ESR Program

Instrument grouping and performance

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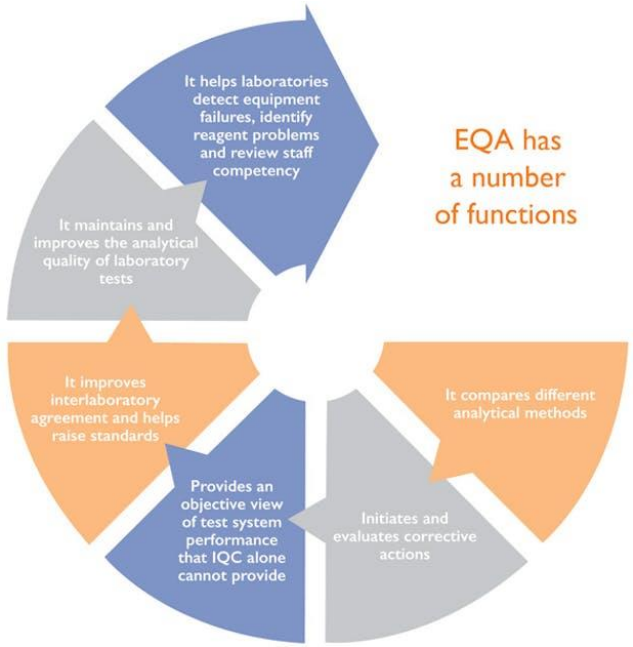
This presentation will cover:

- ❑ The purpose of EQA
- ❑ The importance of Instrument Groups
- ❑ What we consider regarding Instrument Grouping at UK NEQAS

THE PURPOSE OF EQA



- ❑ Quality Assurance
- ❑ Benchmarking
- ❑ Regulatory Compliance
- ❑ Training and Development
- ❑ Detection of Systematic Errors
- ❑ Continuous Improvement
- ❑ Building Trust

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External Quality Assessment

Effective Quality Assurance (QA) requires:

- ✓ **Internal Quality Control (IQC)** - the everyday analytical process of detecting analytical errors within the **lab** to ensure both the reliability and accuracy of test results

- ✓ Participation in **External Quality Assessment (EQA)** programmes - where overall accuracy and comparability of results between labs/ centres may be determined

- ✓ Interlaboratory comparison or EQA / proficiency testing (PT)

THE IMPORTANCE OF INSTRUMENT GROUPS!

How do you keep the groups from turning into a symphony of chaos?

THE IMPORTANCE OF INSTRUMENT GROUPS!

- The material may not be commutable for all parameters
- UK NEQAS works with manufacturers and advisors to monitor instrument grouping
- Ideally, a minimum of twenty instruments is required to form a peer group

THE IMPORTANCE OF INSTRUMENT GROUPS!

- Standardisation: Instrument groups ensure that testing procedures are standardised
  - Quality Assurance: laboratories can assess the accuracy and precision of their instruments, helping to maintain high-quality testing standards
    - Performance Monitoring: provides a means for laboratories to monitor the performance of their instruments
      - Confidence Building: instils confidence in the reliability and accuracy of the instruments' testing capabilities

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- In 2023 the need to re-assess the ESR instrument groups was raised

- [x] BD Seditainer
- [x] Miscellaneous
- [x] Sarstedt Sedivette
- [x] Starrsed
- [x] VES-MATIC
- [x] VES-MATIC CUBE
- [x] Westergren

S-Monovette tube placed in a rack

VS

Manual tube

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2 options were proposed

Option 1:

- Westergren (automated reader)
- Westergren (manual) – should the different anticoagulants be separated?
- what to do with the 1 Wintrobe tube registered?

Option 2:

- The Westergren method
- Modified Westergren methods
- Alternate ESR Methods

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- In 2024 the proposal was reviewed by a Scheme Advisor

- It was agreed that option 2 was the suitable option in line with the ISLH classification

Option 2:

  - The Westergren method
  - Modified Westergren methods
  - Alternate ESR Methods

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Option 2:

- The Westergren method
- Modified Westergren methods
- Alternate ESR Methods

- Oct 2024: the proposed groups were evaluated at 2303ES, 2304ES, 2401E, 2402ES and 2403ES

2303ES:	**3 out of 429 received a PS >100**	**2 had the same PS pre and post re-grouping**
	24 out of 429 had a difference in PS ranging from 14 to 20	
2304ES:	3 out of 450 received a PS >100	2 had the same PS pre and post re- grouping
	59 out of 450 had a difference in PS ranging from 14 to 31	
2401ES:	5 out of 455 received a PS >100 (3 where previously the score was <100)	2 had a PS >100 pre and post re- grouping where 1 PS had decreased
	50 out of 455 had a difference in PS ranging from 13 to 46	
2402ES:	4 out of 463 received a PS >100	
	52 out of 463 had a difference in PS ranging from 14 to 58	
2403ES:	7 out of 463 received a PS >100	1 had a PS >100 pre and post re- grouping where the PS had decreased
	50 out of 463 had a difference in PS ranging from 14 to 62	

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Option 2:

- The Westergren method
- Modified Westergren methods
- Alternate ESR Methods

❑Nov 2024: the VES-MATIC CUBE series instruments were further re-grouped

Group name			Instrument
Current	**Initial Proposal**	**Secondary Proposal**	
VES-MATIC CUBE series	Modified Westergren method	Modified Westergren method CUBE LINE sub-group1	VES-Matic Cube 30
			VES-Matic Mini Cube
		Modified Westergren method CUBE LINE sub-group2	Cube 30 Touch
			VES-Matic Cube 80
			VES-Matic Cube 200
			VES MATIC 5
			Cube 30 Touch

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	Westergren	Modified Westergren	Ves CL (subgroup 1 and 2)
2401ES	I out of 105 received a PS >100 (the PS decreased to <100 post re-grouping)	0 out of 286 received a PS >100	0 out of 61 received a PS >100
	3 out of 105 had a difference in PS ranging from 14 to 20	32 out of 286 had a difference in PS ranging from 14 to 58	1 out of 61 had a difference in PS of 15
2402ES	0 out of 108 received a PS >100	1 out of 289 received a PS >100 (the PS was the same pre re-grouping)	0 out of 61 received a PS >100
	11 out of 108 had a difference in PS ranging from 15 to 20	36 out of 289 had a difference in PS ranging from 14 to 58	5 out of 61 had a difference in PS ranging from 14 to 17
2403ES	0 out of 109 received a PS >100	4 out of 293 received a PS >100 (3 had a PS <100 pre-regrouping)	0 out of 60 received a PS >100
	11 out of 109 had a difference in PS ranging from 15 to 26	38 out of 293 had a difference in PS ranging from 14 to 58	0 out of 60 had a difference in PS of >14

Summary

Option 2:

- The Westergren method
- Modified Westergren methods
- Alternate ESR Methods

It was noted that:

re-grouping the instruments into 3 groups; Westergren, Modified Westergren and Alternate ESR Methods resulted in

- ❑ 0 performance score (PS) decreased
- ❑ 15 PS increased
- ❑ 4 PS remained the same

Summary

Option 2:

- The Westergren method
- Modified Westergren methods
- Modified Westergren methods – Cube Line 1
- Modified Westergren methods – Cube Line 2
- Alternate ESR Methods

Further re-grouping into 5 groups resulted in

- ❑ 2 PS decreased
- ❑ 3 PS increased
- ❑ 1 PS remained the same

BENEFITS OF THE CHANGE

Fairer participant comparisons

Consistency across instruments

Increased confidence in scheme data

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