

Activities of the National Registry of Hemolytic Uremic Syndrome (HUS) in Italy (1988 – 2014)



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The Italian Registry of HUS - 1



Active since 1988, the HUS Registry is coordinated by:

- Italian National Public Health Institute
- Italian Society for Pediatric Nephrology

Network of Pediatric Nephrology Units

Collaborating laboratories:

- **STEC**: National Reference Laboratory for E.coli, Rome
- **Host genetic factors**: Istituto Mario Negri, Bergamo
- **Kinetic of Shiga-toxin**: University of Bologna, Bologna



**Pediatric
Nephrology Unit**

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The Italian Registry of HUS - 2



Aims:

- To **describe the epidemiology and clinical pattern** of HUS in Italy and the related STEC infections
- To **investigate pathogenetic mechanisms** and clinical course of HUS
- To study **virulence factors of STEC**
- To promote **translational research on HUS** and the related health care problems
- To **early detect epidemic outbreaks** of STEC-associated HUS

Feed-back to:

- Regional and National Public Health Authorities
- European Center for Disease Prevention and Control (ECDC)

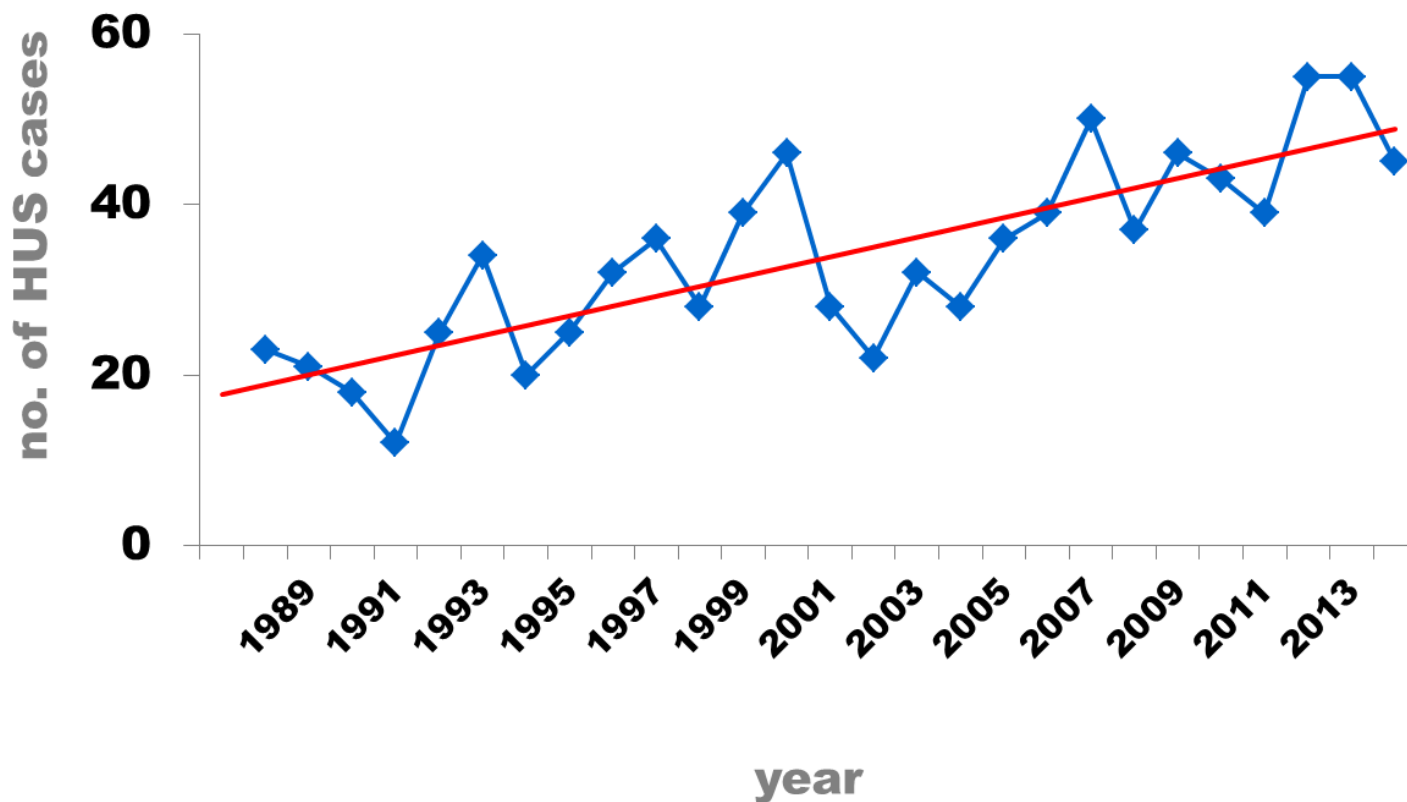
HUS case definition:
Acute renal failure and anemia or thrombocytopenia in children < 15yrs





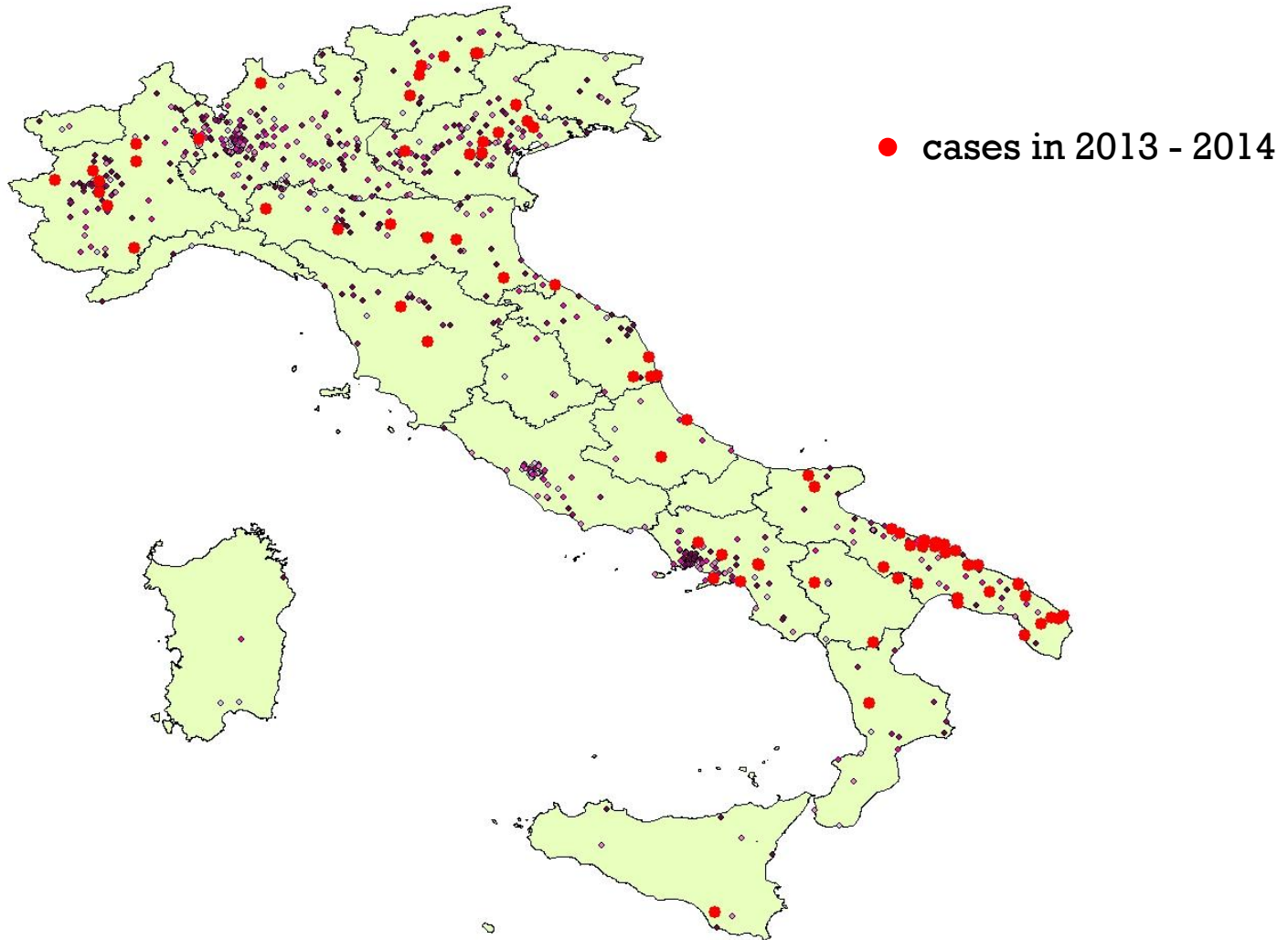
HUS cases reported to the Italian Registry, by year - 1988-2014

Total HUS cases: **914**
Mean HUS cases per year: **34 (range 12 – 55)**
Male / Female Odd: **1,08**
Age: Median **26 months (range 0 – 15 yrs)**





Map of HUS cases reported to the Italian Registry - 1988-2014 (N=914)

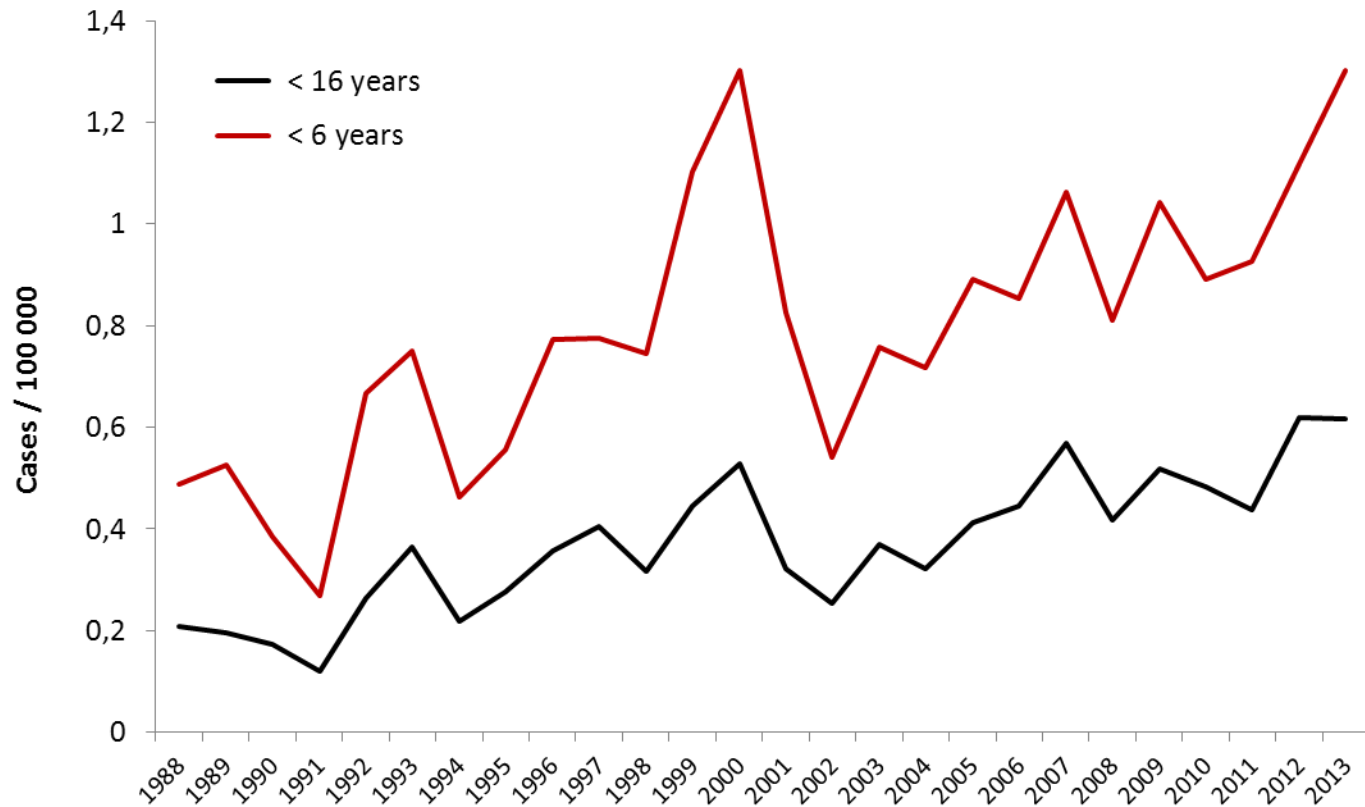




Incidence of HUS in pediatric population by year (1988-2012)

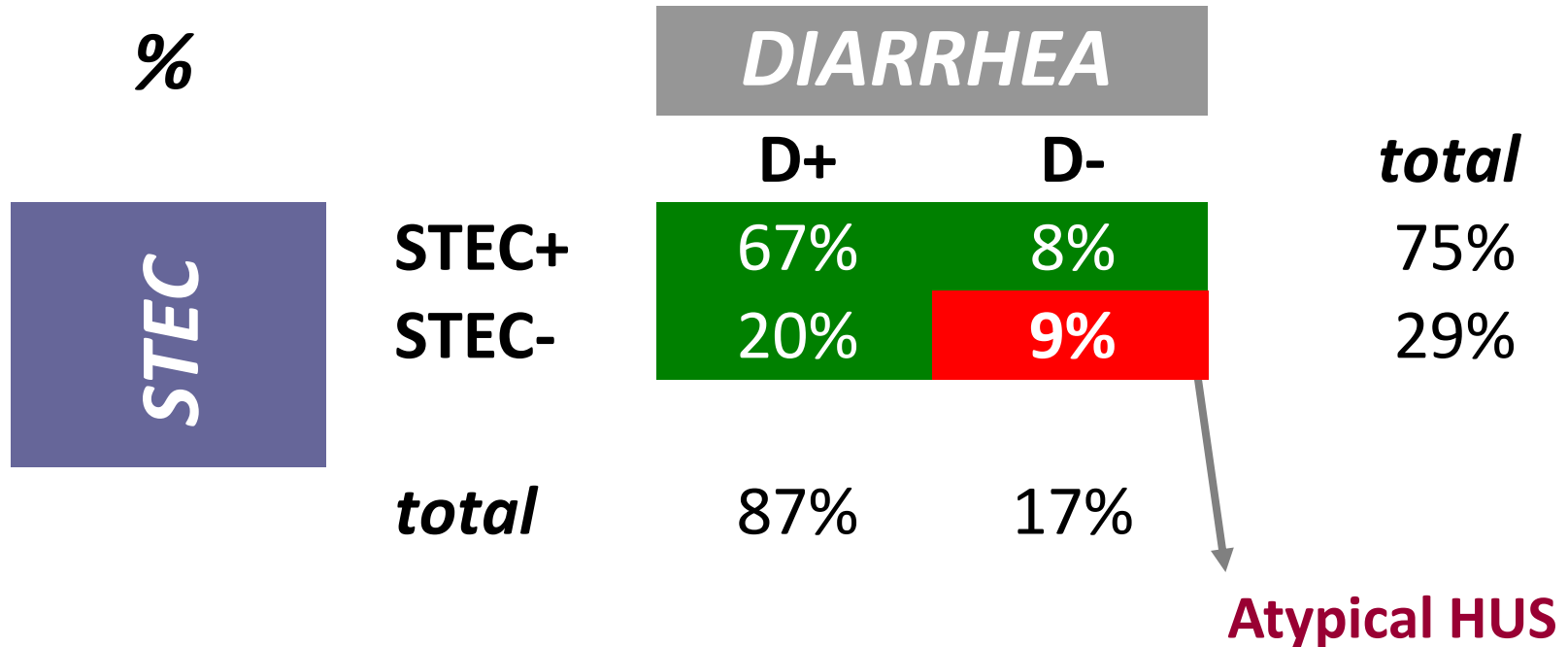


Mean annual incidence (cases * 100 000)



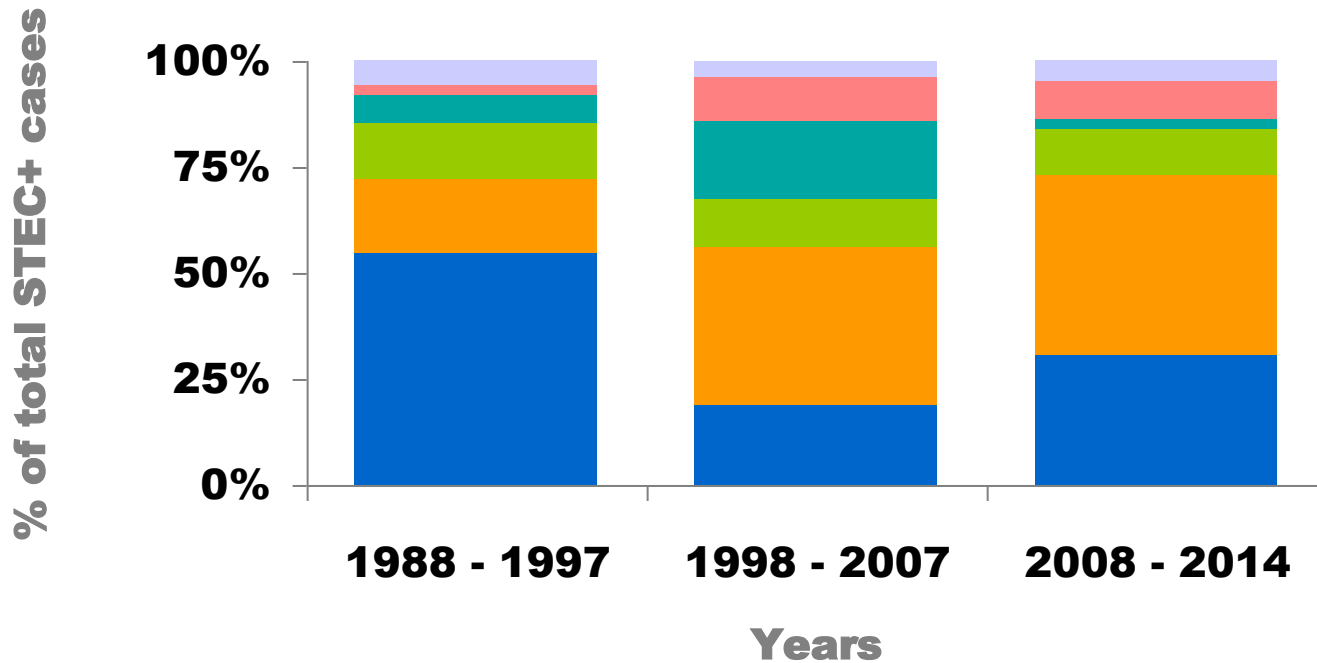
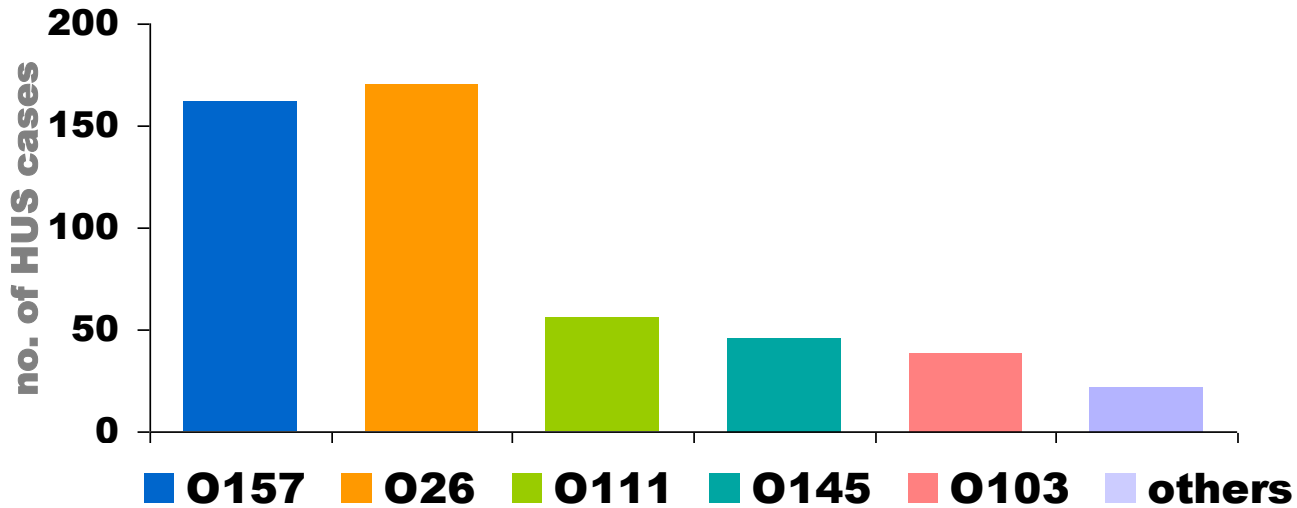


tHUS vs aHUS: cases by prognostic group (N 686)

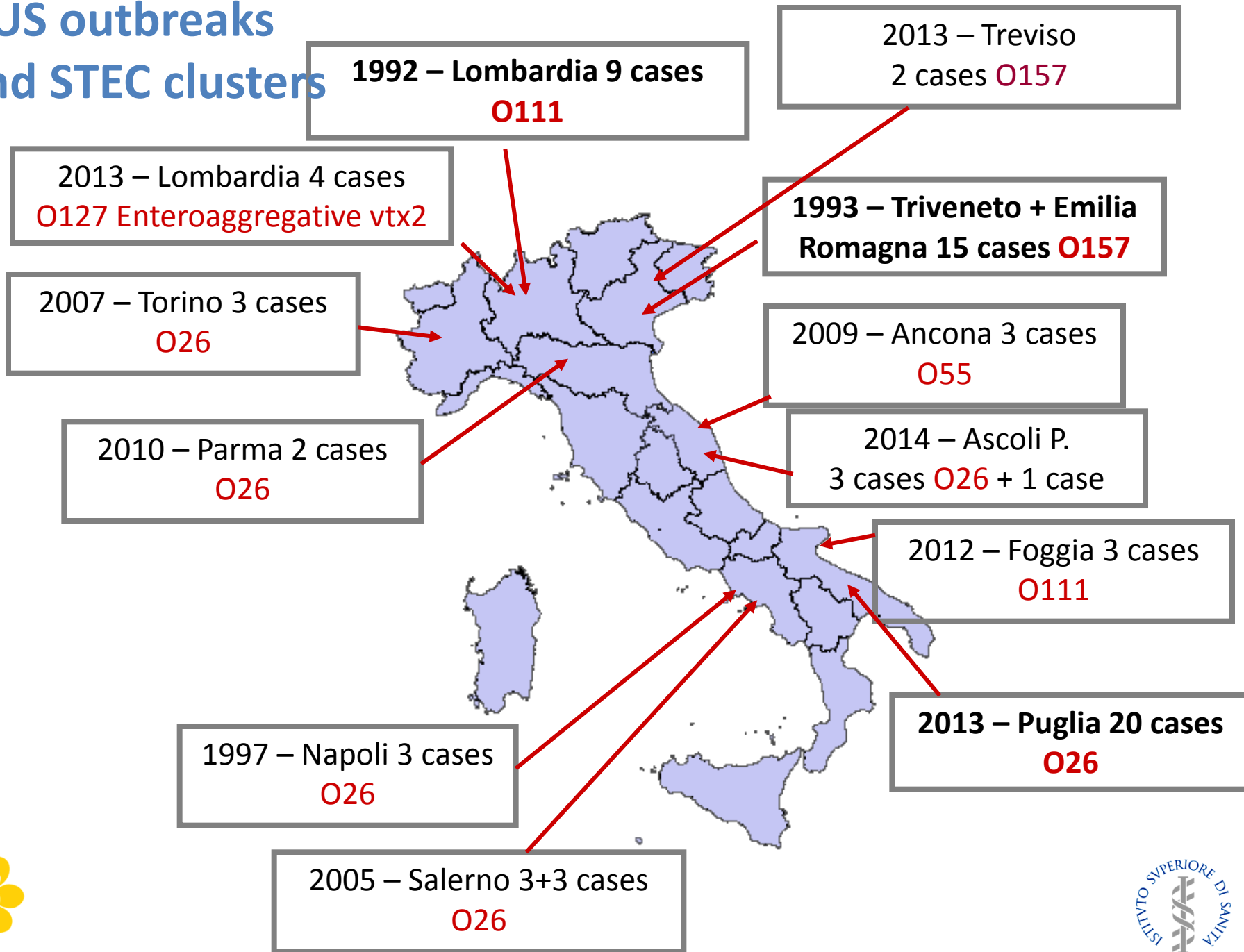




STEC serogroups diagnosed in tHUS patients (N 494)



HUS outbreaks and STEC clusters

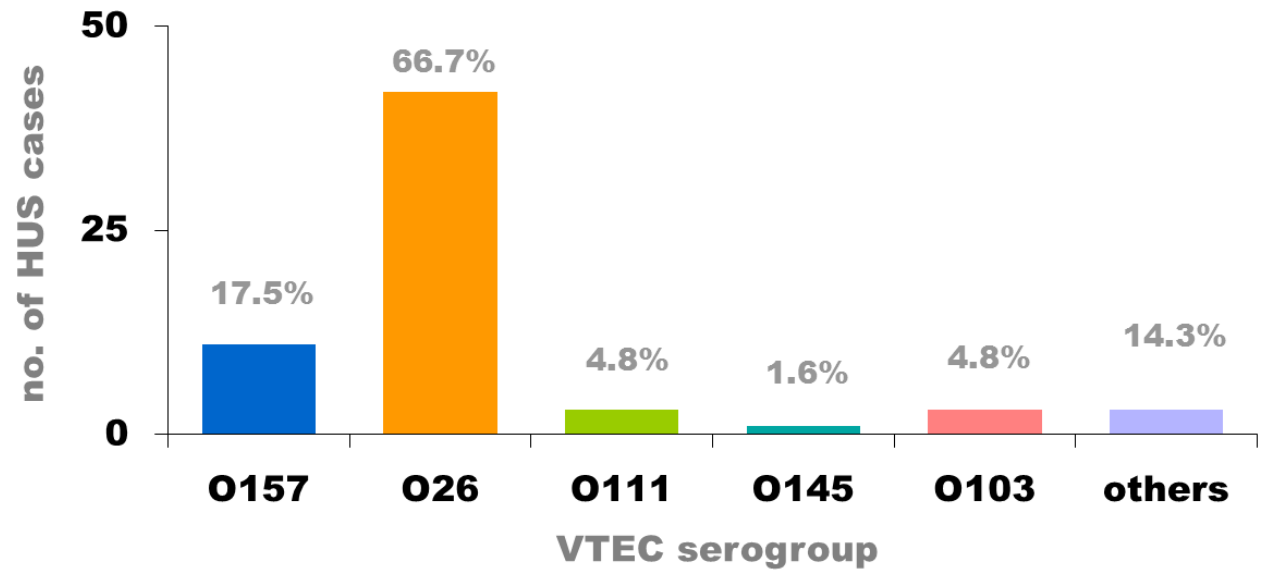


Summary of the activities of HUS Registry and diagnostic for verocytotoxin-producing E.coli (VTEC)

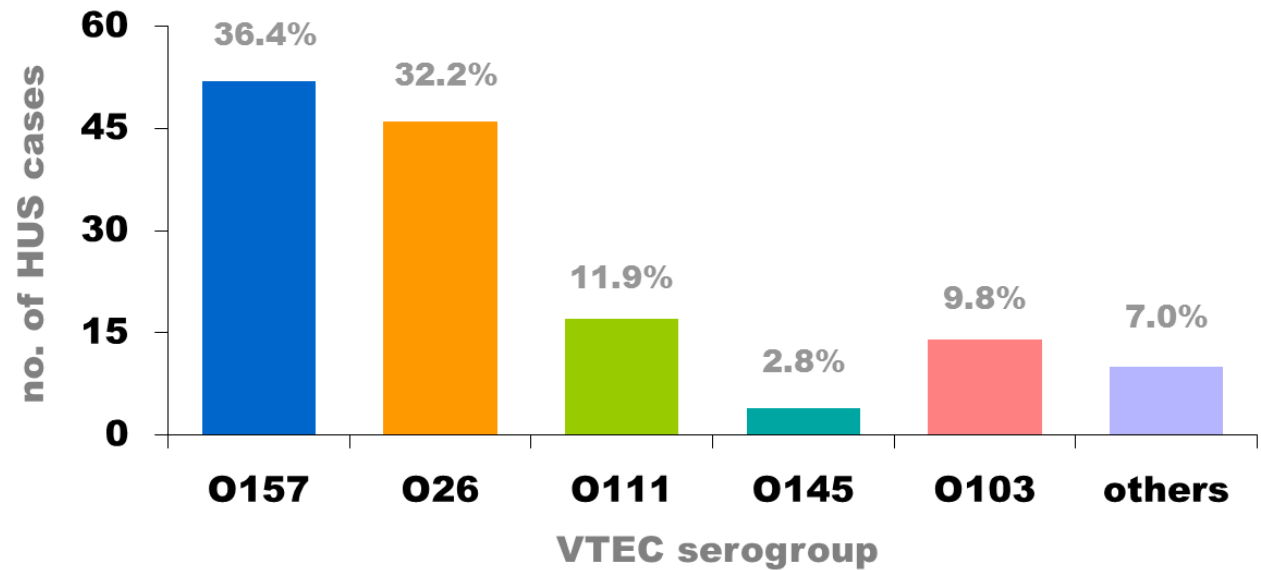
	2014 (primi 9 mesi)	2013	media 5 anni precedenti	media 10 anni precedenti
n. centri che hanno segnalato casi	13	11	11,8	10,8
n. casi SEU	45	55	44	40,5
% di casi SEU con campioni per VTEC esaminati	95,6%	90,9%	89,5%	88,1%
% casi VTEC+ su casi esaminati	76,7%	86,0%	75,6%	70,9%
casi D-VTEC-	0	3 (5,4%)	2	2

Typical HUS: associated VTEC serogroups

2013 - 2014



**precedenti
5 anni**



Epidemic outbreaks: 2013/2014



Chiavenna 2013
E. Coli O127 eAgg+



Marche 2014
E.Coli O26



Puglia 2013/2014
E.Coli O26

The Italian Registry of HUS

Ospedale Salesi, Ancona – I.Ratsch

Ospedale S.Giovanni XXIII, Bari – T.De Palo

Ospedale Meyer, Firenze – P.Romagnani

Ospedale IRCCS Gaslini, Genova - A.Trivelli

IRCCS Ca' Granda - Clinica pediatrica De Marchi, Milano – A. Edefonti

Ospedale di Padova - E.Vidal

Ospedale IRCCS Bambino Gesù, Roma – F.Emma

Ospedale Regina Margherita, Torino – A.Amore

Ospedale Burlo Garofalo, Trieste – M.Pennesi

Ospedale Santobono, Napoli – C.Pecoraro

Ospedale G. Di Cristina, Palermo – S.Maringhini

Ospedale Sant'Orsola Malpighi, Bologna – G.Montini

Az. Osp. Policlinico G.Marino, Messina – R. Chimenz

EURL E.coli – A. Caprioli

IRCCS Mario Negri – E.Daina

Univesity of Bologna – M.Brigotti

Thank you for your kind attention!

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