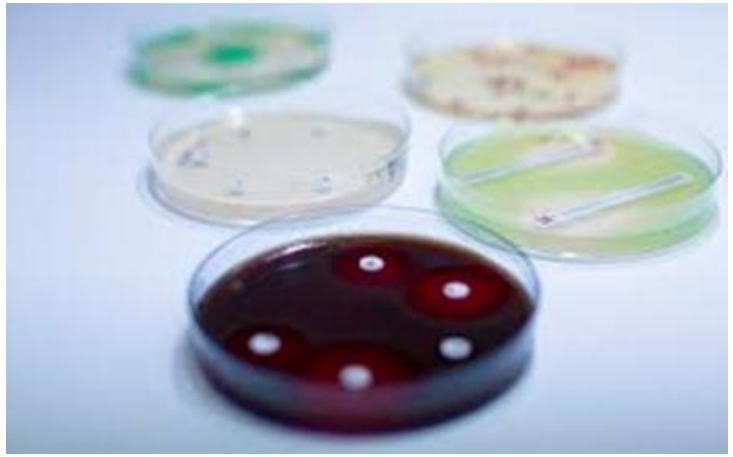
How are the results used for continuous quality improvements?

UK NEQAS

Microbiology



LABQUALITY

ecdc

Accreditation ISO- 15189

- «The laboratory shall participate in an interlaboratory comparison programme appropriate to the examination and interpretations of examination results.»

- «The laboratory shall integrate interlaboratory comparison samples into the routine workflow in a manner that follows, as much as possible, the handling of patient samples.»

- **What to consider when implementing new external quality controls?**
  - How to choose the right manufacturer?
  - Who is responsible and who is involved?
  - How is the workflow? How to handle it as a normal patient sample?
  - Do you need a database or a system to keep track on your performance?
  - How to use the results to improve your methods and to educate your staff?

UK NEQAS
Microbiology
LABQUALITY
External Quality Assessment Schemes

How to choose External quality assessment program?

- What do you want to control?
- Which method should be controlled?
  - AST?
  - Screening?
- Find out which programs are available! Find the ones that suits your need
- Choose a program with several nordic participants to be able to compare with other labs
- Think about the organisation of your lab, the workload and maybe also economy

Who is responsible and who is involved?

- Technician? Doctor? Quality coordinator?
- If possible, try to differentiate the responsibility. Who will:
  - order
  - analyze
  - report results to the manufacturer
  - evaluate when the report is finished
  - Look at the deviations and consider changes in methods
  - Educate the staff

Workflow

The sample is received, registered in LIS-system and treated as a normal patient sample (technician).

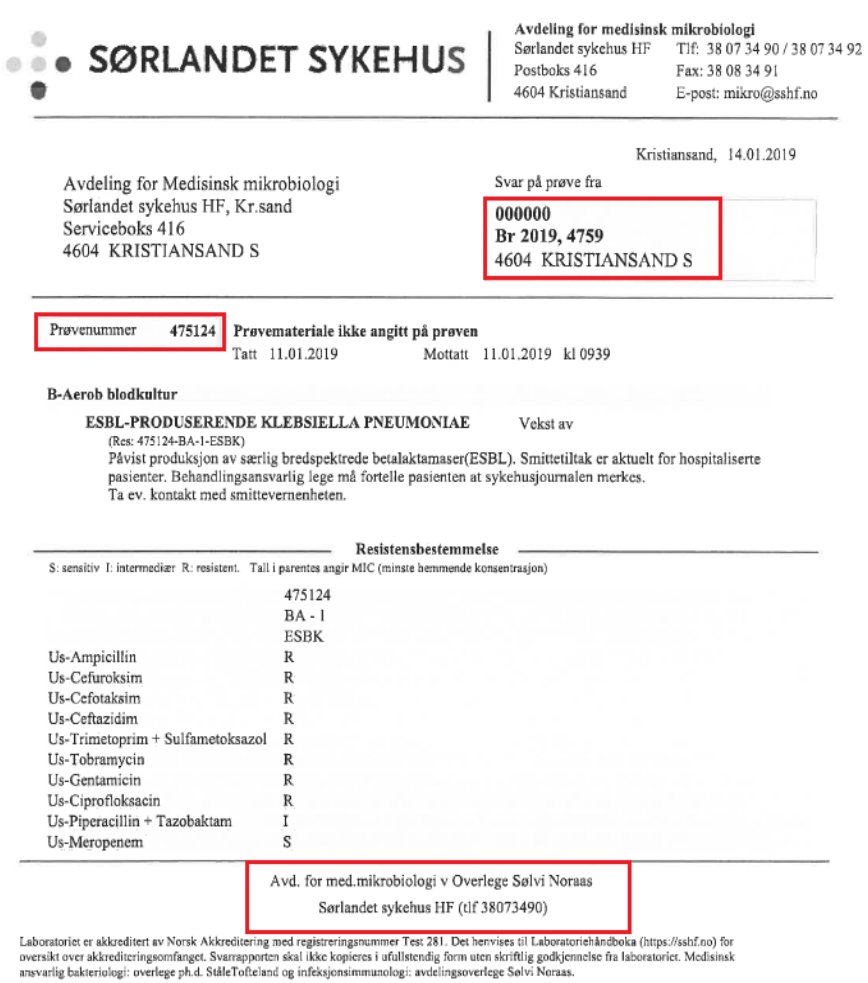
The sample is analyzed by technician and discussed with the doctors if there are any problems. According to normal routine.

Results are reported in the LIS system by a technician and validated by a doctor. According to routine. One dedicated technician reports the results to the manufacturer. Any difficulties are noted in LIS in case of deviations.

The final report from the manufacturer is sent to the quality coordinator. Its rated before its sent to doctors and all technicians.

Deviations are looked at by the responsible technician and doctor. Improvements are discussed and a report is made. Improvements are implemented by technician and/ or doctor depending on the error

The results together with the improvements are presented to the bacteriology- group where all the doctors and the technicians involved is present. The report is then sent to the group.



SØRLANDET SYKEHUS

Avdeling for medisinsk mikrobiologi
Sørlandet sykehus HF Tlf: 38 07 34 90 / 38 07 34 92
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Kristiansand, 14.01.2019

Avdeling for Medisinsk mikrobiologi
Sørlandet sykehus HF, Kr.sand
Serviceboks 416
4604 KRISTIANSAND S

Svar på prøve fra
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Br 2019, 4759
4604 KRISTIANSAND S

Prøvenummer 475124 **Prøvemateriale ikke angitt på prøven**
Tatt 11.01.2019 Mottatt 11.01.2019 kl 0939

B-Aerob blodkultur

ESBL-PRODUSERENDE KLEBSIELLA PNEUMONIAE Vekst av
(Res: 475124-BA-1-ESBK)
Påvist produksjon av særlig bredspektrede betalaktamaser(ESBL). Smittetiltak er aktuelt for hospitaliserte pasienter. Behandlingsansvarlig lege må fortelle pasienten at sykehusjournalen merkes.
Ta ev. kontakt med smittevernenheten.

Resistensbestemmelse

S: sensitiv I: intermediær R: resistent. Tall i parentes angir MIC (minste hemmende konsentrasjon)

	475124 BA - 1 ESBK
Us-Ampicillin	R
Us-Cefuroksim	R
Us-Cefotaksim	R
Us-Ceftazidim	R
Us-Trimetoprim + Sulfametoksazol	R
Us-Tobramycin	R
Us-Gentamicin	R
Us-Ciprofloksacin	R
Us-Piperacillin + Tazobaktam	I
Us-Meropenem	S

Avd. for med.mikrobiologi v Overlege Sølvi Noraas
Sørlandet sykehus HF (tlf 38073490)

Laboratoriet er akkreditert av Norsk Akkreditering med registreringsnummer Test 281. Det henvises til Laboratoriehåndboka (https://sshf.no) for oversikt over akkrediteringsomfanget. Svarrapporten skal ikke kopieres i ufullstendig form uten skriftlig godkjennelse fra laboratoriet. Medisinsk ansvarlig bakteriologi: overlege ph.d. StåleTofteland og infeksjonsimmunologi: avdelingsoverlege Sølvi Noraas.

Is it possible to handle the EQA as a patient sample?

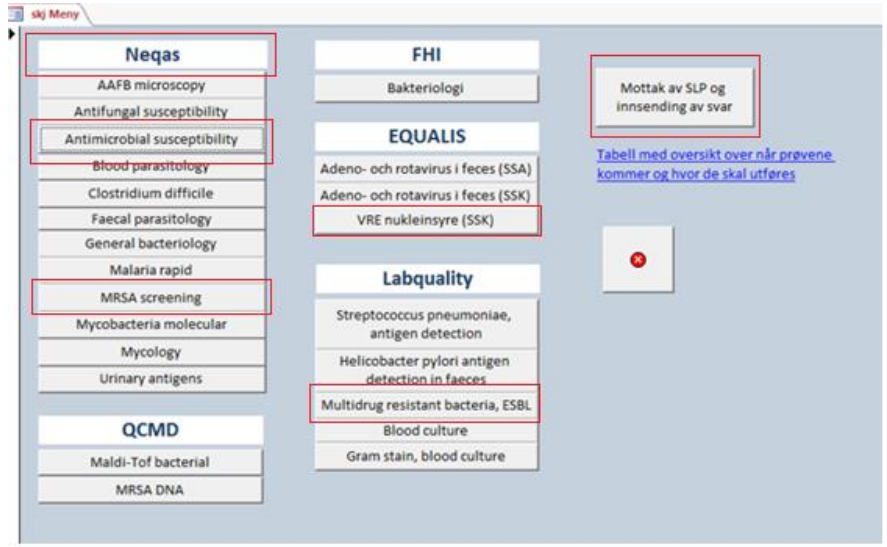
- All external quality samples are registered in the LIS and follows standard procedures. Easier to treat as a normal sample then?
- Difficulties in the weekends and when we are short of staff. The patients first!
- Do we want to «show off» sometimes and go beyond our normal procedures?

Reporting to the manufacturer- pitfalls

- Easy to make mistakes when reporting to the manufacturer
  - The deadline!
  - Errors when reporting zone diameter, SIR etc.
  - Difficult to understand the different resistance mechanisms
    - «HLAR»
    - clindamycin- «dissociated R»

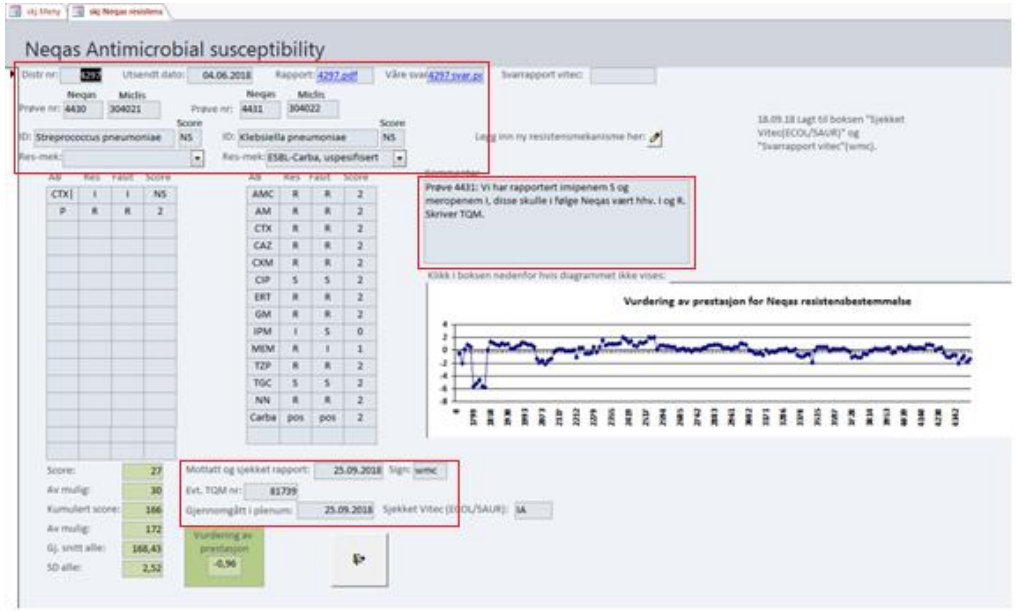
- Do you need a dedicated person to do this job?

Do you need an additional tool to keep track on your performance?



- Access- database used to collect all the information.
- Used to keep track on our performance

- Also possible to do this in the LIS-system.
- Find a system that works!
- Yearly review?



Improving methods and educating the staff

- Deviations? Troubleshoot, improve the method and inform the staff.
  - Technical mistake? (reading, wrong BP, wrong reporting? etc.)
  - Result within ATU? Difficult isolate?
  - Need for improving the method?

UK NEQAS Microbiology

Antimicrobial susceptibility | Laboratory : **1487**

Distribution : **4297** | Page 1 of 11

Dispatch Date : 04-Jun-2018

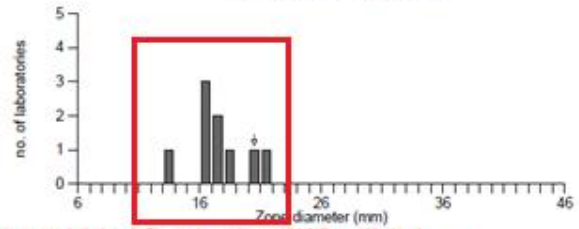
Intended Result			Your Report	Your Score
Specimen 4430	*Streptococcus pneumoniae* from cerebrospinal fluid			
	Cefotaxime	intermediate	intermediate	Not scored
	Meningitis/cefotaxime	intermediate	not examined	Not scored
	Ceftriaxone	intermediate	not examined	Not scored
	Meningitis/ceftriaxone	intermediate	not examined	Not scored
	Penicillin	resistant	intermediate	Not scored
	Meningitis/PEN	resistant	resistant	2
	Vancomycin	susceptible	not examined	Not scored
Specimen 4431	*Klebsiella pneumoniae* from blood			
	Amikacin	susceptible	not examined	Not scored
	Amoxicillin	resistant	not examined	Not scored
	Amoxicillin-clavulanic acid	resistant	resistant	2
	Ampicillin	resistant	resistant	2
	Cefotaxime	resistant	resistant	2
	Ceftazidime	resistant	resistant	2
	Ceftriaxone	resistant	not examined	Not scored
	Cefuroxime	resistant	resistant	2
	Ciprofloxacin	susceptible	susceptible	2
	Colistin	susceptible	not examined	Not scored
	Ertapenem	resistant	resistant	2
	Gentamicin	resistant	resistant	2
	Imipenem	intermediate	susceptible	0
	Meropenem	resistant	intermediate	1
	Piperacillin-tazobactam	resistant	resistant	2
	Tigecycline	susceptible	susceptible	2
	Tobramycin	resistant	resistant	2
	ESBL	negative	not examined	Not scored
	AmpC	negative	not examined	Not scored
	Carbapenemase	positive	positive	2

Imipenem - specimen 4431

Intended result : intermediate

Your guideline : **EUCAST**

EUCAST - >1 method used



Your score is below 2. Please investigate. UK & Rep. of Ireland laboratories should complete and submit the Incident Review Form www.ukneqasmicro.org.uk/registered-participants/incident-review-form

Result by guideline

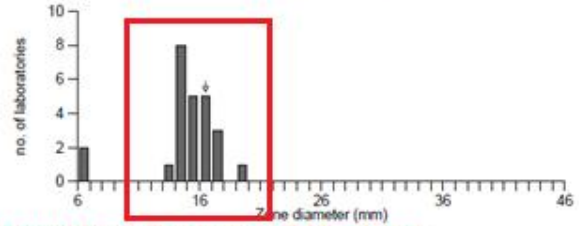
	S	I	R	% concordance
score	0	2	2	
BSAC	2	1	1	50.0
EUCAST	42	125	146	86.6
CLSI	7	3	66	90.8
SRGA	0	2	0	100
All	51	131	214	87.1
NO	5	4	0	44.4

Meropenem - specimen 4431

Intended result : resistant

Your guideline : **EUCAST**

EUCAST - >1 method used



Your score is below 2. Please investigate. UK & Rep. of Ireland laboratories should complete and submit the Incident Review Form www.ukneqasmicro.org.uk/registered-participants/incident-review-form

Result by guideline

	S	I	R	% concordance
score	-1	1	2	
BSAC	4	3	5	41.7
EUCAST	51	112	329	66.9
CLSI	4	2	73	92.4
NWGA	0	1	2	66.7
SRGA	0	1	1	50.0
All	59	119	411	69.8
NO	1	8	7	43.8

Imipenem	2	4		**10**	22	17
Imipenem, *Morganella morganii, Proteus* spp. og *Providencia* spp.	0.125	4		**10**	50	17
Meropenem	2	8		**10**	22	16

- **Our report**: imipenem S (20mm), meropenem I (17mm).
- **Intended result**: imipenem I, meropenem R.

- Our performance was ok compared to other labs.
- How about the breakpoints?
- imipenem zone is actually I and when checking our zone reader I discovered that the breakpoint was not correct.
- meropenem zone was in the intermediate area.
- Our meropenem distrubution looked perfect.
- If this was a patient sample: We would have checked for carbapenemase!

LABQUALITY

External Quality Assessment Schemes

Surveillance culture for multidrug resistant bacteria, gramnegative rods 3, 2018

Sample containing E.coli carbapenemase oxa 48.
Our report: ESBL-screening negative

For ESBL- screening we use Biomerieux Chrom ID ESBL
This selective agar will not detect oxa 48. This information is stated in our local procedure, but we all need reminders!

We used the information from the EQA to inform the staff that our method only covers ESBL-A/ ESBL-M and that some carbapenemases will be missed on our screening agar.