PNAEQ - 13 YEARS OF POST-ANALYTICAL EQAS IN PORTUGAL

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Introduction and Aim

In the last 13 years, PNAEQ provided a specific program on post-analytical phase. In order to raise the offer of schemes in areas like Thrombosis/ Haemostasis, PNAEQ has established a consortium with ECAT Foundation distributing two more schemes: Post-Analytical Platelet Function and Pre- and Post-Analytical in Haemostasis.
Furthermore, five of the analytical schemes organized by PNAEQ include a post-analytical interpretation, such as Blood Morphology, Hemoglobinopathies, Hydatidose, Rubella and Toxoplasmosis.
The main objective of implementing specific and integrated programs on post-analytical phase is to evaluate the performance of laboratories on these matters in order to improve their quality service.

Methodology

The specific program on post-analytical phase provided by PNAEQ comprises 6 types of surveys: audits (vertical and presential), case simulation, case-study, document evaluation, quality indicators and questionnaires. Each survey represents a different tool to evaluate several items of the post-analytical process (Table 1), as well as the laboratory collaborators involved in each task (Figure 1). The items in evaluation are annually selected in the PNAEQ Working Group on Pre- and Post-Analytical Phase (created in 2015) and in compliance with the Portuguese Legislation and the ISO 15189:2012(E).

Item evaluated / Tool used	Audit	Case Simulation	Case-Study	Document Evaluation	Quality Indicators	Questionnaire
Biological samples - retention time	✓					
Critical values - notification to clinician					✓	
EQA - evaluation of performance		✓		✓		
Laboratory - time schedule		✓				
Reference values - criteria for selection						✓
Reports - corrections after release					✓	
Reports - lab identification				✓		
Reports - method	✓		✓	✓		
Reports - patient identification				✓		
Reports - personnel competences	✓		✓	✓		
Reports - reference values	✓		✓	✓		✓
Reports - referral laboratories	✓			✓		
Reports - release of results	✓	✓		✓	✓	
Reports - retention time	✓					✓
Reports - SI units	✓		✓	✓		
Reports - significant values			✓	✓		
Reports - turnaround time		✓			✓	
Results - confidentiality						✓
Results - criteria for confirmation		✓				✓
Results - traceability measurement	✓					
Results - transcription errors			✓			

Table 1 – Distribution of items evaluated per tool / type of survey in the last 13 years, on PNAEQ Post-Analytical program.

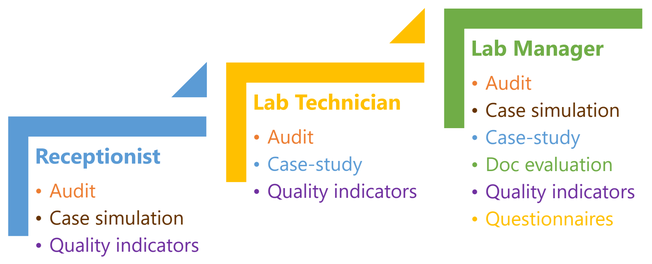
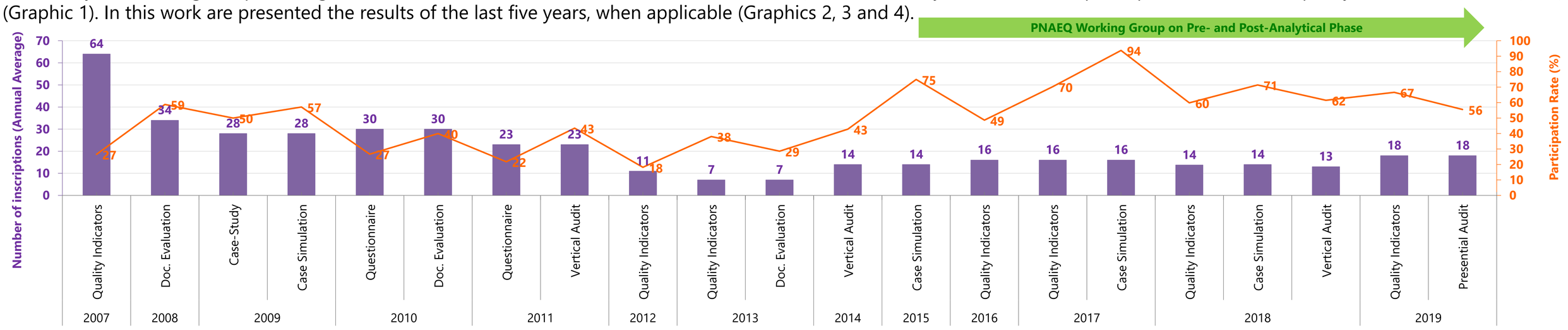


Figure 1 – Representation of type of surveys used to evaluate laboratory staff involved in the post-analytical process, during the period 2007-2019.

Results

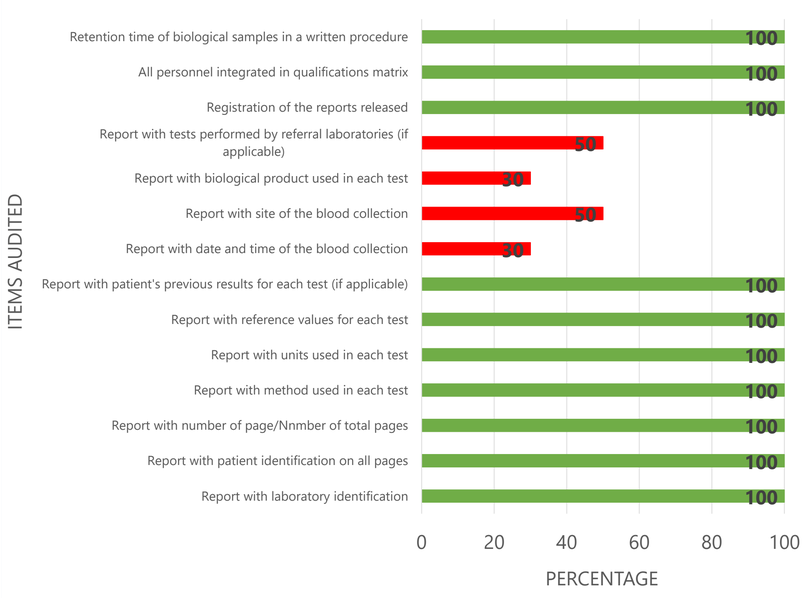
In 13 years were enrolled 113 laboratories. Of these, 51% signed up only once and 7% maintained their registration in 5 or more years. The average of registrations/year is 22 participants (Max=64 in 2007 and min=7 in 2013), corresponding to an annual average of 9% of the total inscriptions in clinical schemes. From 2007 to 2019, the average participation rate is 53%. The survey with the highest percentage of answers received was in case simulation 2017 (94%) and the survey with the lowest participation rate was in quality indicators in 2012 (18%) (Graphic 1). In this work are presented the results of the last five years, when applicable (Graphics 2, 3 and 4).



Graphic 1 – Distribution of the number of participants (annual average) and the participation rate (in percentage) for each survey performed on PNAEQ Post-Analytical program, in the last 13 years.

Audits

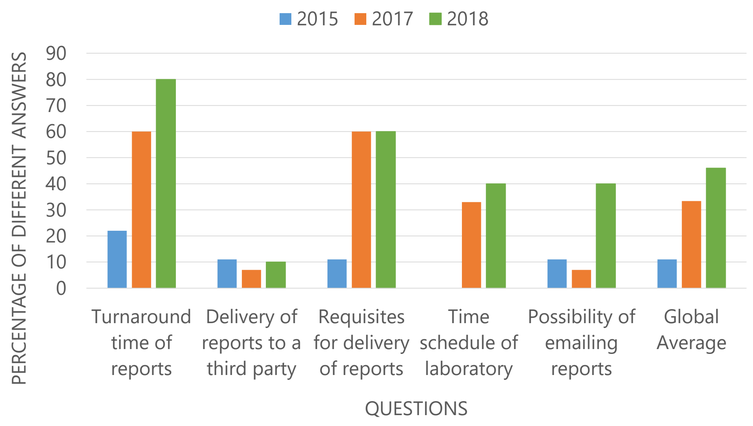
The checklist has been updated and adapted to different areas over the years.
In the 1st round of 2019, 10 items registered 100% of answers in accordance with the legal and normative requisites. In 4 items, there were reported 50% or less answers with no compliance with the legal and normative requisites. The 2nd round will be performed during October in order to evaluate the actions implemented by participants (Graphic 2).



Graphic 2 – Summary of the bests and the critical results obtained in Presential Audit survey performed in the 1st round of 2019.

Case Simulation

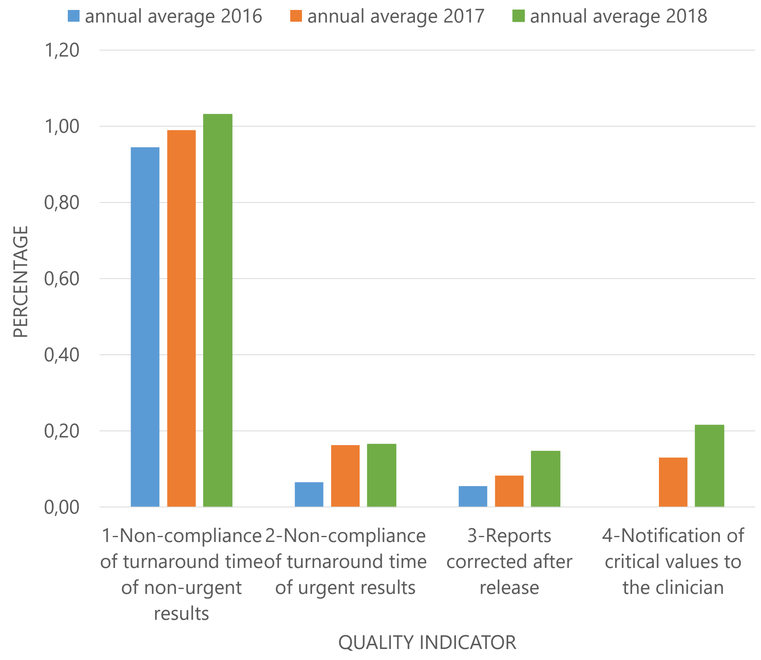
In 2015, 2017 and 2018 were performed a mystery client survey, simulating a patient with some questions on the phone (2 phone calls were made in different date/time). The average of different answers obtained for the total questions has been increasing over the 3 years (11% in 2015, 33% in 2017 and 46% in 2018). The information given to the patient concerning *reports turnaround time* is consistently the most critical item with the highest discrepancy between the answers given by the two laboratory collaborators. This survey will be performed in the 4th quarter of 2019 (Graphic 3).



Graphic 3 – Distribution of results obtained in Case Simulation surveys performed in 2015, 2017 and 2018.

Quality Indicators

In the last 3 years, the quality indicator *1-Non-compliance of turnaround time of non-urgent results* is consistently the most reported error (0.95-1.03%). The quality indicator *3-Reports corrected after release* is constantly the lowest reported error (0,06-0,15%) (Graphic 4). The 2019 results will be evaluated after the last 2 quarters.



Graphic 4 – Distribution of results obtained in Quality Indicators surveys performed in 2016, 2017 and 2018. The annual average includes 4 quarters.

Conclusion

- Since 2007 PNAEQ has distributed 6 types of tools in the Post-Analytical Phase EQA, stabilizing in 3 of them in the last five years: Audits, Case Simulation and Quality Indicators.
- The participation rate has been increasing since 2015, which can be due to the multiple actions performed by PNAEQ Working Group on Pre- and Post-Analytical Phase. In addition, the Case Simulation surveys are the most participated (74% average) since the participation depends on PNAEQ.
- For the future, PNAEQ and the Working Group will work on the continuous update of the tools content distributed in each survey according to international references and the experience of other EQA organizers.

References
- Despacho nº 8835/01. D. R. IIª Série. 98 (27-04-2001) 7383-7396 – Aprova o Manual de Boas Práticas Laboratoriais (*Approves the Manual of Good Laboratory Practices*).
- Portaria nº166/2014. D. R. Iª Série. 160 (21-08-2014) 4372-4382 – Estabelece os requisitos mínimos relativos à organização e funcionamento, recursos humano e instalações técnicas dos laboratórios de patologia clínica/análises clínicas e, bem assim, dos respetivos postos de colheitas (*Establishes the minimum requirements regarding the organization and operation, human resources and technical facilities of clinical pathology laboratories and their specimen collection sites*).
- ISO 15189:2012. Medical laboratories – Particular requirements for quality and competence.

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