



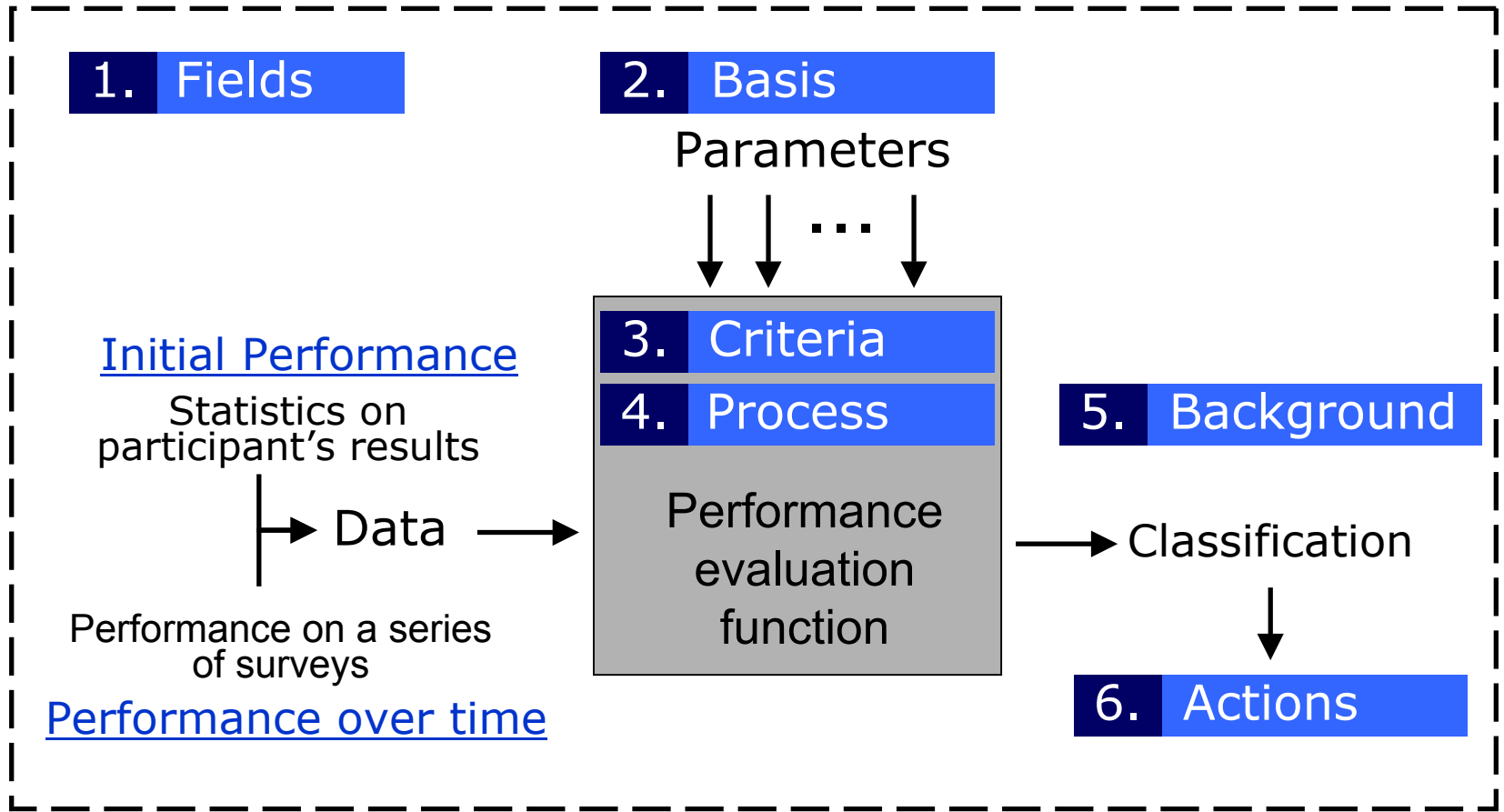
How is poor performance defined among EQA organisations?

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Quality Control Centre Switzerland



Details on the Poor Performance survey





Participants to the survey

ÖQUASTA, Austria

Institute of Public Health, Belgium

SEKK, Czech Republic

DEKS, Denmark

Labquality, Finland

Reference Institute for Bioanalytics, Germany

Instande e.V., Germany

CMCEQAS, India

IEQAS, Ireland

Programma Regionale Per La Ricerca
Biomedica, Italy

Noklus, Norway

Instituto Nacional de Saude, Dr Ricardo Jorge,
Portugal

RoEQALM, ROMANIA

National Centre for External Quality Assessment
in Laboratory Medicine, Russia

University Medical Centre Ljubljana, Slovenia

Hospital Clinic . University of Barcelona, Spain

SEQC, Spain

Sociedad Española de Hematología y Hemoterapia, Spain

CSCQ, Switzerland

Academic Medical Center, The Netherlands

ECAT Foundation, The Netherlands

Erasmus Univ. Medical Center, The Netherlands

Maastricht Universitu Medical Center, The Netherlands

Radboud University Hospital Nijmegen, The Netherlands

SKML, The Netherlands

Randox, UK

UK NEQAS General Haematology, UK

UK NEQAS for Immunology, Immunochemistry & Allergy,
UK

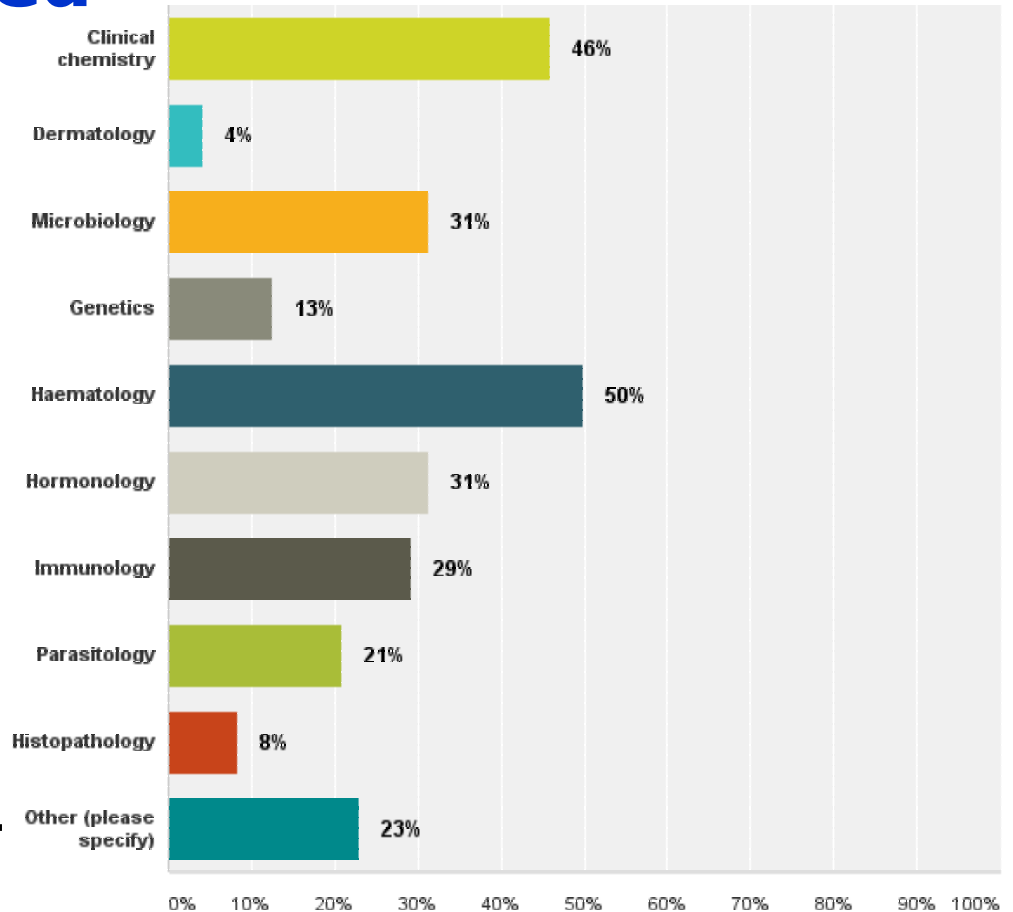
UK NEQAS for Microbiology, UK

sorted by country



1. Fields concerned

Answered: 48 Skipped: 4



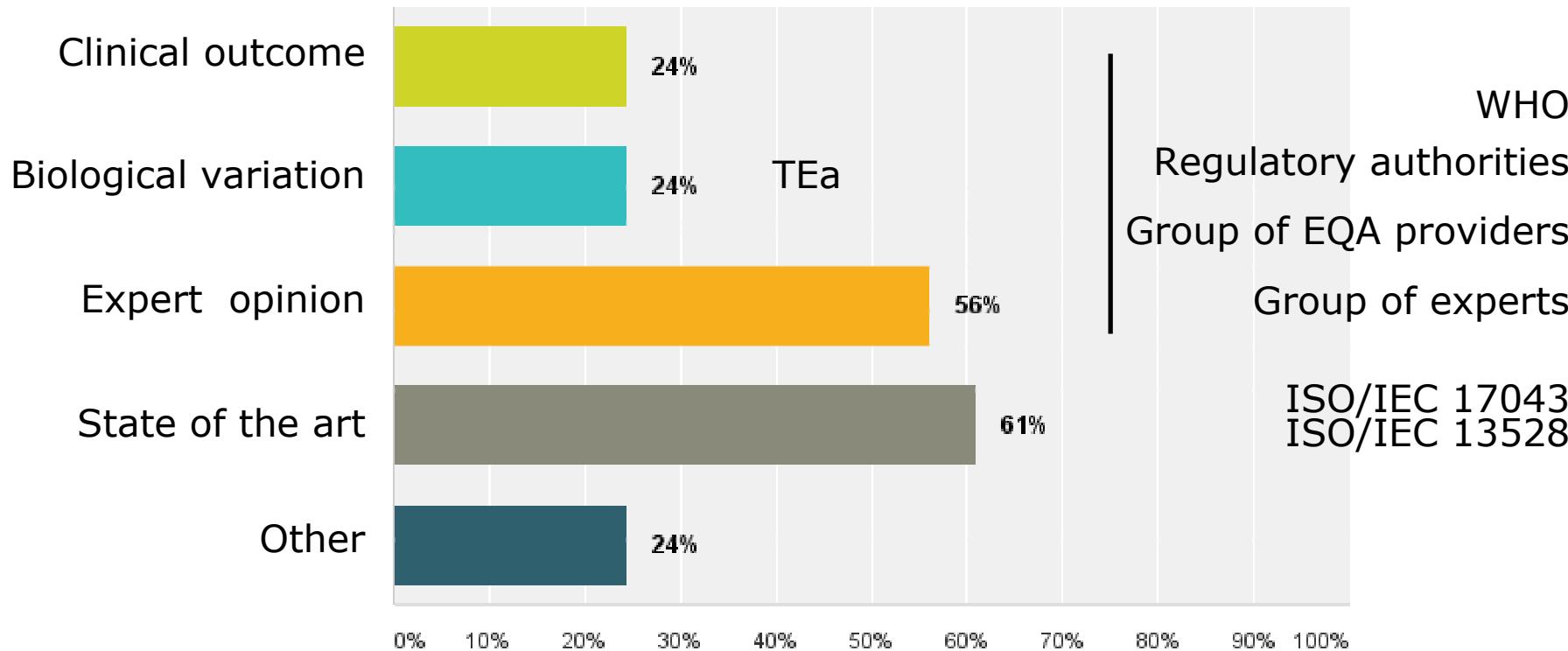
Urinalysis, 1
Andrology, 2
Blood smear, 1
Haemostasis, 3
Therapeutic drug monitoring, 2
Tumor markers, 2





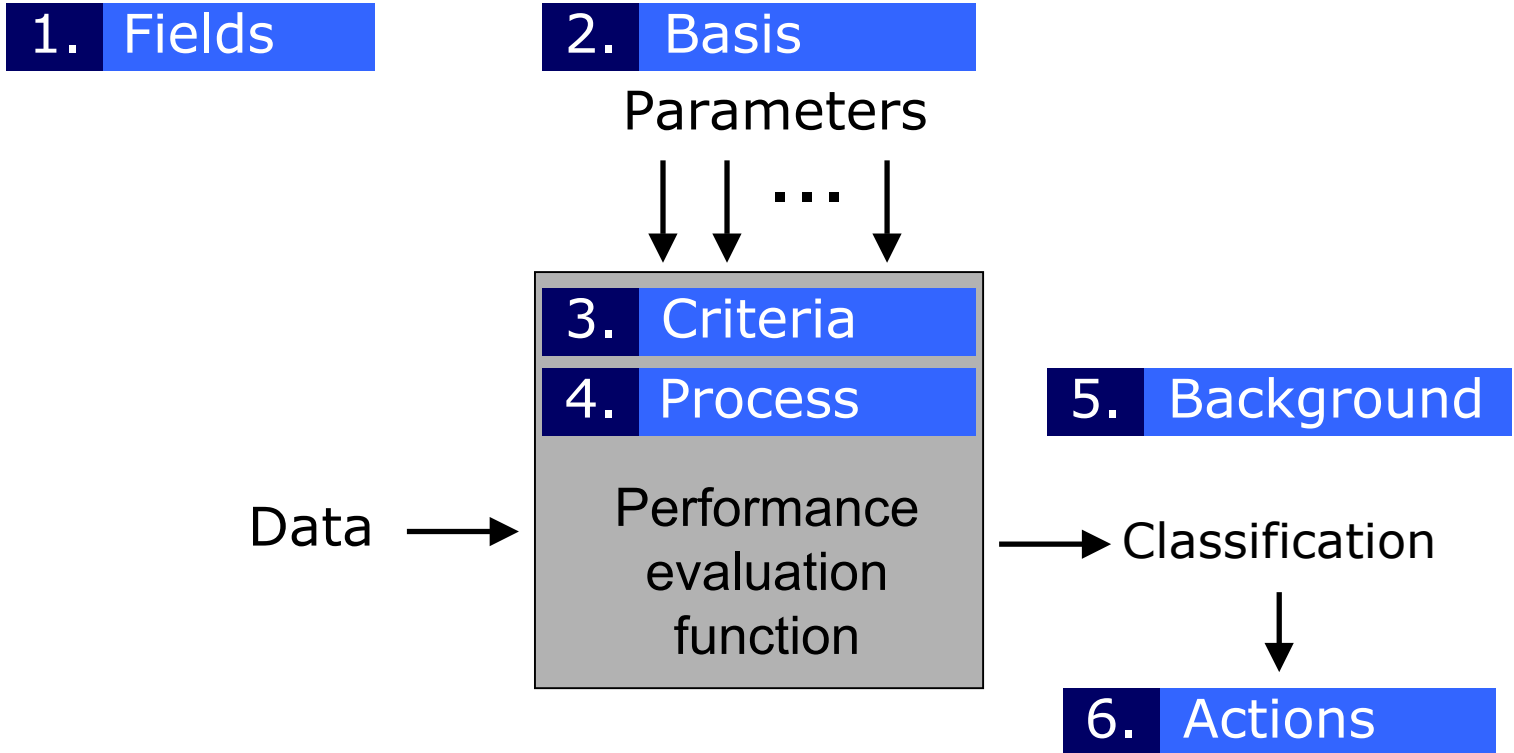
2. On what basis is poor performance evaluated?

Answered: 41 Skipped: 11





Details on the Poor Performance survey





3. What are the poor performance evaluation criteria?

3.1 Initial Performance: quantitative parameters

Parameter	Criteria (unsatisfactory)
x	Outlier
z-score	$ z \geq 3$
Acceptable limits (AL)	$x \notin [\text{lower AL}, \text{upper AL}]$
1. Statistics from a peer group (SD, ...)	$x \notin [X - n \cdot \text{SD}, X + n \cdot \text{SD}], n=2 \text{ or } 3$
2. t = tolerance issued from expert, guidelines, ...	$x \notin [X \cdot (1-t), X(1+t)]$
« Home made » score	Score → unacceptable
Clinical interpretation/treatment	Inadequate

x : participant result, X : assigned value (reference/consensus value)



3. What are the poor performance evaluation criteria?

3.2 Initial Performance: qualitative parameters

Parameter	Criteria (unsatisfactory)
Identification of an item	Not identified
	Partially identified
Identification of a set of items (expert group)	None identified



3. What are the poor performance evaluation criteria?

3.3 Performance over time

Parameter	Criteria	Period
x and SD	$x \notin [X-1.96*SD, X+1.96*SD]$ over 6 months	> 6 m or 1y
Survey performance	Unsatisfactory > 25% of the surveys	1y
Survey performance	Unsatisfactory on 1/3, 2/3 or 3/3 consecutive surveys	Consecutive surveys
Overall Misclassification Index Score (OMIS)	OMIS > 3	Defined period
Mean Running Variation Index Score (MRVIS)	MRVIS > 3	Defined period



4. What is the procedure?

Calculation of statistics

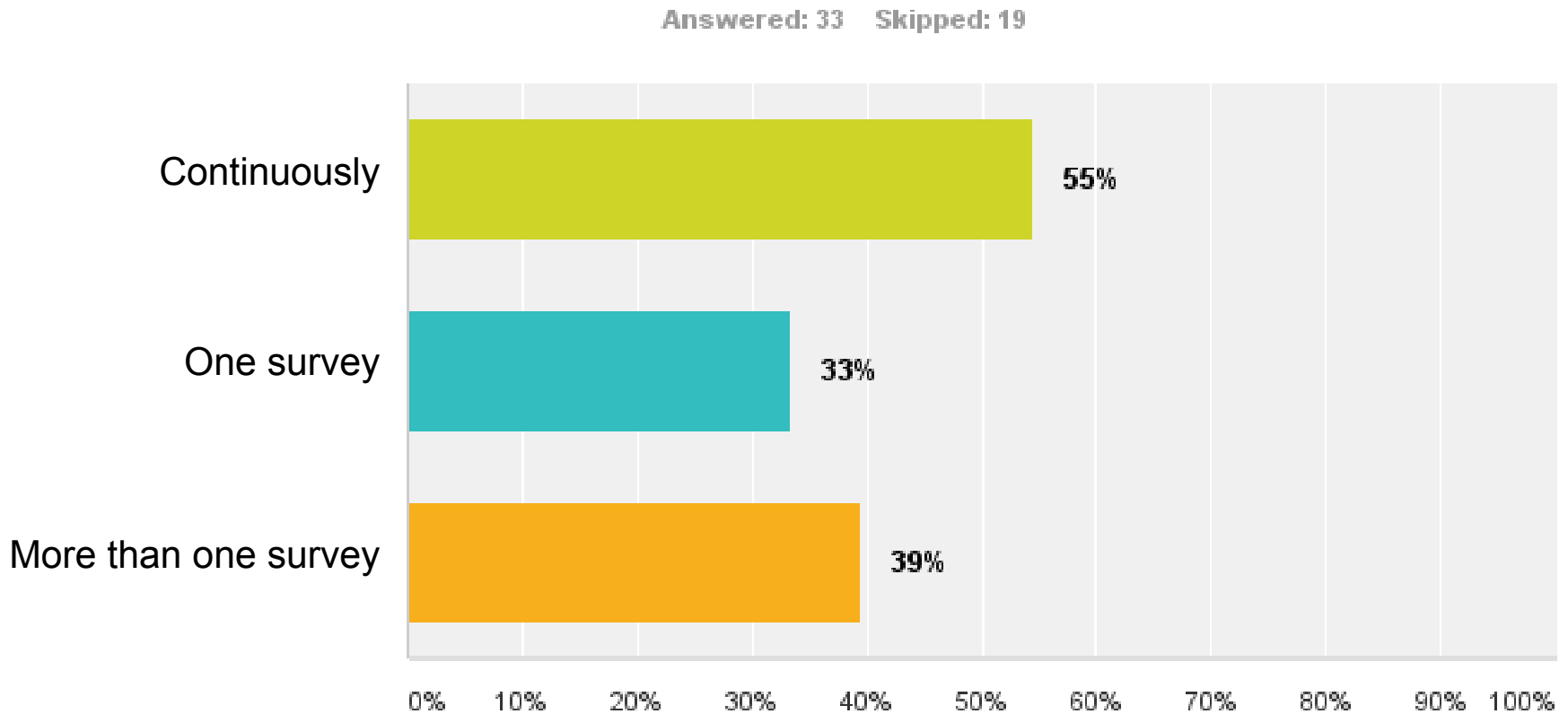
- Mean with elimination of the outliers
- Robust mean and SD (algorithm A), min 10 participants
- « Home made » parameters (VI, MIS, P-score, ...)
- Identification of a set of valuable items by the expert group

Report

- Histograms with limits of the « Acceptable » zone
- Youden plot for the survey
- Levey-Jennings charts for the last 12 surveys



4.1 On how many surveys is the poor performance evaluated?





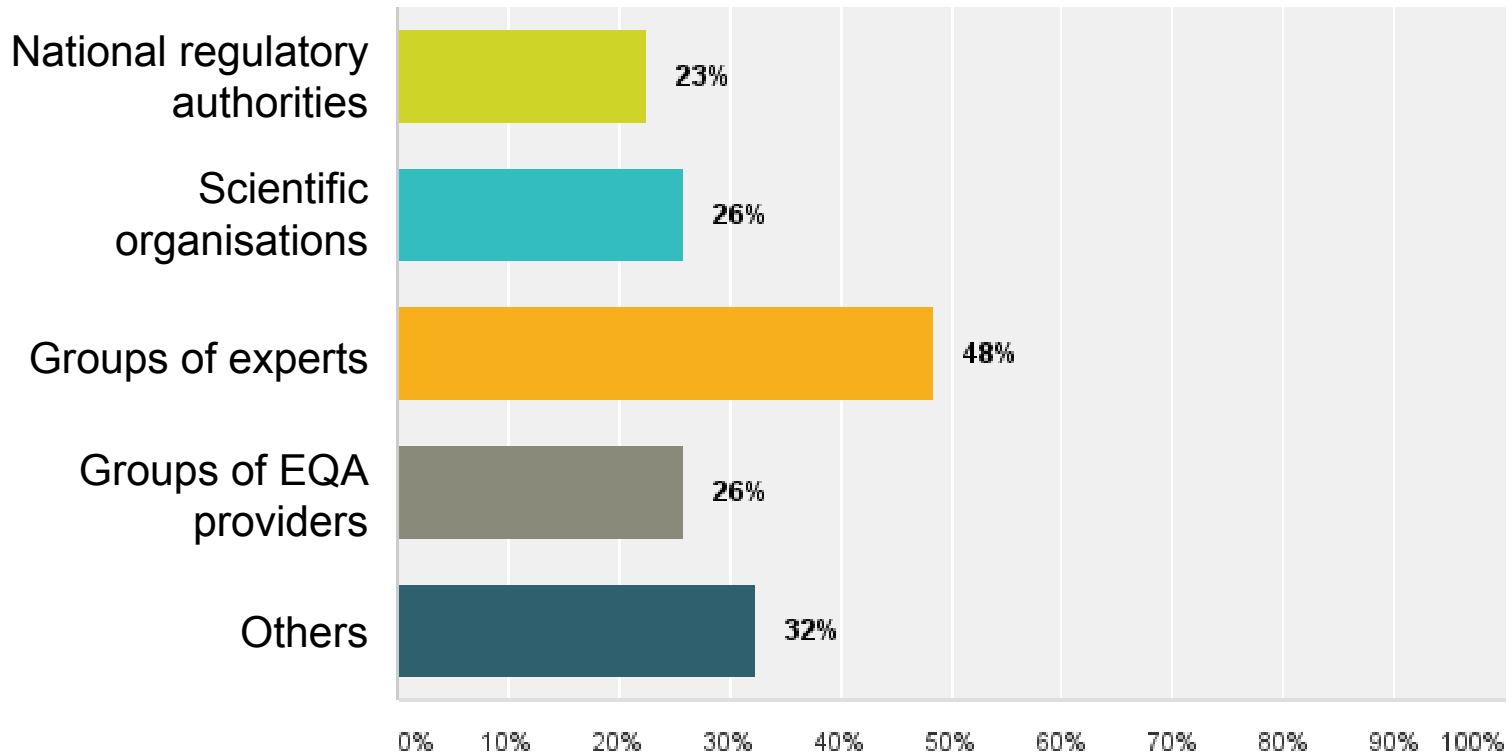
4.2 Number of surveys and period

	Number of surveys	Number of responses
Unspecified period	2 to 6	1
	more than 2	1
	more than 3	1
1 year cycle	4	5
	12	1
3 year cycle	12	1
	?	1



5. Are poor performance criteria validated/enforced by?

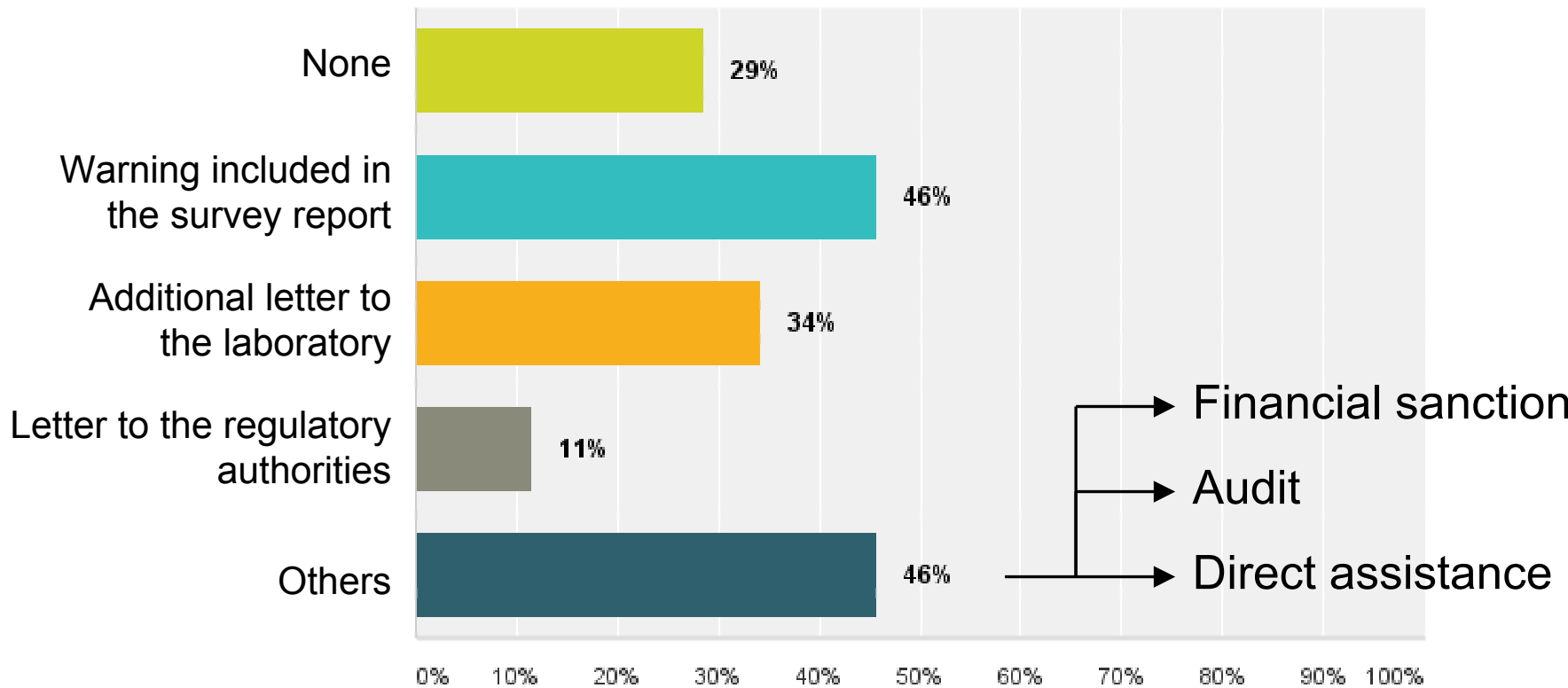
Answered: 31 Skipped: 21





6. What actions are undertaken for poorly performers?

Answered: 35 Skipped: 17





Conclusions

1. Distinction between Initial Performance and Performance over time
2. Multiplicity of the approaches used by the EQA providers
3. Effort of standardisation in
 - the terminology and associated definitions (poor performance,)
 - the evaluation criteria segmented by fields (clinical chemistry, ...).
 - the definition of poor performance in terms of evaluation function, number of surveys, period of time, ...
 - the actions undertaken in case of poor performance