



Healthcare-associated infections, antimicrobial use and indicators of infection prevention in long-term care facilities in EU/EEA Member States; point prevalence surveys in 2010 and 2013

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Conflicts of interest: None



Thanks and Acknowledgements

**LTCF residents, LTCF staff and national teams
in countries that participated in HALT and HALT-2**

ECDC: Carl Suetens, Tommi Kärki, Diamantis Plachouras

HALT and HALT-2 Management Teams

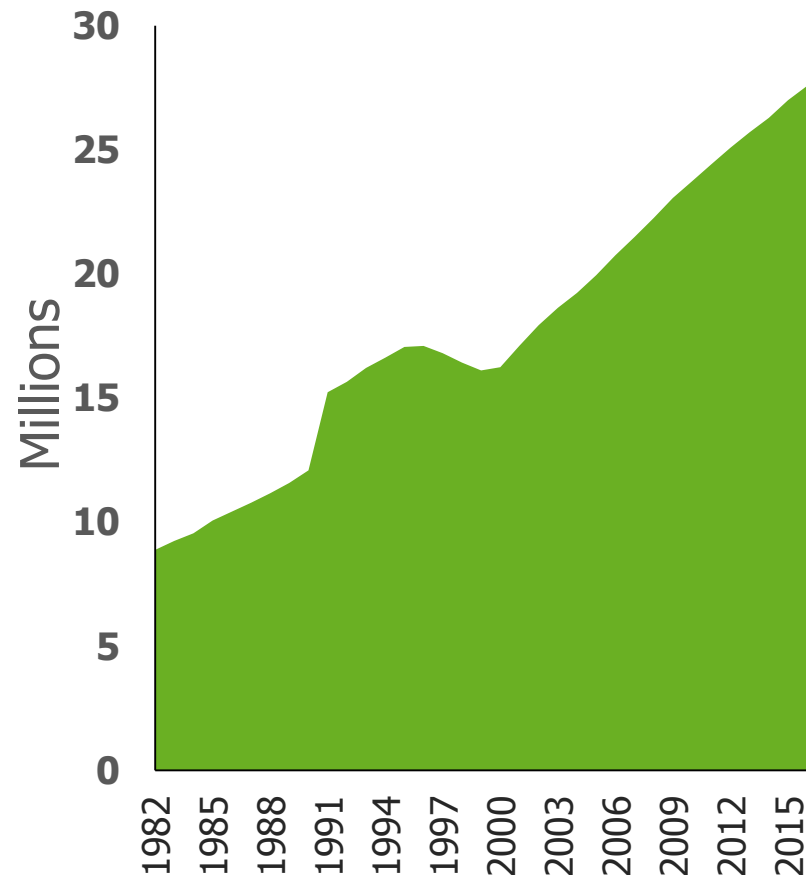
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HALT Advisory Committees

ECDC surveillance objectives for long-term care facilities (LTCFs)



**N of persons age 80+ years,
EU/EEA, 1982* - 2014**



General objectives

- Provide EU/EEA countries and LTCFs with standardised tools to follow trends in healthcare-associated infections (HAIs) and antimicrobial use (AU)
- Identify national/local intervention priorities
- Estimate and monitor burden of HAIs and AU in LTCFs, at national and European level

Point prevalence surveys (PPSs) of HAIs & AU in LTCFs (HALT):

- Estimate prevalence of HAIs and systemic AU in European LTCFs
- Measure structure & process indicators (SPIs) of infection prevention and control (IPC) in LTCFs

Methodological differences between HALT, HALT-2 and HALT-3



	HALT	HALT-2	HALT-3
PPS design	National or local staff directly review all eligible residents; 1 LTCF / day		
Surveillance period	May–Sept 2010	Apr–May 2013	Apr-Jun & Sep-Nov 2016 Apr-Jun & Sep-Nov 2017
Eligible facilities	Residents need 'high-skilled nursing care' & constant supervision.		
Excluded facilities	Hospital long-term care wards; residential care, no nursing; Facilities providing invasive procedures.		
Eligible residents	Living at LTCF 24/7 for at least 24hrs and present at 8 a.m.		
Only 'active HAIs'	EITHER: Signs/symptoms of HAI: new/acutely worse, onset >48hrs* post-community. OR: Receiving treatment for HAI that had signs/symptoms in previous 14 days.		
Case definitions	Signs/symptoms recorded. Adapted McGeer criteria applied during analysis.	Data collector applies decision algorithm, adapted from US CDC/SHEA to each resident with signs/symptoms of infection.	
Validation study	None	National	National and/or International

* healthcare-associated surgical site infections excluded, i.e. <30 days since surgery or <1 year since implant

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National participation in HALT (2010) and HALT-2 (2013)

Participation in HALT

- 2013 and 2010
- 2013
- 2010
- None



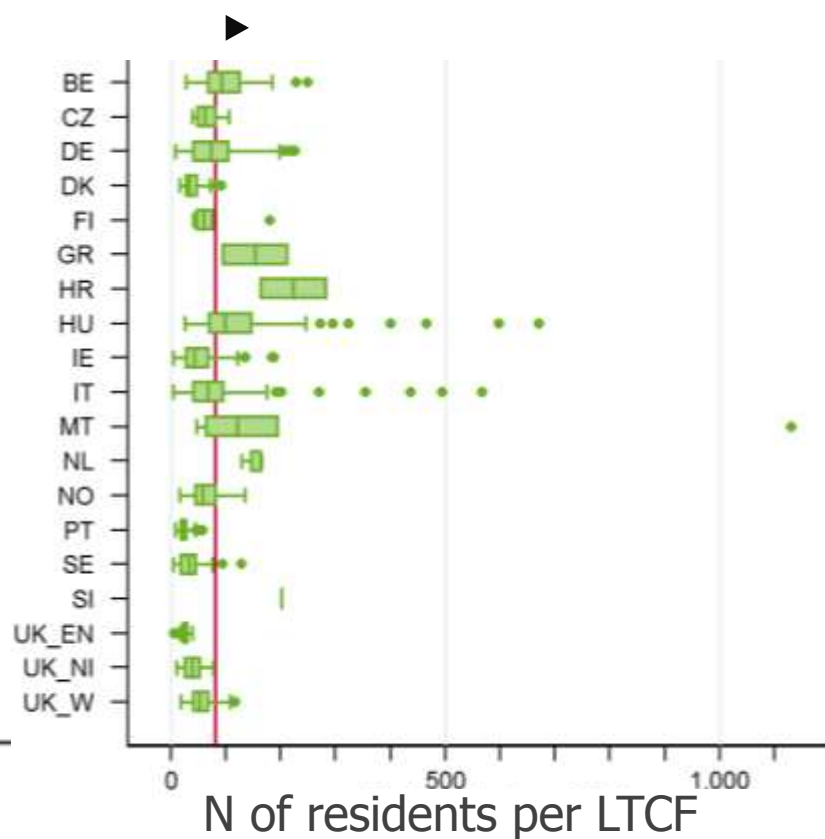
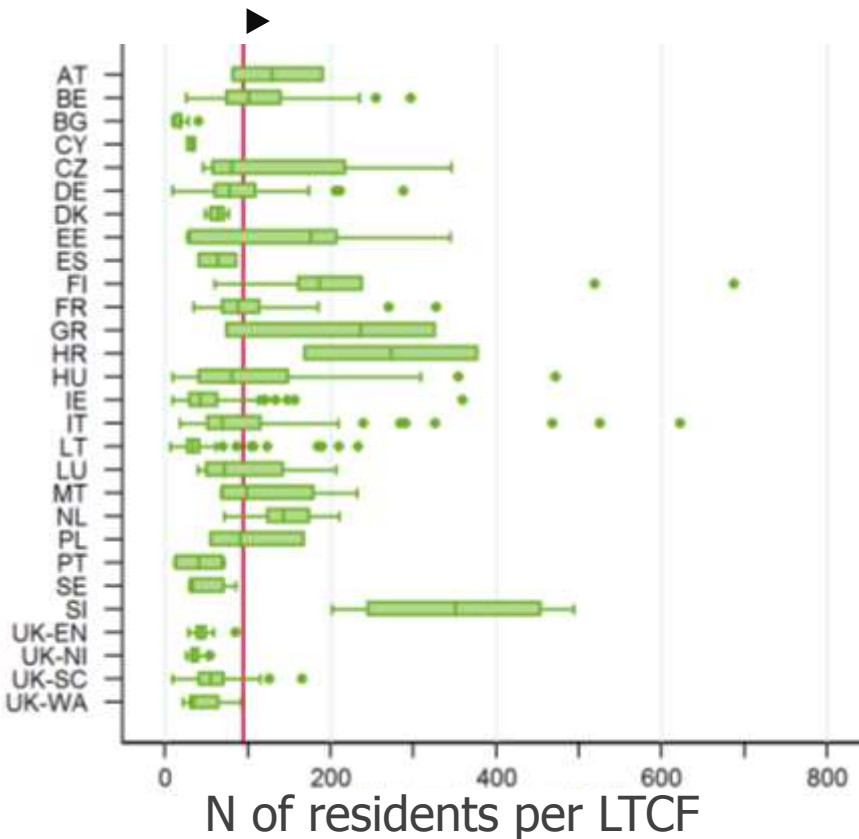
	HALT	HALT-2
Countries*	28	19
LTCFs	722	1 181
Residents	61 932	77 264
Trained data collection staff	Unknown	>1 070
Mean LTCF size** (beds)	94.3	80.1
% Public funded	53%	42%

Size and national representativeness of participating LTCFs

Size

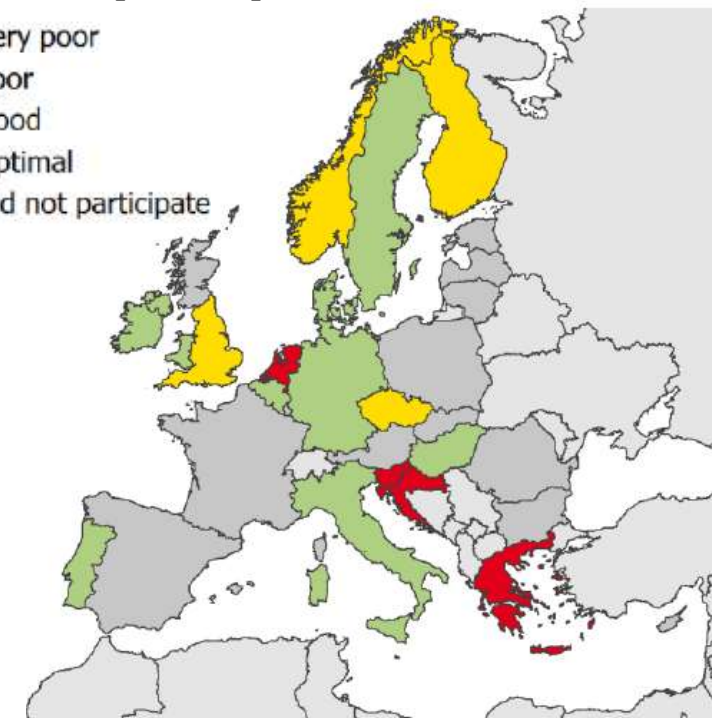
HALT (2010)

HALT-2 (2013)



Representativeness* HALT-2 (2013)

- Very poor
- Poor
- Good
- Optimal
- Did not participate

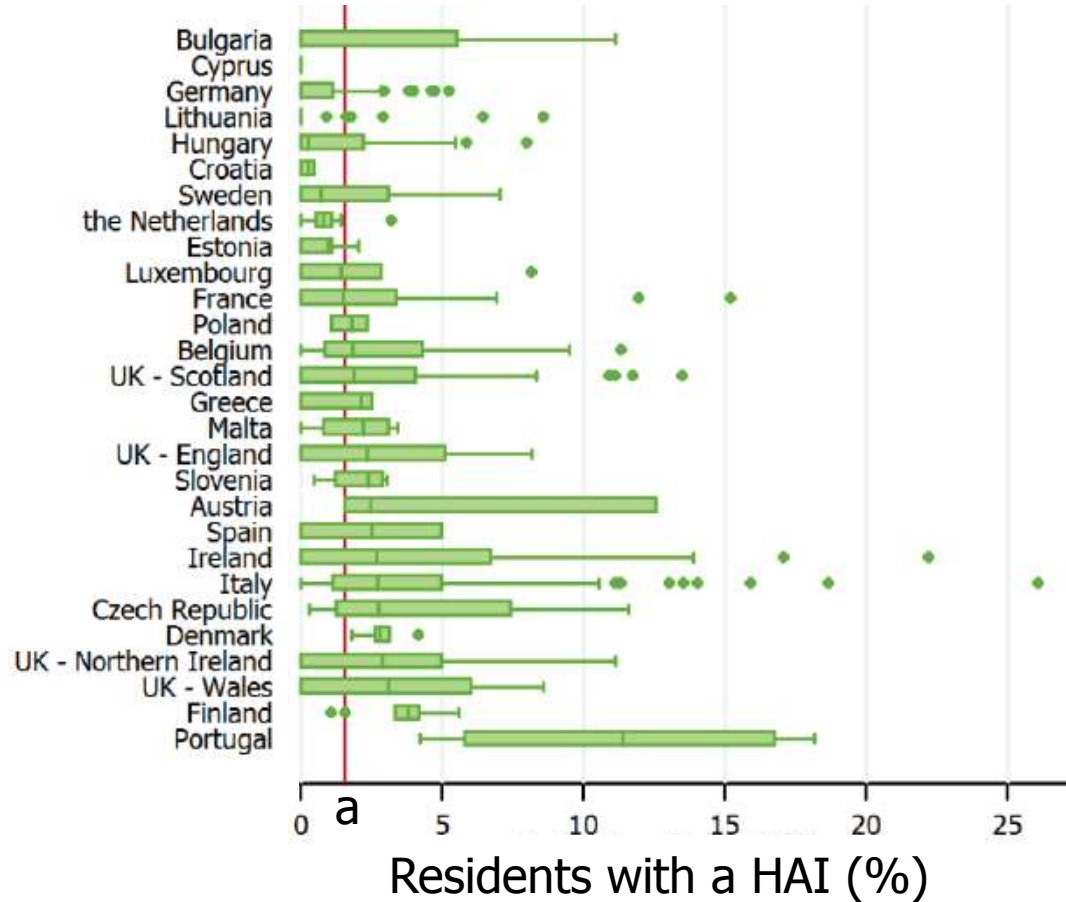


Analysis: data aggregated for 'nursing homes' + 'residential homes' + 'mixed facilities'

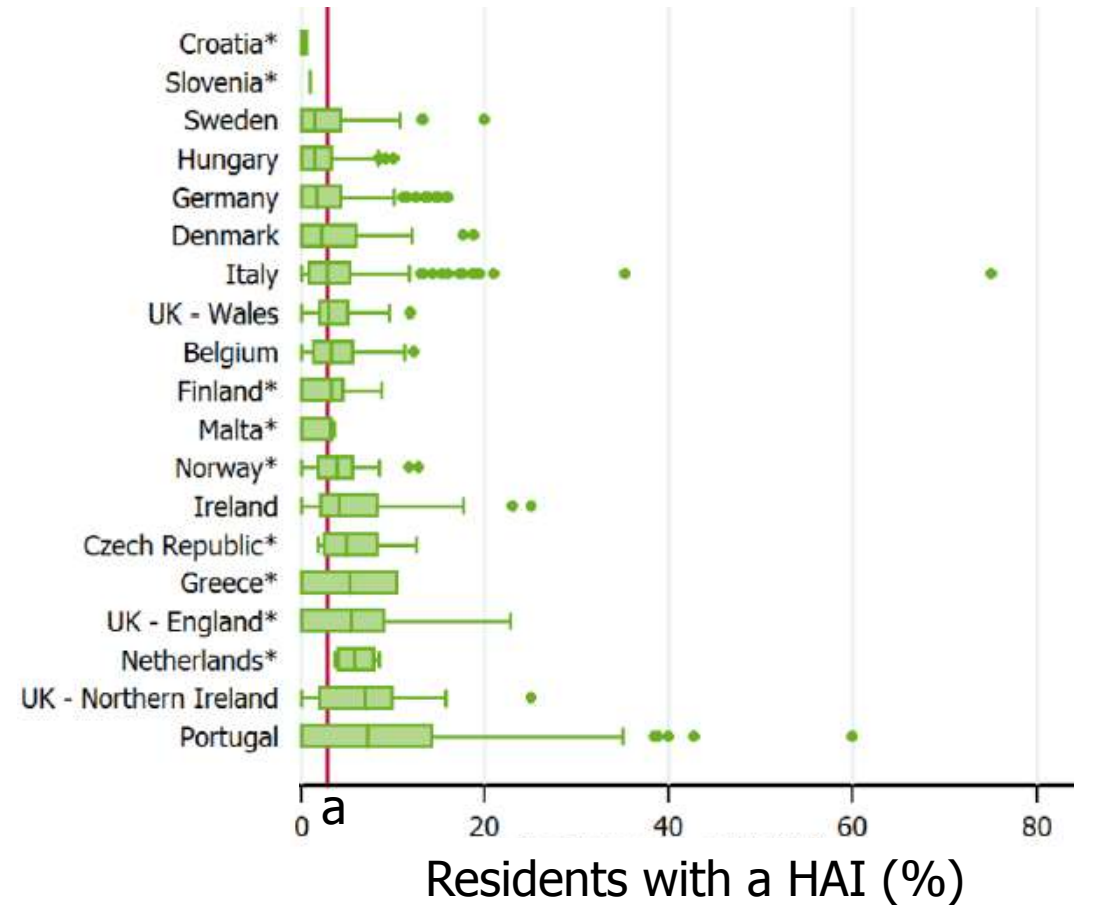
Prevalence of HAIs in LTCFs in EU/EEA countries, HALT (2010) and HALT-2 (2013)



HALT (2010): 2.4%^a of residents



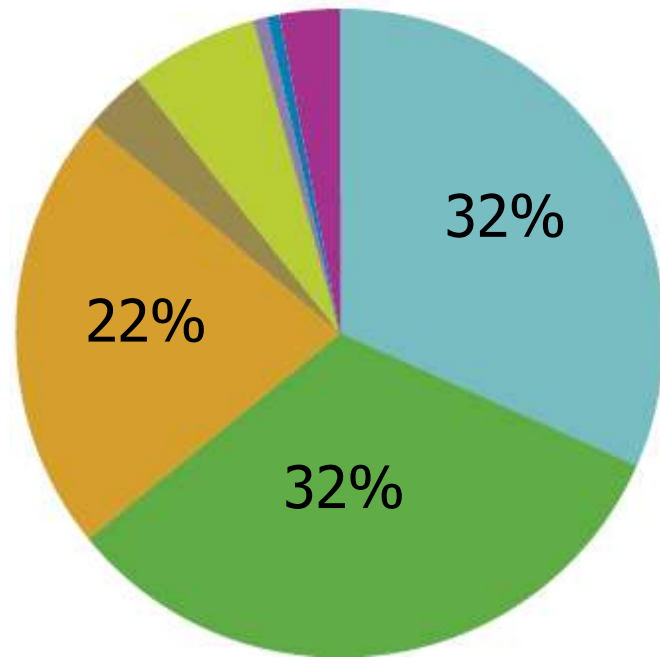
HALT-2 (2013): 3.4%^a of residents



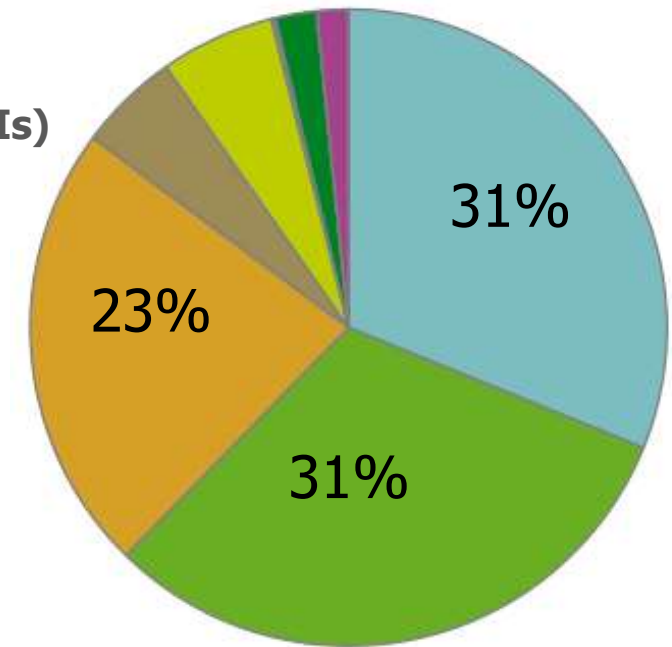
^a crude mean; *poor national representativeness of LTCF sample

Most commonly reported HAI types in LTCFs in EU/EEA countries, HALT (2010) and HALT-2 (2013)

HALT (2010)



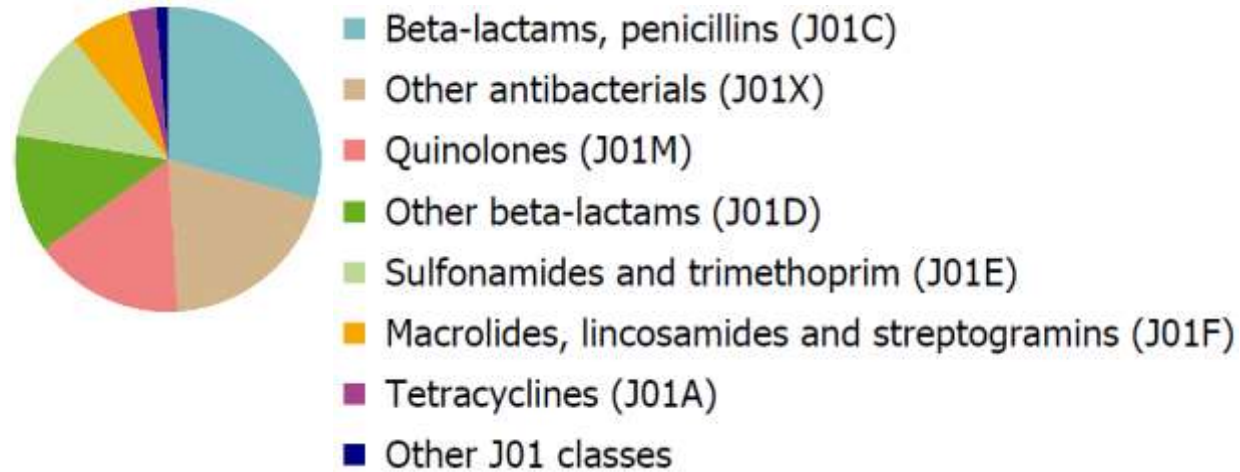
HALT-2 (2013)



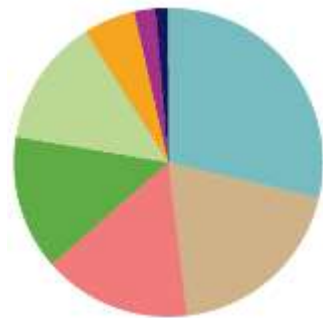
- Urinary tract infections (UTIs)
- Respiratory tract infections (RTIs)
- Skin infections
- Gastrointestinal infections
- Eye, ear, nose and mouth
- Bloodstream infections
- Unexplained fever
- Other infections

Prevalence of LTCF residents receiving ≥ 1 systemic antimicrobial agent, EU/EEA, HALT (2010) and HALT-2 (2013)

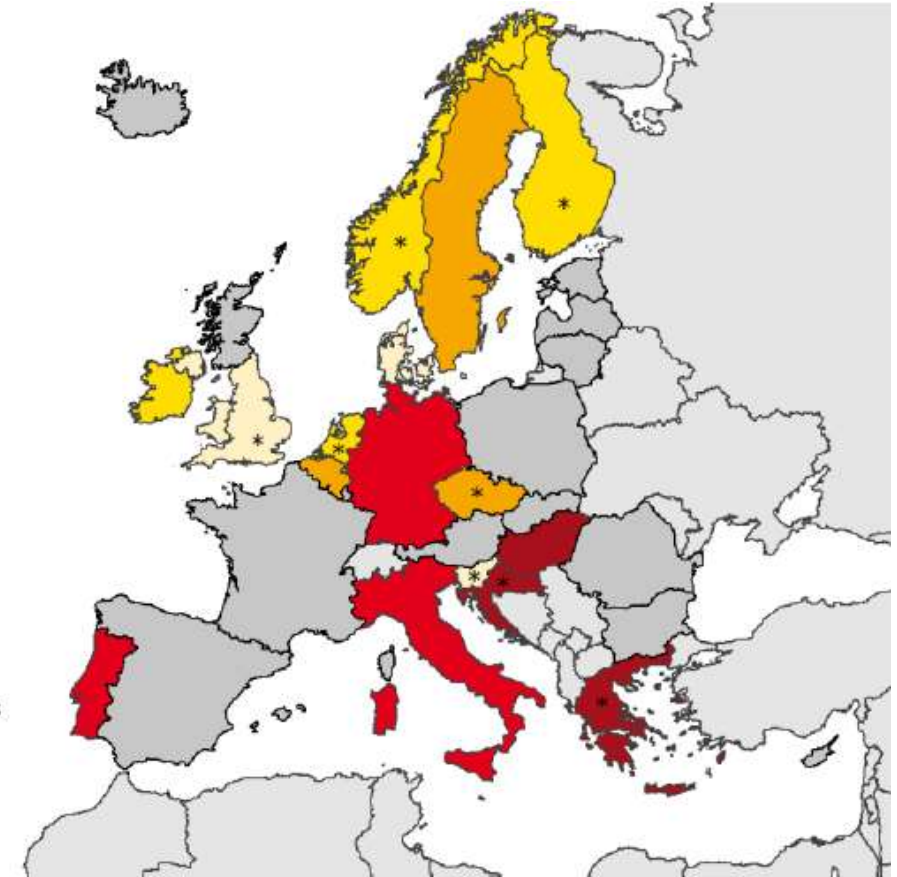
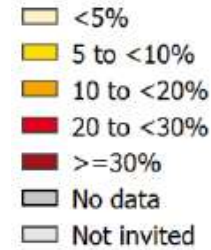
HALT-2 (2013): 4.4%^a of residents



HALT (2010): 4.3%^a of residents

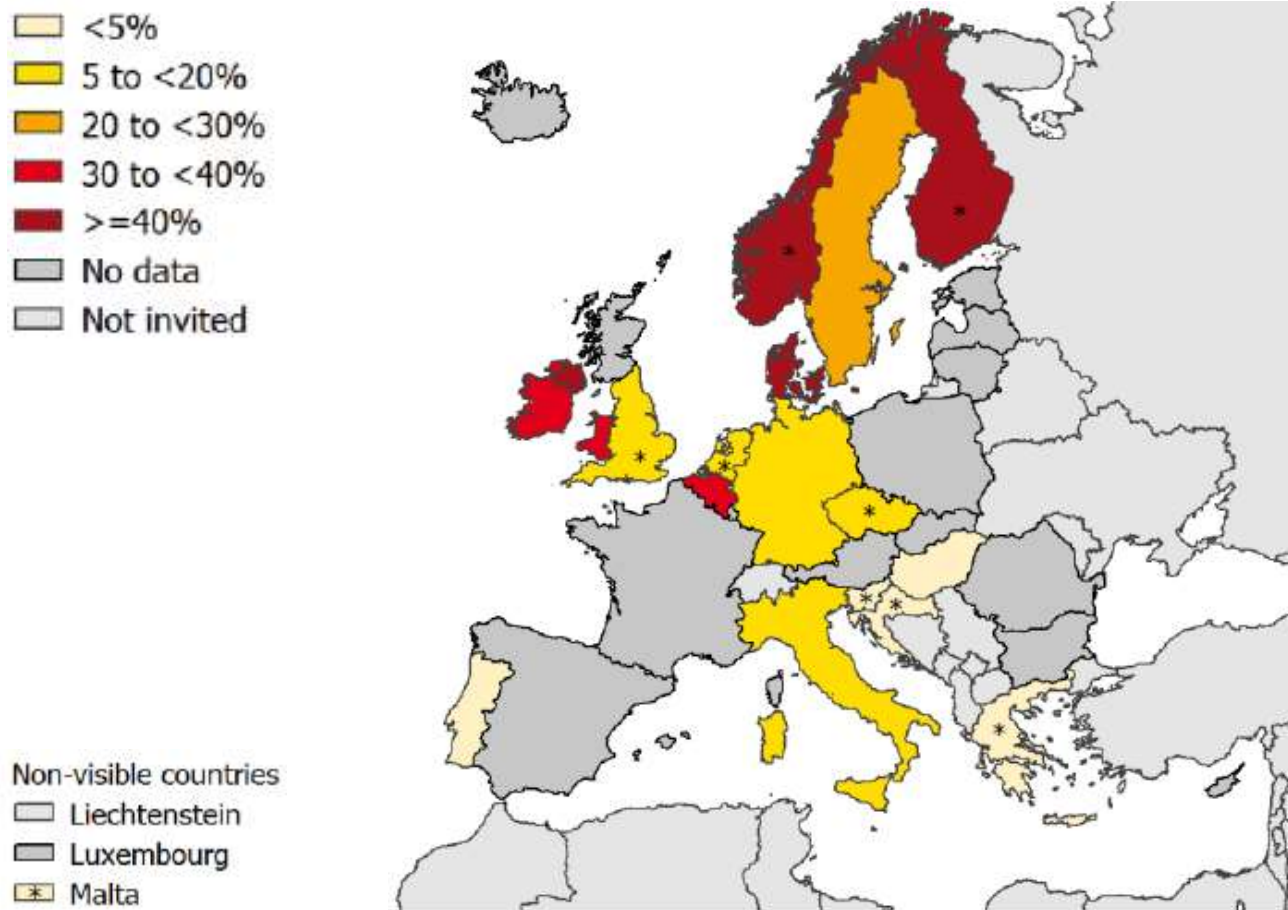


% antimicrobial use (ATC J01) that were Quinolones (ATC J01M), HALT-2 (2013)



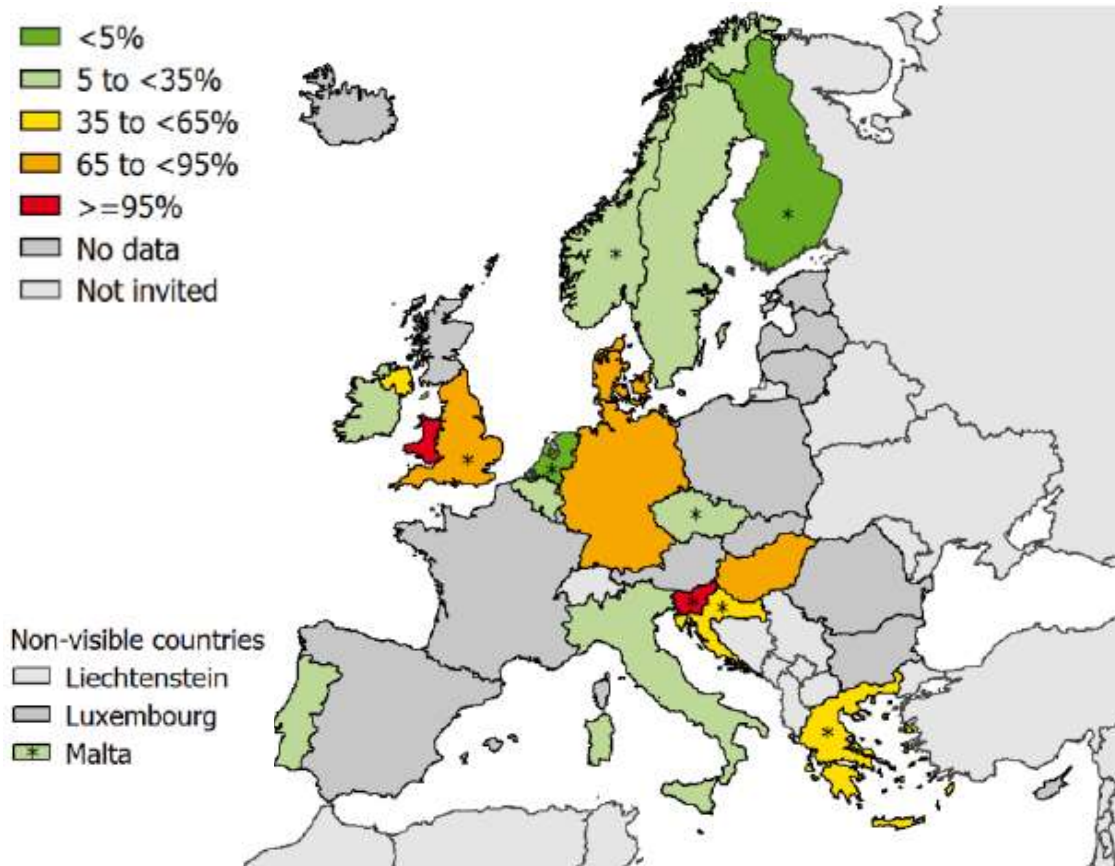
Selected indicators of appropriate antimicrobial stewardship in LTCFs in EU/EEA countries, HALT-2 (2013)

% antimicrobials prescribed for uroprophylaxis (22%)



Selected indicators of appropriate antimicrobial stewardship in LTCFs in EU/EEA countries, HALT-2 (2013)

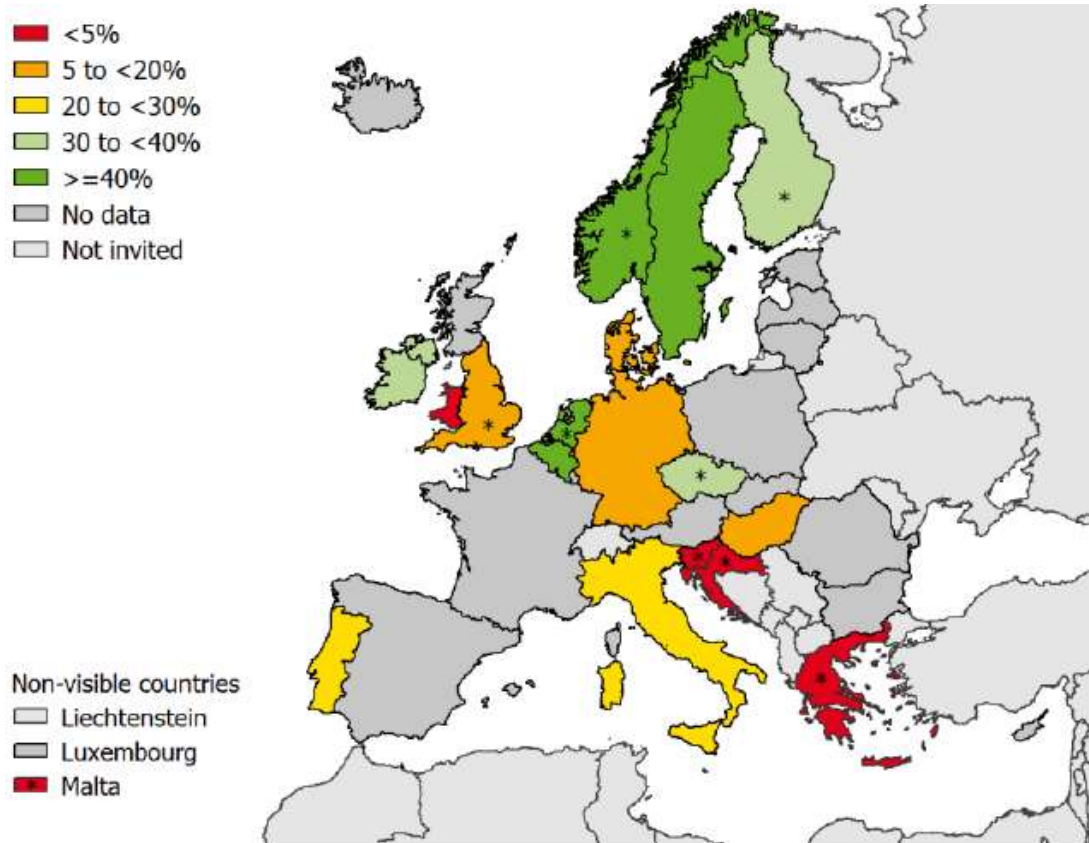
% LTCFs with none of 10 selected elements of antimicrobials stewardship



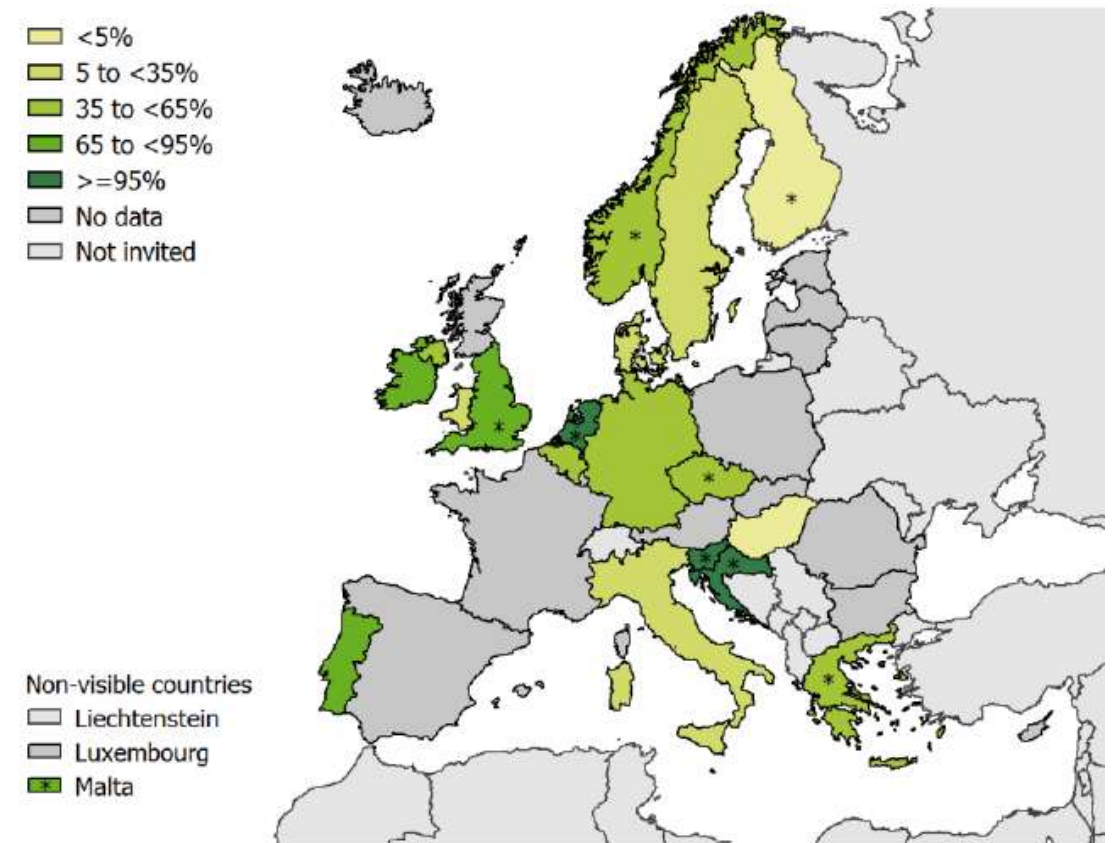
1. Antimicrobial committee
2. Training on appropriate prescribing
3. Written guidelines for antimicrobial use
4. Data on annual antimicrobial consumption
5. Reminders of importance of samples
6. Local antimicrobial resistance profiles
7. Restrictive list of permitted antimicrobials
8. Pharmacist advice available
9. Therapeutic formulary
10. Feedback to GPs on local antimicrobial consumption

Selected indicators of appropriate infection prevention and control in LTCFs in EU/EEA countries, HALT-2 (2013)

% LTCFs with therapeutic guidelines for UTIs, RTIs, soft tissue infections



% LTCFs with an IPC Committee



HALT-2 data validity



Validation study: 10 / 19 countries; 20 / 1 056 LTCFs

Finland (2 LTCFs), Germany (2), Hungary (1), Ireland (2), Italy (1), the Netherlands (1), Portugal (2), Sweden (2), UK–England (5) and UK–Northern Ireland (2)

Data	HALT-2	
	Sensitivity % (95% CI)	Specificity % (95% CI)
Population denominators e.g. eligibility of residents	96.9 (95.9–97.7)	98.5 (98.1–98.8)
Antimicrobial use	90.2 (78.6–96.7)	99.9 (99.3–100)
Structure and process indicators of infection prevention and control	82.6 (78.1–86.5)	85.0 (80.3–89.0)
HAIs	75.8 (57.7–88.9)	98.9 (98.1–99.6)

Annual burden of HAIs

Estimated N of HAI episodes / year

Acute care hospitals
(2011-2012)

3.5 million HAIs
in 3.2 million patients



LTCFs
(2013)

4.3 million HAIs
in 1–1.5 million residents



Population of Ireland
(2013)

4.6 million



Summary conclusions:

- Notable burden of HAIs and AU in EU/EEA LTCF residents
- Guidelines and governance mechanisms for infection prevention and control are commonly lacking in EU/EEA LTCFs
- HALT data cannot be used to compare countries

Main recommendations:

- Repeat HALT PPSs to monitor trends
- Include validation studies to refine estimates

Next steps: HALT-3

Final waves of surveillance:

- April–June 2017 & September–November 2017

Protocols: see ECDC website

Training material*: e.g. recorded online webinars

Train-the-trainer*: presentations and case studies

First participation in HALT-3



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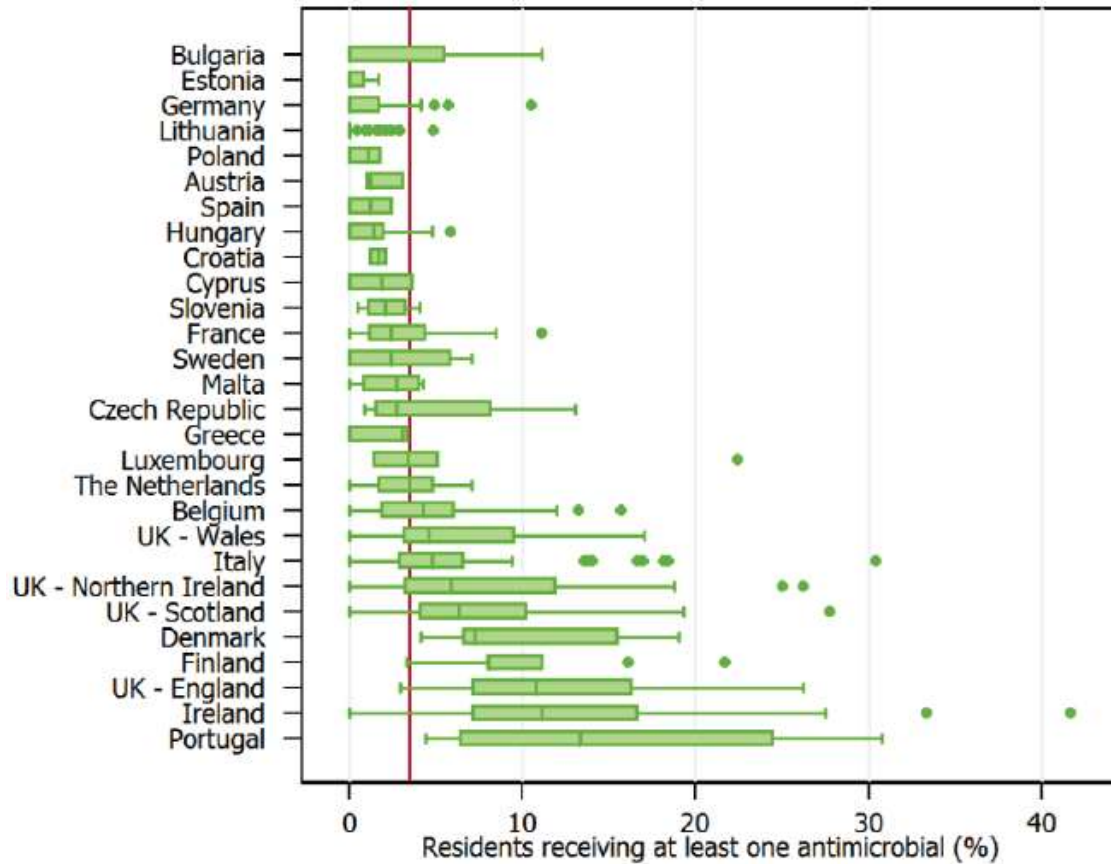
Expert in Surveillance of Healthcare-Associated Infections, Surveillance and Response Support Unit
European Centre for Disease Prevention and Control

ECCMID; Vienna, Austria; 24 April 2017

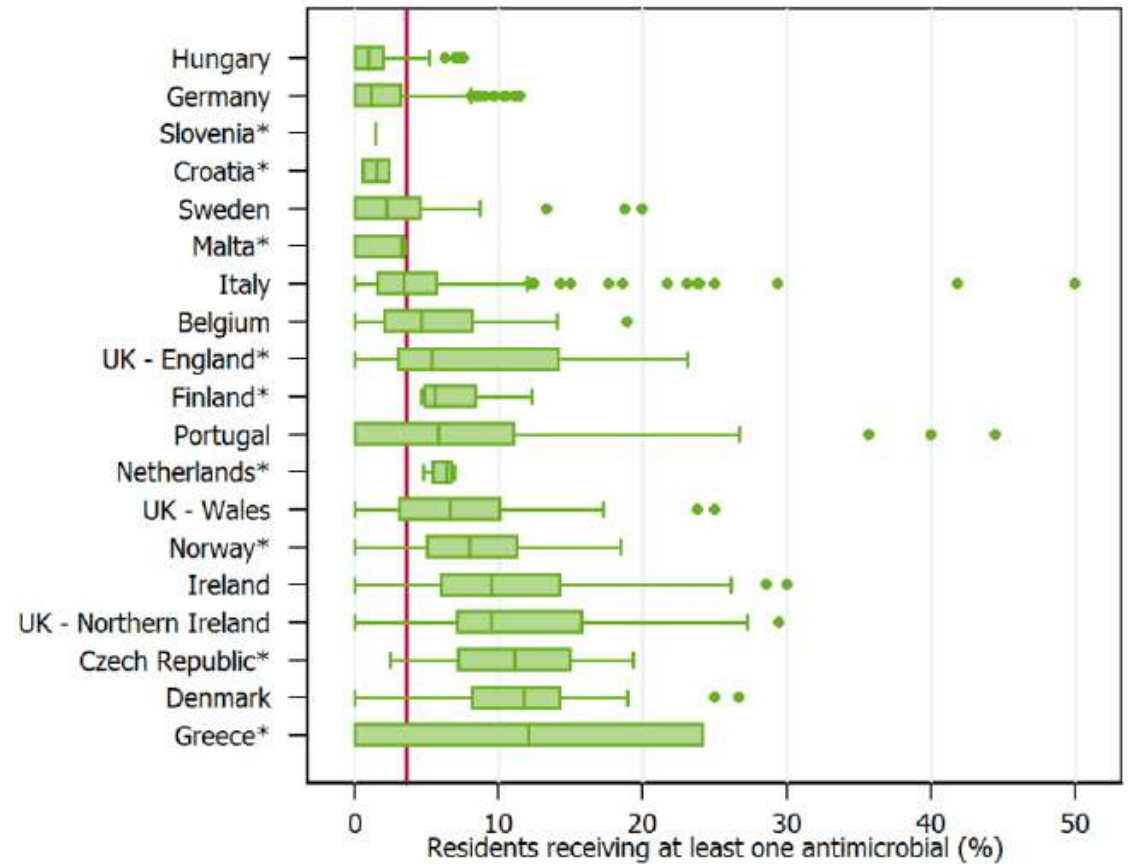
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HALT (2010): 4.4% residents



HALT-2 (2013): 4.3% residents



* Poor national representativeness of LTCF sample; ** data aggregated for nursing and residential homes, mixed LTCFs