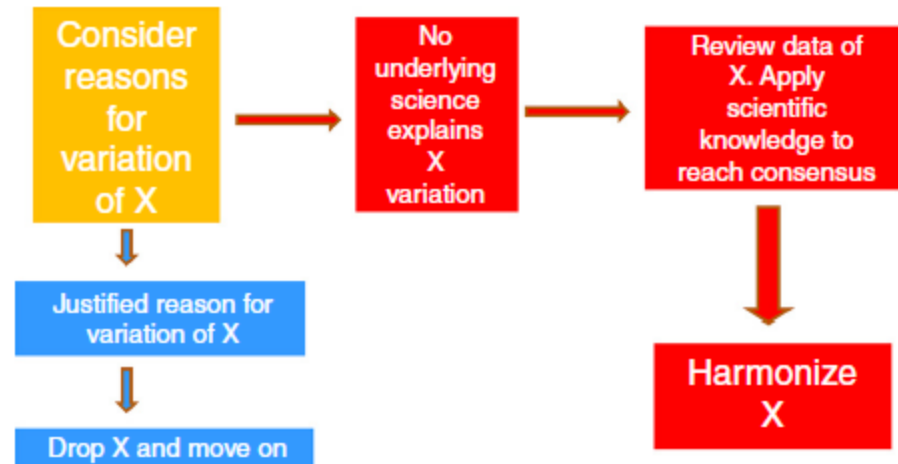
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Phases I (2007) and II (2009):
Clinical Chemistry analytes

Supported by
UK Dept of Health and
professional groups

Phase III (2011): Haematology



Annals of Clinical Biochemistry 2011; 48: 195–197

Why Harmonise Units?

- ▶ Confusion for service users
- ▶ Risk to patients
- ▶ Barrier to implementation of electronic reporting

WORKING SMARTER



Dr Rick Jones

And we call ourselves scientists...

I am sure we've all had a chuckle at the case of the Mars probe that crash landed because the Americans got confused between imperial and metric units when they programmed the descent software. However, we should perhaps remove the beam from our own eyes, given the results of a recent national audit of the variability of units of measure (UoM) being reported electronically from our laboratory systems using the well-established Pathology Messaging Implementation Project (PMIP) service.

Figures 1 and 2 provide some examples of the vari-

So, three questions. Is it important? Why has

UK NEQAS 2009 Survey

83% of participants using g/dl
17% using g/L

Mixture of units recognised as
clinical risk

Pathology Harmony Haematology Sub-Group

- ▶ Established 2011, led by Prof. Keith Hyde
- ▶ Core group of haematology scientists and clinicians
- ▶ Wider reference sub-group of leading haematologists
- ▶ BCSH Clinical & Laboratory Practice Committee oversight
- ▶ Nomenclature and units for extended FBC
- ▶ Reference ranges – for the future

April 2012



Units for Hb concentration: g/L Target date 31 March 2013

Users of laboratories may seek haematology services from various providers using different electronic information for haematology laboratories to report the primary test, Full counts and units of measurement; this is confusing for users and does not meet the requirements of Dr. Ian Barnes (Clinical Director for Pathology, DH), Pathology Harmonisation, in collaboration with members of the British Society for Clinical Science and the UK National External Quality Assessment Scheme. This document provides the recommendations for reporting units that laboratories should use from 31 March 2013 and IT changes that will be required, a timescale for change is also provided. A standard set of units of measurement for reporting the FBC

Standardisation of haematological reporting units:

Pathology Harmony is notifying all U.K. laboratories of the requirement to standardise the reporting of units for FBC to those in the table below.

By 31st March 2013 units for reporting FBC should be standardised including the Haemoglobin level and MCHC as g/L

This recommendation is supported by:

- The National Clinical Director for Pathology
- British Committee for Standards in Haematology - Clinical and Laboratory Practice Committee (BCSH – CLPC)
- Royal College of Pathologists
- UK National External Quality Assessment Scheme (UK NEQAS)
- Institute of Biomedical Science (IBMS)
- Association for Clinical Biochemistry (ACB)

Pathology Harmony recommends the following planning and actions are undertaken by all laboratories when changing Haemoglobin level reporting to g/L:

- Synchronized adjustment of analyser, point of care and computer systems
- Communication and liaison with all service users
- Updating of all documentation and training materials

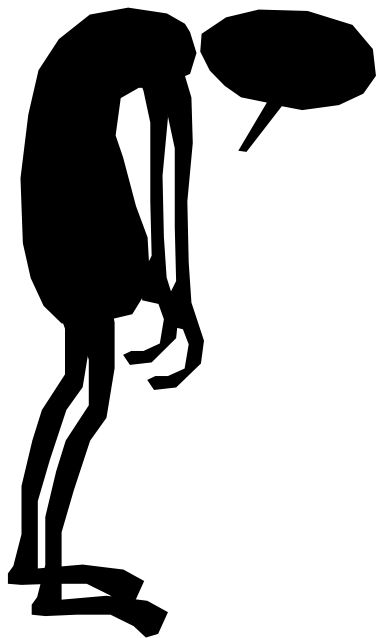
Pathology Harmony Membership (Haematology Group):

Keith Hyde
Michelle Brereton
Barbara De la Salle
Alison Hunt
John Ardern
Dan Smith
Imelda Bates
Carol Briggs
Barbara Bain
Mike Galloway

Harmony (approved) FBC units Harmony Communique Final 04.04.2012.doc

Analyte	Units
White blood cell (WBC) count	$\times 10^9/L$
Neutrophil count	$\times 10^9/L$
Lymphocyte count	$\times 10^9/L$
Monocyte count	$\times 10^9/L$
Eosinophil count	$\times 10^9/L$
Basophil count	$\times 10^9/L$
Nucleated red blood cell (NRBC) count	$\times 10^9/L$
Red blood cell (RBC) count	$\times 10^{12}/L$
Haemoglobin (Hb)	g/L
Haematocrit (Hct)	L/L
Mean cell volume (MCV)	fL
Mean cell haemoglobin (MCH)	pg
Mean cell haemoglobin concentration (MCHC)	g/L
Red cell distribution width (RDW)	%
Platelet (PLT) count	$\times 10^9/L$
Reticulocyte (Retic) count	$\times 10^9/L$

December 2012 Survey



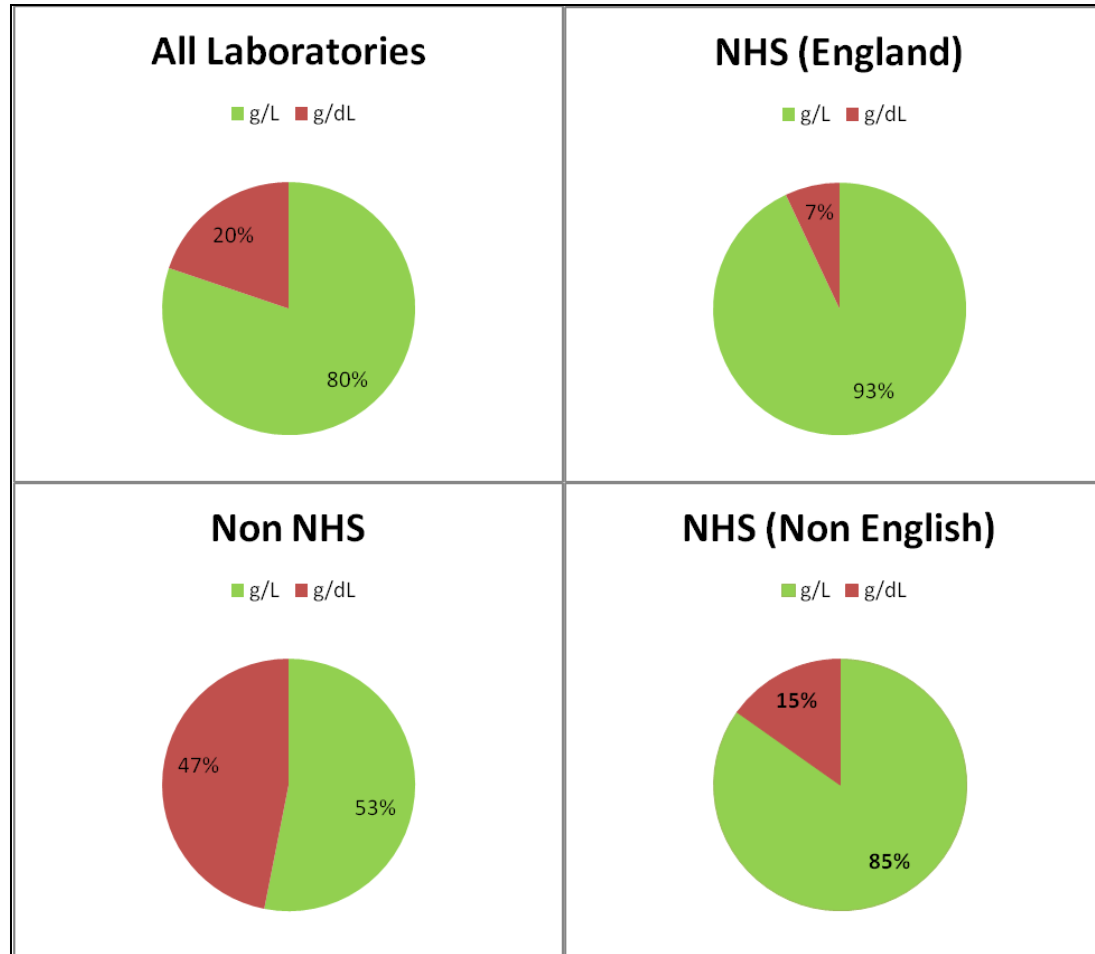
80% of participants
using g/dl

20% using g/L

August 2013: UK NEQAS Survey

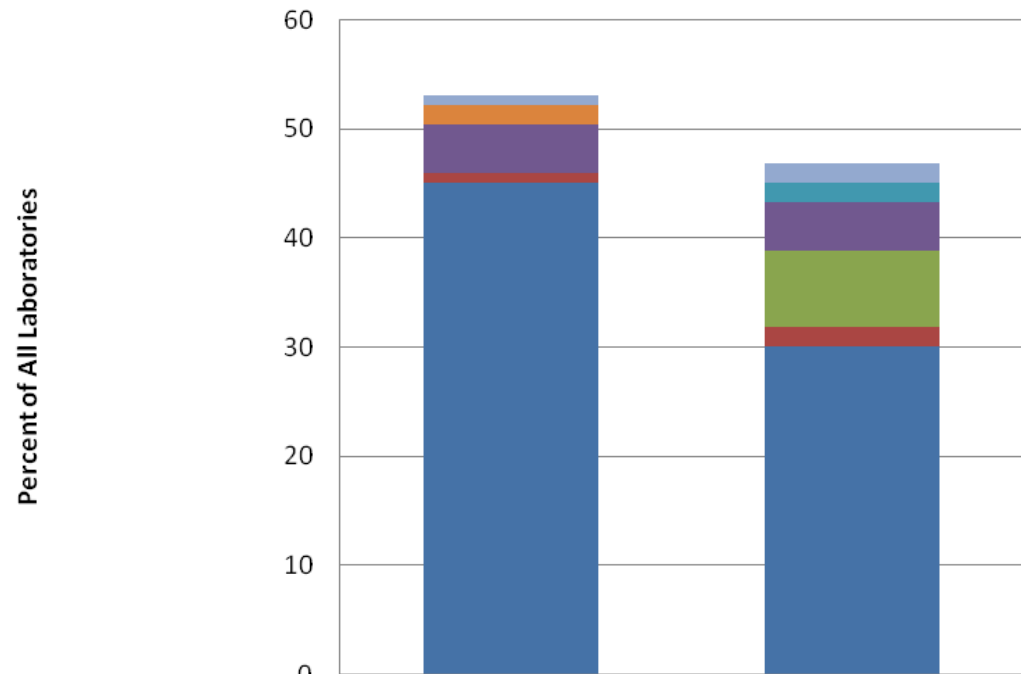
- ▶ 4 months post implementation deadline of April 2013
- ▶ Participants surveyed with August EQA distribution
- ▶ **Compulsory question**
 - Unable to enter FBC EQA return without response!

August 2013: Outcomes



August 2013

Breakdown of Non NHS data



	g/L	g/dL
Diagnostics company	0.9	1.8
H&S/Occupational Med	1.8	0
University clinical	0	1.8
Pharmaceutical	4.4	4.4
Veterinary	0	7
Other	0.9	1.8
UK private sector	45.1	30.1

Communications: the Key

Harmony

- 5 meetings, 8 teleconferences

Labs

- Laboratory managers / POCT managers, Consultant Haematologists, Directors of Pathology

Others

- Professional bodies, Instrument manufacturers/IT companies, National Clinical Leads

Publicity

- Publication (Brit J Haem. 158 (2012) 798–814), Fliers
- UK NEQAS (H) -early implementer

Conclusions

- ▶ Harmonisation of Hb units successful
 - Largest providers of FBC converted to g/L
- ▶ **Effective communication and audit essential**
- ▶ Outcomes audit to be reported to participants and repeated in December 2013
- ▶ **Additional targeting of information to private sector labs**

Acknowledgements

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- ▶ Dr Jonathan Berg, Pathology Harmony
- ▶ Vanessa Lane, Pathology Harmony
- ▶ Pathology Harmony Sub-Group
- ▶ Pathology Harmony Reference Group