



# Analisi delle segnalazioni internazionali di encefalomielite acuta disseminata post vaccinazione

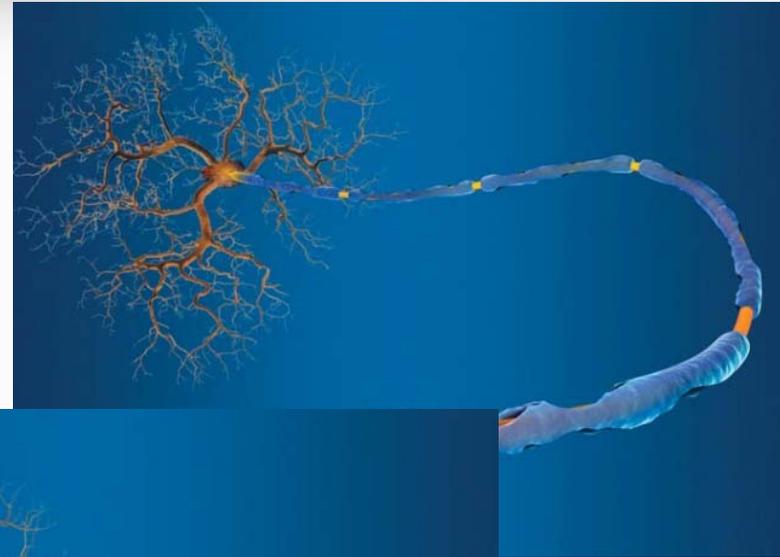
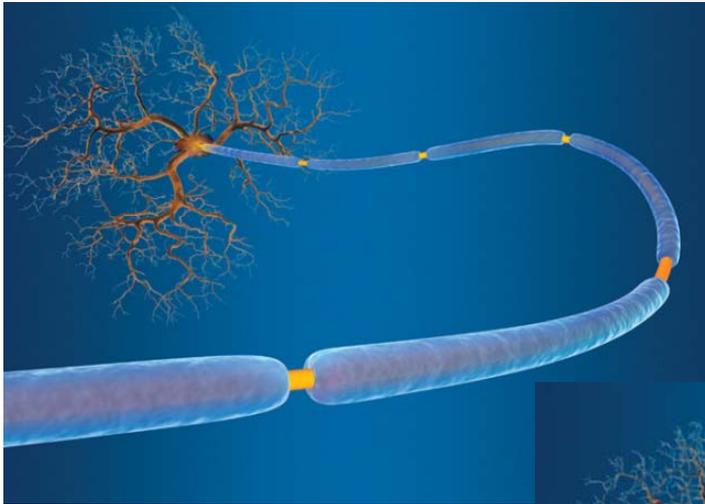
**Paolo Pellegrino MD**

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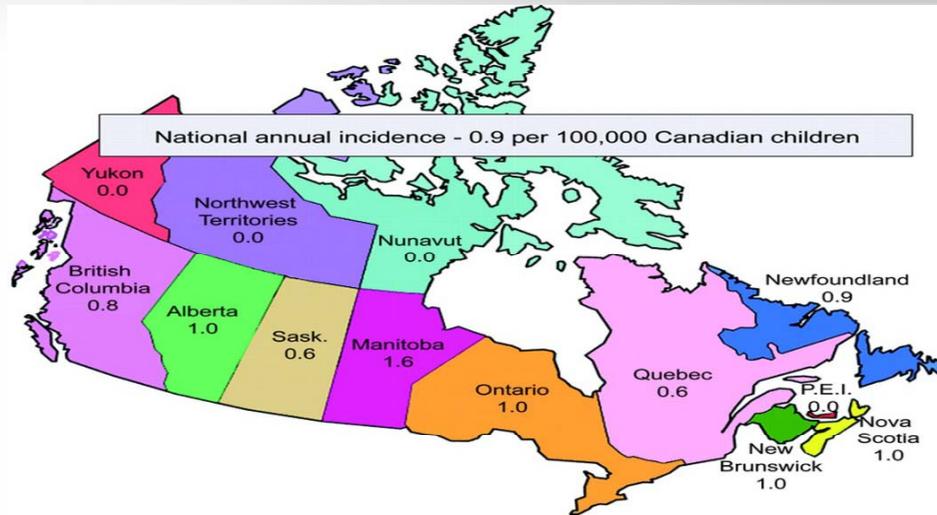
# Acute Disseminated Encephalomyelitis (ADEM)

- L'encefalomielite acuta disseminata (ADEM) identifica un quadro sindromico a decorso monofasico, ad eziologia **autoimmune**, caratterizzato da un processo infiammatorio e demielinizzante che investe il sistema nervoso centrale.
- La malattia esordisce improvvisamente, con segni clinici di **encefalite acuta e deficit neurologici focali**.
- Tradizionalmente, con riferimento **all'eziopatogenesi**, viene distinta un'encefalomielite acuta disseminata **post-infettiva** e un'encefalomielite acuta disseminata **post-vaccinica**.

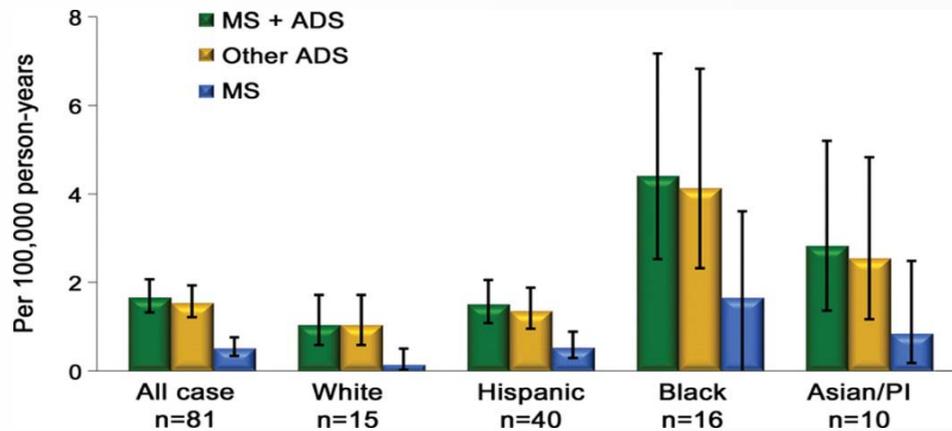
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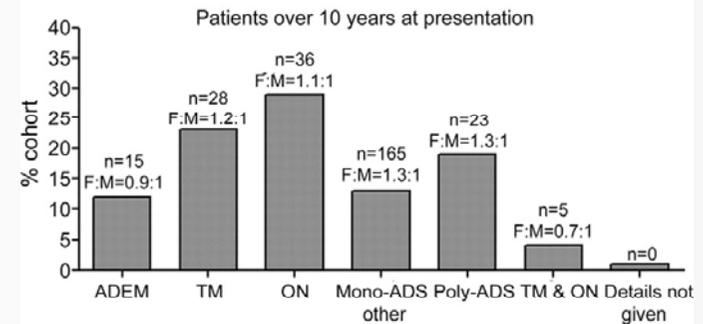
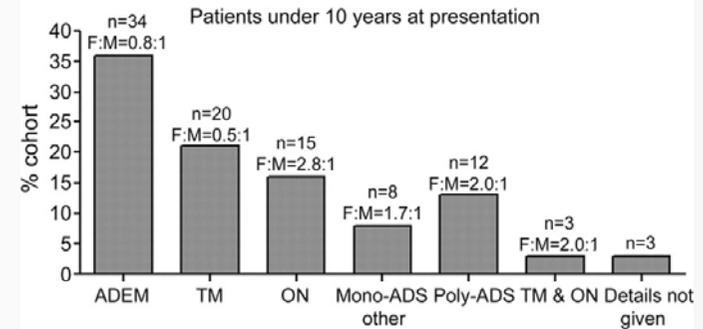
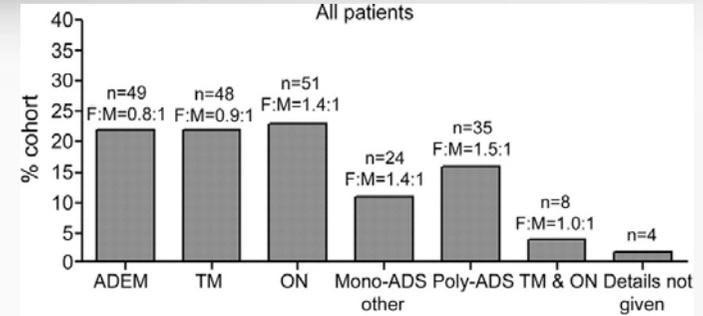
# What is already known



Banwell B et al. Neurology 2009;72:232-239

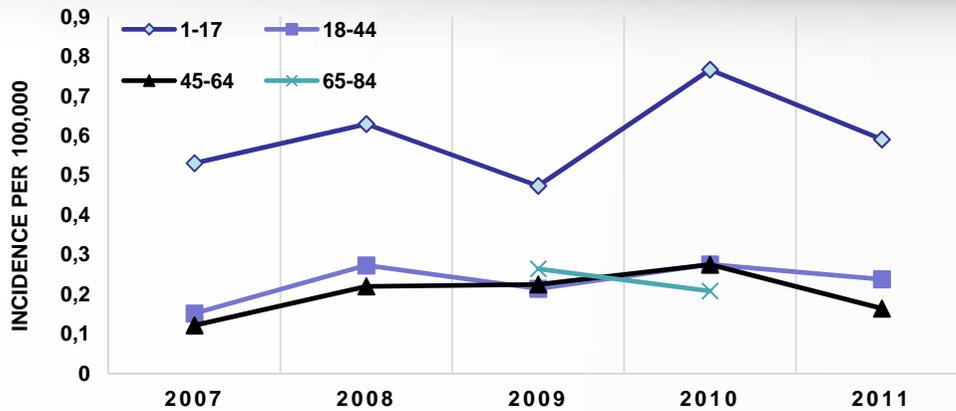


Langer-Gould A et al. Neurology 2011;77:1143-1148

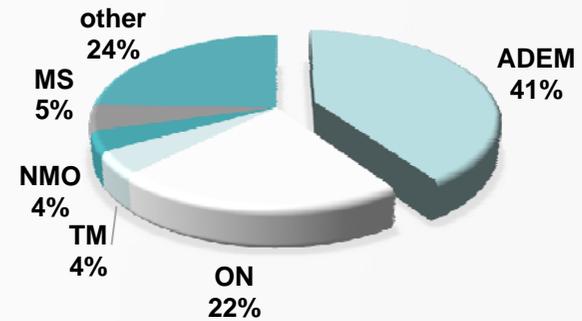


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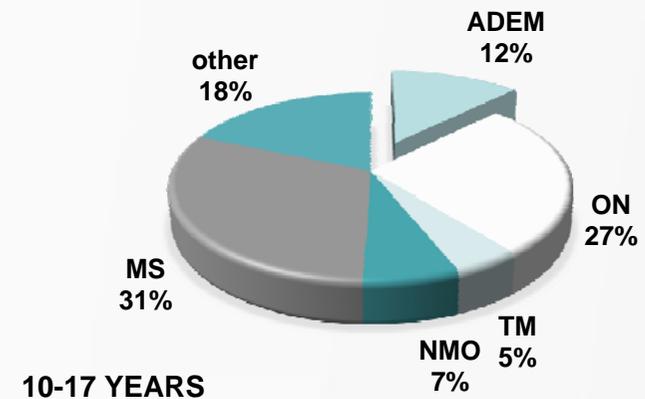
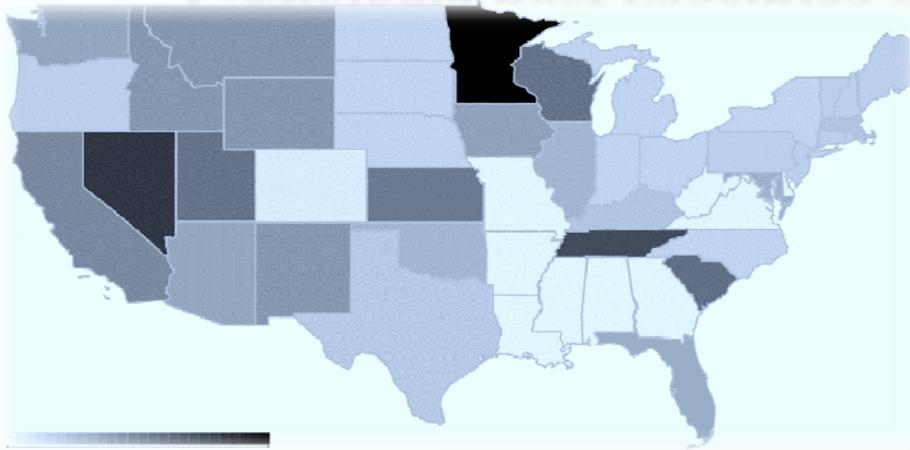
# What is already known



0-9 YEARS



**L'eziologia post vaccinica è descritta nel 5% dei casi**



Pellegrino P et al. Unpublished data

# What is already known

## Vaccination forms Reported incidences of ADEM

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### Measles

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Live measles vaccine 1–2/million

### Rabies

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Neural vaccine (Semple) 1/300–1/7,000

Duck embryo vaccine 1/25,000

Non-neural human diploid cell 1/75,000

### Japanese B encephalitis

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Inactivated mouse-brain derived JEV 1993–1999 0.2/100,000 (Japan); 0/813,000 (USA)

### Smallpox

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New York City Board of Health strain of vaccinia  
2002–2004 3/665,000

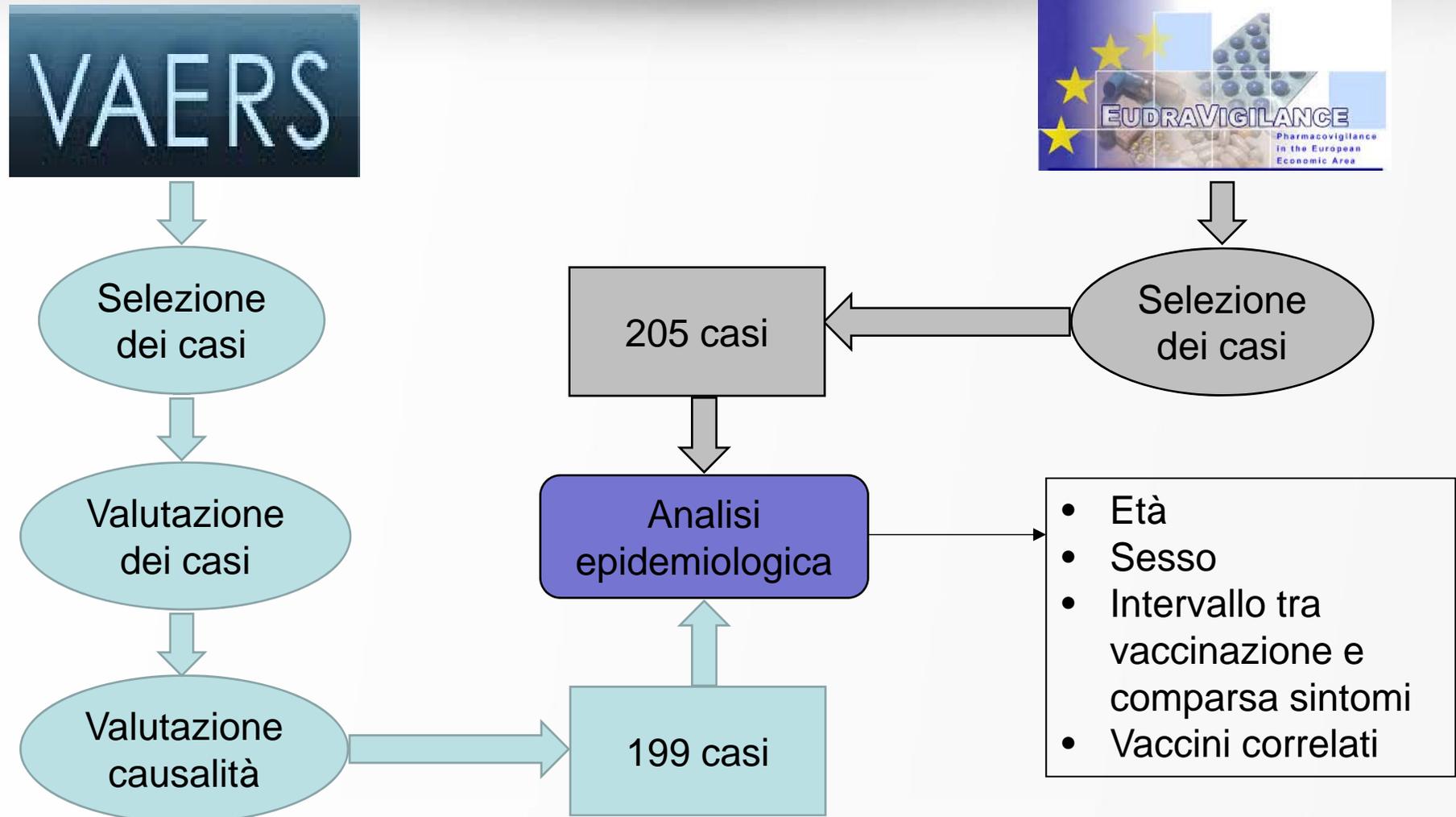
**Diphtheria/pertussis/tetanus** 0.9/100,000

### Hepatitis B

Eight cases of CNS inflammation  
within 10 weeks

Tenembaum S et al. Neurology 2007;68:S23-S36

# What we did

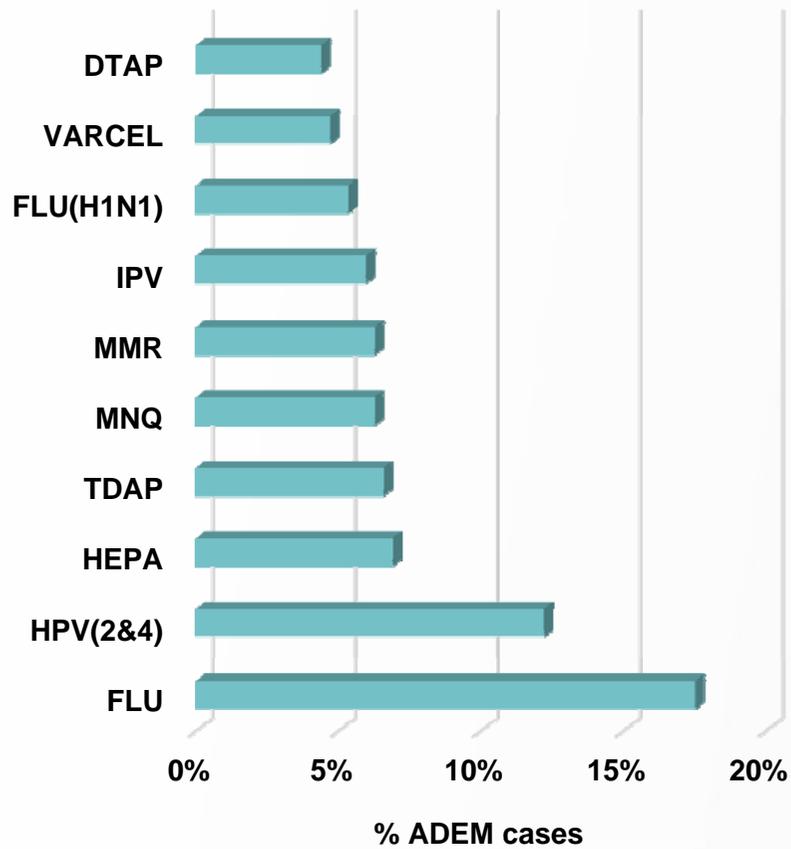


# What we found

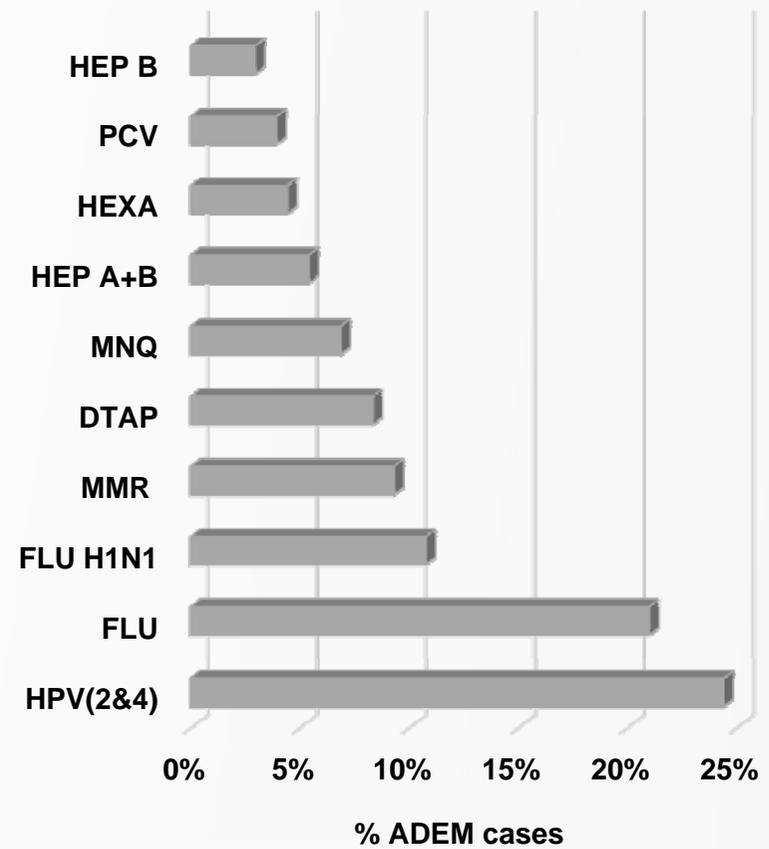
|   | <b>VAERS (%)</b> | <b>EVPM (%)</b> |
|---|------------------|-----------------|
| <b>Età</b>  |                  |                 |
| 0-17 anni   | 99 (48%)         | 94(48%)         |
| 18-64 anni  | 79 (40%)         | 92 (45%)        |
| 65+ anni  | 12 (6%)          | 7 (3%)          |
| Non riportato   | 14 (7%)          | 7 (3%)          |
| <b>Sesso</b>  |                  |                 |
| Maschi  | 93 (47%)         | 80 (39%)        |
| Femmine*  | 101 (51%)        | 123 (60%)       |
| Non riportato   | 5 (3%)           | 2 (1%)          |
| <b>Intervallo tra vaccinazione e comparsa sintomi</b> |                  |                 |
| 0-2 giorni  | 41 (21%)         |                 |
| 2-30 giorni   | 121 (61%)        |                 |
| Oltre 30 giorni                                       | 37 (19%)         |                 |

# What we found

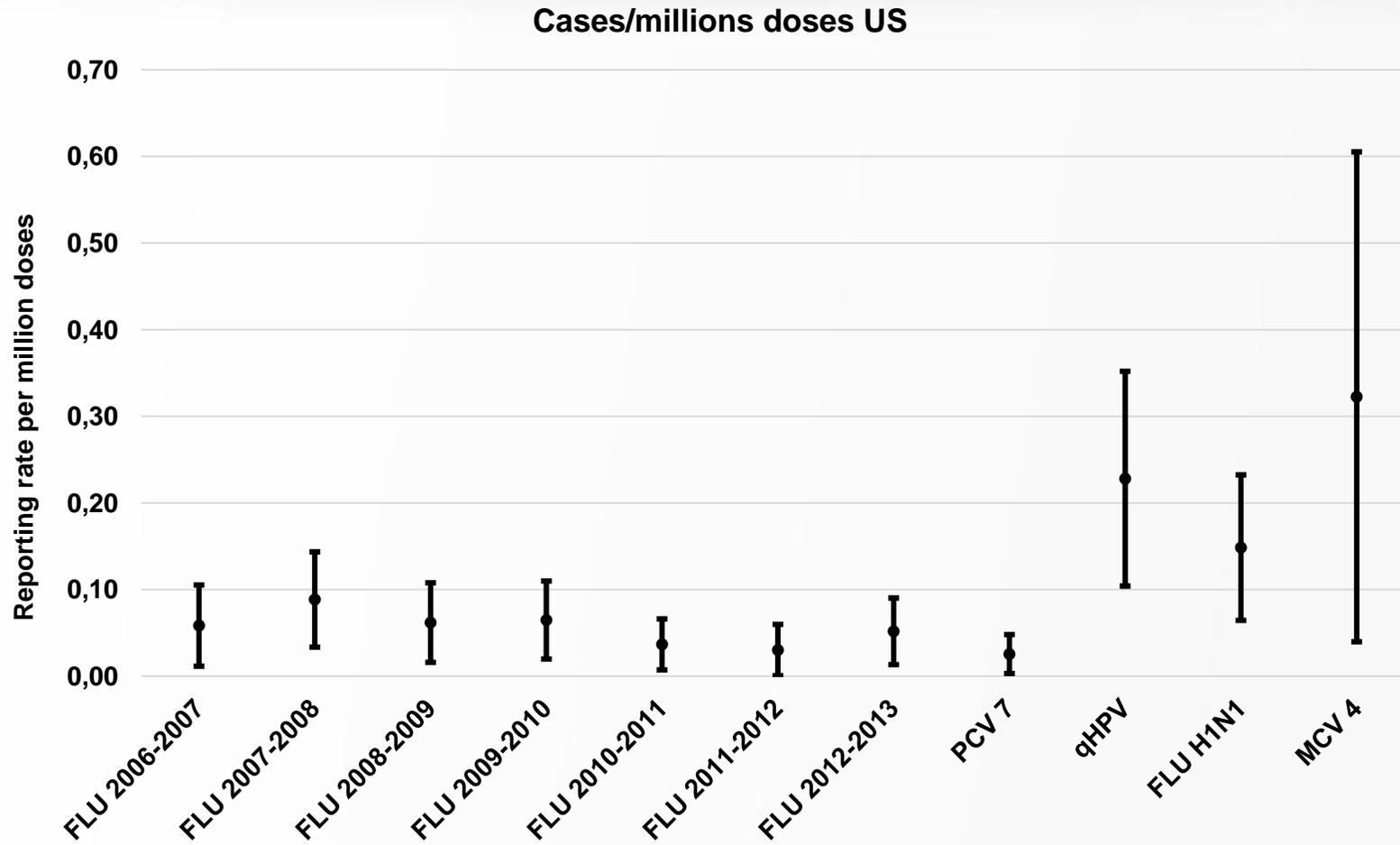
VAERS



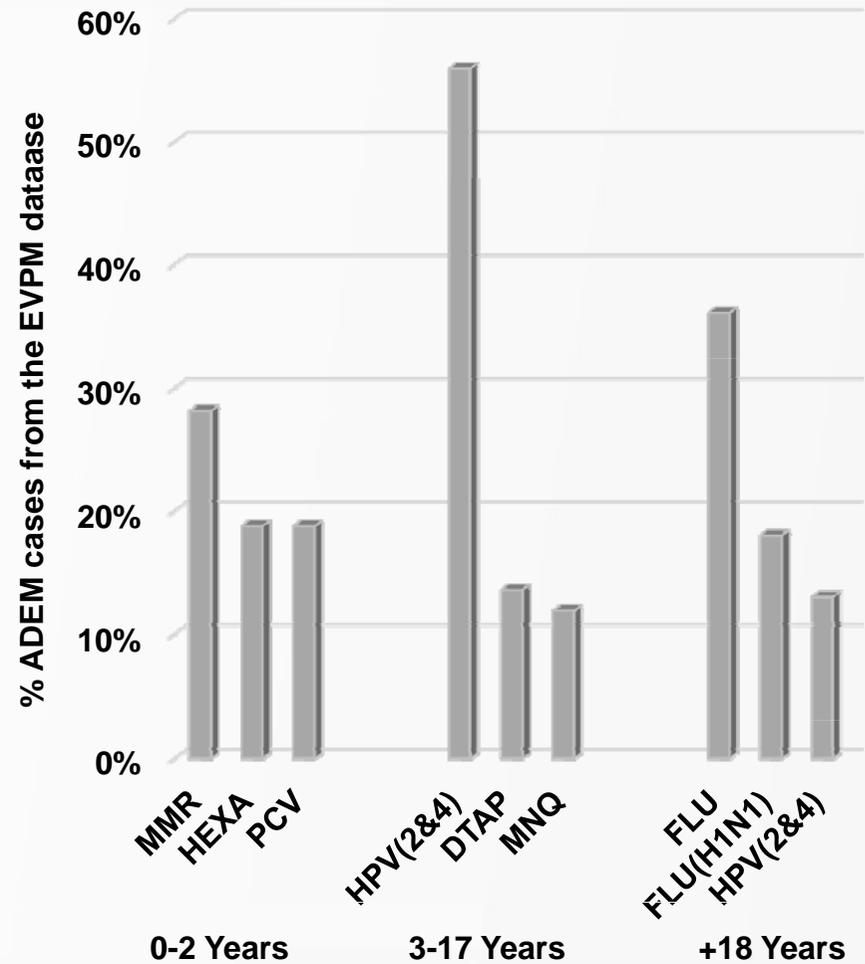
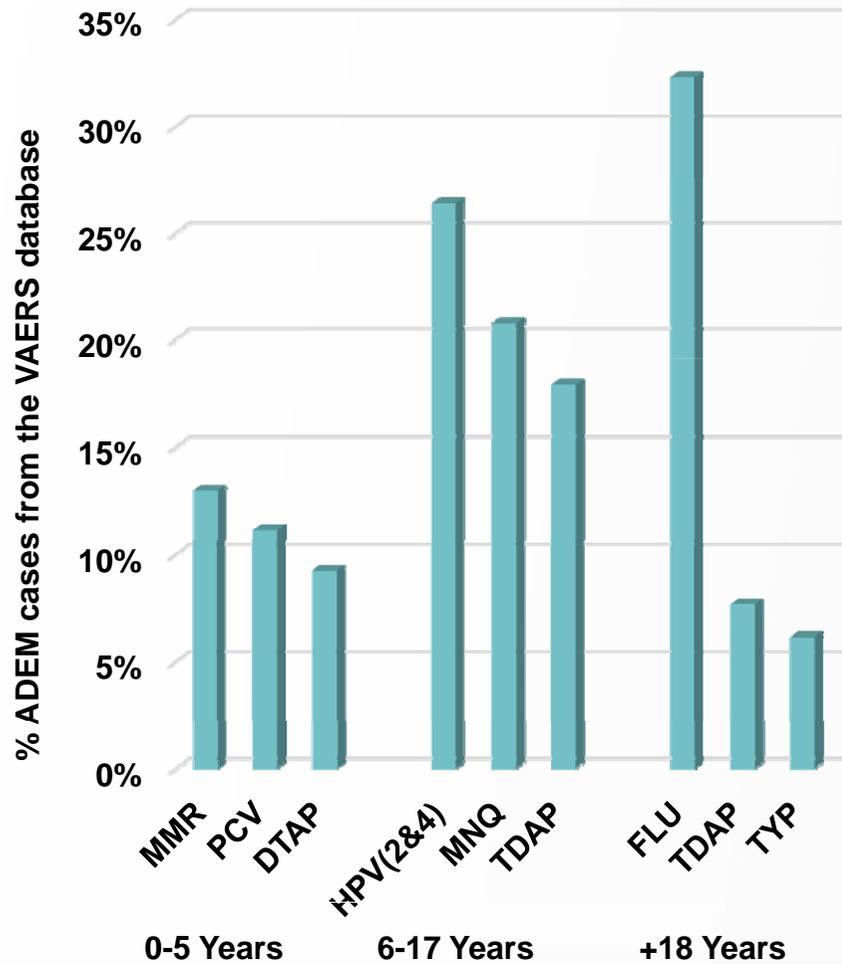
EVPM



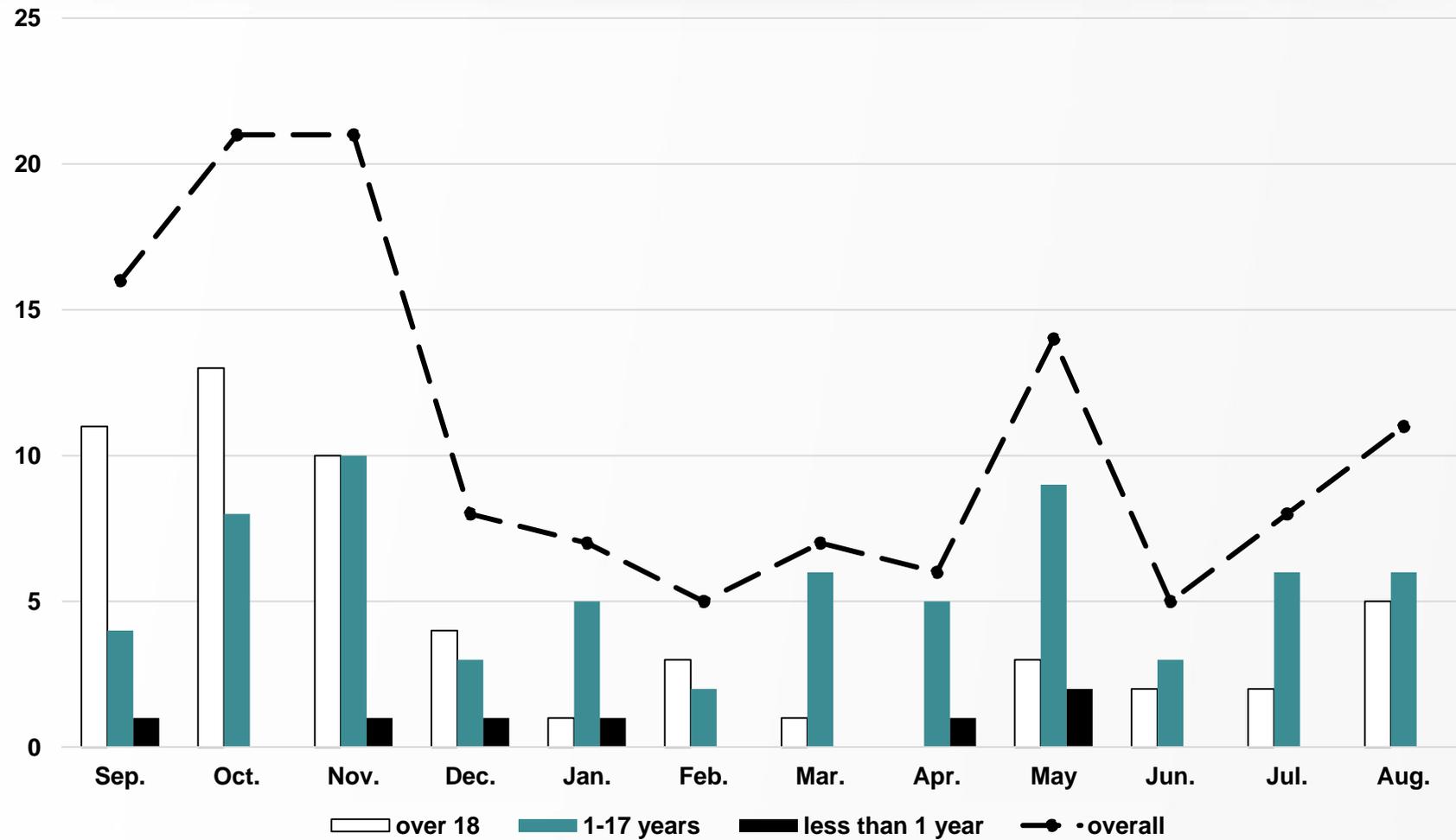
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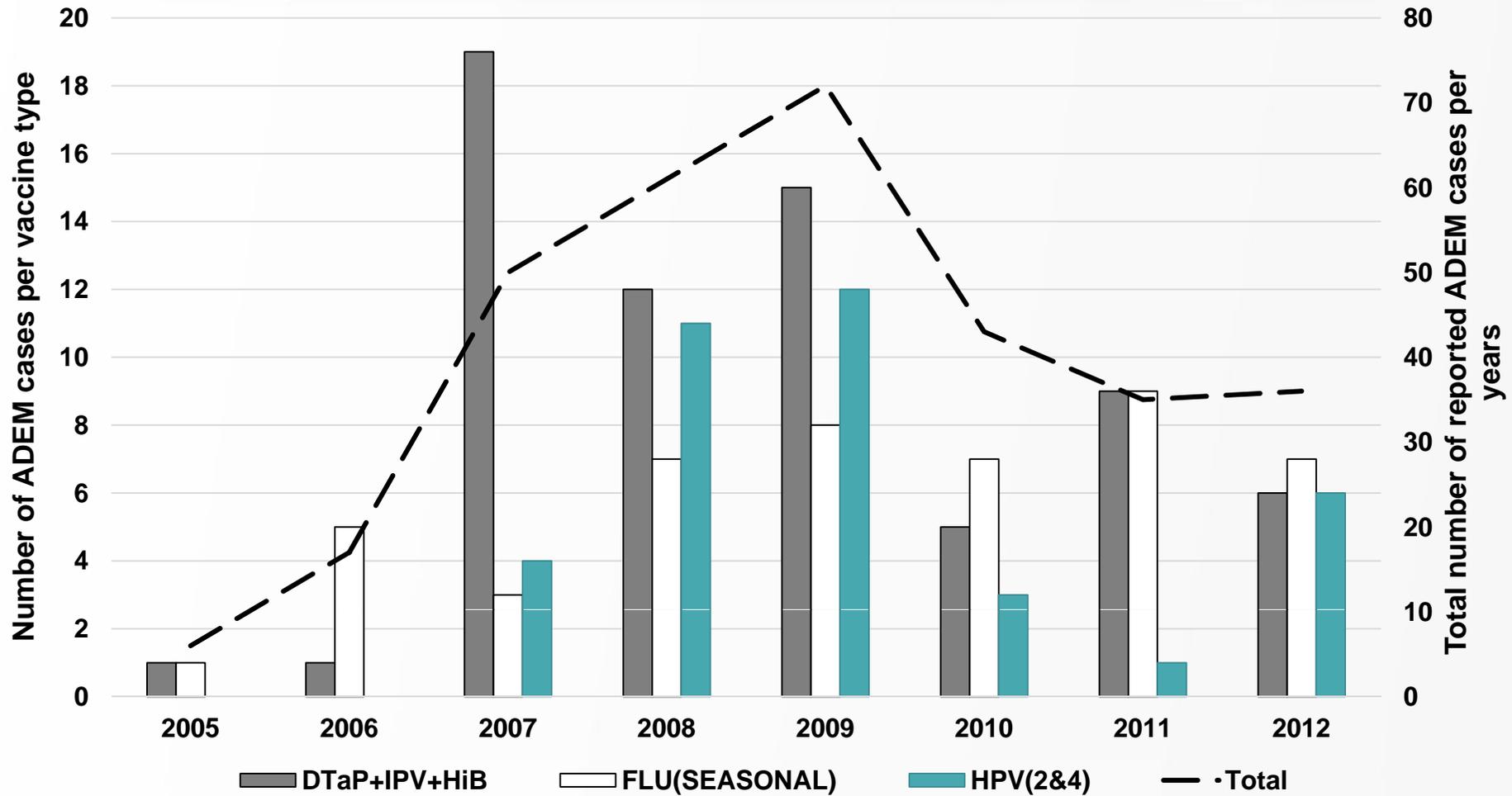
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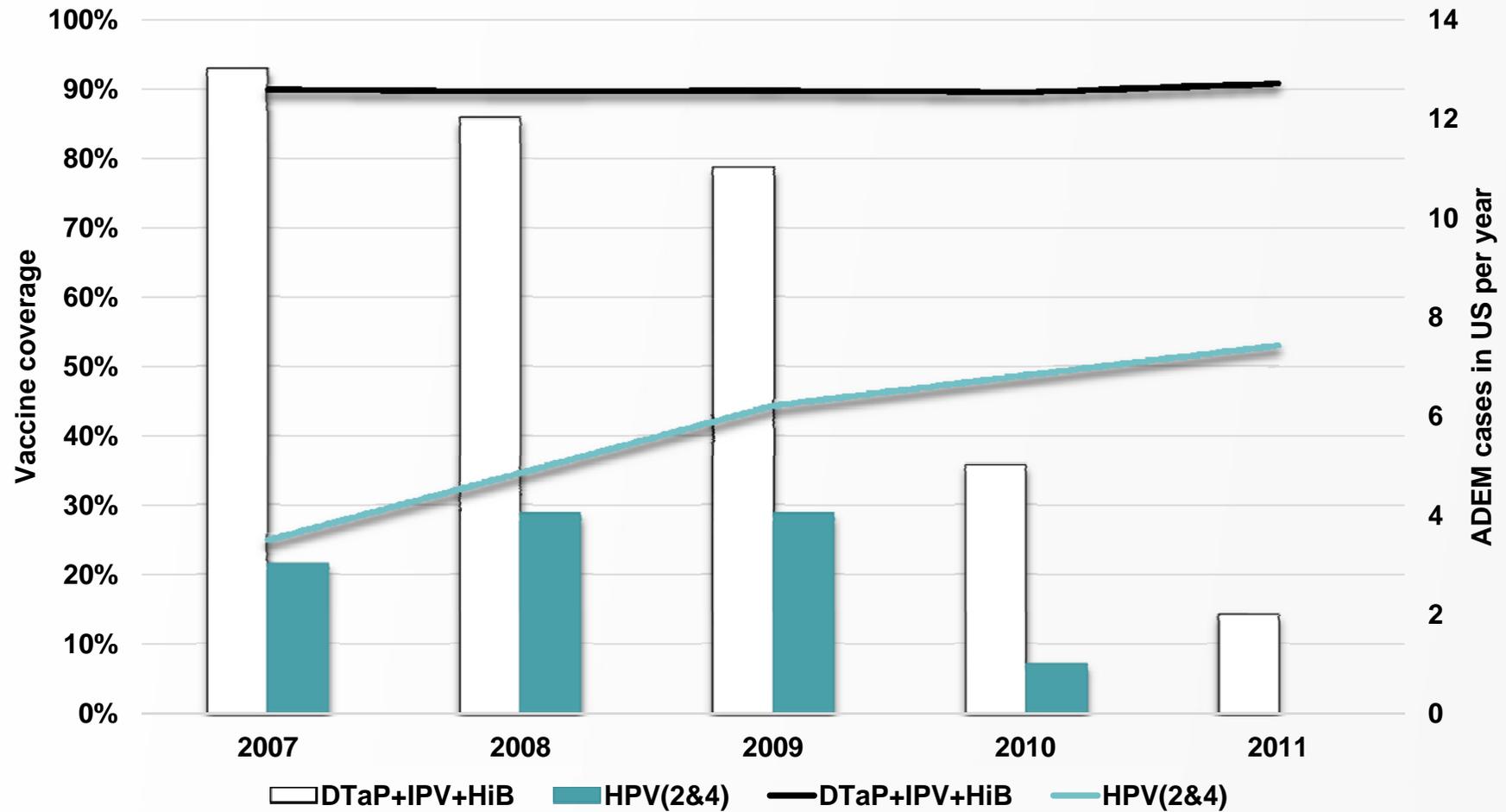
# What we found



# What we found



# What we found



# What we add

- In questo studio abbiamo descritto, per la prima volta, le caratteristiche epidemiologiche della encefalomielite acuta disseminata post-vaccinica
- A differenza degli studi precedenti riguardanti i casi di ADEM post infettiva, abbiamo osservato che questa patologia può riguardare ogni età.
- Abbiamo osservato che il vaccino anti-influenzale e anti-HPV siano quelli più comunemente associati a questa reazione avversa.
- La diminuzione nel numero di casi di ADEM riportati per anno è verosimilmente associabile ad una riduzione dell'interesse per questo evento avverso, nota causa di under-reporting.

# Thanks!

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- Dr.ssa Sonia Radice
- Dr.ssa Carla Carnovale
- Dr.ssa Valentina Perrone
- Dr. Marco Pozzi
- Dr. Dionigi Salvati
- Dr.ssa Stefania Antoniazzi
- Dr.ssa Marta Gentili
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## Acute Disseminated Encephalomyelitis Onset: Evaluation Based on Vaccine Adverse Events Reporting Systems

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