EQA in POCT
The Norwegian experience

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Expectations from the patient

Right answer

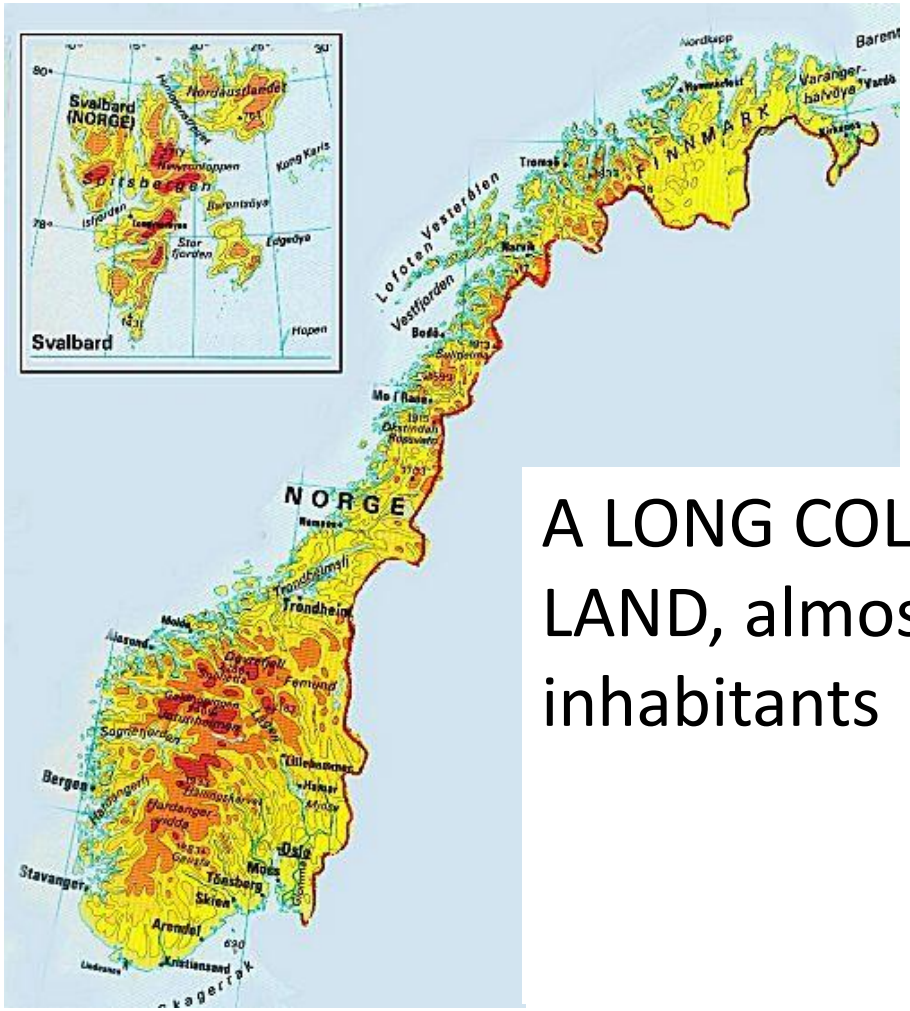
..on the right constituent

..at right time

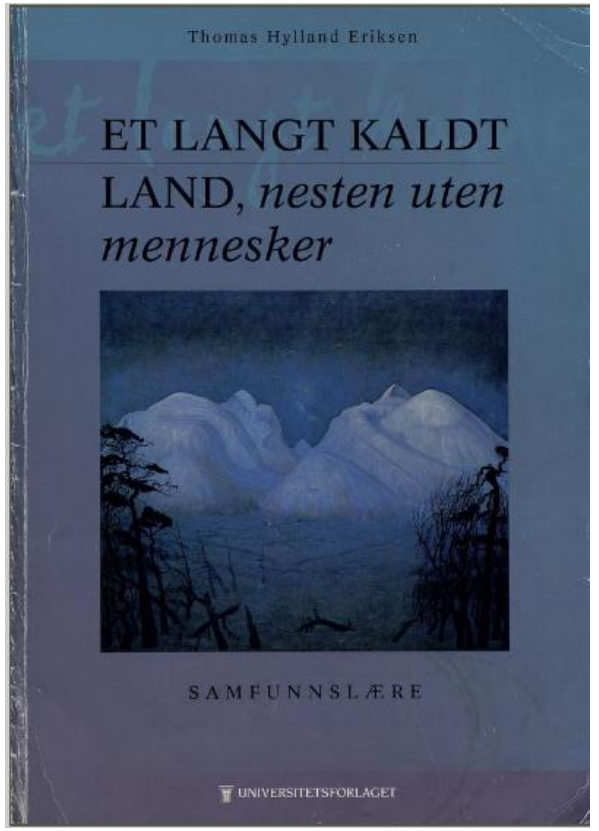
and then -right treatment

No matter if the care is in a hospital, in primary healthcare (GP) or in a nursing home

The challenge in GP in Norway



A LONG COLD LAND, almost without inhabitants



Norway: 14 inh/km² - England: 407 inh/km²

NOKLUS

Træna

Inhabitants: 457

Analytical repertoire:

CRP
Glucose
Haemoglobin
Haematology
INR
Troponin T
D-dimer
FOB
Strep A
U-hCG
U-stix

Trœna

Inhabitants: 457

Primary health care:

In average < 3 doctors, > 3 co-workers

Agreement between Government and Norwegian Med. Association (1992)

Noklus was established to help laboratories outside hospitals:

- Give advice about analytical repertoire
- EQA for POCT
- Be someone to ask for help and advice
- Give advice about instruments to buy
- Secure correct interpretation of the results

More than 3000 participants

- 1709 GPs offices (99,8%)
  - 859 (96 %) nursing homes
  - 544 others

Professional sections in Noklus dealing with POCT

- Course and education (Laboratory advisors)
- External quality assessment - EQAS
- Evaluation of POCT instruments – SKUP
- Selfmonitoring of INR
- Clinical use of the laboratory
- Norwegian diabetes registry
- Research and development

Course and education

53 Laboratory advisors (23 locations)

2016:

1730 of the participants have been visited

412 courses with 5361 participants

> 9000 participated in e-learning courses

Countless telephones and e-mails

Tools for the Laboratory advisors

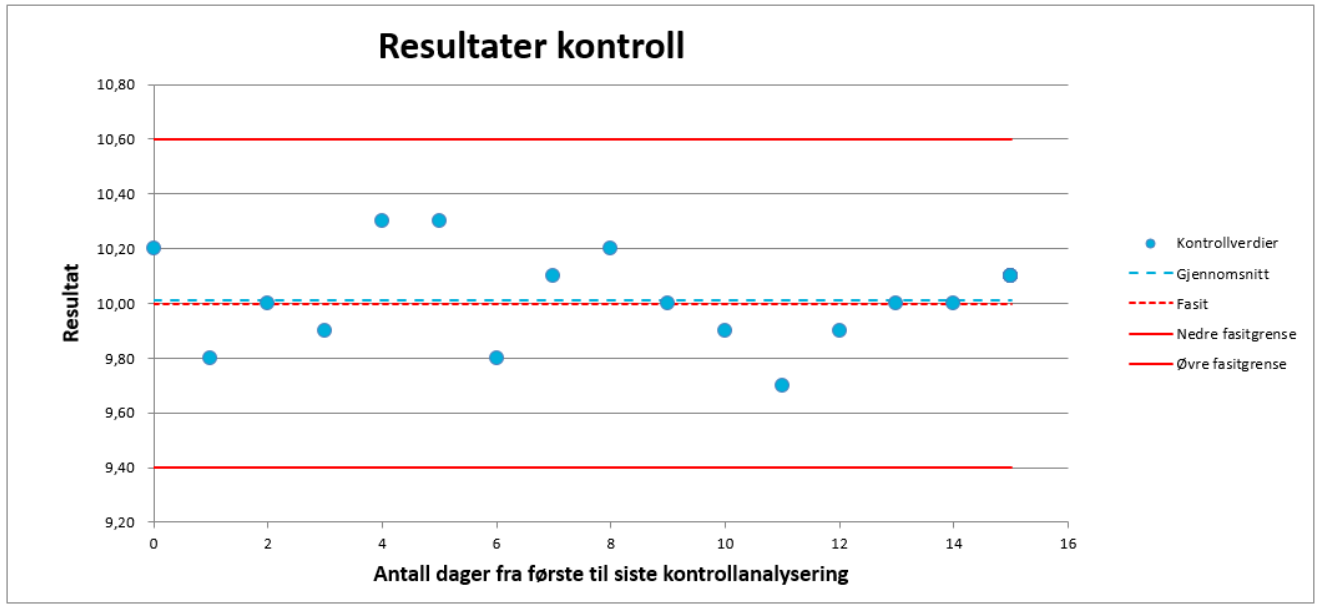
Web based procedures

Kontrollskjema, fyll inn grønne felt	
Arbeidssted	Træna GP
Analyse	Hb
Benevning	g/dL
Kontroll	Hb_ctr
Fasit-verdi	10,00
Instrument	HemoDittDatt
Lotnr reagens:	123

NOKLUS

Nedre tillatte grense:	9,4
Øvre tillatte grense	10,6
Lotnr kontroll	345

CV	1,8	%
Avvik fra fasit	0,1	%
Gjennomsnitt	10,0	
Antall verdier	16	
Range tid	15	Dager
Startdato	01.10.2017	
Sluttdato	16.10.2017	



Tools for the Laboratory advisors

Results from
Section Evaluation of POCT-instruments

Skup give answers about FAQ from GPs:

- Is the quality good enough?
- Is the instrument robust enough?
- How long time will it take to analyse the samples.
- What are the costs and what is the reimbursement.

SKUP provides neutral and independent information about quality and user-friendliness of point of care instruments

SKUP is an organization that provides high quality evaluations of instruments for the manufacturers

The evaluations are performed both under controlled conditions in a hospital lab and by the users, e.g. the offices of GPs, nurses on the wards, diabetic patients for home testing

SKUP

Reports in English for more than 130 POCT instruments

(and a short version in Scandinavian language)

Report from a full evaluation is always made public

Report from a pre-evaluation is made public if the instrument is launched in Scandinavian

www.skup.nu

NOKLUS

Tools for the Laboratory advisors

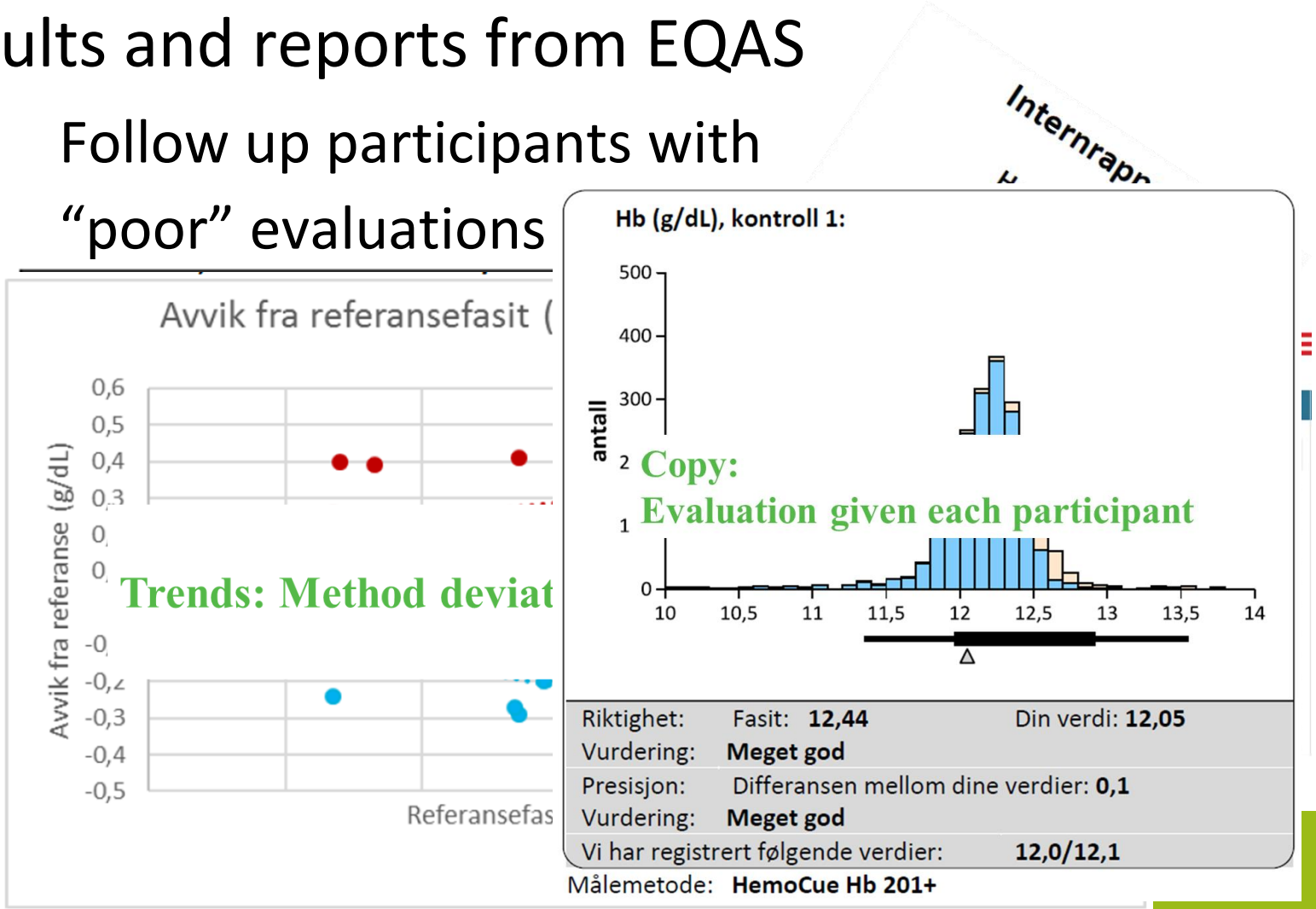
Results and reports from EQAS

- Follow up participants with “poor” evaluations

Tools for the Laboratory advisors

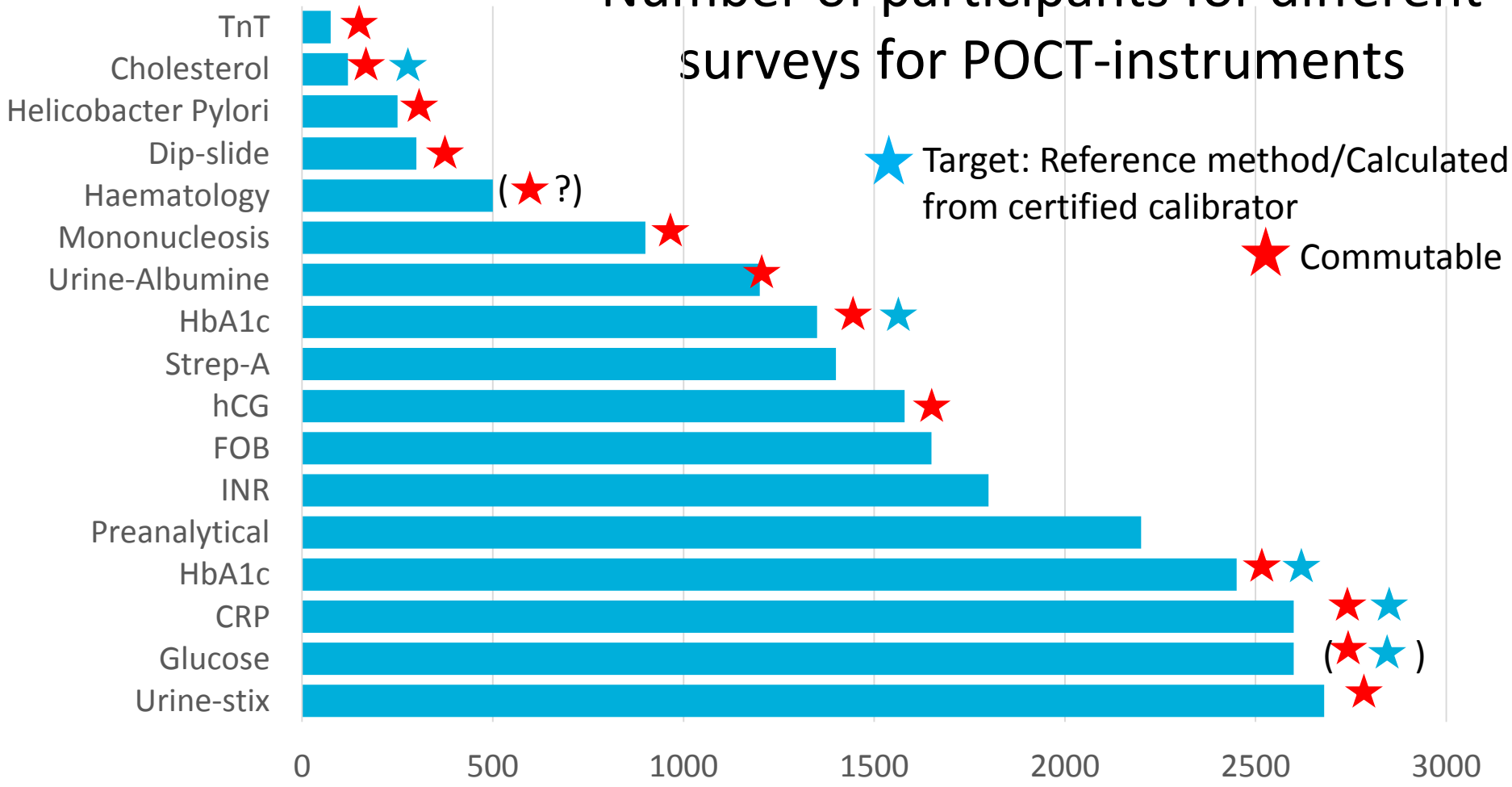
Results and reports from EQAS

Follow up participants with “poor” evaluations

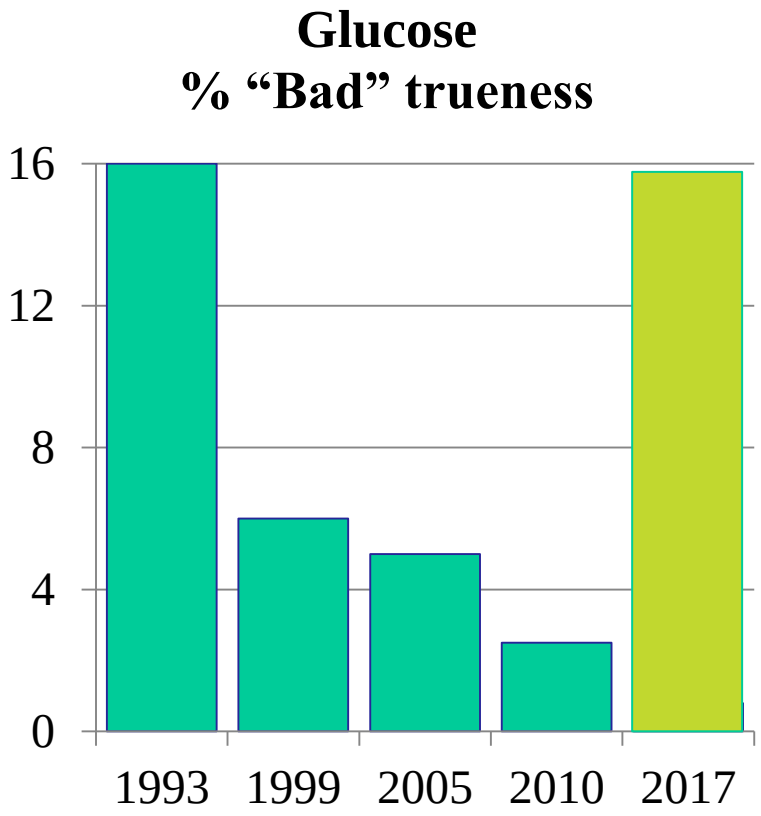


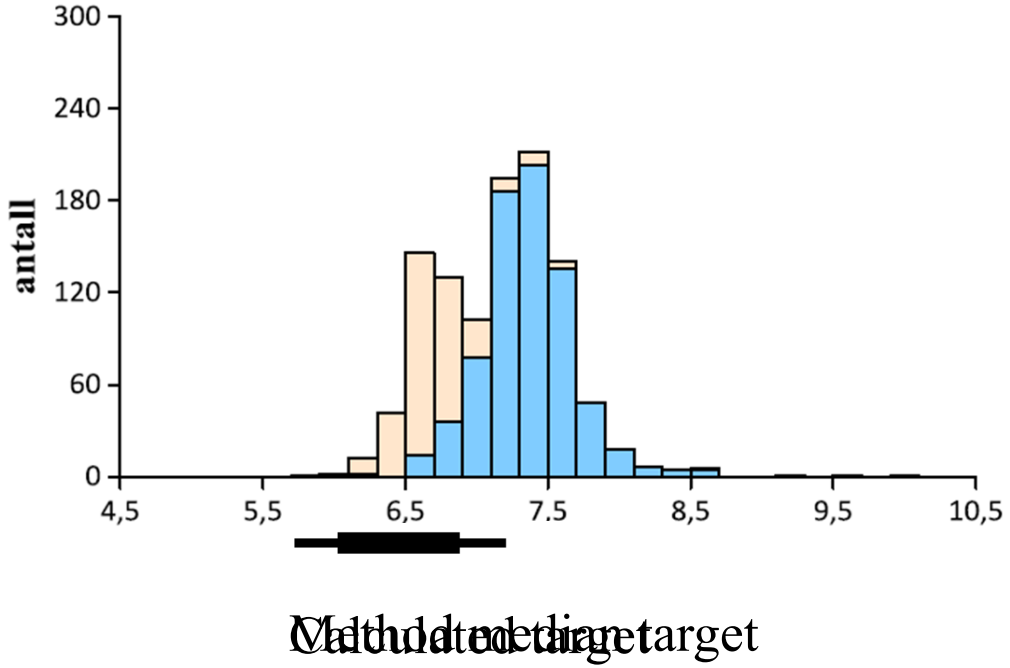
External quality assessment

Number of participants for different surveys for POCT-instruments



Improvements?

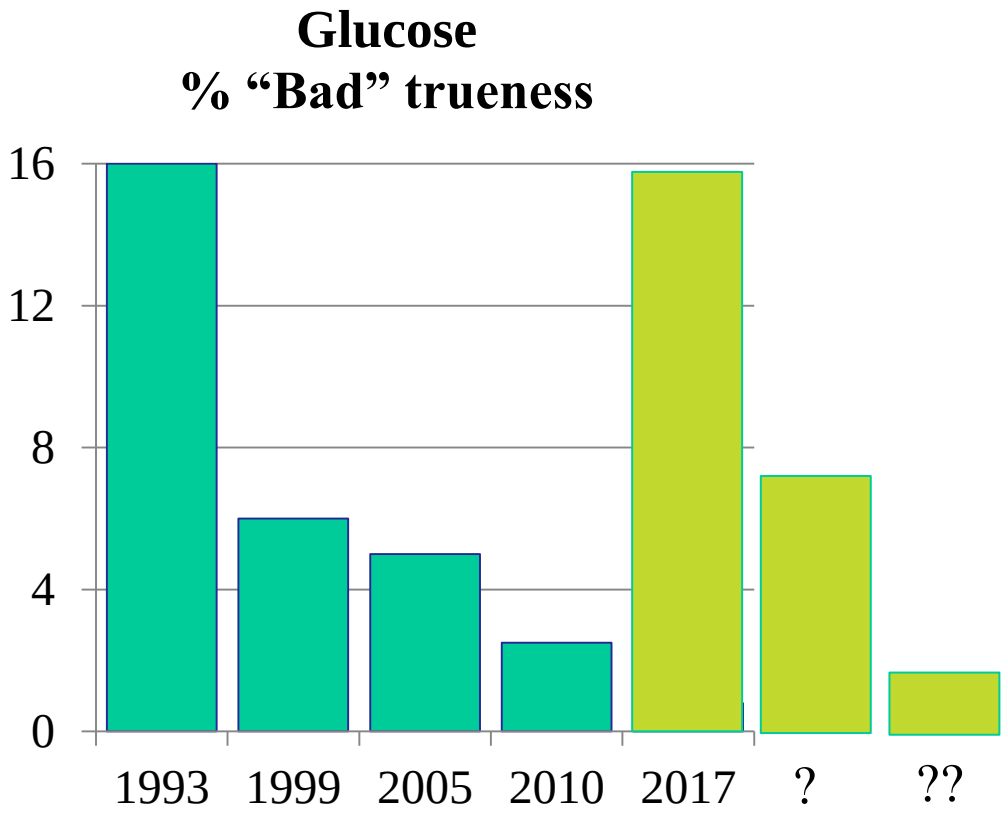




Method median target

Target value = Method median within instrument group for all instruments

Improvements!



2017 target value = Method median within instrument group for 50% of the instruments and calculated value for the other 50%

Clinical Chemistry 62:11
1474–1481 (2016)

Effect of Participating in a Quality Improvement System over Time for Point-of-Care C-Reactive Protein, Glucose, and Hemoglobin Testing

Tone Bukve,[1*] Anne Stavelin,[1] and Sverre Sandberg[1,2,3]

Hb
CRP
Glucose

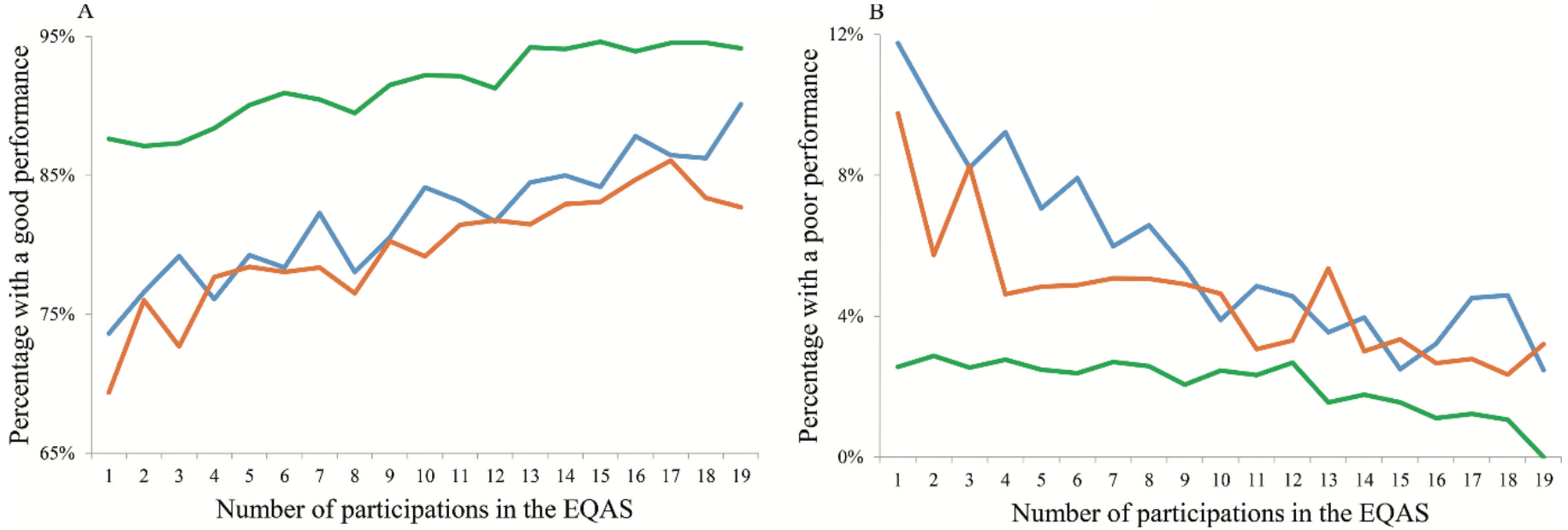


Fig. 1. Percentage of participants exhibiting good performance (A) and poor performance (B) related to the number of times they participated in the CRP (blue line), glucose (orange line), and Hb (green line) EQASs.
The number of participants participating 1 and 19 times were for CRP 2698 and 162, for glucose 2787 and 156, and for Hb 2694 and 324.

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(2300 participants during a 9 years period)

Independent factors associated with good performance were:

- Type of instrument
- Number of times performing EQA
- Performing internal QC weekly
- Performing 10 or more tests weekly
- Having laboratory qualified personnel to perform the tests.

NOKLUS EQA

Preanalytical survey

A main problem:

Are you sure this is **the right sample from the right patient?**

Identification of patient/requisition

Percent that answered “yes”

	2013	2015
If I do not know the patient, I usually ask the patient about:		
name and social security number	14	35
name and date of birth	49	48
name	23	13
If I know the patient,		
I do not ask about identity	54	20

NOKLUS EQA Postanalytical survey

1) Together with the analytical control material, we distribute 1-2 case stories typical for general practice in which the result from the analytical EQAS shall be used.

Advantage: The GP will see the direct clinical consequences of a wrong test result.

2) Case stories, asking for the critical values (significant differences between two results)

Advantage: Will increase the GPs knowledge of the importance of analytical and biological variation.

Example post-analytical survey type 2

A 45 year-old, considerably overweight woman with 5 children. She is diagnosed with type II diabetes and takes tablets for that. She has a tight every-day schedule paying little attention to her diet and do not exercise.

Her blood-glucose varies between 7 and 16 mmol/L.

By consultation now the HbA_{1c} is 9.1 % (DCCT)

You do what you find appropriate.

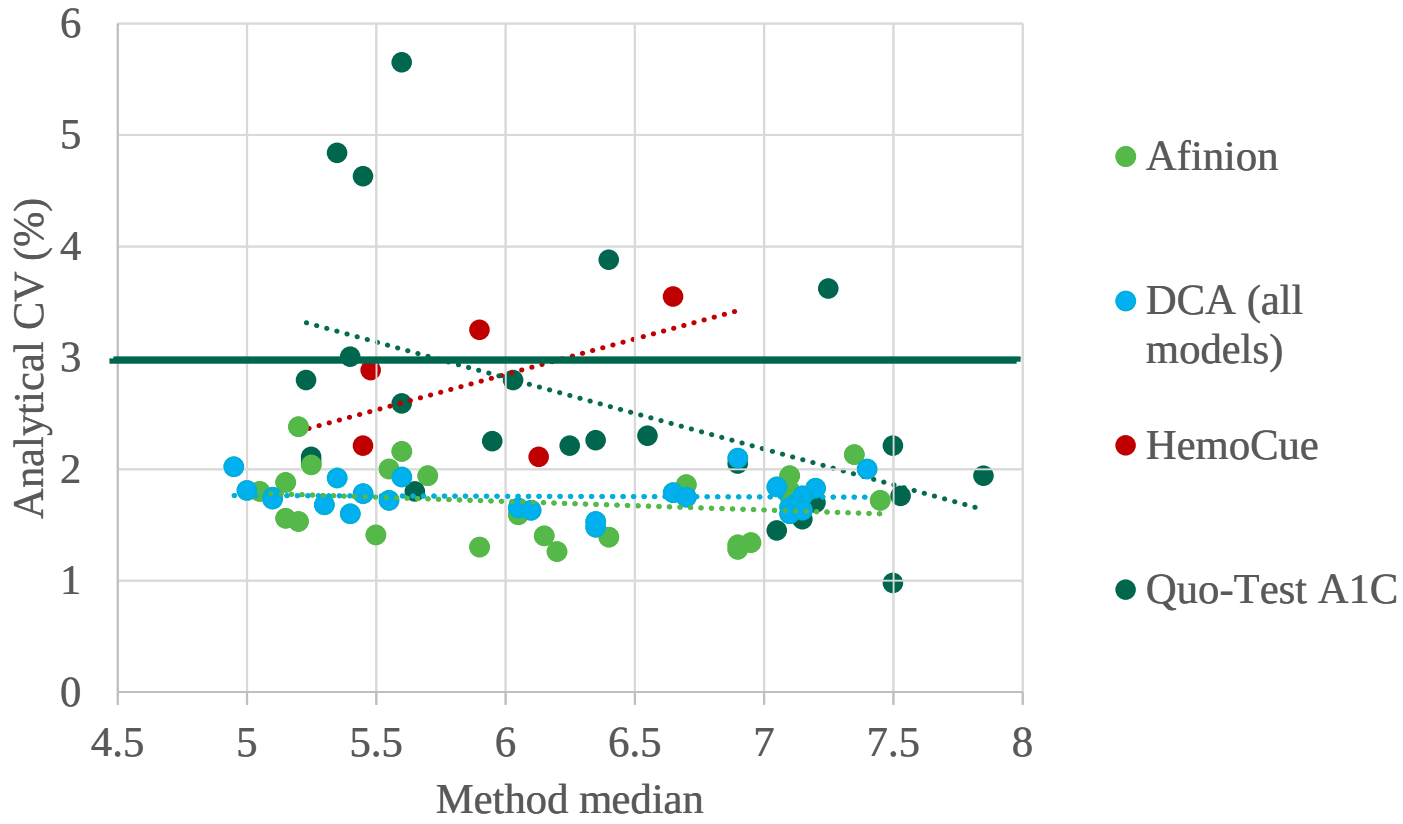
What should the HbA_{1c} test result be at the next consultation to indicate poorer diabetes control?

In average:

9.8 5 (DCCT) ➔ Clinical difference 0,7 % (DCCT) ➔ $CV_{Analytical} \approx 3\%$

Analytical CV for HbA1c-POCT

Results from Noklus EQA 2015 - 2017



Sunset at Trænа

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