

# REFLECTIVE TESTING

## WHAT DO GENERAL PRACTITIONERS IN THE NETHERLANDS THINK?

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Reflective testing is the process by which laboratory specialists use their judgement to add on further tests and comments to help the physician to establish a diagnosis. Reflective testing is not commonly performed in Dutch laboratories. We started reflective testing in June 2006, using the authorisation software Labrespond ([www.labosoftware.nl](http://www.labosoftware.nl)) to identify abnormal test results and infrequent test result combinations (1).

We evaluated how general practitioners appreciated this service.

### Methods.

1) A questionnaire of 10 clinical scenarios, adapted from a UK study (2), was sent to 155 general practitioners using the services of the laboratory of the Atrium Medical Centre in Heerlen. For each of the scenarios, the four response options were: addition of tests, phone and discuss the case, add a comment to the original results, or do nothing.

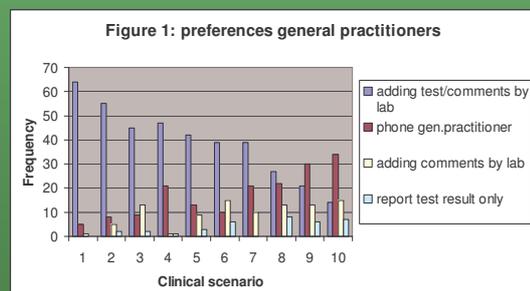
2) Additional to this, 200 historical patient result forms containing add-on tests and comments were sent to the practitioners. They were asked to grade the add-on tests and comments from 10 (excellent/very helpful) to 1 (useless).

#### The Clinical scenarios in the questionnaire

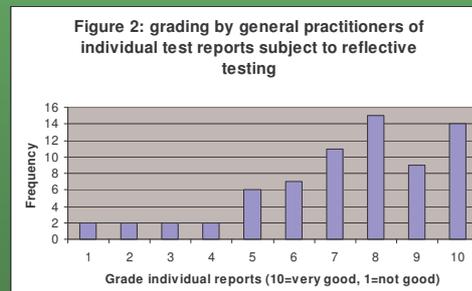
- 60-year-old woman with anaemia (Hb 6,0 mmol/l). The laboratory adds MCV that is increased. Folate acid and vitamin B12 are added.
- 70-year-old man with isolated Alk.Phos. The laboratory adds GGT for differentiation between bone and liver pathology.
- 39-year-old man with very lipaemic blood sample. The laboratory adds a lipid profile.
- 49-year-old man with a history of chest pain, CK 850 IU/L. The laboratory adds Troponine.
- 75-year-old woman with high creatinine of 215  $\mu\text{mol/l}$ , one year ago 145  $\mu\text{mol/l}$ . The laboratory adds calcium, phosphate, bicarbonate and PTH.
- 58-year-old woman with tiredness. TSH is elevated (6,5 mU/l) with normal FT4 (12 pmol/l). The laboratory adds TPO antibodies.
- 70-year-old man with low back pain. ESR is strongly elevated. The laboratory adds albumen (normal) and total protein (increased). Serum elektroforese is added for suspected myeloma.
- 70-year-old man with isolated Alk.Phos. The laboratory adds PSA for suspected prostate cancer.
- 15-year-old girl with very low FSH. The laboratory adds HCG (pregnancy test).
- 40-year-old woman 4/12 amenorrhoea. FSH is very low (oral contraceptive or pregnancy). The laboratory adds HCG (pregnancy test).

### Results.

**Figure 1.** In nearly all clinical scenarios, the practitioners were in favour of the concept of reflective testing (the laboratory takes the initiative to add tests and comments).



**Figure 2.** Real add-on tests and comments were graded on average with 7.3 (on a scale 1-10). Comments were graded low when the diagnosis was already known to the physician.



**Conclusions.** Reflective testing was much appreciated by general practitioners in our region, with results similar to those obtained in the UK study. Electronic patient records give the laboratory specialists new opportunities to interpret test results, and bring in their specialist knowledge to the benefit of the patients.

### References

- Oosterhuis WP, Ulenkate HJLM et al. Evaluation of LabRespond, a new automated validation system for clinical laboratory test results. *Clinical Chemistry* 2000, 46: 1811-7.
- Darby D, Kelly AM. Reflective testing - what do our service users think? *Ann Clin Biochem* 2006; 43: 361-8.