STATENS SERUM INSTITUT

C. difficile

National overvågning

&

Europæisk overvågning

DSKM Tarm-bak Årsmøde 13/6-17

Søren Persson

DK-overvågning: Tværsnitsundersøgelsen: P1

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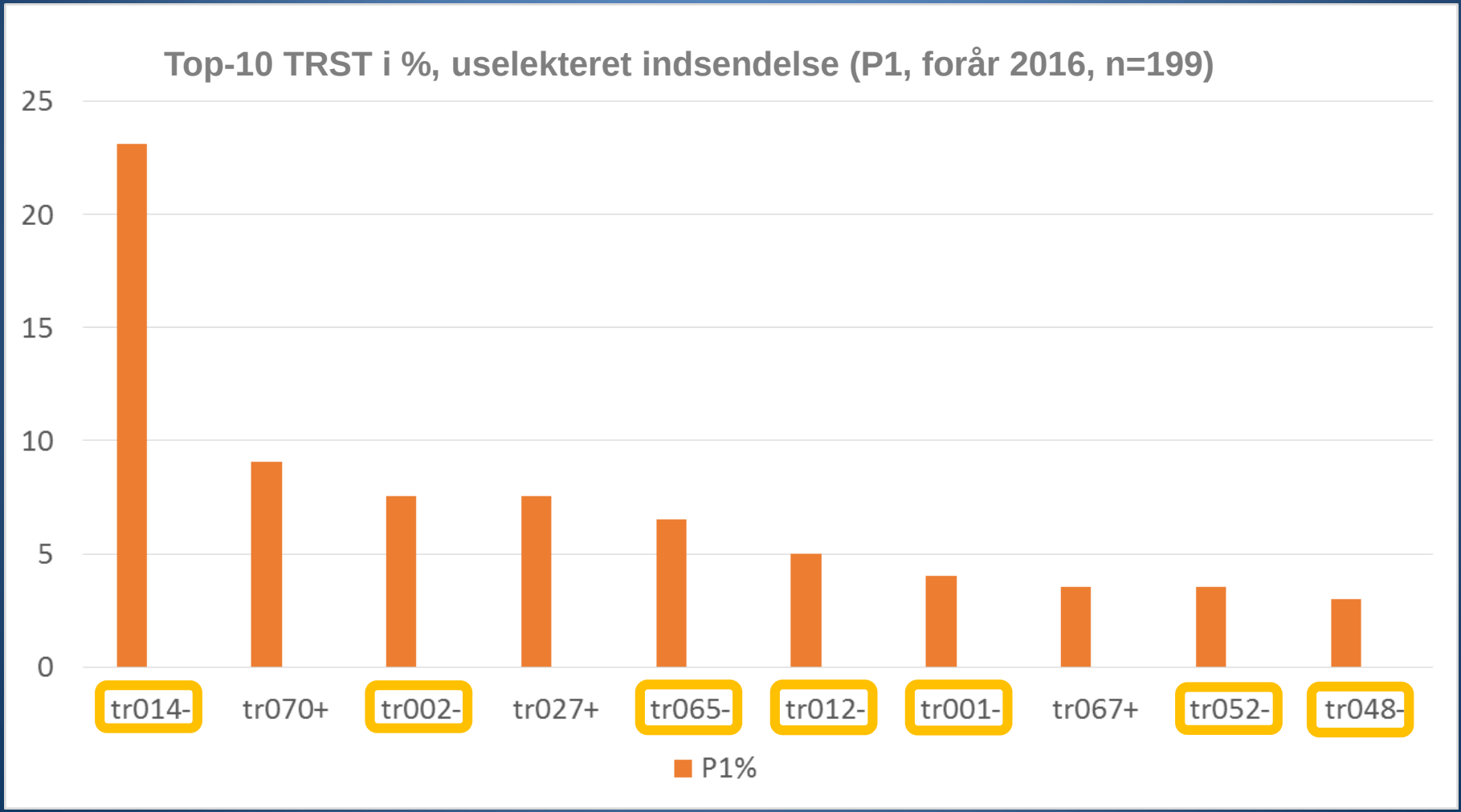
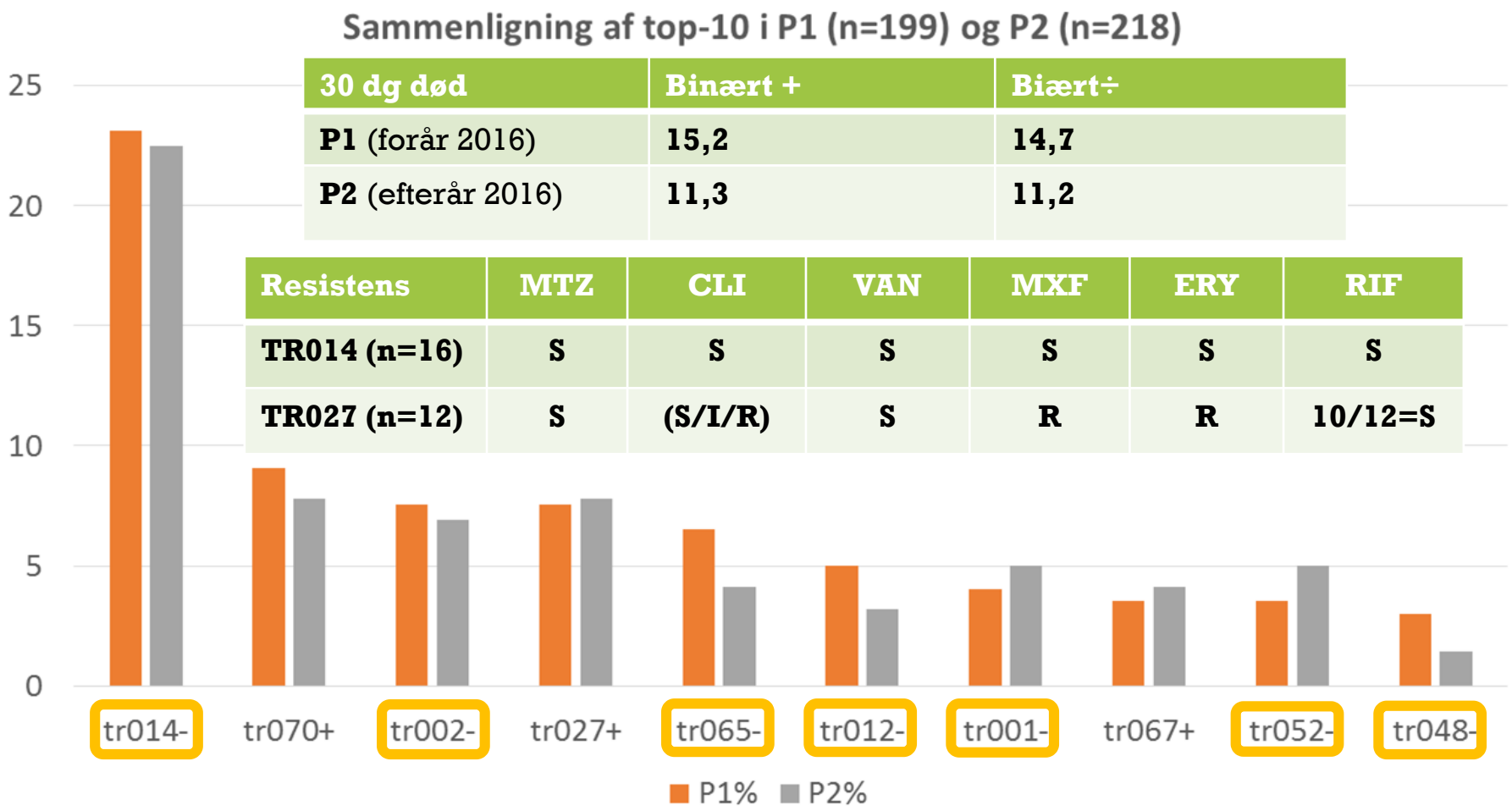
- Binært toksin negative dominerer i top-10
- TR14 hyppigst i alle regioner



Tværsnitsundersøgelsen: P1 & P2

STATENS SERUM INSTITUT

- Binært toksin negative dominerer i top-10
- TR14 hyppigst i alle regioner



30 dg død	Binært +	Biært÷
P1 (forår 2016)	**15,2**	**14,7**
P2 (efterår 2016)	**11,3**	**11,2**

Resistens	MTZ	CLI	VAN	MXF	ERY	RIF
TR014 (n=16)	**S**	**S**	**S**	**S**	**S**	**S**
TR027 (n=12)	**S**	**(S/I/R)**	**S**	**R**	**R**	**10/12=S**

C. difficile indsendelsesregime

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1) SST's: i) binært toksin pos, ii) svær klinik, iii) udbrud, iv) MXF res.

2) Ny u-selekteret 2x1 mdr fra hver KMA hvert år.

KMA	Ca antal per mdr	Marts	April	Maj	Juni	Sept	Okt	Nov
Herlev	65		x			x		
Hvidovre	80			x			x	
Odense	40			x			x	
Slagelse	72				x			x
Ålborg	61				x			x
Århus	75	x				x		
Riget	27				x			x
Sønderb.	10		x			x		
Vejle	18			x			x	
Esbjerg	13			x			x	
Total		75	75	151	160	150	151	160

C. difficile overvågning på ssi.dk??

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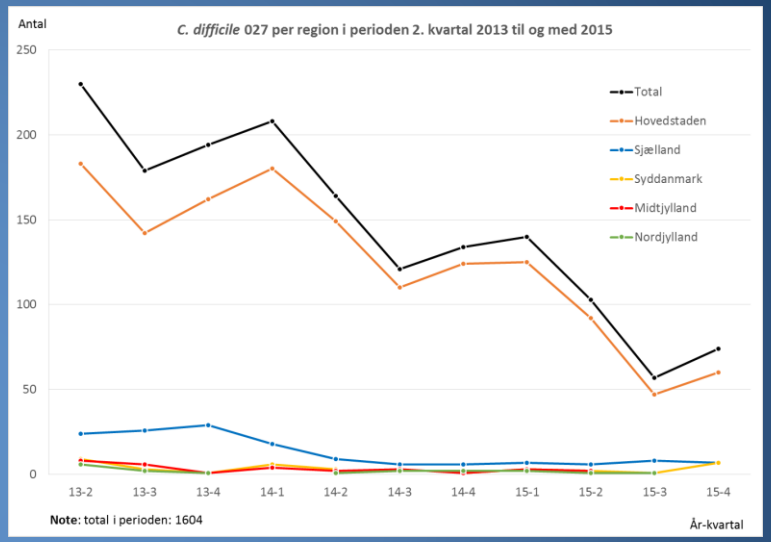
027 per region/mdr siden 2.2013-K2

Opdateret uge 06/2016

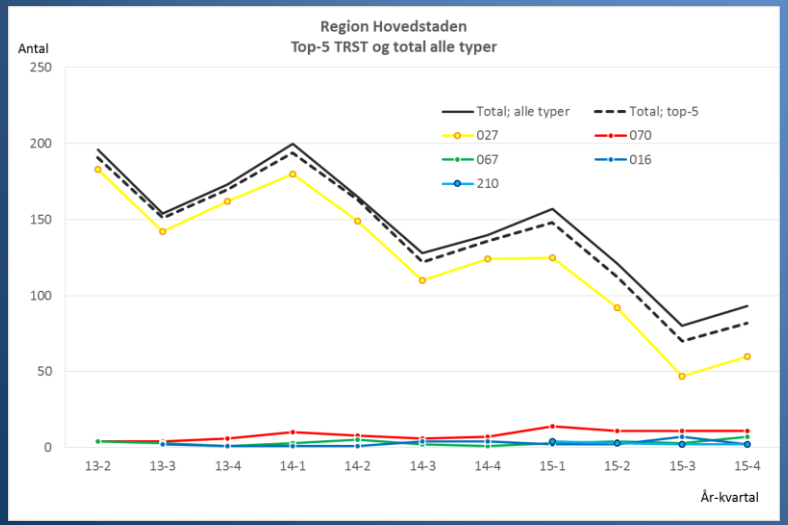
2015	Region					I alt
	Hoved-staden	Sjælland	Syd-danmark	Midt-jylland	Nord-jylland	Danmark
Januar	37	4	1	1	0	43
Februar	39	3	2	1	1	46
Marts	48	1	0	1	1	51
April	41	1	1	1	0	44
Maj	30	4	1	1	0	36
Juni	20	1	0	0	1	22
Juli	13	4	0	0	0	17
August	22	1	1	0	0	24
September	16	3	0	0	1	20
Oktober	16	1	2	0	0	19
November	28	3	3	0	0	34
December	15	2	2	0	0	19
I alt	325	28	13	5	4	375

Kilde: Statens Serum Institut

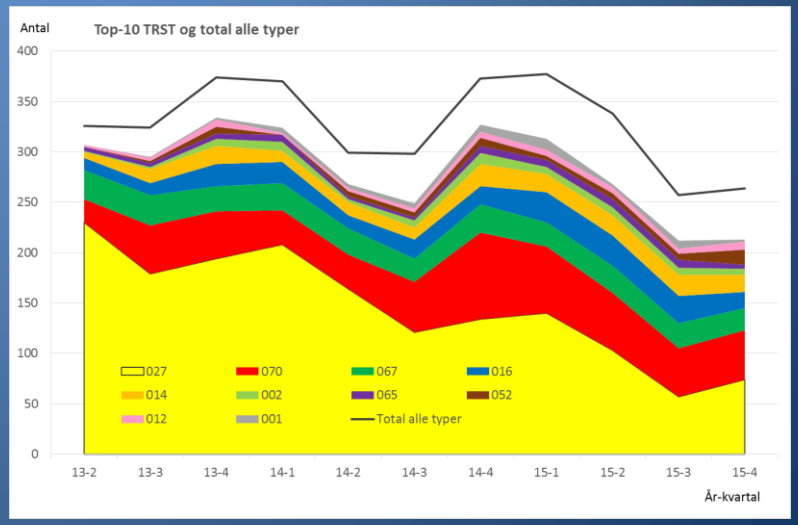
027 per region/kvartal siden 2.2013-K2



Top-5 TRST, Hovedstaden 2013-K2 (eksempel)



Top-10 TRST kumuleret på landsplan fra 2013-K2



EU overvågning

STATENS SERUM INSTITUT

Microbiological support to European surveillance of Clostridium difficile infections

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

European surveillance of *C. difficile* infections (www. ecdc.europa.eu….) .

Danmark pt ikke med i programmet!

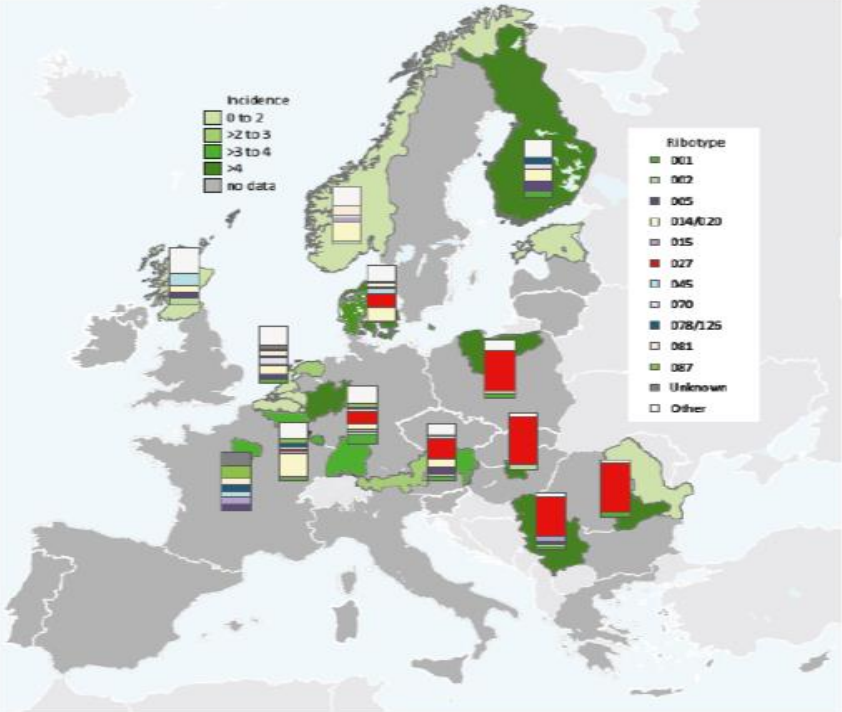
- EU overvågning CDI på med data på hospitals-niveau (3 typer)
- Anbefaling til diagnostik og algoritme
- EQA program til typning

Tidligere EU projekt

STATENS SERUM INSTITUT

SURVEILLANCE AND OUTBREAK REPORT

Standardised surveillance of *Clostridium difficile* infection in European acute care hospitals: a pilot study, 2013



Pilot survey

- May-November 2013
- N=37 hospitals
- N=14 countries

Workload of surveilance protocol

Median number of person-days per 10 000 discharges:

- 1.1 (minimal option)
- 2.0 (light option)
- 3.0 (enhanced option)

Source: van Dorp SM et al. Eurosurveillance, 2016

Nyt EU project: CDI overvågning (start 1/1-16)

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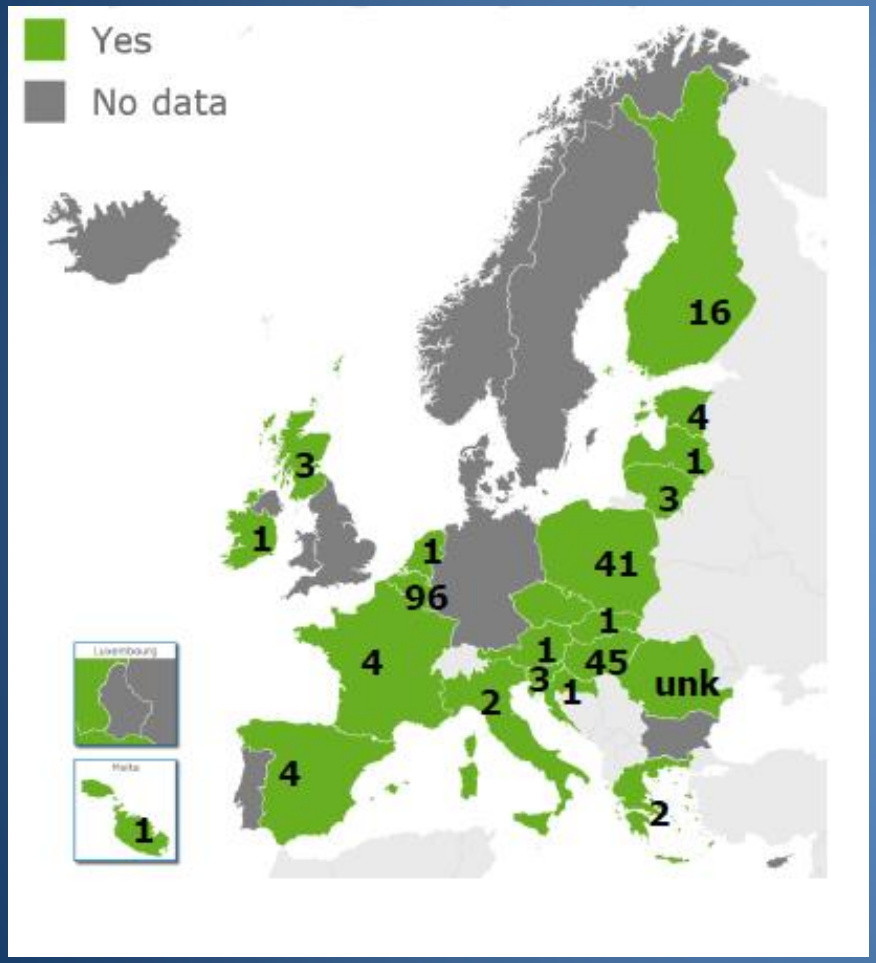

Sophie Gubbels, SSI, Afd. Infektionsepi.og Forebyggelse, (pt. på barsel)

- Data via HAIBA udtræk?
- Definitioner?
- Typningsdata?

Nyt EU project; forløbige data

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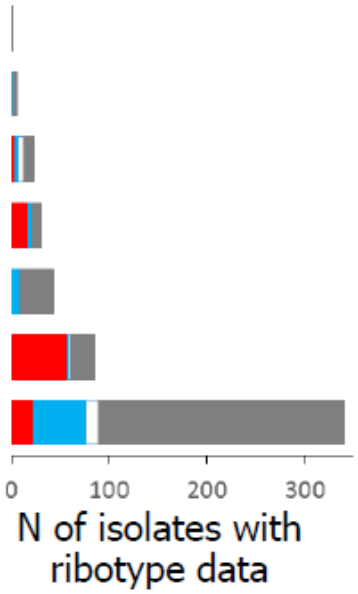
Most commonly reported *C. difficile* PCR ribotypes, EU/EEA countries (n=7*), Jan–Nov 2016

	N of patient-days	N of isolates
UK-Scotland	9 164	1
Netherlands	12 022	6
Slovenia	82 307	24
Poland	485 479	31
France	178 907	43
Hungary	874 961	85
Belgium	4 183 437	340



- RT027 (n=102)
- RT014 / 020 / 077 (n=71)
- RT001 / 072 (n=21)
- Other Ribotypes (n=336)

CDI diagnostisk algortime

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ELSEVIER

Contents lists available at ScienceDirect

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

CMI CLINICAL MICROBIOLOGY AND INFECTION ESCMID

European Society of Clinical Microbiology and Infectious Diseases: update of the diagnostic guidance document for *Clostridium difficile* infection

M.J.T. Crobach [1], T. Planche [4], C. Eckert [5], F. Barbut [5], E.M. Terveer [1], O.M. Dekkers [2,3], M.H. Wilcox [6], E.J. Kuijper [1,*]

Categorization of CDI diagnostics	CDI diagnostic algorithm		
	First test	Second test	Optional third test
ESCMID-recommended[1]	NAAT	Toxin A/B EIA	N/A
	GDH EIA	Toxin A/B EIA	NAAT or toxigenic culture
	GDH and Tox A/B EIA	NAAT or toxigenic culture*	N/A
Not recommended	All other algorithms		

SSI deltager i typnings-EQA

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TRST-type	Ribotype	TRST-typ	Ribotype		Ribotype	TRST-type	Ribotype	TRST-type
001	001	046	046		001	001	029	029
001	015	048	057/070/152		002	002	035	014
002	002	048	070		002	089	046	046
003	003	050	027		003	003	056	056
005	015	056	056		011	011	066	067
011	011	059	087		012	086	066	074
011	150	062	106		013	013	070	048
012	107	067	066		014	045	075	041
013	013	070	078		014	014	077	014
014	014	070	126		015	001	078	070
014	035	070	078		015	005	078	076
014	020	073	078		015	045	078	088
014	077	074	066		017	017	078	098
014	095	076	078		018	026	078	070/073
016	023	079	027		018	085	081	028
017	017	080	023		019	091	087	059
026	018	085	018		020	014	095	014
026	131	086	012		023	016	106	062
027	027	088	078		023	080	107	012
028	081	089	002		026	097	126	070
029	029	091	019		027	027	131	026
041	075	097	026		027	050	150	011
045	015	098	078		027	079	057/070/152	048
	014	102	027		027	102		

Tak - Spørgsmål?

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NAAT – TOX A/B EIA ALGORITHM

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N=10.000
Prevalence CDI 5%

NAAT: sensitivity 96% , specificity 94%

- Negative test, CDI -, N= 8930 → TN
- Positive test, N= 1050
- Negative test, CDI +, N= 20 → FN

Tox A/B EIA: sensitivity 83%, specificity 99%

- Negative test, CDI -, N= 564 → TN
- Positive test, CDI +, N= 398 → TP
- Positive test, CDI -, N= 6 → FP
- Negative test, CDI +, N= 82 → FN

TP= 4.0%, TN= 94.9%, FP= 0.06%, FN= 1.0%

GDH EIA – TOX A/B EIA ALGORITHM

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N=10.000
Prevalence CDI 5%

GDH EIA: sensitivity 94%, specificity 90%

- Negative test, CDI -, N= 8550 → TN
- Positive test, N= 1420
- Negative test, CDI +, N= 30 → FN

Tox A/B EIA: sensitivity 83%, specificity 99%

- Negative test, CDI -, N= 940 → TN
- Positive test, CDI +, N= 390 → TP
- Positive test, CDI -, N= 10 → FP
- Negative test, CDI +, N= 80 → FN

TP= 3.9%, TN= 94.9%, FP= 0.1%, FN= 1.1%

ECDC CDI protocol (final, after ECDIS-Net pilot)

	1 Minimal surveillance	2 Light surveillance	3 Enhanced surveillance	Form
Collected information	• **Minimum CDI surveillance for each hospital** (aggregated numerator data) • **Hospital data for each hospital** (aggregated denominator data)	• **Minimum CDI surveillance for each hospital** (aggregated numerator data) • **Hospital data for each hospital** (aggregated denominator data)	• **Minimum CDI surveillance for each hospital** (aggregated numerator data) • **Hospital data for each hospital** (aggregated denominator data)	• **Form H** (aggregated numerator and denominator data) ✓
		• **Information on each CDI case** (case-based numerator data)	• **Information on each CDI case** (case-based numerator data)	• **Form C** (case-based numerator data) ✓
			• **Microbiological data** (for the first 10 consecutively detected cases in each participating healthcare facility: characterisation, susceptibility testing and typing of each *C. difficile* isolate)	• **Form M** (one form for each *C. difficile* isolate) ✓

DK overvågning (Tværsnitsundersøgelsen)

- TRST profil P1/P2,
- 30 dg død,
- Res mangler og manus.
- Nye indsendelses-regime, inkl. gl. kriterier
- Ny fremstilling på www?

EU overvågning

European surveillance of *C. difficile* infections (www. ecdc.europa.eu….) .

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ecdc
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Train-the-trainer workshop

11 and 12 May 2017

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