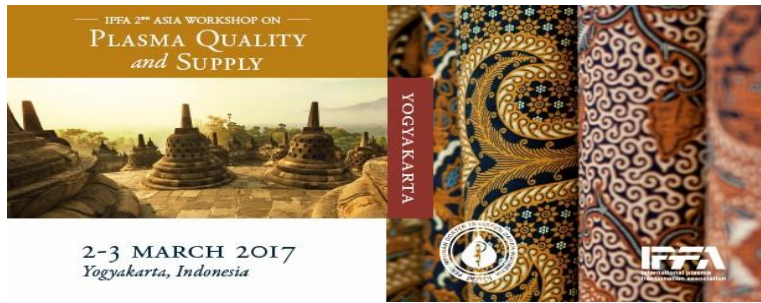




IPFA 2nd Asia Workshop on Plasma Quality and Supply

Role of QA person in Blood Establishments

Date: 2/3/2017

Speaker: Dr. Shun-Chung Pai

Email: david.tp@blood.org.tw

Outline

- The scope of the QA Job
- The tasks and roles of QA person (Practice examples)
- The challenges and benefits for QA person



What is “Quality”?

- 2013 Blood and blood products added to WHO [Model List of Essential Medicines](#)

The Principle of Quality Management

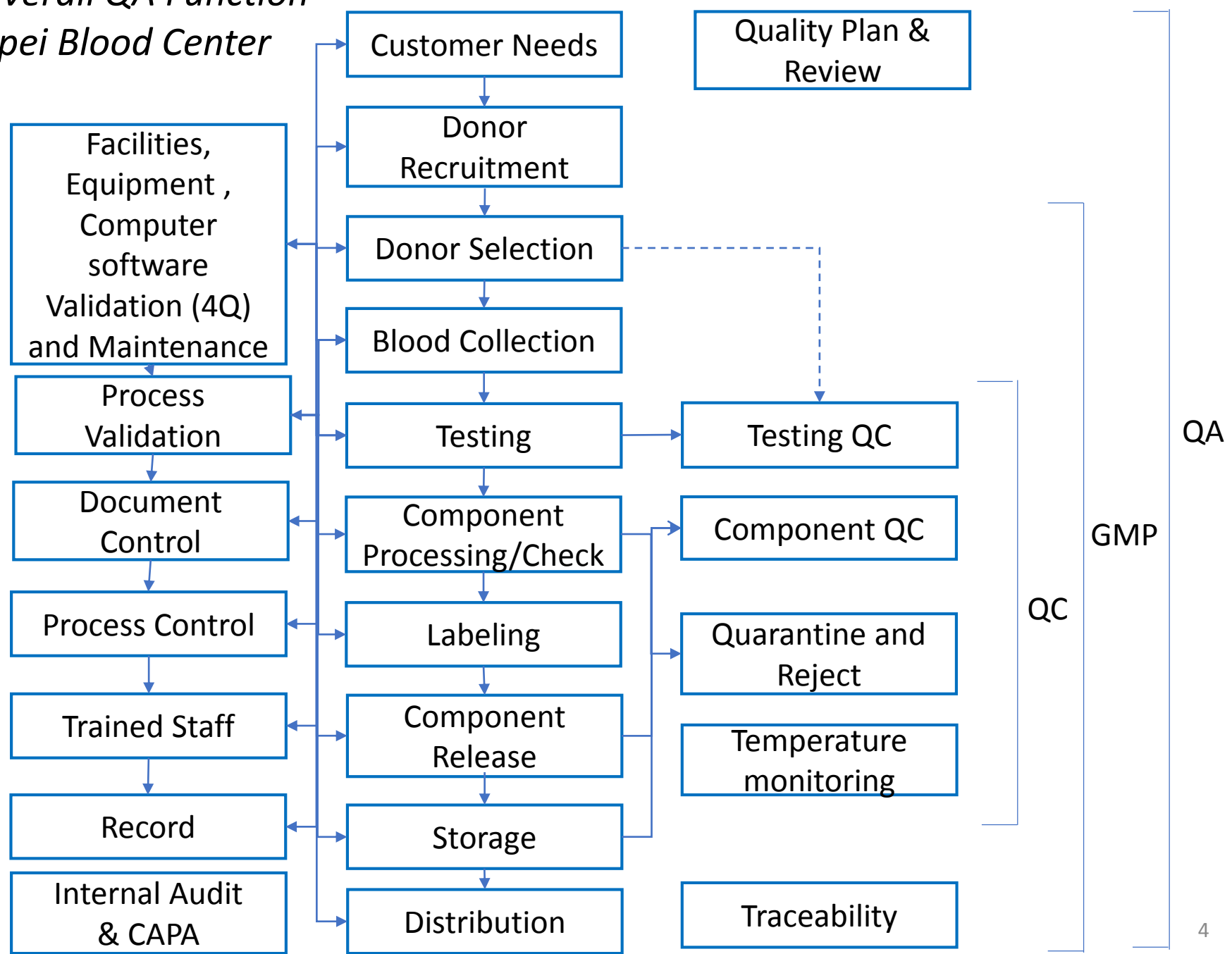


PIC/S GMP Part I, 2015

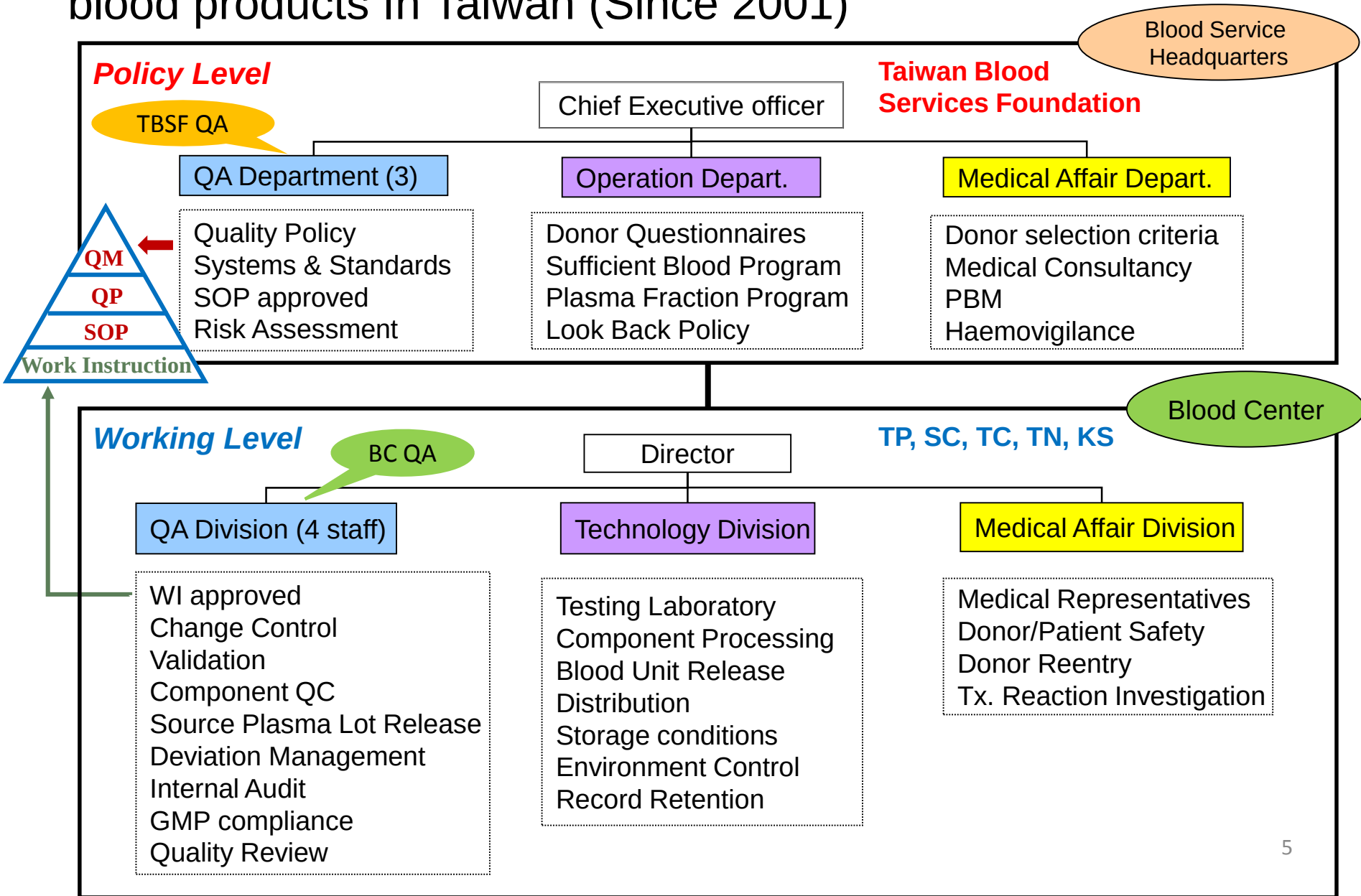
The holder of a manufacturing authorization must ensure the medicinal products

1. Fit for their intended use, comply with the requirements of the [Marketing Authorization](#).
2. Do not place patients at risk due to inadequate safety, quality or efficacy.

*The Overall QA Function
at Taipei Blood Center*



Organizational Framework to Ensure Safety and Quality of blood products In Taiwan (Since 2001)



Outline

- The scope of the QA Job
- The tasks and roles of QA person (Practice examples)
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The tasks of QA person

- Manufacturing and testing processes validated (Ex.1)
- Equipment Validation/Calibration reports approved
- Documents completed and endorsed
- Deviations (CAPA) and changes approved (Ex.2)
- Internal audits carried out
- External Inspection and communicate with external auditors (Ex.3)
- Compliance with GMP and the specifications of source plasma (Ex.4)
- Quality performance (indicators) review
- Staff training for GMP concept



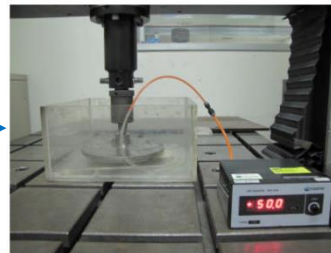
Example 1: Critical material release and supplier audit

Example: Blood Pack

- Check items (document review):
 - Registered medical device and passed ISO 13485 certificated
 - Certification of analysis included: pH (5.0-6.0), Endotoxin (<5.56EU/ml; USP), Sterilization test (No bac growth for 7 d.)
- Random sampling test (Outsource Lab; 3 Lot per year)
 - Pack leakage test



Fill the pack with water



Apply pressure (50 kpa/10 min)

Pass Criteria:
No leakage

- Endotoxin test (Chinese Pharmacopoeia, 6th)
- Sterilization test (no bac growth for 14 d.)

Example 1: Critical material release and supplier audit

Example: Blood Pack

- Audit Date: (New purchasing contract) 16-18 August 2011
- Audit Location: Singapore plant
- Audit Reference/Standard: ISO 13458 、 ISO 3826 and TBSF supplier audit checklist
- Audit Recommendations:

The supplier should provide the transport temperature record of blood bag from plant to customer, to ensure the quality of the products.



Singapore Plant



Batam Plant

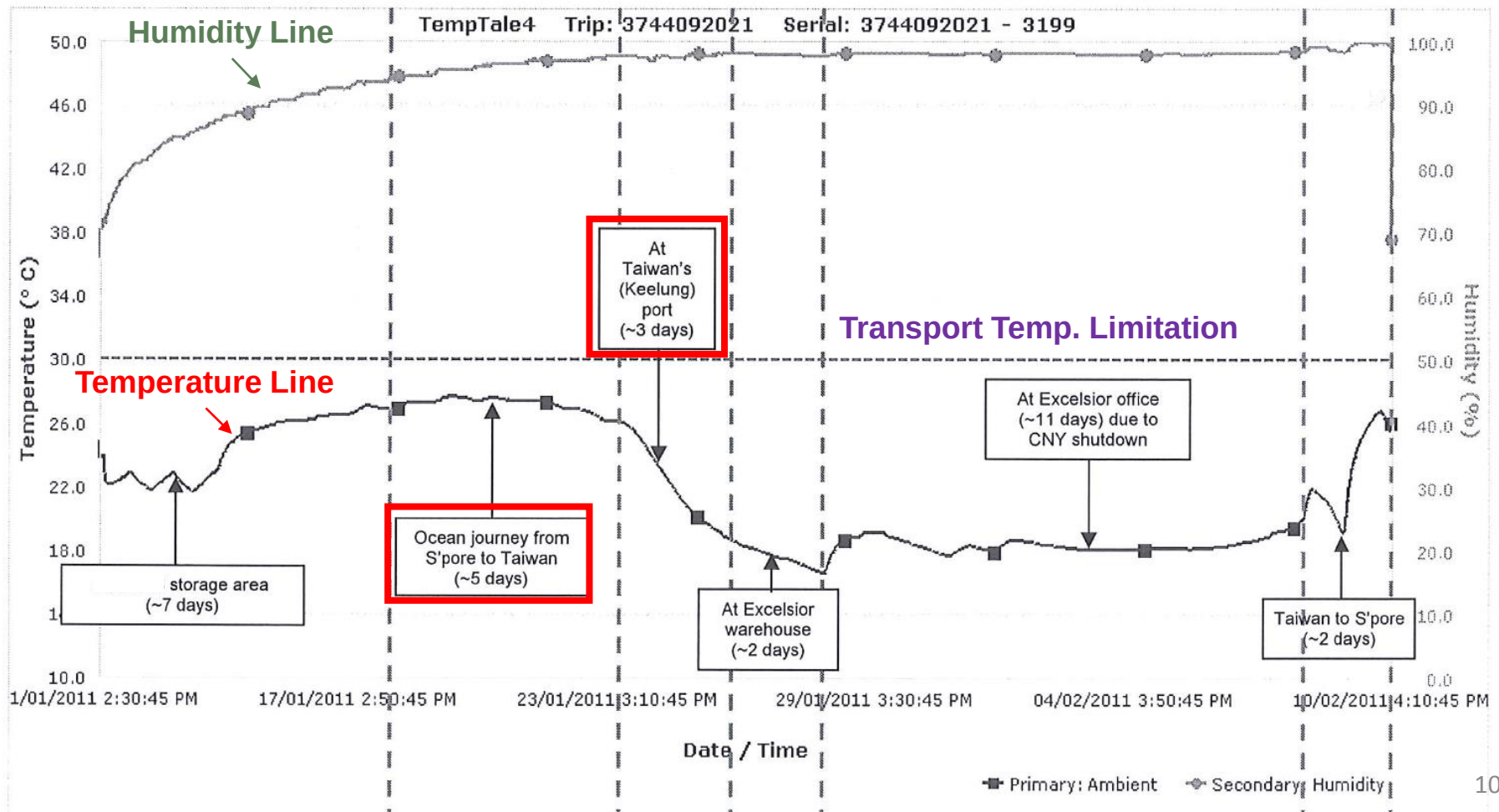


TBSF Audit team and Plant staff

Stability study of blood bag after transportation to Taiwan

The route as below:

Plant -> External warehouse -> Singapore port -> Ocean journey from Singapore to Taiwan -> Taiwan port -> Local warehouse



Example 2: Non-Conformance Reporting System (NCR)

- TFDA inspection related deficiencies in 2011:

In NCR system, there is no record to trace **the disposal of event-related blood components** and the QA unit does not verify the completeness and effectiveness of the corrective or preventive actions for each case.

(Reference: PIC/S GMP Guide 1.4)

- QA action:
 1. Revising NCR SOP to include QA final review and effectiveness check.
 2. Adding blood product disposal records
 3. Setup check points for NCR record review

NCR system Online based

☑ Check the disposal
of blood component

☑ At least use one
investigation tool
Ex. Fish-bone, 5 why,
RCA, Is/Is not table

☑ QA review CAPA
plan /follow-up actions

☑ Effectiveness
check after 2 mon.

發現日期	12/08/2016	16	登錄編號	ER105B0057
發生日期	12/08/2016	16	發生地點	供應課
統計項目				
人為疏失	☒ 是 ☐ 否			
事件類別	☐ 品質異常 ☐ 意外事故 ☐ 客戶訴怨 ☐ 其他 ☐ 設備故障 ☐ 預防措施 ☒ 作業疏忽			
血袋號碼:0525974992/6035005			損卡號碼:TP02898017	
Deviation/Event report			提報單位主管	
12/08/2016 19:00 巡邏人員陳○，接收物流人員陳○，帶回高方醫院退血時，發現少了2uA(-)血袋號碼0525974992/6035005 12/09/2016 01:33:53 PM, 劉俊宏: 1. 12/9已經找到這2u血品，但因為已經不符合血品儲存條件，血品有疑慮 2. 詢問陳員表示當天點收血品時已經發現退血數量不符(退血單6u，實際血品4u)，當下告知職員回運運送箱都找過了沒有這袋血品 3. 供應課聯絡人員與物流人員對交驗退血的流程似乎有檢對改善空間，物流人員與醫驗人員對交血品時的流程也有檢討改善的空間			劉俊宏(12/09/2016 13:34:49)	
Immediate response action			單位主管	
1. 12/9指派鍾正儀督導至運送箱置放區逐箱確認該血品是否遭遺漏於運送箱中，確實於某一運送箱中發現該血品，箱中除了血品外已無其他物品(氣泡布等) 2. 血品隔離並隔離 3. 填具不符合事項追蹤管制紀錄表 4. 請當事人填寫報告			劉俊宏(12/09/2016 14:22:35)	

是否進行分析	調查負責人
☒ 需繼續下列分析 ☐ 不需進行，直接列入異常事件統計	白舜仲(12/23/2016 08:52:53)
相關人員進行原因分析, 措施擬定	
原因分析	
12/15/2016 02:31:25 PM, 白舜仲: 1. 供應課檢人員與物流人員未當面點交退回代發血品，導致其中一袋(2u)紅血球濃厚液隨運送箱及氣泡布放置於B13運送箱置放區。 2. 物流人員對需歸位之運送箱，未落實清空動作，導致血品遺漏於運送箱內。 備註：該血品已依醫師批示銷毀處理 (No.2050001094)。 12/23/2016 08:52:13 AM, 白舜仲: 3. 供應課事件後續調查補充: 當日物流人員到達醫院時未將預先準備的退血運送箱帶至血庫，而是將醫院代發血品及1袋破損血品(已流光)先置入一般運送箱內，回到運送車時才將血品移入專用運送箱，只將其中4u血品放入事先備妥之退血運送箱內，另2u遺漏於一般運送箱內，且當下未發現! 4. 退血流程經確認係由物流點交退血時，皆將整箱退血運送箱，放置於櫃檯交給夜班同仁進行點收，接收人員發現血品短缺時，亦立即向物流人員反應，然而，物流接到供應課接收人員電話告知時，人也未回中心再次清點運送箱，造成血品未即時處理! 5. 相關紀錄如附!	

CAPA	
矯正及預防措施	
白舜仲: 1. 退回代發血品請依「代發血品申請單」之接收單位處理步驟，進行當面點交；若現場作業繁忙時，請物流人員將整個運送箱(不取出血袋)完整交給供應課人員後續處理，包括相關表單。 2. 物流人員教育訓練內容須包含運送箱清空動作詳細步驟。 3. 於工作指導書「TP-B3-032-004物流血品運送點交注意事項」新增退回血品點交注意事項。 12/15/2016 02:52:08 PM, 白舜仲: 4. 供應課退血代發血品之接收人員，請依代發血品申請單中血品接收查核項目，執行必要的教育訓練 附加檔案:	
預定完成日期	
品保主管意見	品保主管
醫師意見	醫師
主任意見	主任
改善成效判定	
QA Review	
Effectiveness Check	

Example 3: External inspection in Blood Establishments



- Be routinely inspected every 3 years (since 2005)
- Inspection team
 - 3-4 GMP inspectors of Taiwan FDA and 4 External experts (Medical Doctors & Technologist in the hospital blood bank)
- Pre-inspection
 - A master file of BE and related documents are submitted
- Conduct inspection
 - Takes an average of 3-4 days
- Post-inspection
 - GMP inspection report
 - BEs need to submit CAPAs and Inspection team assess the CAPAs
 - Re-inspection may be performed, if necessary
- Close the inspection/ Extend the manufacturing license

Example 3: External inspection in Blood Establishments

- Inspections always provide a great opportunity to interact with inspectors to achieve better GMP-compliance
- BE QA cherish this opportunity to communicate and reach a optimize standard that will meet the GMP criteria as well as the needs of the Blood Establishment



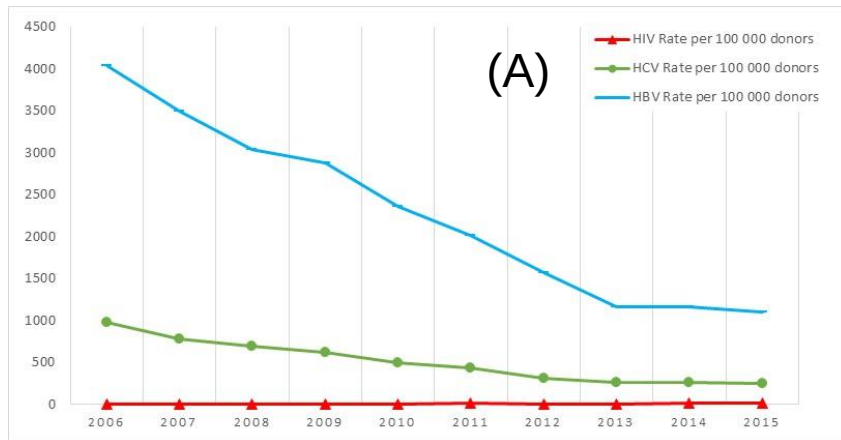
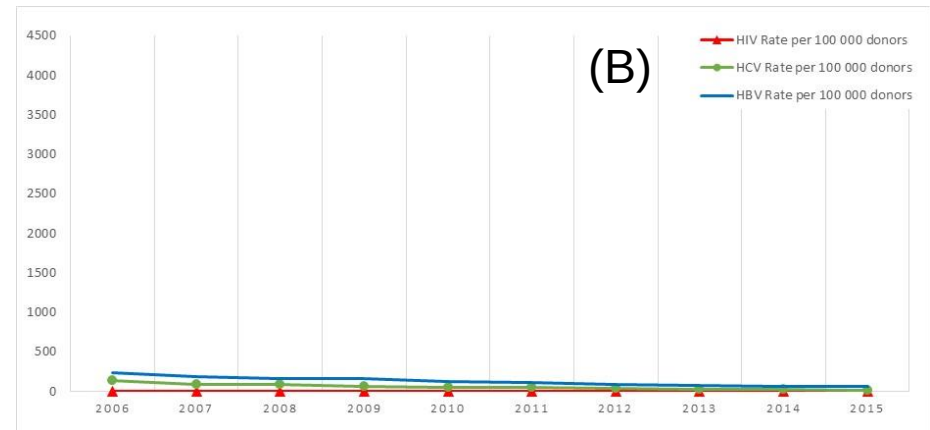
2013 PIC/S Expert Circle Workshops in Taipei

Example 4: Compliance with the specifications of source plasma

In our contract fraction program, there is a risk mitigations suggested by the TGA to improve the safety of the plasma for fractionation.

TBSF only provide source plasma from 500cc. blood donation and Repeat Donor

Problem: There is no guidance in the donor questionnaire to ensure that first time donors do not donate 500cc.



A trend analysis of the epidemiology data (A)First time donors (B) Repeat donors

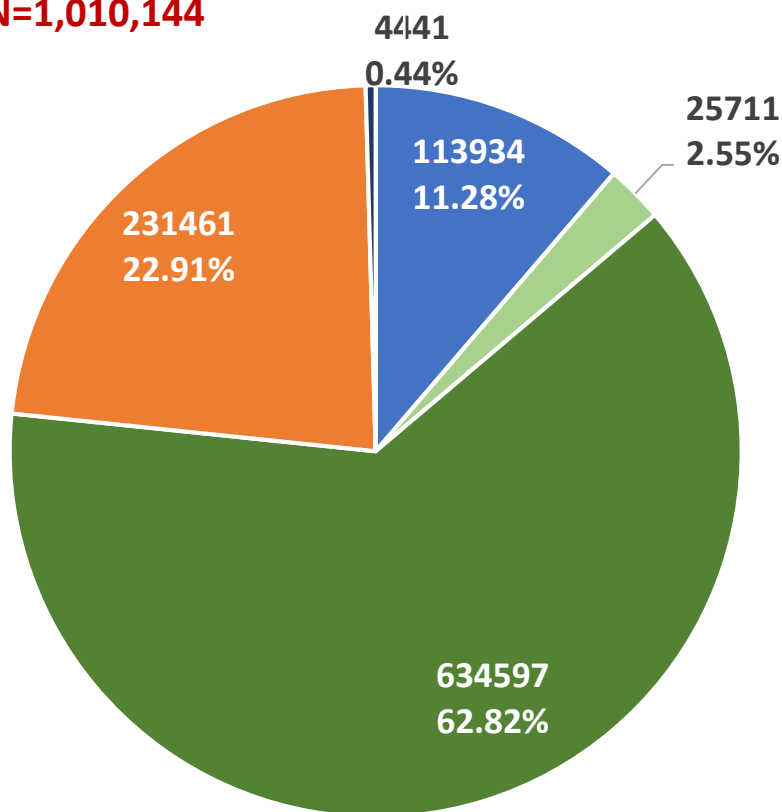
After QA evaluation: We added the criteria for manufacturing source plasma in our Blood Management System (BMS) : only repeat donor can be selected as 500cc. blood donation for source plasma.

Blood donors and their contribution in 2016

Repeat Donors: Lower risk for TTI

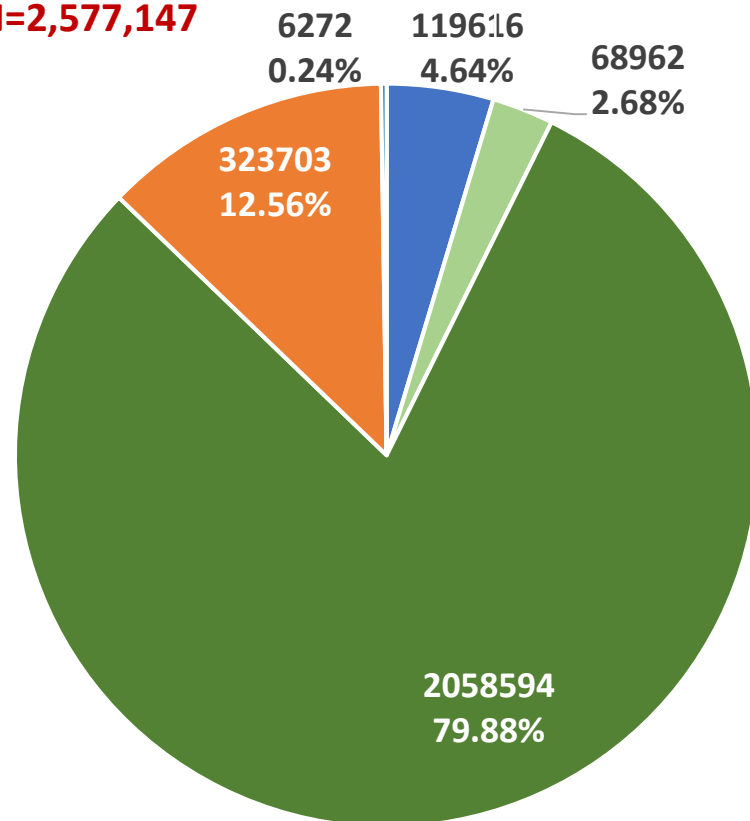
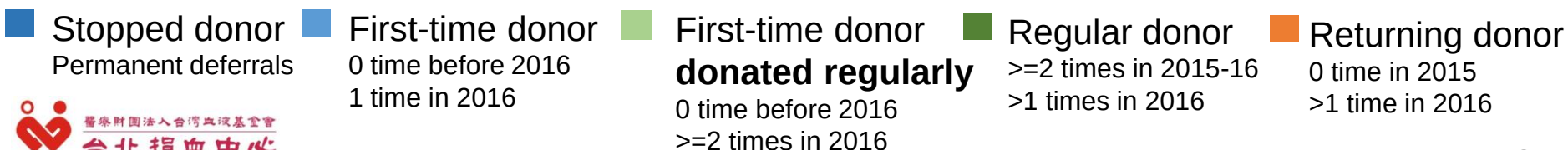
No. of donors

N=1,010,144



No. of donation units

N=2,577,147



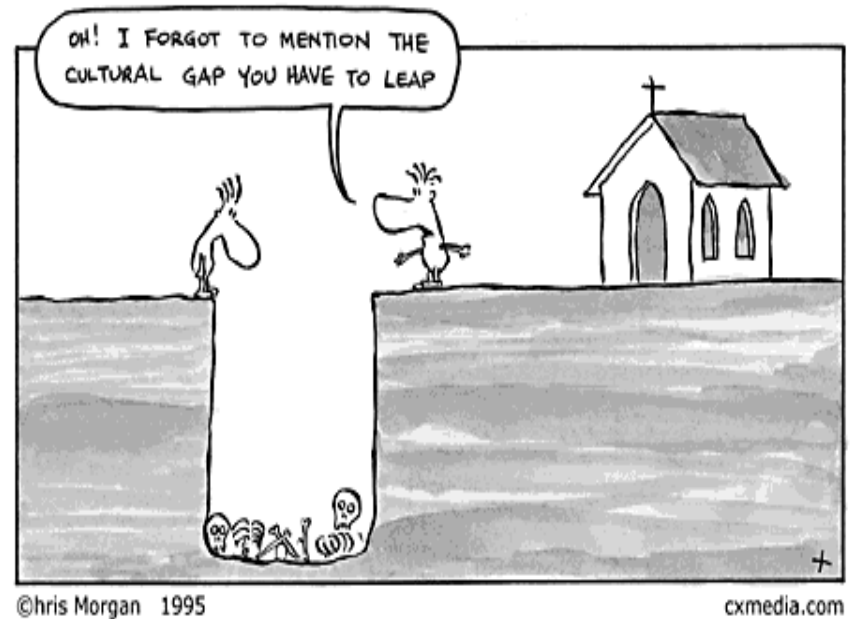
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QA person's challenge (I): The Cultural Divide

- “Quality” is widely viewed as a department more than a company-wide responsibility
- “Quality is everyone’s responsibility”



- To pervade all aspects of corporate activity
- To look at change in management programs that help integrate quality performance

QA person's challenge (II):

Multiple Standards are on the increase

- Multiple Standards
 - Standards for Blood Banks and Transfusion Services, 30th , AABB
 - Guide to the Preparation, Use and Quality Assurance of Blood Components, 18th , Council of Europe
 - WHO guidelines on GMP in blood establishments
 - PIC/S GMP guide
 - Australia or Japan GMP guide (Contract fractionation agreement)
 - ISO 9001, 14000, 15189.....
- Staying up-to-date with changing standards / Training requirements

Harmonized GMP requirements (ex. PIC/S Expert Circle, APEC Blood Supply Chain Policy Forum)

Benefits of working in a QA Role

- Gain an in-depth understanding of how complex organizations work.
- Variety of role through involvement in many different projects, processes and blood establishments
- Travel able to see and experience many different cultures
- Chance to make a difference/influence process through auditing, training and consultancy
- Lots of freedom to set your own a schedule

BENEFITS



Conclusion

For the quality system to be effective, QA persons need to

- Monitor the system performance through real time data analysis and scheduled audits
- Ensure the validation of procedures and supplies before they are placed into use
- Insist on realistic timescales for effective CAPA, in particular, defining and addressing the root cause of human errors
- Act as the bridge between the organization and external auditors. It is also a good way to benchmark your performance against other organizations

*The protection of public health and
of the patient is our common goal*



Thanks for the attention

Chiang Kai-shek Memorial Hall



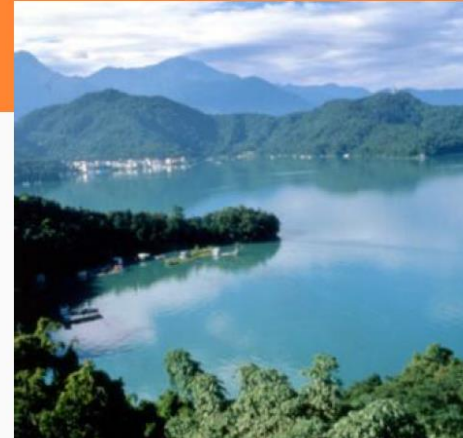
Taipei 101



Yehliu Geopark



Sun Moon Lake



North-East coast
of Taiwan



Pingxi Flying Lanterns



Pengu



Night Markets



Temples