



UNIVERSITÀ DI PISA

LA SOTTOSTIMA DEI CASI DI MALATTIA INVASIVA DA PNEUMOCOCCO

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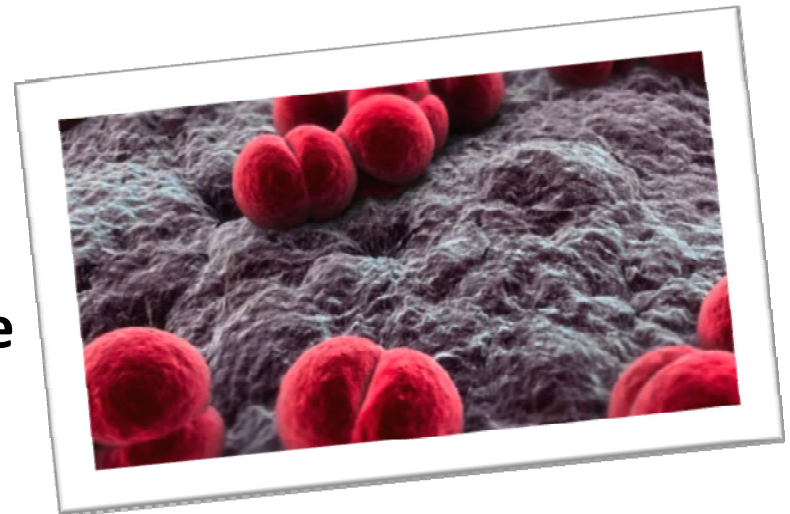
Firenze, 10 ottobre 2018

Gli pneumococchi

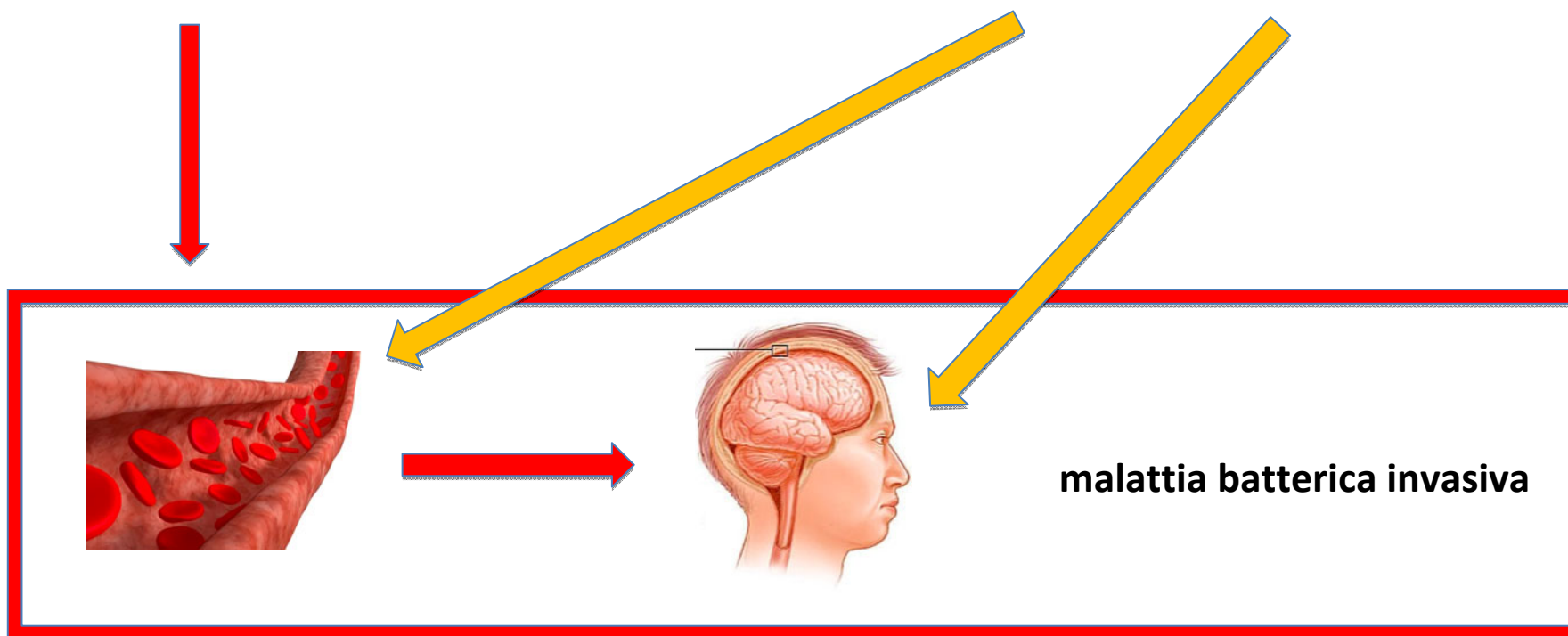
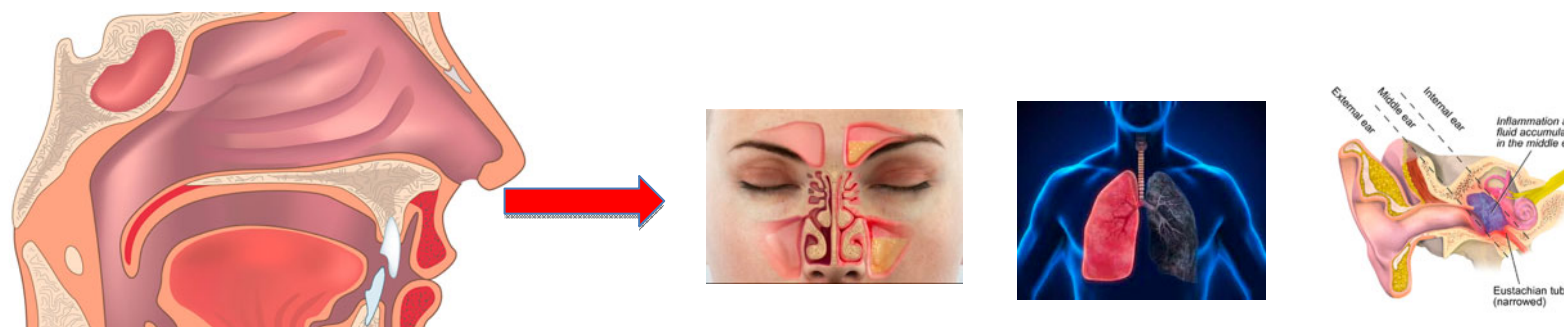
Streptococcus pneumoniae

Famiglia di batteri suddivisa in sierogruppi (distinti da un numero) e sierotipi (numero e lettera)

Oltre 90 sierotipi identificati



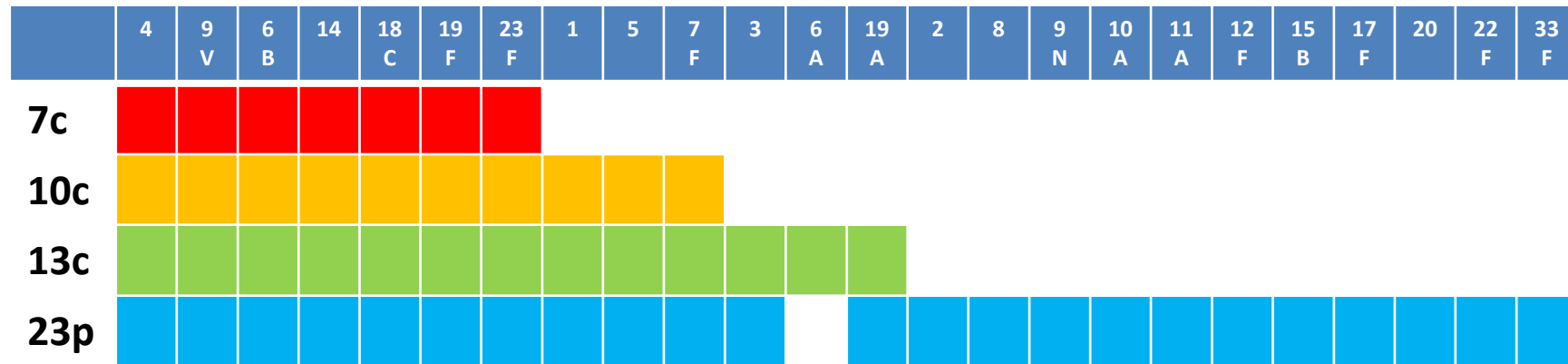
Carriage e malattia da pneumococco



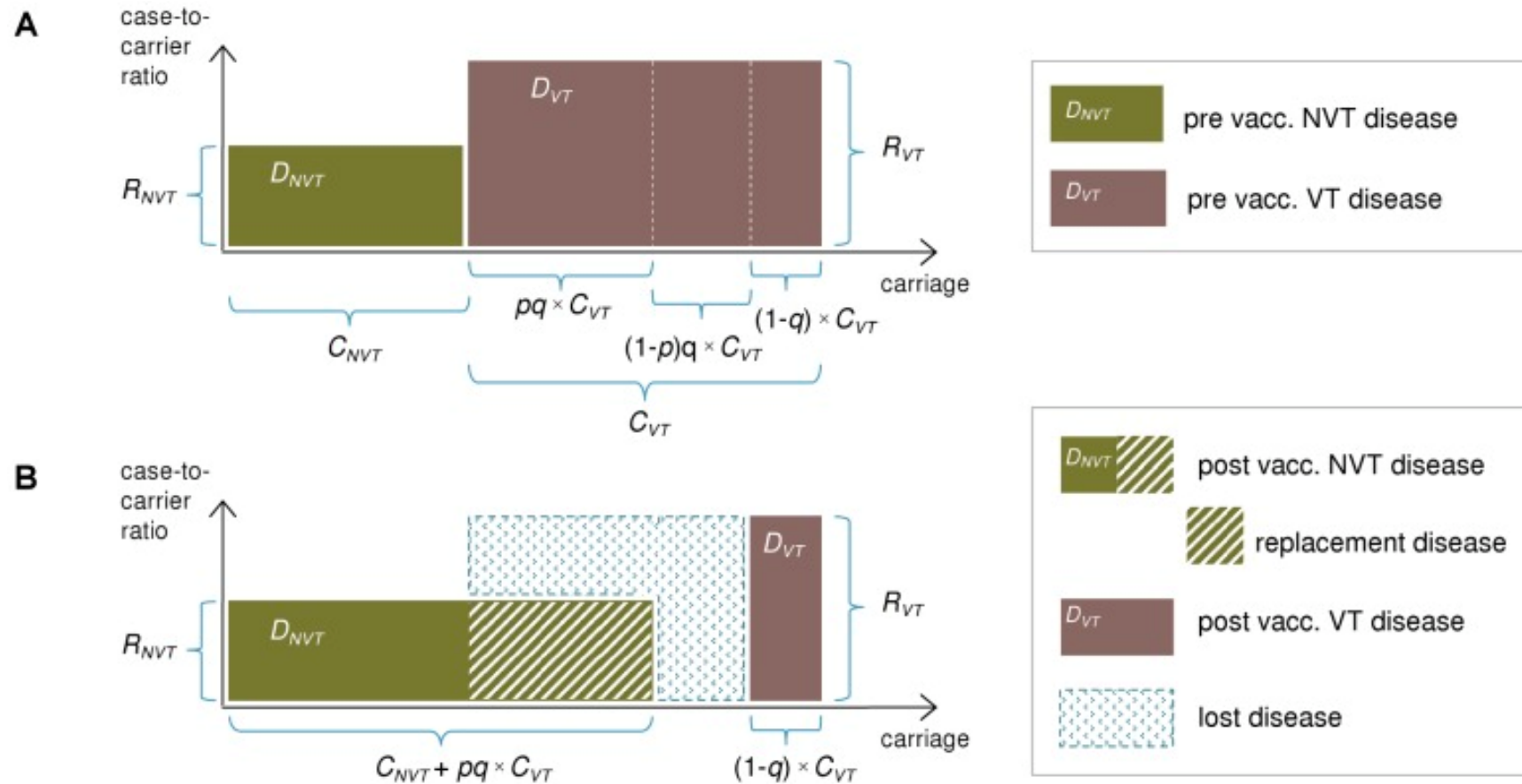
Sorveglianza delle malattie invasive batteriche (MIB) in Italia

- Include sorveglianza di MIB da *H. influenzae*, *N. meningitidis* e *S. pneumoniae*
 - Sistema di sorveglianza speciale
 - Raccoglie informazioni aggiuntive dai laboratori (sierotipi/sierogruppi)
 - Obiettivo secondario: monitoraggio dei fallimenti vaccinali
- Nel 2014 è stata adottata la definizione di caso Europea

I vaccini contro lo pneumococco

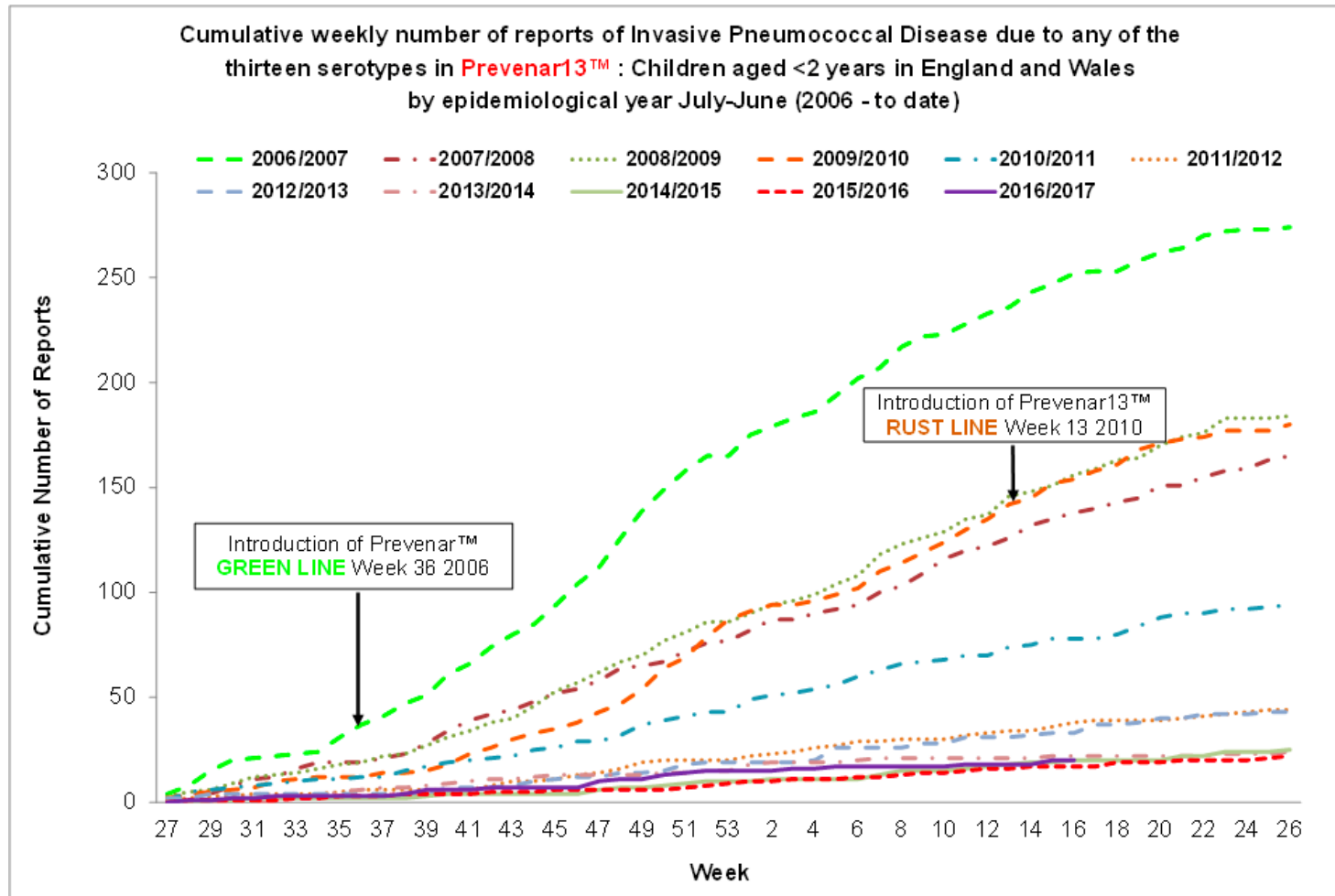


Rapporto carrier-malattia e replacement

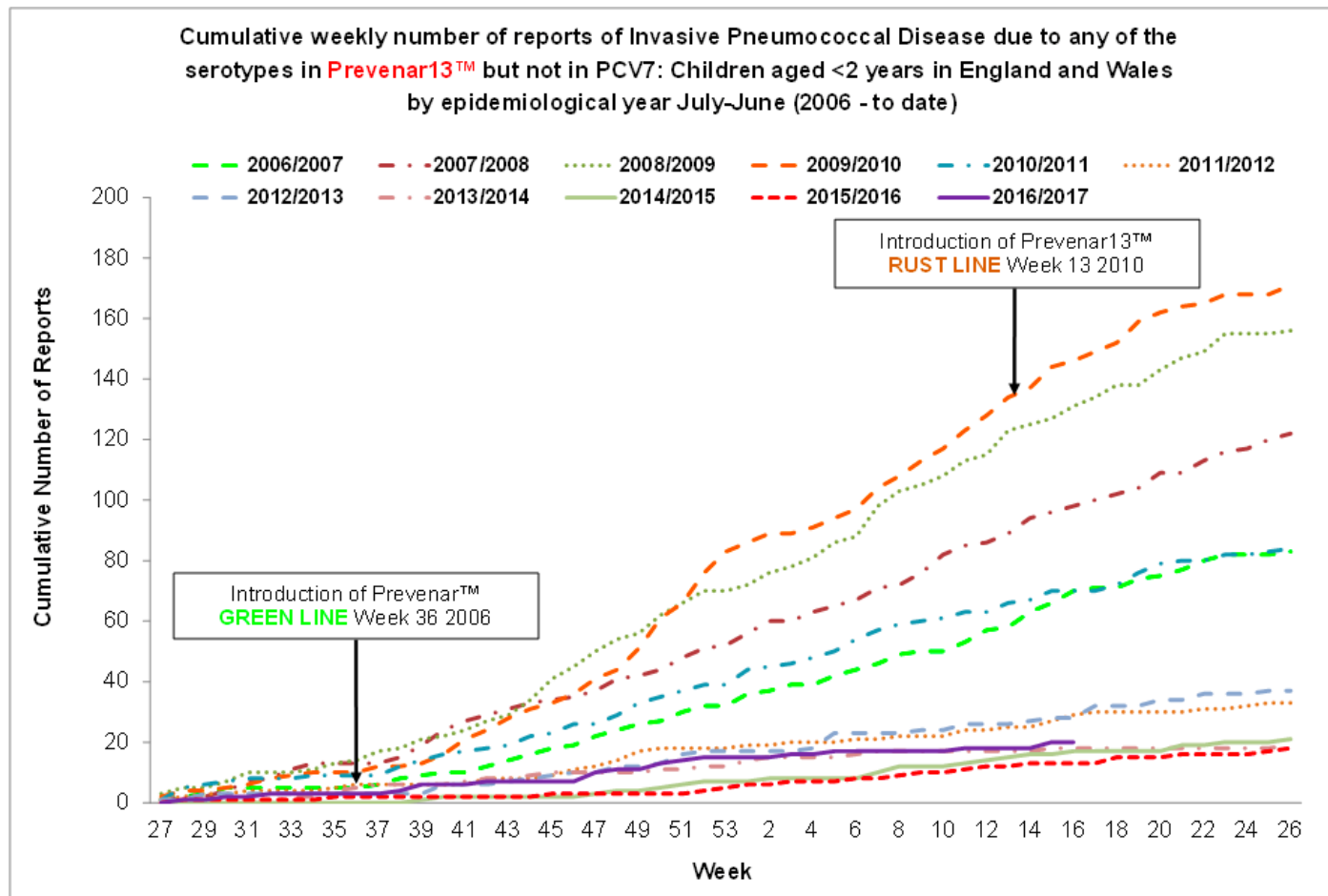


Nurhonen M, Auranen K. Optimal Serotype Compositions for Pneumococcal Conjugate Vaccination under Serotype Replacement. PLoS Comput Biol. 2014 Feb; 10(2): e1003477.

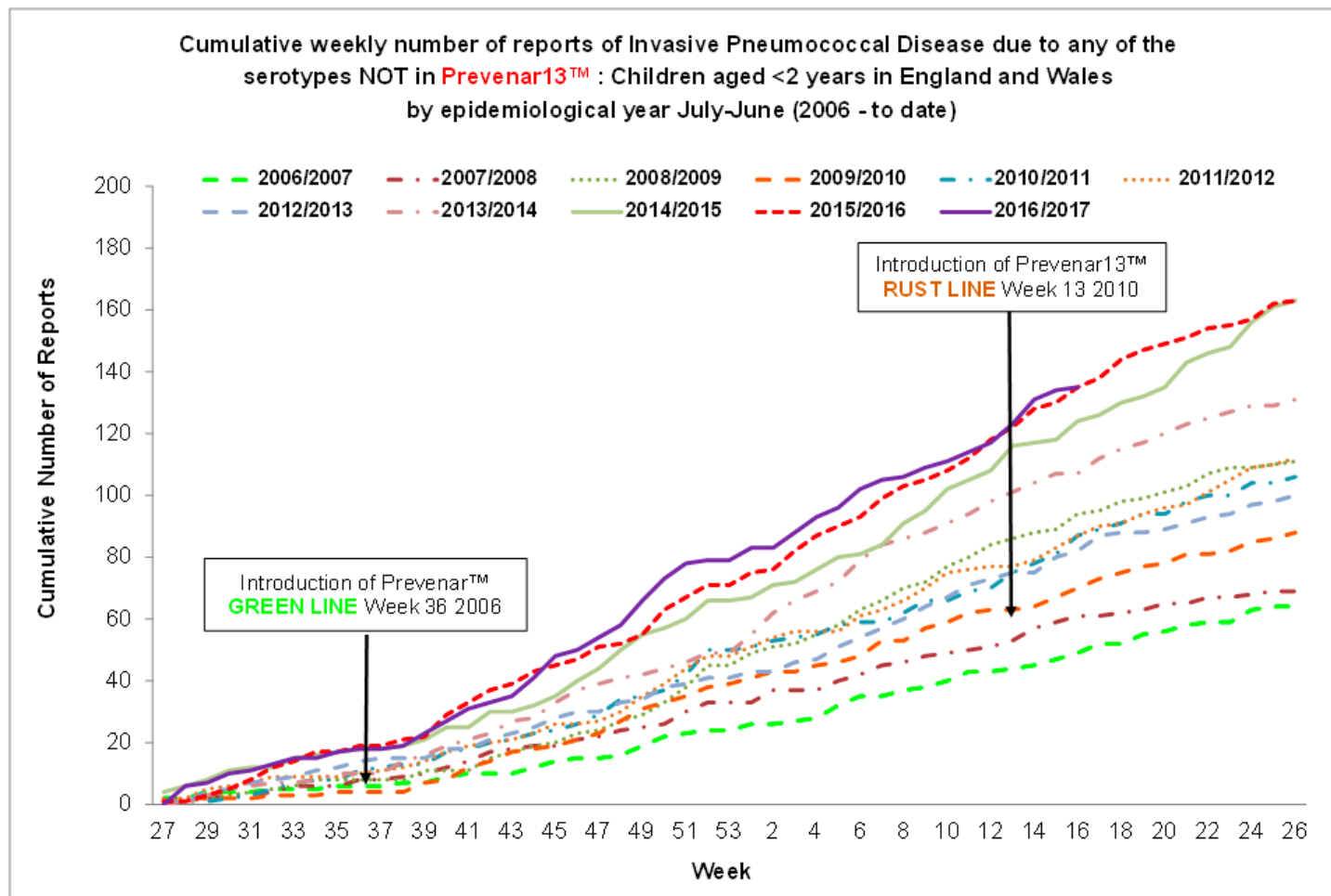
Sorveglianza dello pneumococco in UK – sierotipi coperti dal 13v



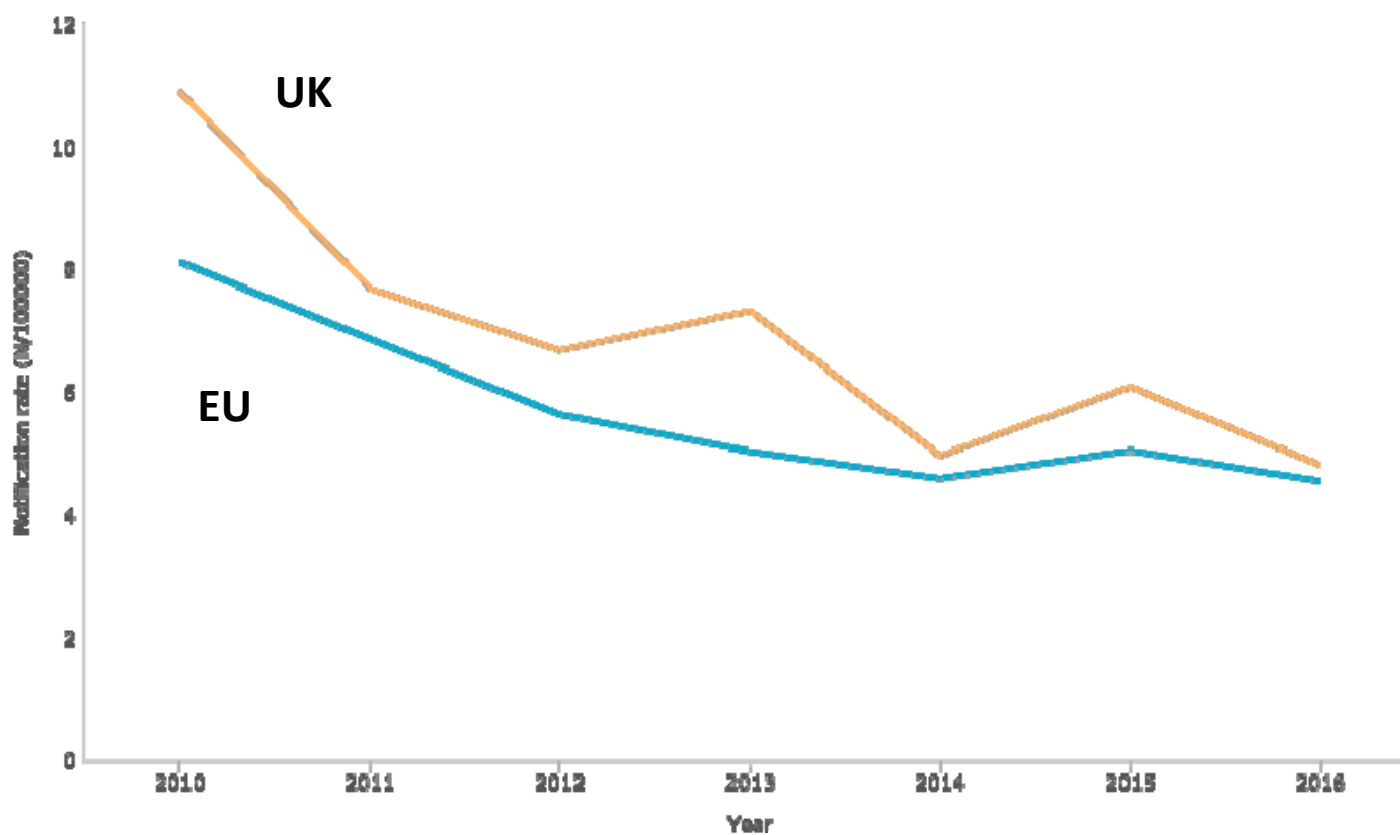
Sorveglianza dello pneumococco in UK – sierotipi coperti dal 13v non presenti nel 7v



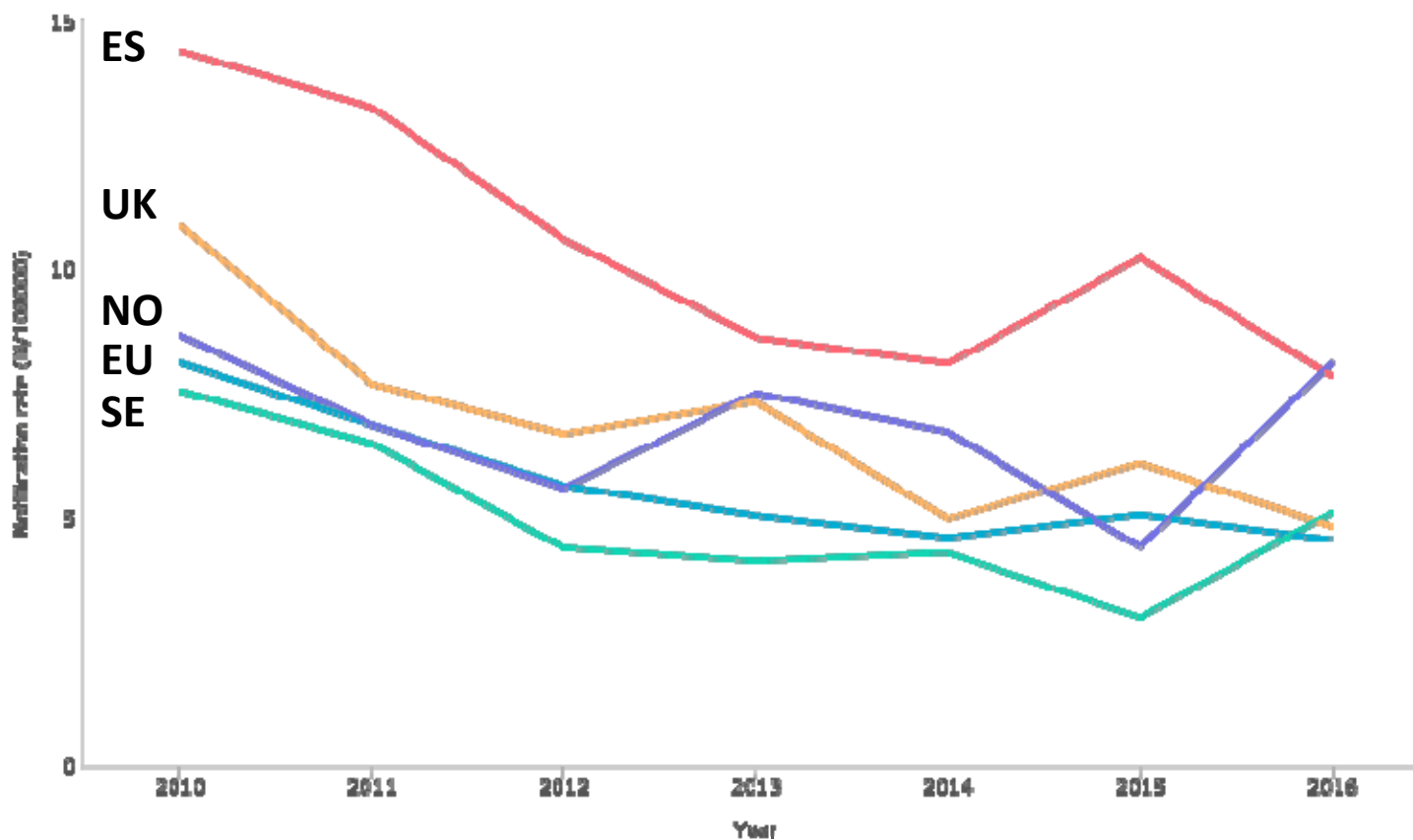
Sorveglianza dello pneumococco in UK - sierotipi non coperti dal 13v



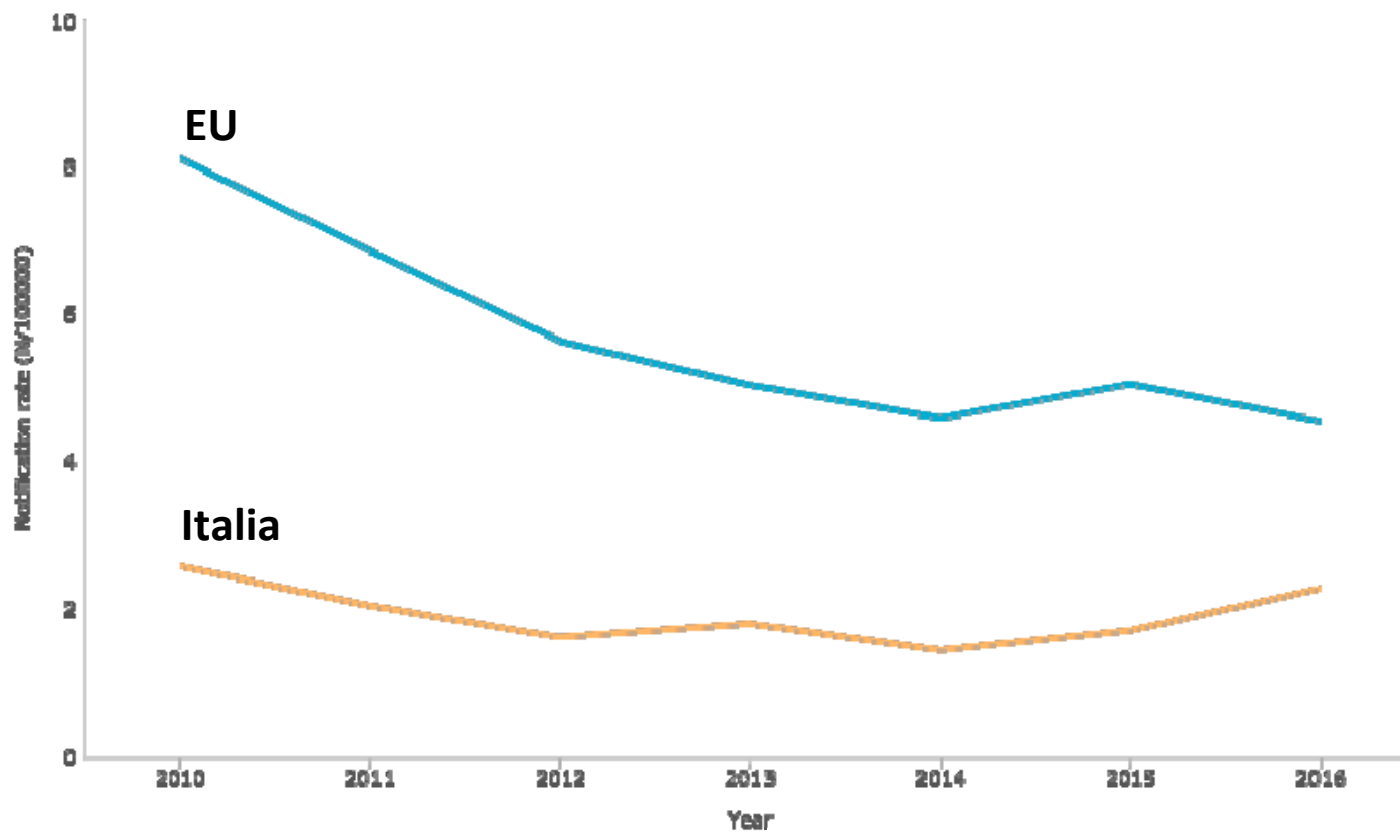
Incidenza di malattia invasiva da pneumococco in UK ed EU – 1-4 aa



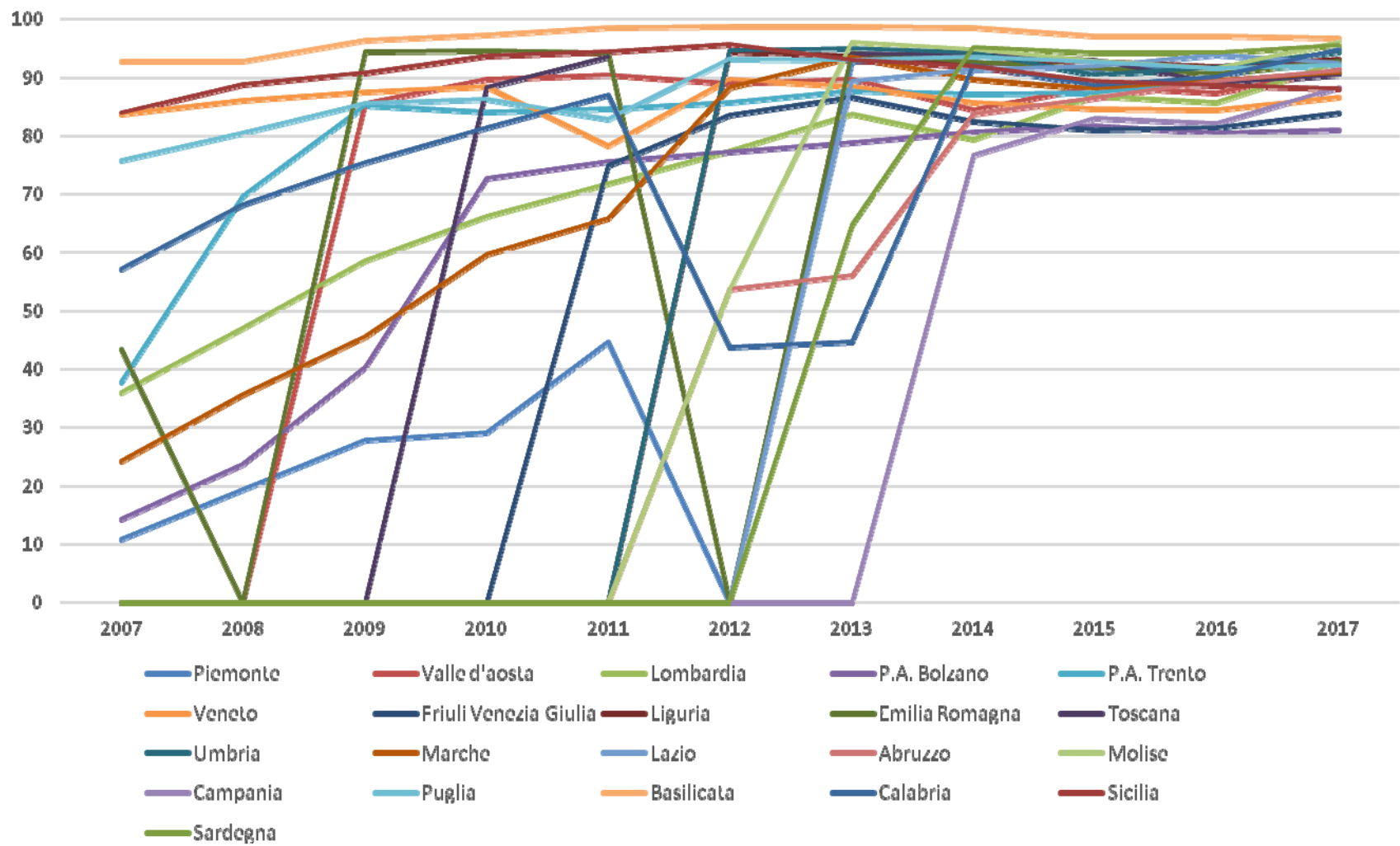
Incidenza di malattia invasiva da pneumococco in alcuni paesi EU – 1-4 aa



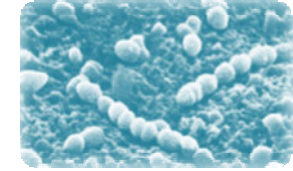
Incidenza di malattia invasiva da pneumococco in Italia ed EU – 1-4 aa



Copertura vaccinale anti-pneumococcica a 24 mesi in Italia – 2007-2017



Pneumococcal invasive disease in Tuscany



3 data sources

National surveillance system (IBD - MBI)

IBD case reported in Tuscany in 2016

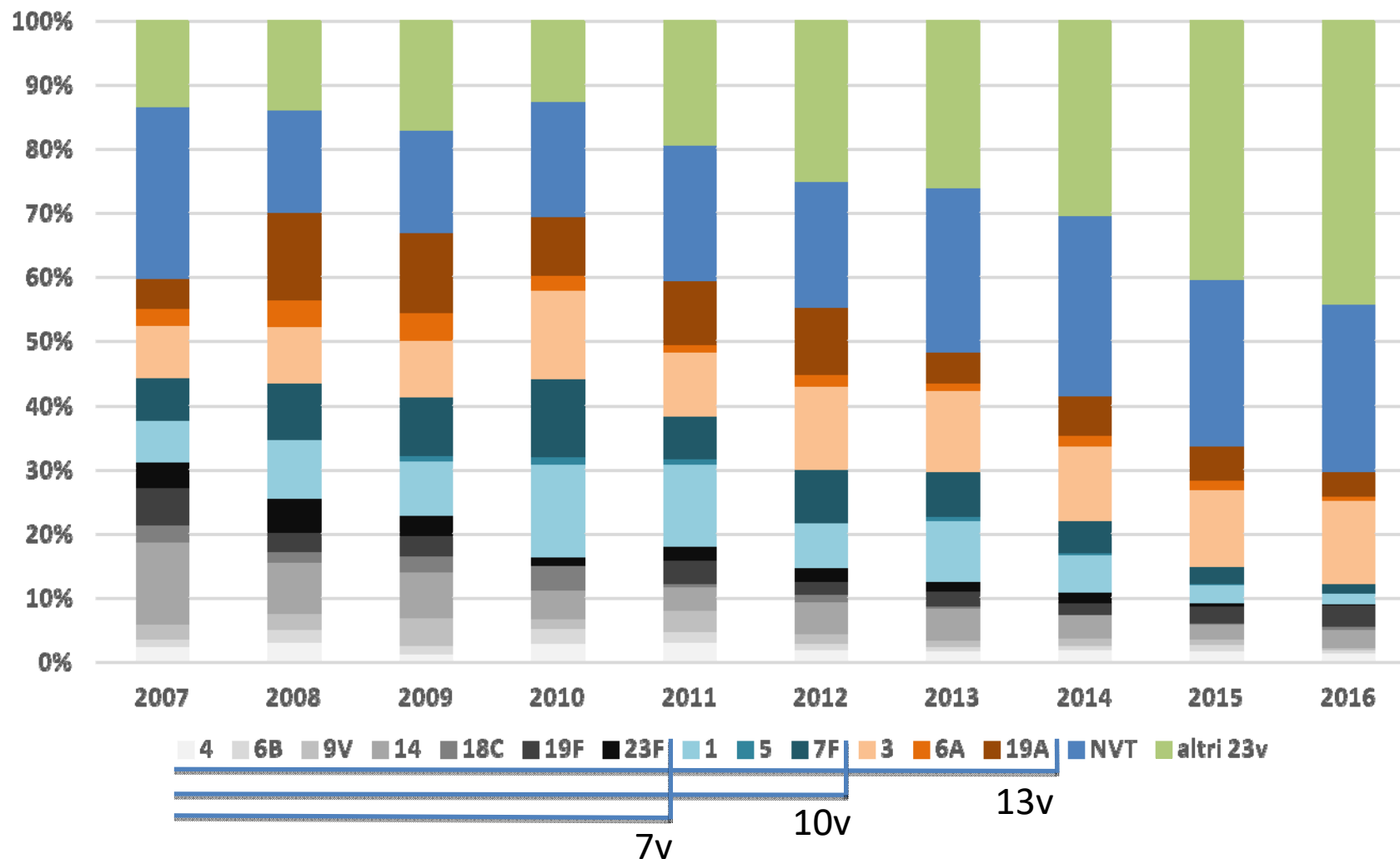
Regional laboratory based surveillance

S. Pneumoniae isolate from blood or cerebrospinal fluid in Tuscany
in 2016

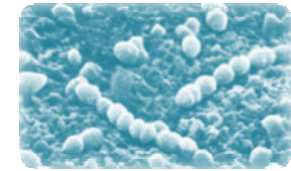
Hospital Discharge Record

Hospital discharge with an ICD diagnostic code:
038.0, 038.2, 041.2, 320.1, 320.2, 567.1, 711.0
(meningitis, sepsis, etc.)

Distribuzione sierotipi segnalati al sistema nazionale sorveglianza MIP

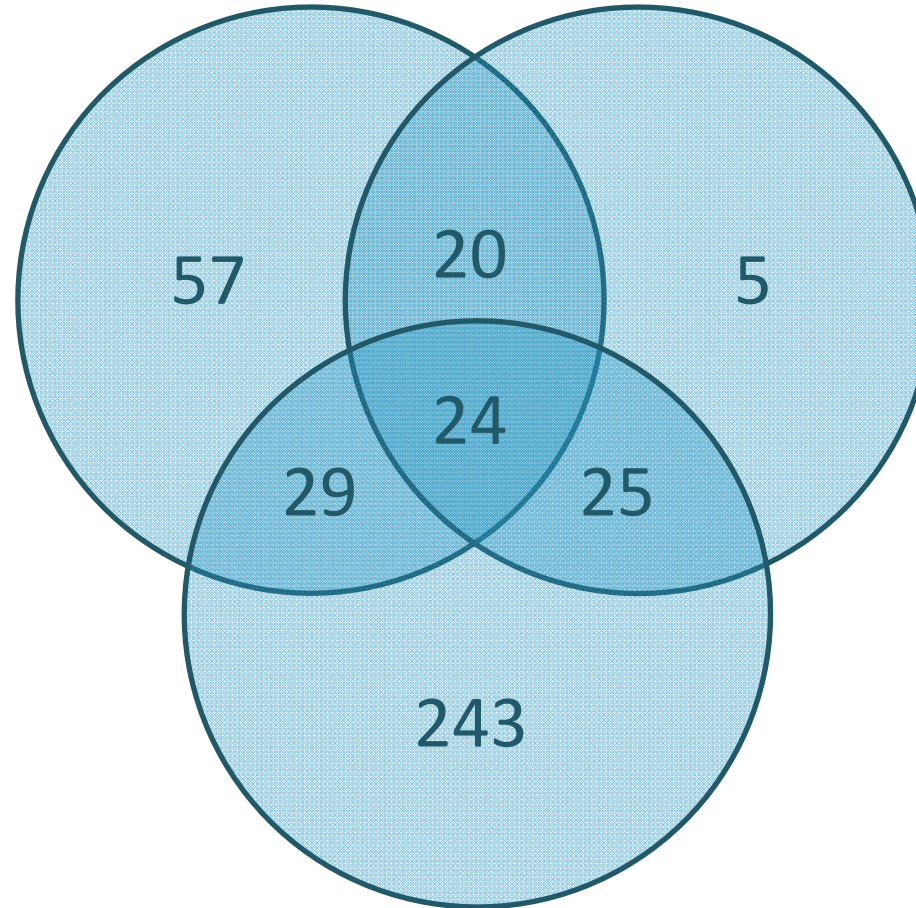


Cases distribution



Regional Laboratory
based surveillance

128



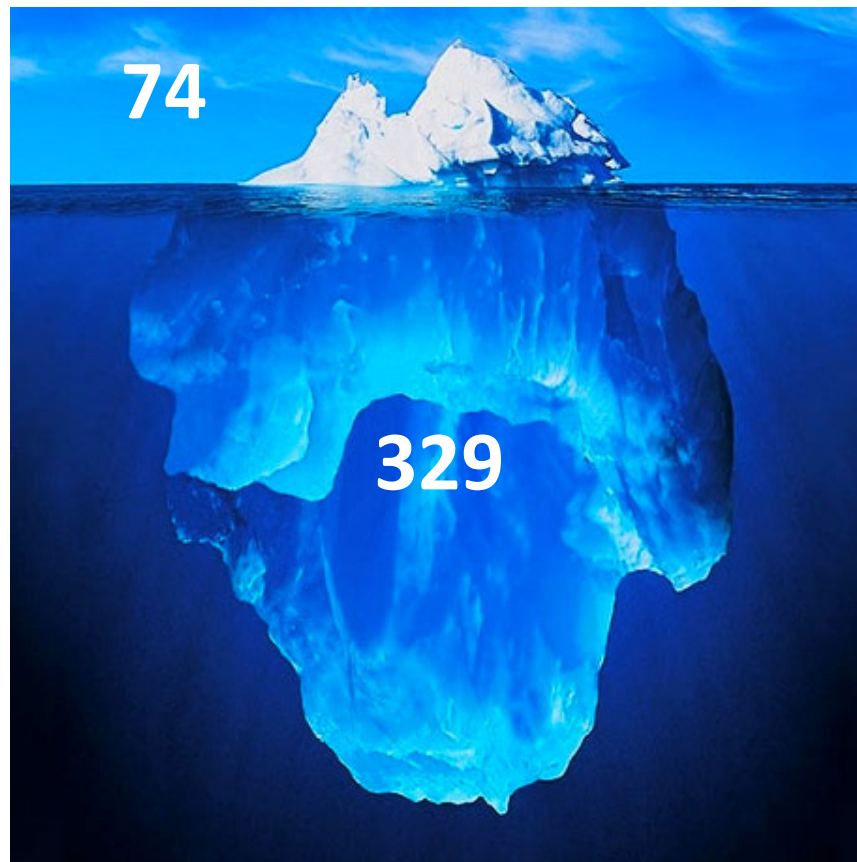
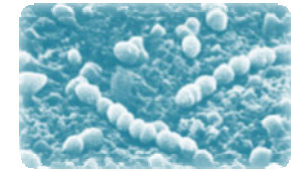
National IBD
surveillance

74

Hospital Discharge
Records

321

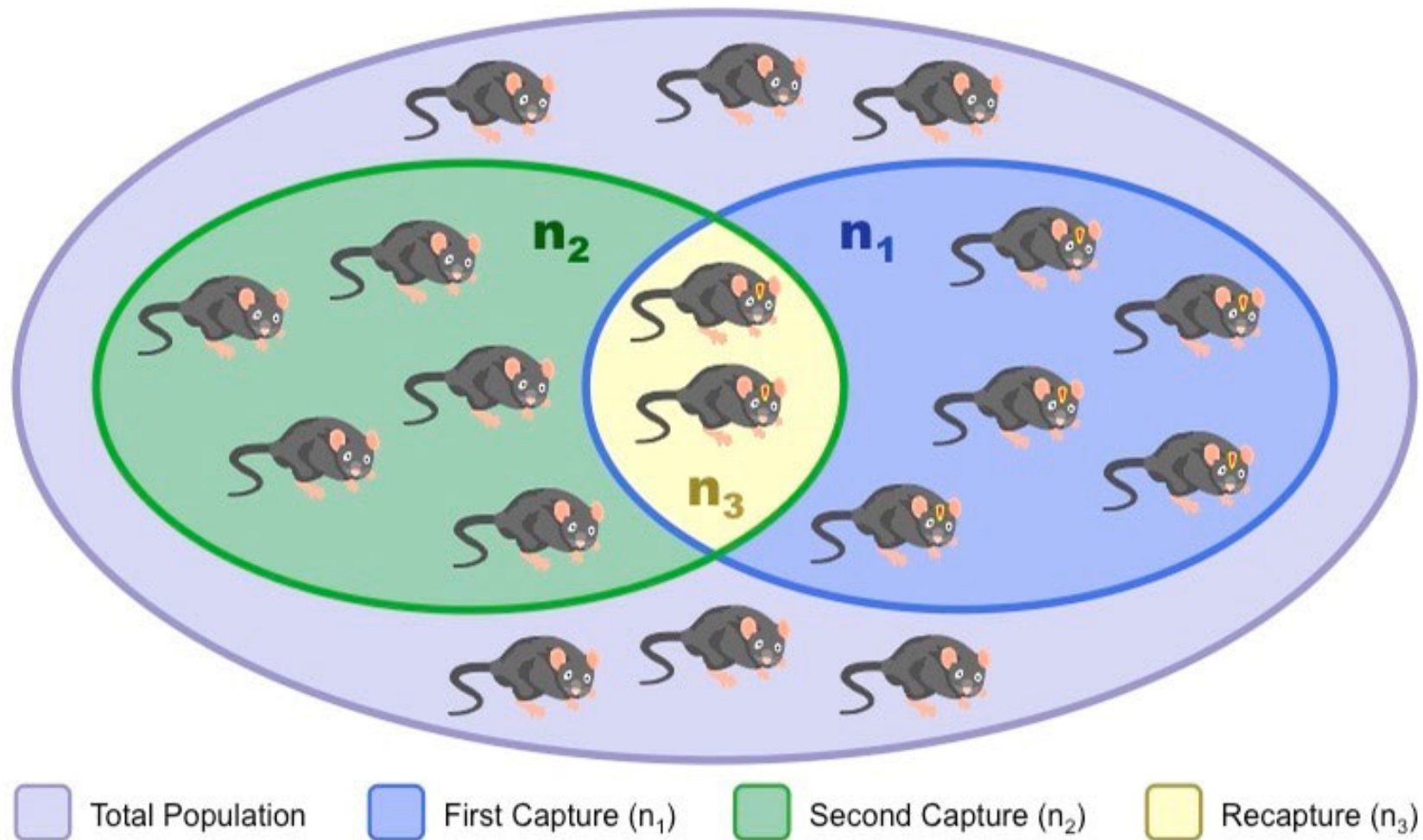
Under-reporting



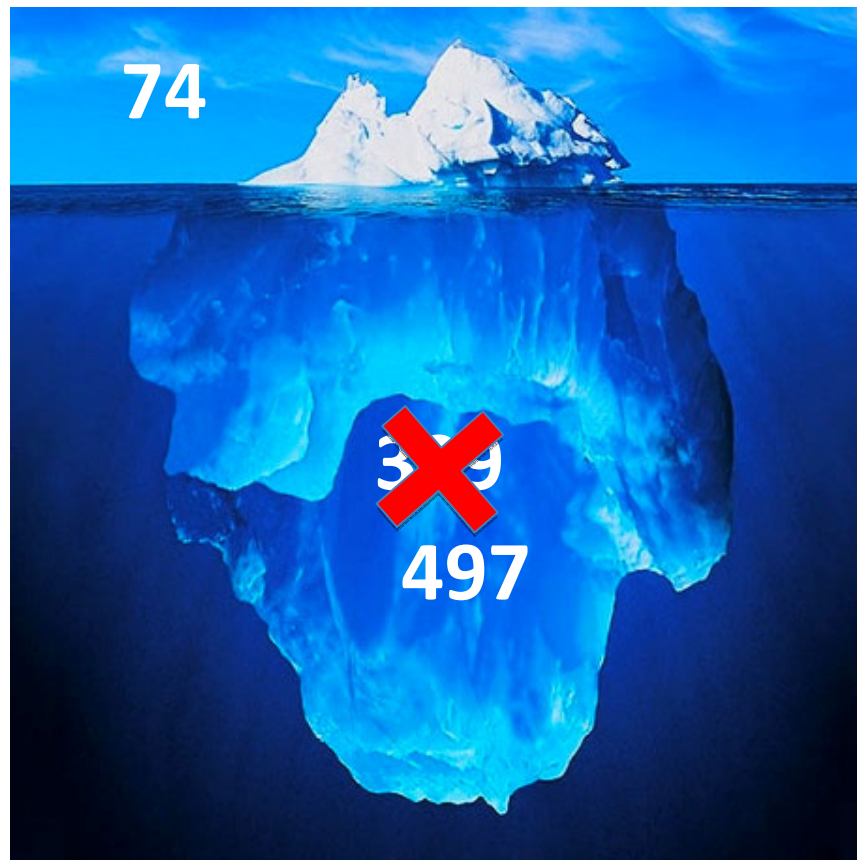
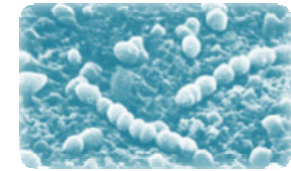
National IBD
surveillance

18.4%
completeness

Capture-mark-recapture



Under-reporting capture-recapture estimate



National IBD
surveillance

12.9%
completeness

