

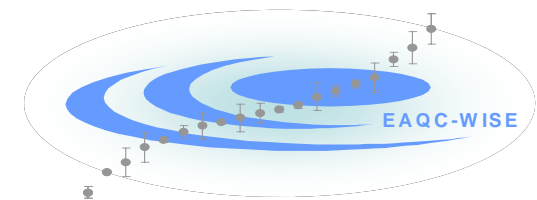
# 1st workshop of the EU project EAQC-WISE

## The QA/QC communication chain

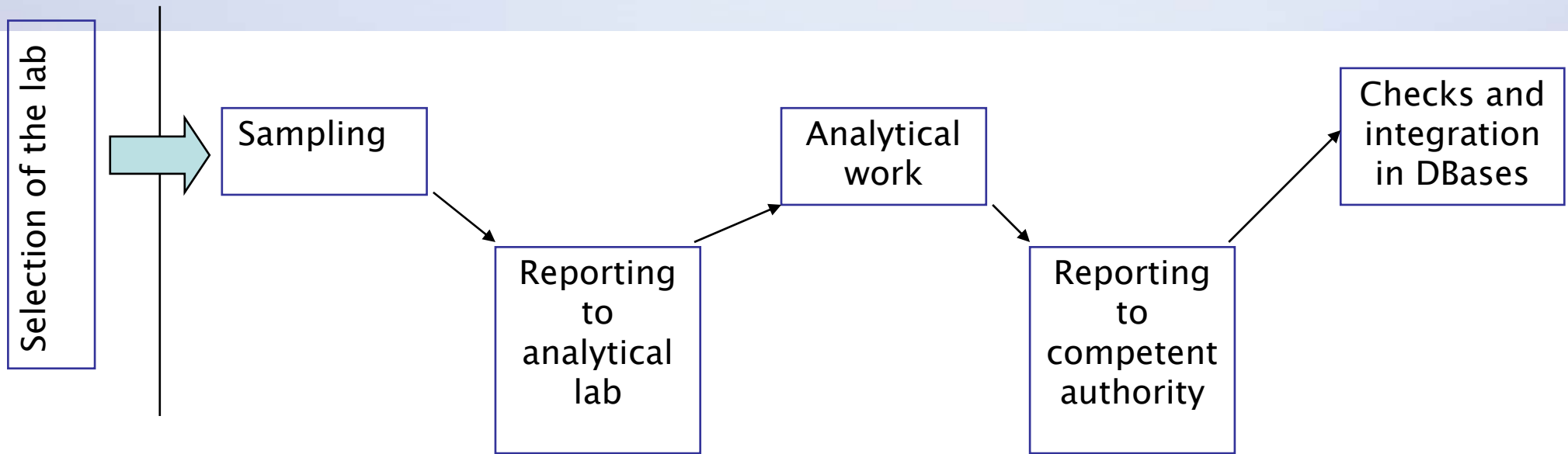
Valeria DULIO

Towards  
an improvement  
of QA/QC in  
water monitoring  
within  
the Water  
Framework Directive

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# Communication of QA/QC info along the reporting chain



# Requirements for contracting out to external laboratories

## Accreditation :

- it is part of conditions for authorisation
- it is requested for analysis only (not for sampling)
- it is not requested for all determinands

## PT :

- Participation in PTs : for analysis only (not for sampling)
- Success rate in PTs (generally NOT asked)

## Achievement of analytical performance targets :

- LOD / LOQ (most commonly)
- sometimes, uncertainty, recovery rate, etc..

# Accreditation

## Monitoring labs are not accredited for all determinands

- The percentage of determinands for which the lab is accredited is a criterion for lab selection
- The competent authority asks the lab at least to work according to the principles of ISO 17025
- Research laboratories (not accredited), but very high quality work (they often perform analysis that are not offered by accredited routine labs)



- Are the terms for accreditation the same in the different countries?
- Is there really a need for accreditation?

# List of specifications & analytical performance targets

## Parameters for which performance targets are specified

- most commonly : LOD and / or LOQ
- sometimes : uncertainty, recovery rate, etc.

## Definition of target values

- targets are specified in the contract based on fitness for purpose, i.e. objectives of the programme:
  - compliance checking, evaluation of temporal trends, evaluation of concentration levels
- targets are specified as minimum performance criteria, not specifically based on the objectives of the monitoring programme
- target values are not specified: the lab is asked to specify its performance targets and this info is part of the selection criteria

## Demonstration of achievement of performance targets

- only in a few countries evidence is asked (by bringing elements of QC activity)
- most commonly good data quality is assumed to be covered by accreditation

## Lack of harmonisation in the definition of recovery rate, LOQ and uncertainty

# Reporting to authorities - Measurement Uncertainty

Reporting of uncertainty associated with the results: only if requested

- in general, competent authorities do not ask for it

When is uncertainty requested?

- when specified in the reporting format (e.g. OSPAR data reporting)
- when data are related to permit requirements (legal issues)
- *In case of legislative environment : **general preference not to receive indication of uncertainty** in order to avoid interpretation problems!  
(comment by a monitoring lab)*

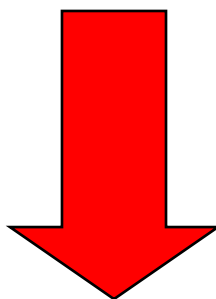
Uncertainty associated to sampling

- never estimated: labs do not know how to do it (procedure, site, sampler)
- competent authorities are aware of the importance but never require it
- it is partly taken into account in the monitoring strategy

# Storage of data: what happens to QA/QC info?

Are data stored in a way that makes it possible to review their associated QA/QC info, when data might be used for other purposes?

- In general QA/QC info is not integrated in the databases, but available via back reference to analysis laboratory
- Only a few examples where competent authorities stated that data are supported by a comprehensive set of metadata (including QA/QC info)



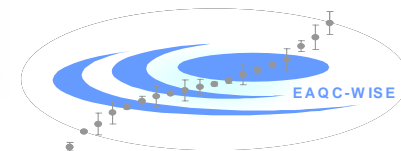
The major difficulty today: knowing which is the really essential info and how to use it in exploiting the results (comment by a competent authority)

# Account of QA/QC info in data treatment

Do you have a procedure to identify blocks of data not adequately supported by QC?

- only a few programmes make explicit associations between the data and the corresponding QC info, e.g. marine sector - ICES /OSPAR data filter
- regular liaison meetings between regional representatives, sampling staff and laboratories: where QC failures occur results are nulled and repeated
- no retrospective checking : accreditation / authorisation of the lab is accounted as sufficient evidence

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# Technical competence / interfaces - where along the chain?

## Competence of staff in QA/QC matters

- 1 or 2 to up to 10 persons dealing QA/QC matters (including participation in TCs)
- no staff of the competent authority: missions are conferred to public institutes appointed by the Ministry of Environment (QA/QC competencies are there)

## Interfaces laboratory - competent authority (national, local)

- The day-to-day conduct of monitoring is monitored by a series of scheduled meetings between the client and the laboratory - there is staff devoted to :
  - cooperation with contracted labs on QA/QC matters, performance of internal quality audits, advise to local competent authorities, etc.
- The competent authority defines autorisation conditions + list of specifications: all QA/QC aspects are assumed to be covered by accreditation / authorisation at the moment of the selection of the laboratory
- A reference laboratory (external to the competent authority) for supporting the the competent authority with the drafting of the list of specifications, advising the competent authority on QA/QC matters, etc.

## Discussion issues for WG 2

- What information (including QA/QC) should be asked and follow the data along the measurement chain ?
- What technical competencies are needed and where along the measurement chain ?

# Questions

- QA/QC and data reporting:
  - Should there be any QA/QC information reported with the data? And why?
  - If yes, what QA/QC info should be asked and reported and why?
  - Is this linked to a common reporting format? European template?
- An 'interface' institute / person who has both an overview and understanding of critical technical and quality issues:
  - Should this institute / 'person' exist for every country?
  - Where should this institute / 'person' be placed along the measurement chain?
  - What technical competencies and what the tasks?
- What is the interaction between the regulator / purchaser and the accreditation system?
  - Is it clear for you who is in your country responsible for providing QA/QC tools?