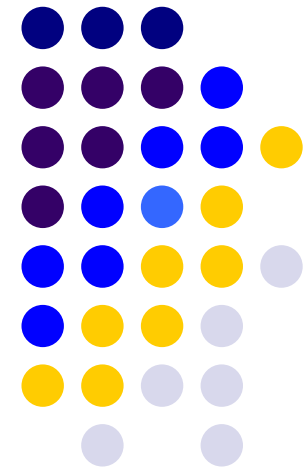


# JACIE

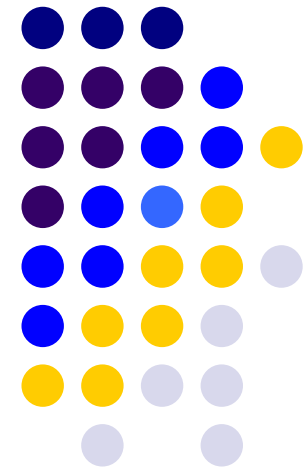
16 October 2007  
JACIE Kursu



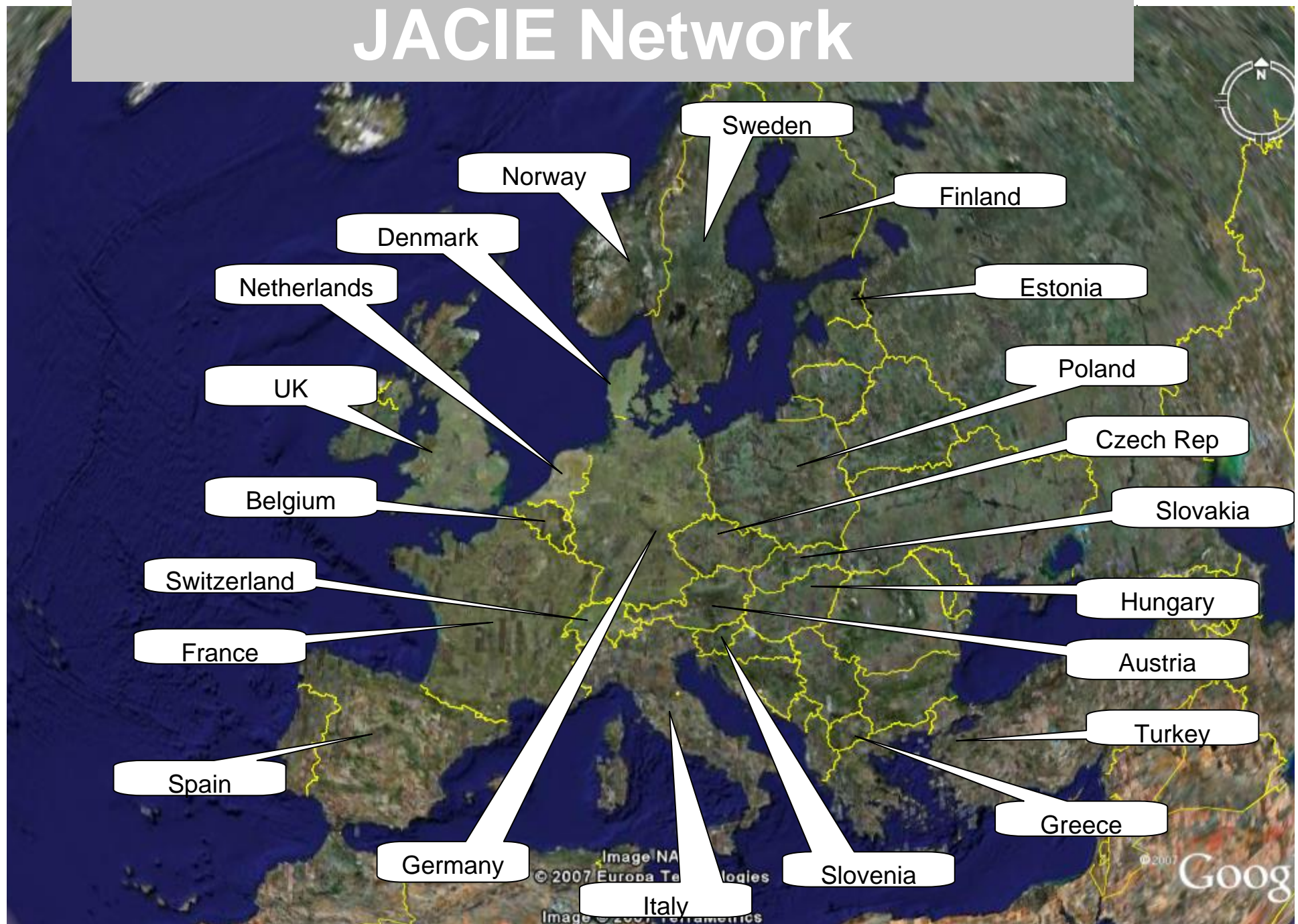
09.00 – 09.15	Welcome and goals of the day <i>Osman İlhan</i>
09.15 – 09.45	Current Status of Accreditation in Europe <i>Eoin McGrath</i>
09.45 – 10.15	Current and future regulatory environment for transplant teams <i>Evren Özdemir</i>
<i>10.15 – 10.30</i>	<i>Break</i>
10.30 – 11.00	Resources available to assist centres in preparation <i>Eoin McGrath</i>
11.00 – 12.30	Working Groups – Topic: What are the main challenges to establishing a Quality Management System in our units?
	Processing
	Clinical + Collection (incl. Nurses)
	Quality Manager + Data Manager
<i>12.30 – 14.00</i>	<i>Lunch</i>
14.00 – 14.45	Common deficiencies found in JACIE inspections.
14.45 – 15.45	Experience of an accredited centre <i>Nina Som, Bristol, UK</i>
<i>15.45 – 16.00</i>	<i>Break</i>
16.00 – 16.30	Presentations by working groups + discussion
16.15 – 16.30	Summary

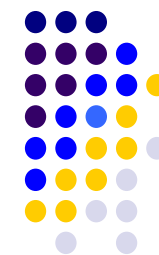
# Current status of accreditation in EU

Eoin McGrath  
JACIE Office, Barcelona



# JACIE Network

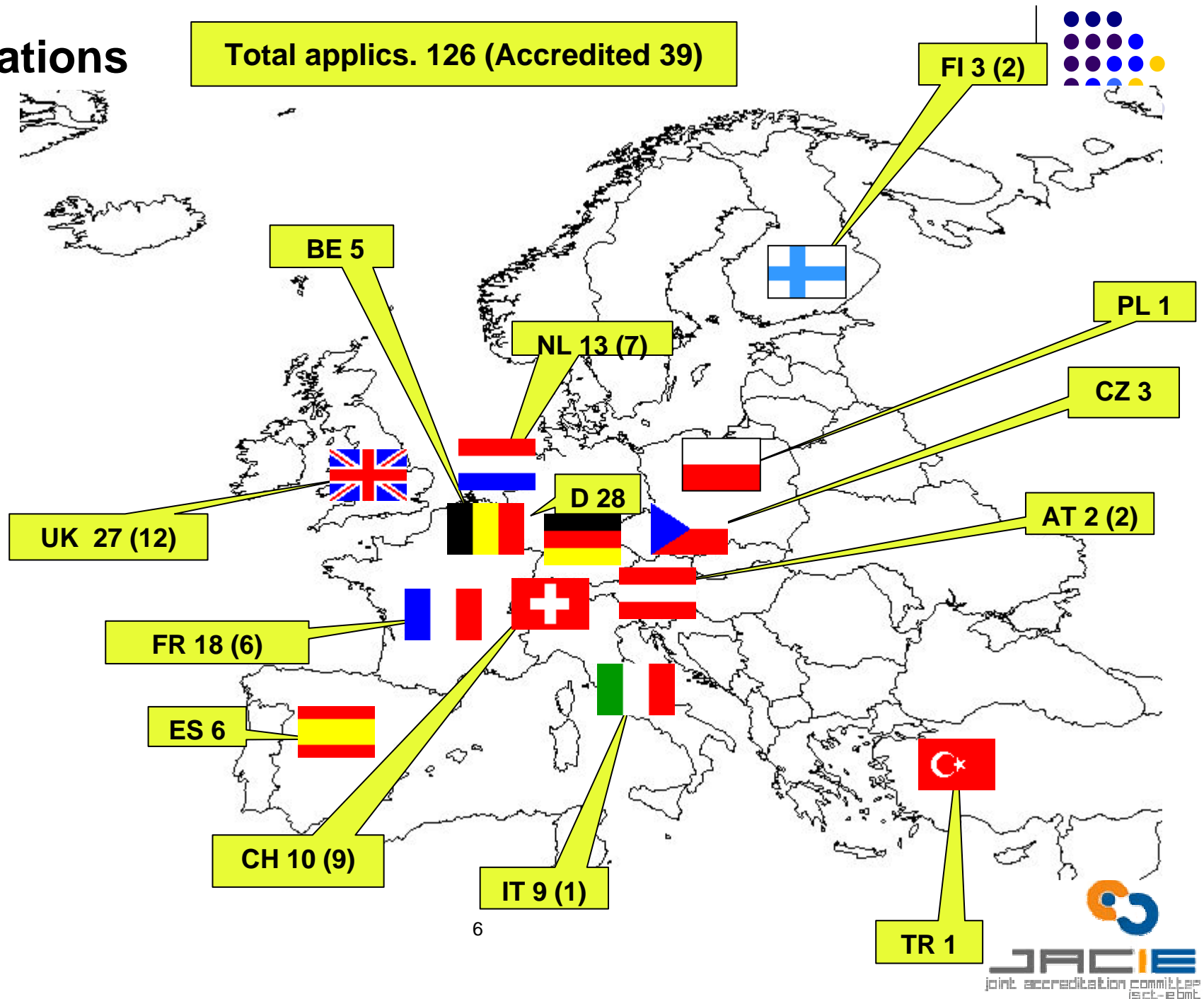


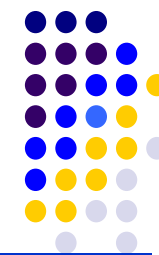


# Inspections since 2003

- Centres registered: 126
- Centres in progress: 48
- Centres inspected: 78
  - Facilities accredited: 39
  - Post-inspection, not accredited 37
  - Accreditation expired 2 *(Spanish pilot programme)*
- Countries: 13
  
- 9 audits scheduled up to end 2007.

# Applications





# Structure

**21 Countries:** Austria; Belgium; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Italy; The Netherlands; Norway; Poland; Switzerland; Slovakia; Slovenia; Spain; Sweden; Turkey; United Kingdom; Sectoral representatives for Cord Blood, Nursing & Paediatrics

**President:** Ineke Slaper-Cortenbach (ISCT)  
**Vice-President:** Jane Apperley (EBMT)  
**Medical Director:** Diana Samson, **Accreditation chair:** Derwood Pamphilon

**EBMT - ISCT**

**JACIE Office**

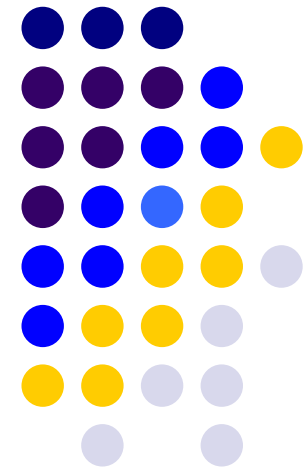
**Accreditation Committee**



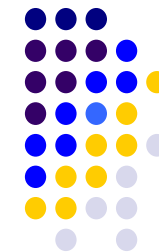
**Eoin James MacHale**

# International status

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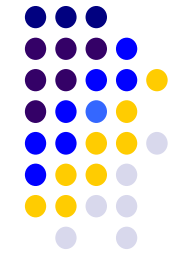




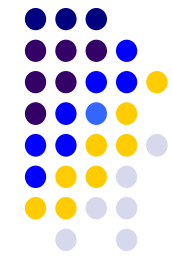
# Contacts

- Contacts with
  - EU
  - WHO
  - EUSTITE project
  - Council of Europe
  - National health authorities
  - Other accrediting bodies

# Regulatory context -EU



- Directive 2004/23/EC **Effective 7 April 2006**
  - quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells
- Directive 2006/17/EC **Effective Nov 2006**
  - donation, procurement and testing of human tissues and cells
- Directive 2006/86/EC **Effective Sept 2007**
  - traceability requirements
  - serious adverse reactions and events
  - coding, processing, preservation, storage and distribution of human tissues and cells
- Directives in progress
  - Import/export
  - Coding **Effective Sept 2008**

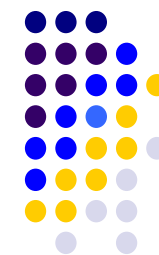


# International status

## Spain

The Spanish National Transplant Organisation ([ONT](#)) is the Competent Authority.

Agreement signed 30 Oct 2006 between ONT, Spanish scientific societies and JACIE officially supporting voluntary accreditation for HSC centres



# International status



## The Netherlands

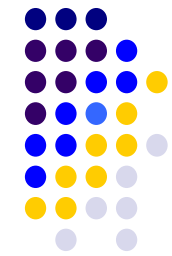
Dutch Health Care Inspectorate ([IGZ](#)) underlines the importance of JACIE accreditation as a tool to show compliance with the EU directive for tissue banks.

Agreement with [CCKL](#) (national lab accreditation body) to manage JACIE inspections.

October 25th 2006: Min of Health issues document on 'Arrangement of Stem Cell Transplantation'.

Establishes rules to licence centers to perform stem cell transplantation.

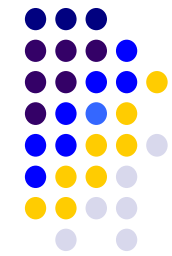
- Includes condition that centers must have JACIE accreditation within 2 years from now.



# International status

## Italy

The Centro Nazionale Trapianti ([CNT](#)) considering assigning JACIE inspectors, via Italian Bone Marrow Transplant Group ([GITMO](#)), to perform inspections of HSC transplant programs and investigate that any additional EU directive requirements are checked during the inspections.



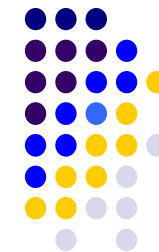
# International status

## ■ ■ France

The French Health Authority ([HAS](#)) recognises JACIE as an exemplary and innovative process.

HAS policy is to recognise different evaluation systems in order to benefit from complementary aspects and avoid duplication and includes JACIE within this policy.

[ANAES Accreditation Manual For Healthcare Organisations](#), Sept 2004



# International status

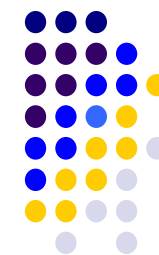


## United Kingdom

Human Tissue Authority ([HTA](#)) propose to use JACIE inspectors as advisors when visiting SCT facilities and two have now been trained as HTA Specialist Assessors.

JACIE accredited centres have been classified as low-risk by HTA.

[NHS service commissioners](#) are considering JACIE accreditation as a quality standard for provision of HSCT services to the NHS.



# International status



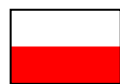
## **Austria**

The Austrian Health Institute ([ÖBIG](#)) provided financial support to centres preparing for JACIE accreditation



## **Belgium**

Health authorities have asked that JACIE inspectors act as advisors on implementation of Directive and Belgian regulations will take JACIE Standards as a base



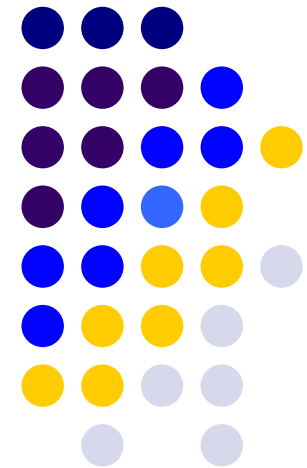
## **Poland**

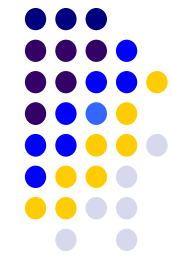
Ministry of Health plans to support accreditation expenses within the scope of the [POLGRAFT](#) program



# JACIE developments

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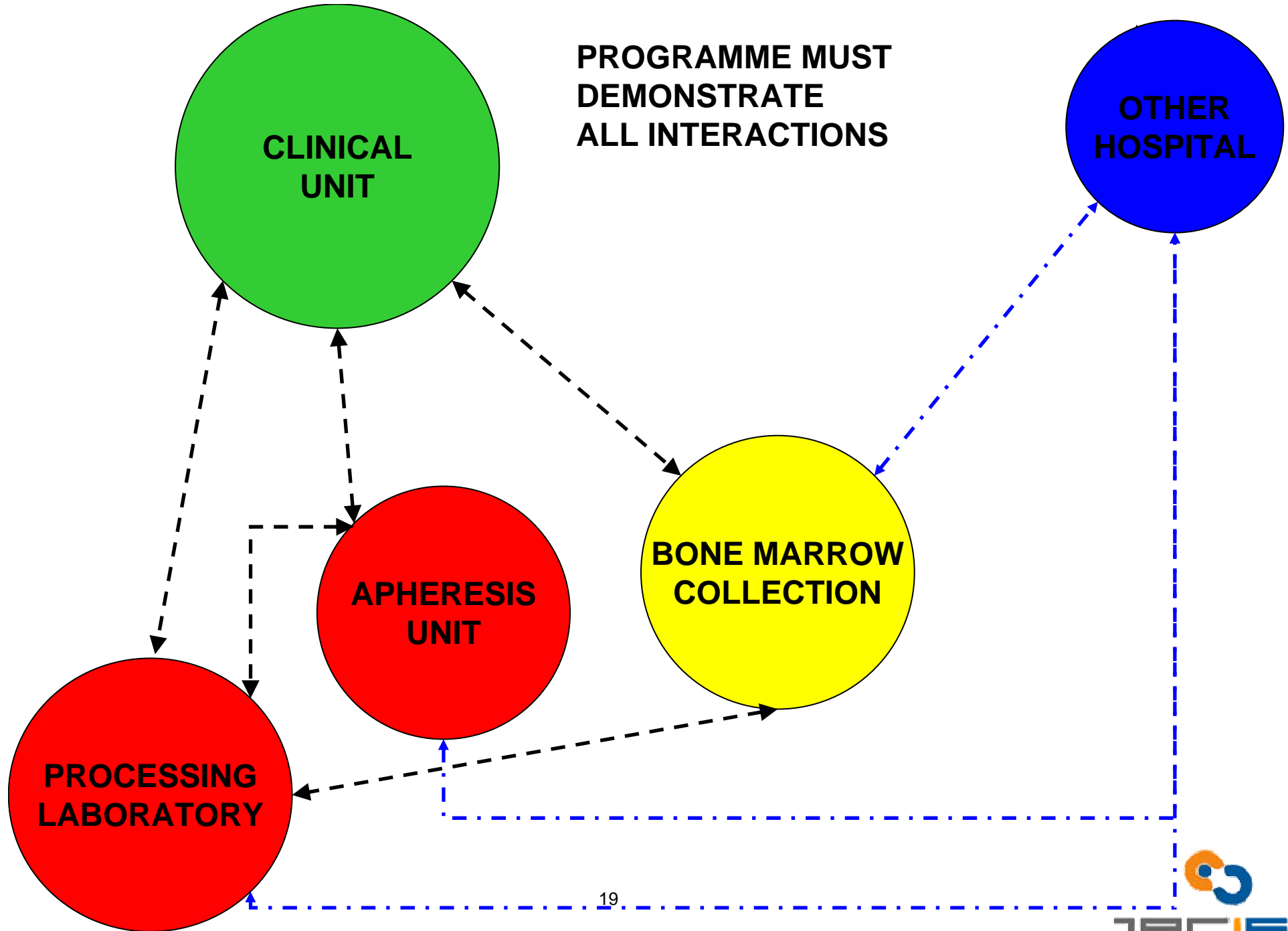


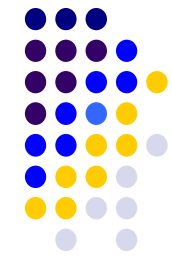


# Standards

- Designed to cover all phases/tasks in transplantation from donor to infusion
- **Interaction** between clinical unit, cell collection facility and laboratory fundamental

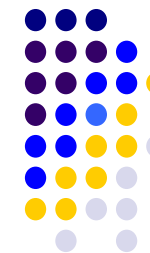
**PROGRAMME MUST  
DEMONSTRATE  
ALL INTERACTIONS**





# Standards: 3rd edition

- In effect since 19th August
- First inspection using 3rd edition took place in UK, September
- Manual:
  - FACT Office coordinating drafting and release
  - JACIE contribution
  - Provisional date November 9 for release



# Major changes

## 1. Restructure of Document

Three sections compared and aligned to be parallel and consistent throughout.

## 2. International Language and Content

“FACT-JACIE International Standards...”

## 3. Regulatory requirements (FDA and EU Directive) included

Includes labeling requirements – 2 tables as appendices

## 4. Redefined numbers requirements

B1.5 for clinical programs

C1.3, C1.4, C1.5 for collection facilities (12 months, 30 aphereses/3 years; 3 marrows/3 years)

D1.3 for Processing facilities (12 months)

## 5. Expanded Quality Management section (B4; C4; D4)

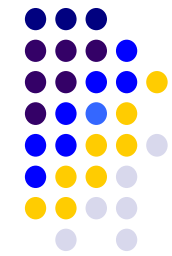
## 6. Collection:

Added Pediatric competencies

Duplicated Donor Selection, Evaluation and Management

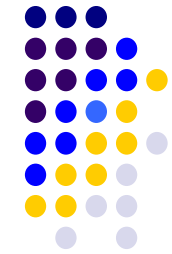
## 7. Processing Facility

GTP issues, primarily of donor eligibility, documentation, and labeling



# Inspectors

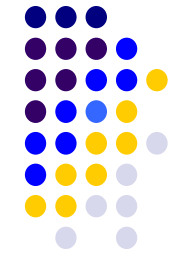
- 141 certified inspectors in total
- 18 countries
- All inspectors required to have attended training course and submitted CV, qualifications, exam and registration
- Half-day refresher course planned for Florence EBMT meeting



The Alliance for Harmonisation of Cellular Therapy Accreditation (AHCTA) is formed by representatives of the following organisations:

- American Association of Blood Banks (AABB)
- American Society for Blood & Marrow Transplantation (ASBMT)
- European Group for Blood & Marrow Transplantation (EBMT)
- Foundation for the Accreditation of Cellular Therapy (FACT)
- International NETCORD Foundation
- International Society for Cellular Therapy (Europe) (ISCT)
- Joint Accreditation Committee ISCT-EBMT (JACIE)
- World Marrow Donor Association (WMDA)

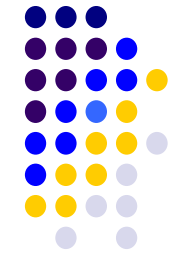




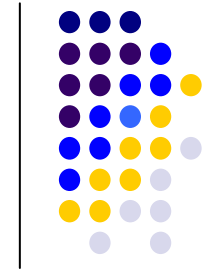
## Mission statement

- harmonisation of respective standards
- single set of quality, safety and professional requirements for cellular therapy including haematopoietic stem cell (HSC) transplantation.
- all aspects of the process from donor recruitment to transplantation and clinical outcome.
- Supported by
  - complementary standards and guidelines,
  - promotion of the concept of a global set of standards
- inform and support authorities in the area of cellular therapy regulation



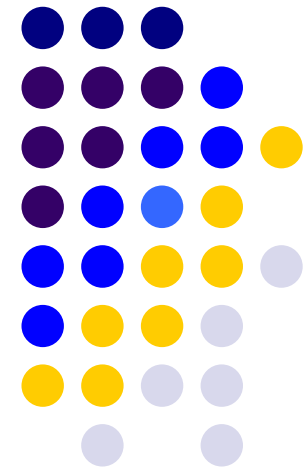


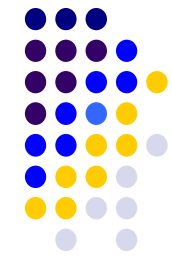
- Import/export discussion document
  - Min guidelines to support TC Directive
  - Input on cord blood from NetCord
- Crosswalk of respective standards to highlight areas of discrepancy



- Any questions?

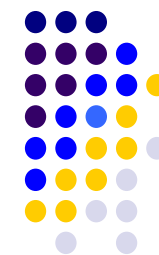
# Resources Available to Assist Centers in Preparation





# Tools & assistance

- Standards
- Manual
- Inspection Guide
- JACIE Office
- JACIE Online
- Medical Director
- Other inspectors
- Online documentation



# Documents on web site

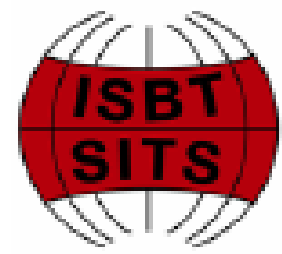
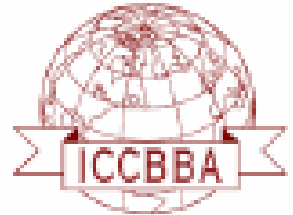
- Inspection Checklist
- 3rd ed FACT-JACIE Standards
- Significant Changes
- Online Guide
- Accreditation deficiencies v2.0
- Accreditation process
- Pre-inspection Document Checklist
- Inspection guide 2.5
- JACIE CV template
- Potential Inspection Outcomes July 2006
- JACIE information leaflet



## International Cellular Therapy Coding and Labelling Advisory Group



- Review existing regulation regarding labeling
- Design product label templates that satisfy regulatory requirements;
- Provide a focus for the standardization of terminology and product naming;
- Promote the adoption of the ISBT 128 standard in cellular therapy facilities around the world;
- Provide advice and support to facilities introducing the standard;
- Advise on the ongoing development of the ISBT 128 standard to support new developments in cellular therapy.



*International Cellular Therapy Coding and Labelling  
Advisory Group*



- Final release of terminology and label design at ISCT meeting, June 2007
- [http://iccbba.org/cellulartherapy\\_educational\\_material.html](http://iccbba.org/cellulartherapy_educational_material.html)
- Contribute to the work of the CEN (European Committee for Standardization): CEN/ISSS Workshop on Coding of Information and Traceability of human Tissues and Cells (WS/Tissues & Cells)





  
 W0000 07 123456 8 

Store at <-150C  
 Expiry Date: 10 OCT 2021

 Directed Collection

CRYOPRESERVED HPC, CORD BLOOD  
 Patient, John Q      Date of Birth  
 ID# 123V123456      10 OCT 2007

  
 W0000 06 523457 8 

Collection Center or Registry  
 Anywhere, Worldwide

Collection Date/Time  
 29 JAN 2006 15:15  
 (29 JAN 2006 20:15 GMT)

Properly Identify Intended Recipient.  
 May transmit infectious agents.

  
 S0000D00      DIRECTED

**HPC, APHERESIS**

Approx \_\_\_\_ mL in approx \_\_\_\_ mL Citrate  
 DO NOT IRRADIATE  
 DO NOT USE LEUKOREDUCTION FILTER  
 Store at 1 to 10 C  
 Processing Laboratory  
 Elsewhere, Worldwide

 RhD Positive  
 5100



FOR INTENDED RECIPIENT ONLY


Matched Unrelated Donor  
 Donor # 123654987

Laboratory Testing Information  
 Additional Laboratory Testing Information

Expiration Date/Time:  
 31 JAN 2006 15:15  
 (31 JAN 2006 20:15 GMT)

Recipient:  
 John Q Patient  
 ID#: 123456789  
 Date of Birth: 31 DEC 1984  
 Hospital Name  
 City, Province, Country

  
 W0000 07 123456 8 

  
 S0000D00      Directed

CRYOPRESERVED  
 HPC, APHERESIS  
 Date of collection: 12 MAY 2007

Collection Center or Registry  
 Anywhere, Worldwide

Recipient:  
 John Q Patient  
 ID#: 123456789  
 Date of Birth: 31 DEC 1984  
 Hospital Name  
 City, Province, Country



European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung



## CEN/ISSS Workshop on Coding of Information and Traceability of human Tissues and Cells (WS/Tissues & Cells)

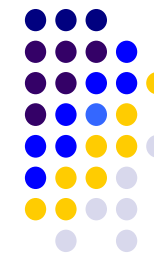
- “.....propose guidelines and recommendations to permit the implementation of the European Coding System respecting the Tissue and Cells Directive's requirements.”

<http://www.cen.eu/nr/cen/doc/PDF/575060.pdf>

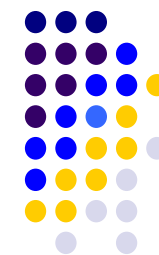
## **CEN/ISSS Workshop on Coding of Information and Traceability of human Tissues and Cells (WS/Tissues & Cells)**

- 11 months duration
- Expect to complete work in mid-March 2008
- Recommendation to the EU Commission
  - Commission decides on adoption
  - In place by September 2008

# Quality Management Guide



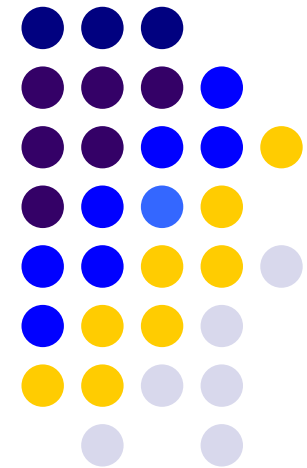
- 'Practical reference guide to implementing quality management in a stem cell transplantation (SCT) programme in accordance with JACIE Standards'
- Phase 1: To write and publish a guide to implementing quality systems in stem cell transplant programmes in line with the JACIE Standards on quality management
- Phase 2: To update the guide on a regular basis based on continued accrual of experience and best practice
- The project to be fully funded by an unrestricted educational grant from Chugai Sanofi Aventis.

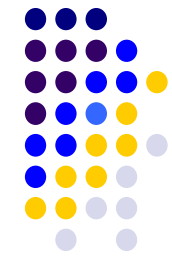


# Quality Management Guide

- To help applicants move from the 'blank page' when they start preparing
- To distribute experience and best practice
- To train inspectors
- Release early 2008
- Copies sent to EBMT member centres and ISCT Europe members

# Deficiencies data





# Deficiencies library

- Currently 570 items from 35 reports
- Very useful for applicant centres, inspectors
- Helps JACIE maintain consistency in recommendations
- Public anonymous version will be on web site.

# Deficiency library Excel file

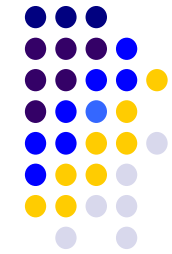
B	C	E	G	H	J
MainSection	Edition2	Markers D / I / S	Inspectors Comment	Med Dir Comment	General classification
B03000	3421	I	<p>•The Programme has used CPD and programme participation as evidence of competency for attending physicians. There is no clear indication of how competency is judged. A number of the activities listed in this standard are generic to haemato-oncology, but others are more specific to allogeneic BMT. A checklist for attending paediatricians was not available. Dr McVerry indicated he was not competent in all areas but this may be clinically appropriate as he only attends SCT patients on an on call basis.</p> <p>•Assessment of competencies for trainees is ongoing during their training period. We did not see detailed records of participation in educational activities related to the field of haematopoietic stem cell transplantation.</p>	<p>–there was no clear indication of how competency is judged (see General Comments). There are training portfolios for junior staff but it is not clear whether these include a record of competency for the tasks that junior staff regularly perform in relation to the BMT programme, e.g. marrow harvests. The centre should clarify this with JO.</p>	Training
B03000	3422	I	All physician in program have clinical training and competency regarding items of paragraph B 3.422 but some of them ask for education to improve their competency in some fields (e.g. management of ABO incompatible haematopoietic progenitor cells components, methodology of HLA typing, identification and selection of haematopoietic progenitor cell source...)	There should be a regular programme of continuing education covering areas such as management of ABO incompatible haematopoietic progenitor cells components, methodology of HLA typing, identification and selection of haematopoietic progenitor cell source.	Training
B03000	3432	I	The answer given by the team is NO. Bone marrow harvest is becoming increasingly less frequent and is replaced by peripheral blood progenitor cells harvest. Nevertheless, the auditors had proof that the team has enough trained physicians to perform bone marrow harvest when requested. Transplant physicians in the clinical program are proficient in HPC infusions	Not all the transplant physicians are proficient in bone marrow harvest. However the team had sufficient trained staff to carry out marrow harvests when requested. In fact the standards (section 3.4) state that the transplant physicians should be knowledgeable in bone marrow harvest, it does not specify they need to be proficient.	Staffing
B03000	3600	I	Not all physicians provided evidence of certification and subspecialty training.	documentation of higher specialist accreditation and certification was not always available. Documentation should be provided to JO; copies of GMC registry entries will suffice.	Training
B03000	3600	I	No access to clinical psychology.	There should be access to clinical psychology. Presumably this can be accessed through psychiatric referral. The applicant should clarify this.	Staffing
B03000	3610	I	Based on the PDF files received via JACIE website the liaison consultants for Infectious Disease and Psychiatry were “not in the specialist register”. It is unclear who produced this PDF file – I suspect this may be an administrative error; the Consultant staff at the Hammersmith have a high academic reputation.	The inspector noted that the consultant senior physicians for infectious disease and psychiatry were not found in the specialist register. Evidence of their correct registration as consultants should be submitted for review.	Staffing
B03000	3710	I	Nurses and nurse supervisors in the program have		Training



- Experience generally same as FACT in US
- Listing of deficiencies
  - On web site shortly



# EBMT Annual Meeting, 2008

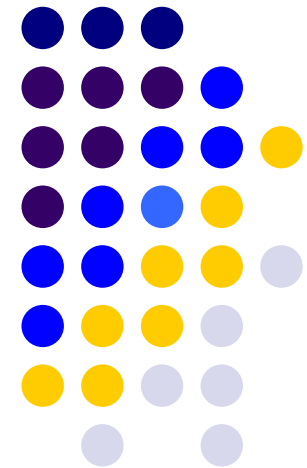


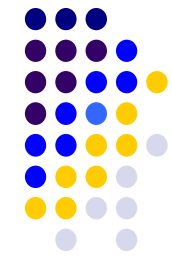
Florence • Italy • March 30 – April 2, 2008



1. JACIE Session: Monday 12.30-13.30 (to be confirmed)
2. JACIE & Nursing: time and day to be advised
3. Quality management workshop : Monday (to be confirmed)

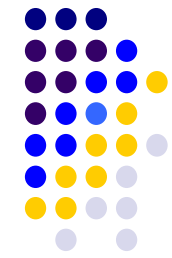
# Work groups





# WORKING GROUPS

- Processing
- Clinical + Collection (incl. Nurses)
- Quality Manager + Data Manager
  
- “Challenges in establishing a quality system in my facility”

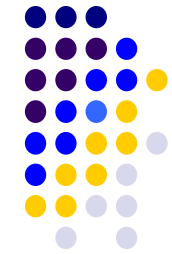


# Discuss in groups

“Challenges in establishing a quality system in my facility”

- What is objective?
- Who should be involved?
- What resources and support do we need?
- What methodology will we use?
- What/who are potential **threats** to success?

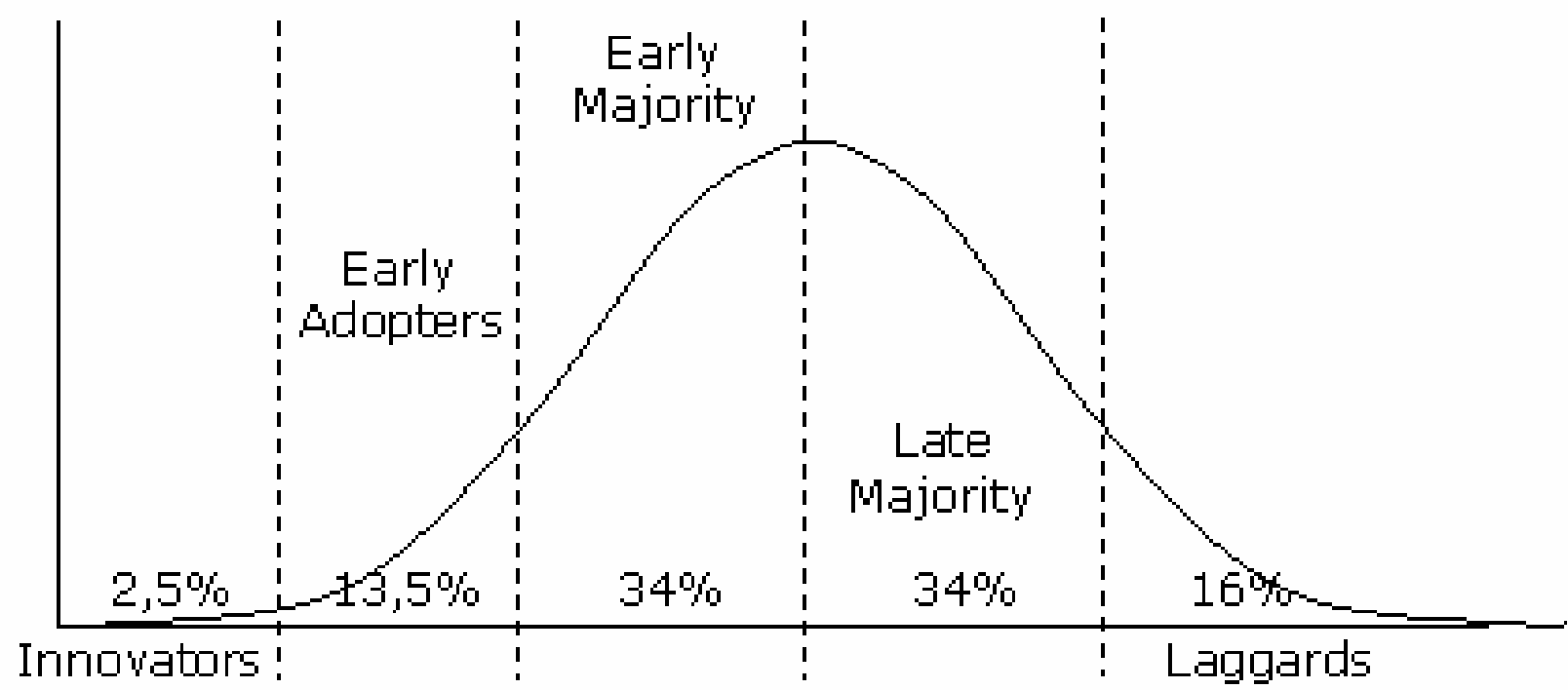
# Rogers adoption/innovation curve



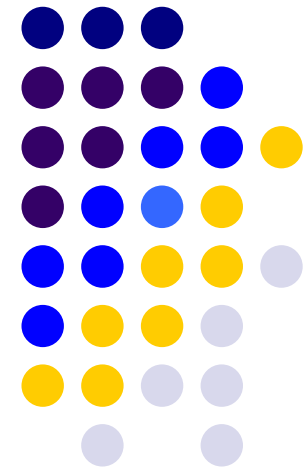
- Rogers achieved academic fame for his Diffusion of innovations theory
- He proposed that adopters of any new innovation or idea could be categorized as innovators, early adopters, early majority, late majority and laggards



# Rogers Adoption / Innovation Curve

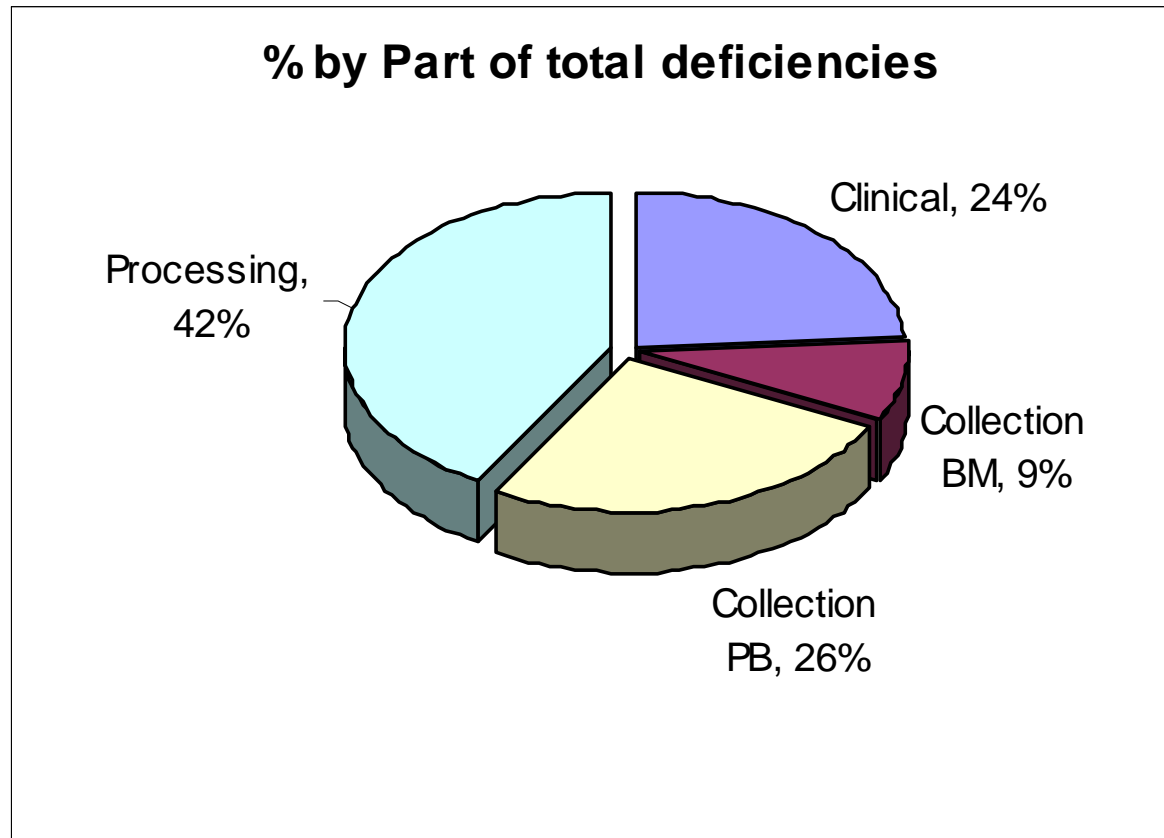
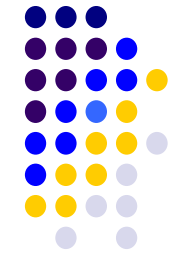


# Common deficiencies found in JACIE inspections

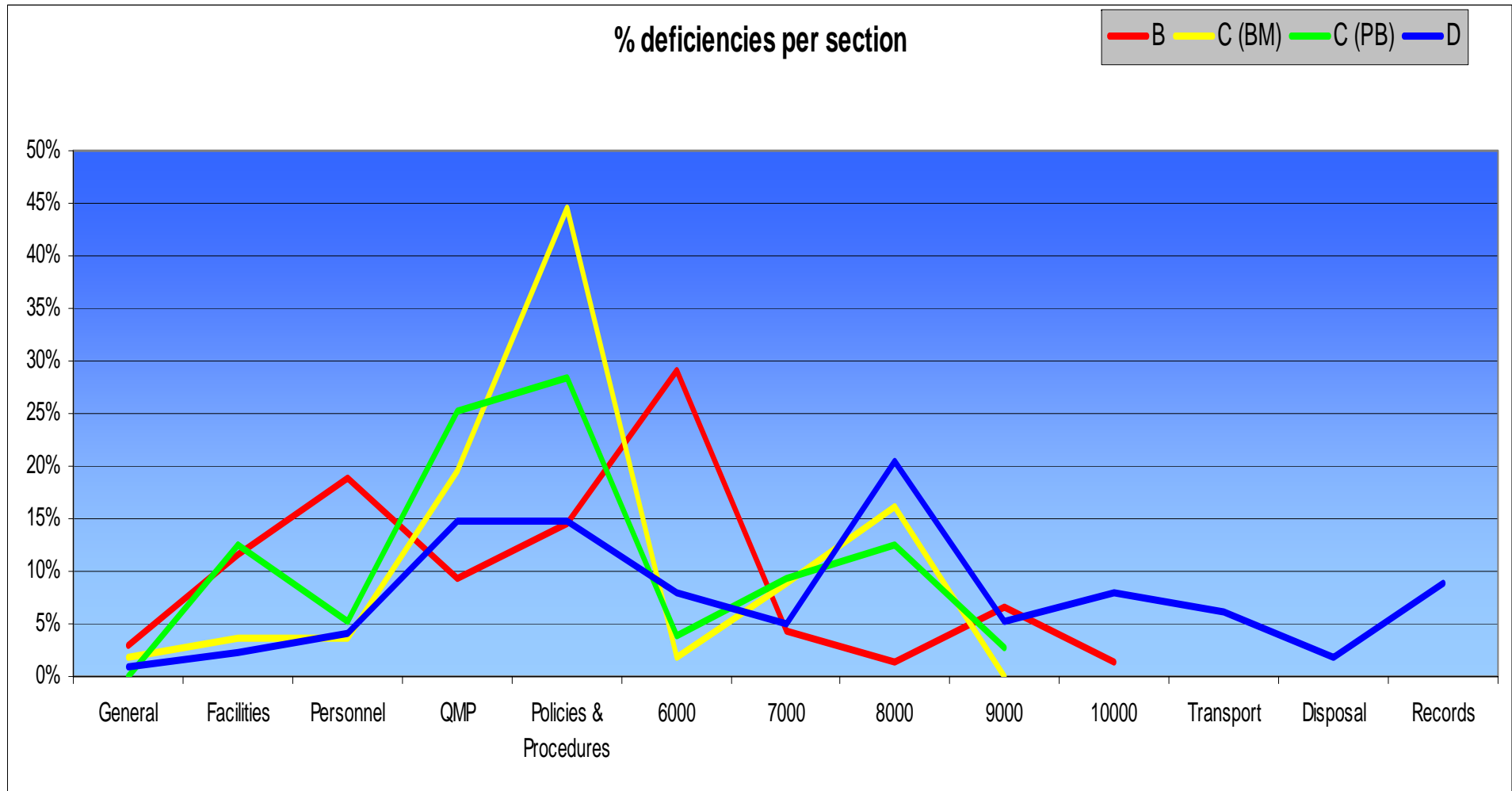
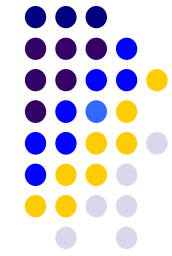


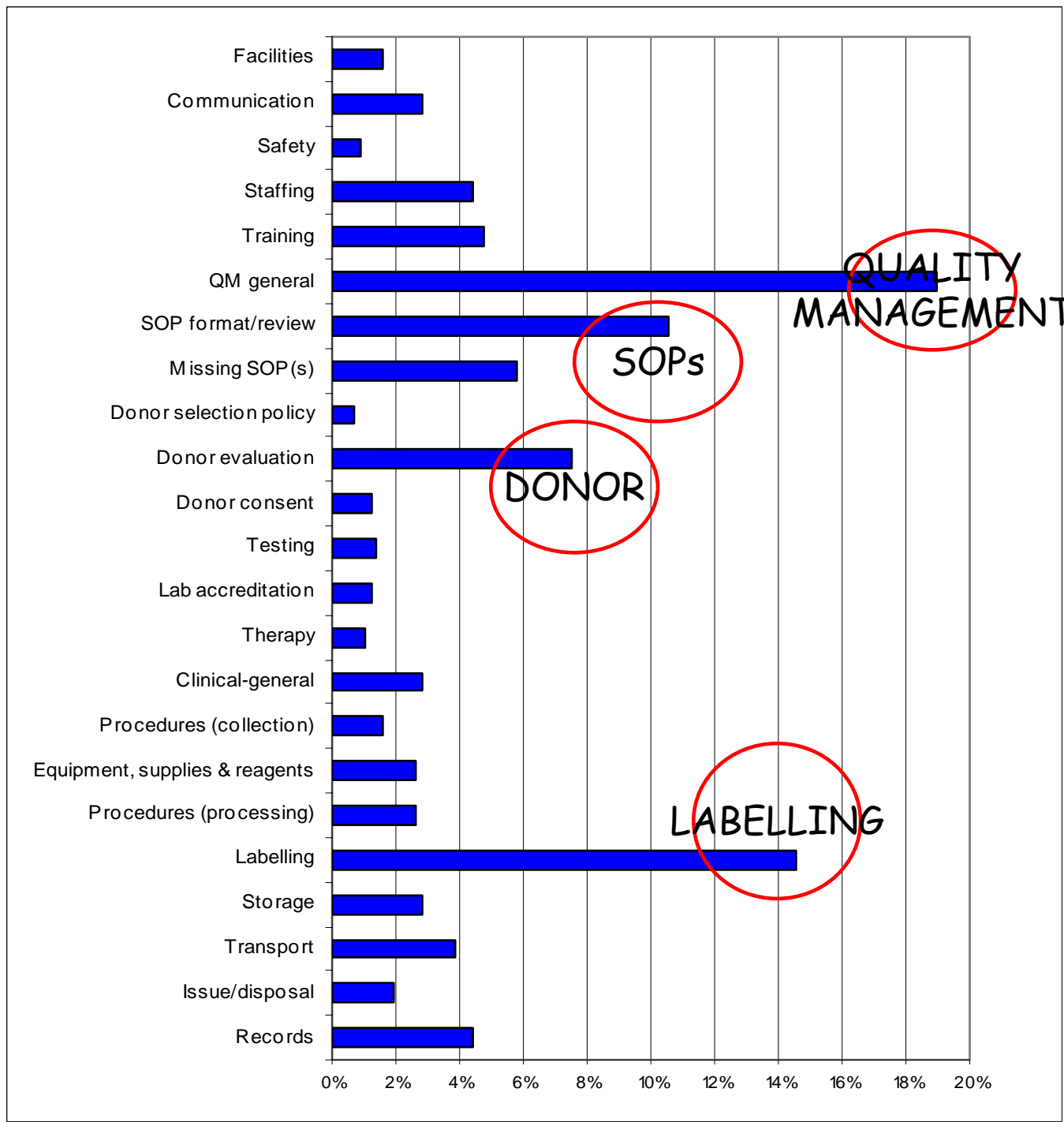
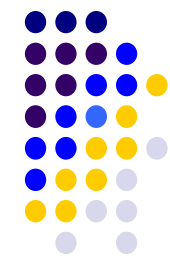


# Breakdown of deficiencies by section



# % of deficiencies per section of standards





Categories of deficiencies as % of total deficiencies across all parts of standards

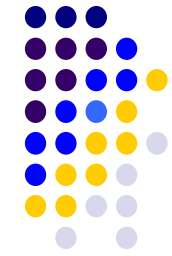
# Minor vs Significant Deficiencies



- Difference between a minor deficiency and a significant deficiency is a matter of judgement
  
- Minor deficiencies
  - generally involve correction to existing SOPs or other documentation
  
- Significant deficiencies - examples
  - Inpatient isolation facilities inadequate
  - No continuous temperature monitoring of freezers
  - Inadequate quality management programme

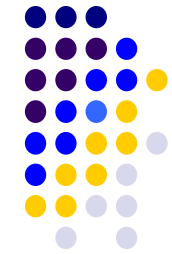


# Clinical Programme



- Single Clinical Programmes
- Consultants/Attending Physicians
- Adverse Event Reporting
- Audits & Outcome Reviews
- Donor Evaluation, Selection and Care
- Therapy Administration

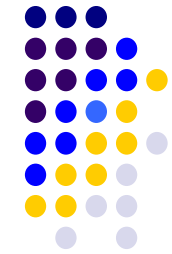
# Single Clinical Programmes



**B1 “  
...integrated medical  
team...  
single PD..common  
staff training  
programmes,  
protocols & QMS”**

- Lack of integration
- Poor interaction between staff in the 2 units
- Little sharing of expertise
- QMP’s essentially separate
- Who is the designated person for QM?

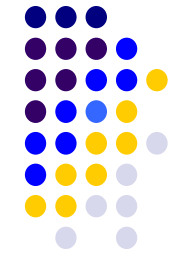
# Senior Clinical Staff



- B3.1..”dedicated BMT team including PD + 1 physician trained or experienced in HPC therapy for 1 year”
- Also adult and paed expertise as appropriate
- BMH proficiency

- Not all 1 year experience
- Not correct speciality
- CV’s - documentation of appropriate training
- Are they competent?
- Not proficient in BMH

# QM: Adverse Event Reporting

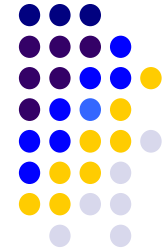


- B4.10 “must have a system, document corrective actions & review, evaluate promptly
- Report to regulatory agency”

- Uses hospital based system: under-reporting
- No SOP: PD/patients physician
- No evidence of AE evaluation
- Must include in quality review



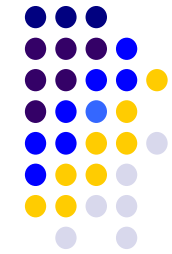
# Audit and Outcome Review



## B4.8 “collect, analyse & audit performance data”

- Should include TRM, engraftment, line infections
- No plan for review
- Range of acceptability?
- Deviation - ? what action
- No SOP for audits - communicate results

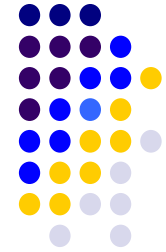
# Donor Evaluation, Selection & Management



## B6 Donor evaluation testing & consent

- Patient / Donor issues -1
  - no record of verification of patients diagnosis
  - no formally documented criteria for defining suitable donor
  - no explicit documentation of suitability of donors
  - not clear how the decision is made to use a donor not meeting the programme's selection criteria
  - donor's medical record does not record where applicable that the donor was informed of any abnormalities and of recommended follow-up
  - policy for disposal not mentioned in donor consent forms

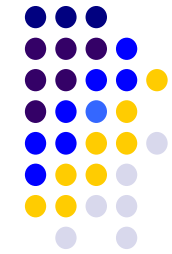
# Donor Evaluation, Selection & Management



## B6 Donor evaluation testing & consent

- Patient / Donor issues 2
  - pregnancy assessment not routinely performed
  - donor medical history does not include a travel history
  - donor medical history does not include questions to identify persons at high risk of significant transmissible infections.
  - HLTV 1 and 2 serology not performed
  - no SOP or controlled document for transmitting the results of donor evaluation from the clinical team to the collection facility

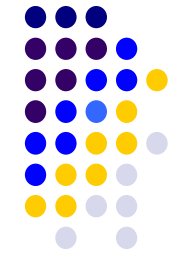
# Therapy Administration



## B7 Written policies for HD therapy and HPC products

- No SOP's for all regimes
- Dose of drugs not checked by 2 people
- Instructions for infusion not clear
- No documentation in notes of unit identifiers for all products

# Stem Cell Collection



## Bone Marrow

- Personnel
- Protocols and procedures
- Cell collection

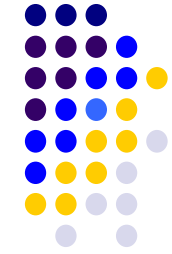
## Peripheral Blood

- Personnel
- Labels
- Collection facilities

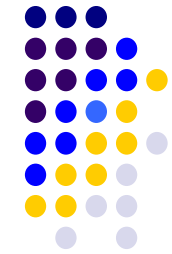
# Bone Marrow Collection

## C3 Personnel

- BMH - documented training & proficiency
- MD responsible for donor evaluation & safety
- How many procedures are done



# Bone Marrow Collection Policies and Procedures

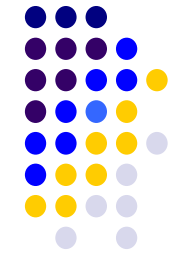


C5

## ■ BM Collection Procedures

- no SOP for BM collection
- SOP present but inadequate e.g. no acceptable results and tolerance limits / no instruction for action if these are not met
- no procedure for recording deviation from the SOPs relating to marrow collection, or whether and how such deviations are approved
- expiration dates and lot numbers of the reagents/equipment used for BM harvest not recorded
- records of collection not regularly reviewed by CF Director
- no systematic outcome review / audit

# Bone Marrow Collection: cells and labels

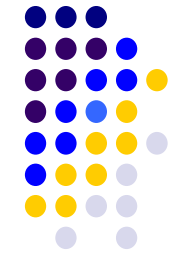


*C7 & C8*

- No written orders
- SOP must cover transportation
- Labels must be alphanumeric
- Must give proper name
- CF and PL need to agree HPC identifiers

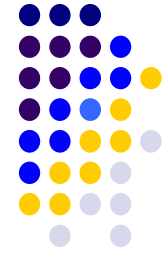


# PBSC Collection



- no formal policy /SOP for assessment of venous line placement
- assessment of venous line placement not documented in patient record
- range of expected results not defined in SOP for stem cell collection
- tolerance limits and corrective actions for collection not defined
- No SOP covering transportation from the apheresis unit to the processing facility
- no procedure / documentation relating to validation of equipment / procedures
- Records of collection not regularly reviewed by CF Director
- No systematic outcome review / audit

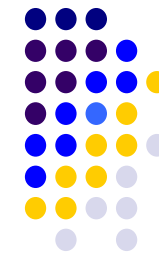
# PBSC Collection:



- Inadequate documentation of training
- MD does not have appropriate contract with facility
- QMP should cover H&S
- TTI testing by clinical programme - communication
- Reporting AE's to clinical unit - SOP

- Communication from clinical to collection team
- Suitable space for donor examination
- Proper disposal of apheresis kits

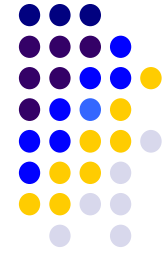
# PBSC Collection : Labels



## C7 Operations, product identification and label content

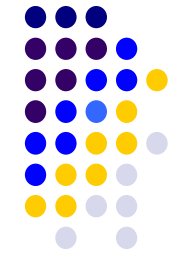
- Examples appended to SOP
- Unique alphanumeric identifier
- SOP to include Biohazard label
- Pre- or demand -printed labels
  - 'Human HPC-A
- Name + volume of AC/additives

# Cell Processing Laboratory



- Quality Management
- Labels
- Storage Conditions

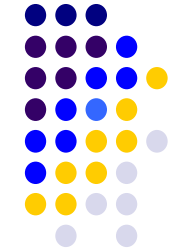
# Quality Management



## ■ Processing Facility

- no written request for processing
- methods used for processing not validated
- no SOP for handling ABO incompatible graft
  
- alarm system not adequate
- temperature not monitored during transport
  
- engraftment data not regularly monitored
- no formal criteria for acceptable engraftment

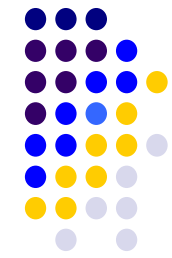
# LABELS



## ■ Labelling

- components labelled only with the donor name. (A unique alphanumeric code must be used)
- proper component name not used (Haematopoietic Progenitor Cells, Marrow / Apheresis - HPC-M / HPC-A)
- Biohazard label not used as specified
- missing information
  - date / time / volume of collection
  - name and volume of anticoagulant / other additives
  - donor ABO and Rh group
  - instruction 'Do not irradiate'
  - instruction 'for autologous use only'
  - time of expiry

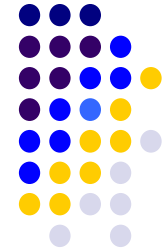
# Conditions for Storage



## D9 Cryopreservation samples, procedures and cooling rate

- Continuous monitoring required
- Procedure for notifying personnel
- Room must be secure
- 'No provision for back up storage'
- 'No storage temp records'

# Typical Deficiencies - General



## ■ Interactions must be documented

- written request for collection
  - From clinical programme to collection facility
- written request for processing
  - From clinical programme to processing facility
- results of infections disease marker testing
  - must be available to both collection and processing facilities
- engraftment data
  - must be available to both collection and processing facilities
- report of adverse events
  - Must be available to all relevant facilities
- transport log form
  - For handover between collection/processing and processing /clinical facilities

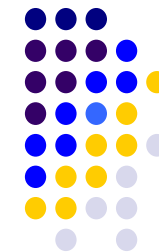




# Don't forget....

- Listing of deficiencies
  - On web site





# THE END

Teşekkür ederim

Thank you for listening

