

Childhood vaccination uptake in Flanders in four EPI-surveys between 2005 and 2016

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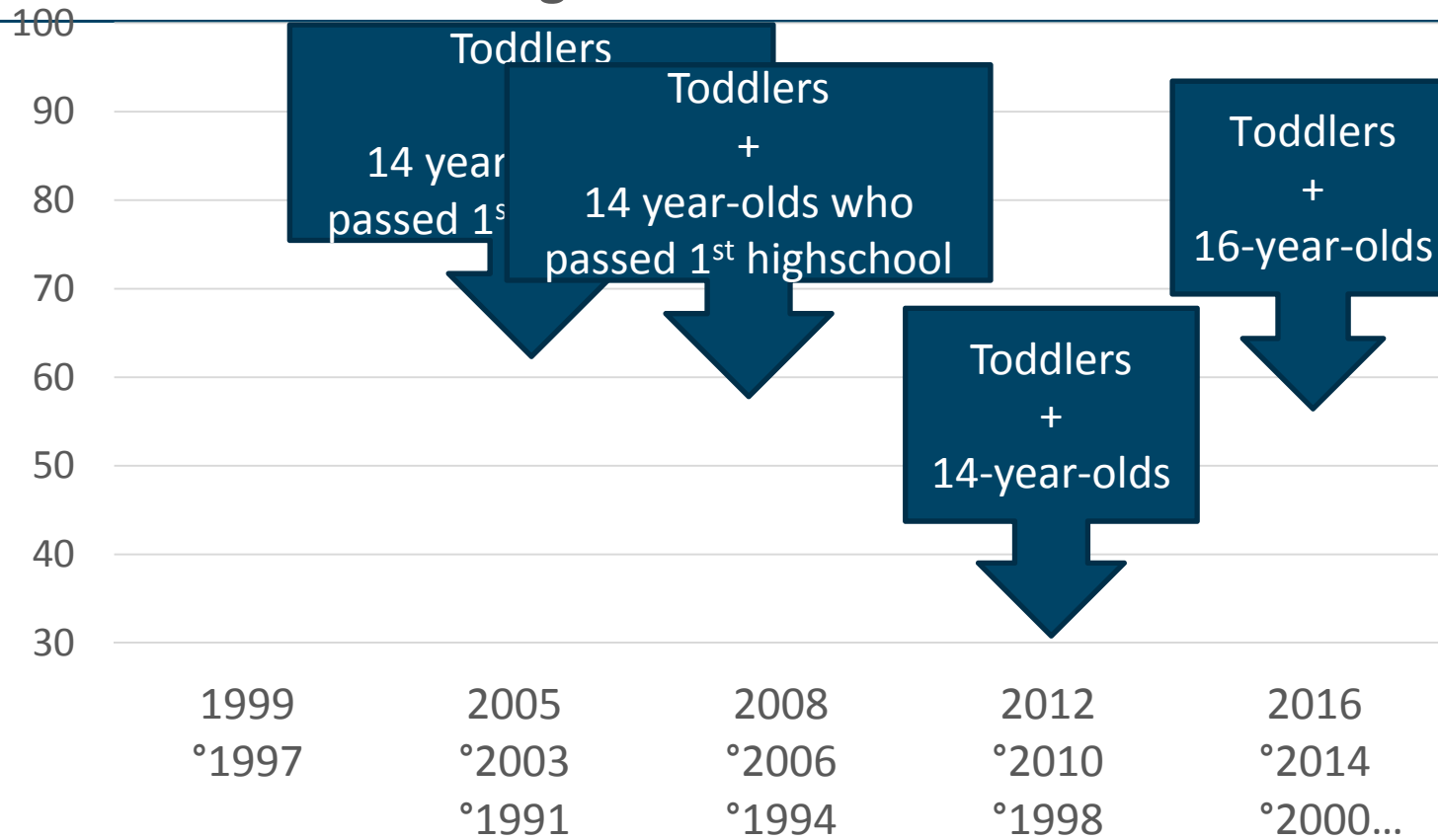
Flanders' Vaccination program:

- Implements recommendations made at national level (NITAG)
- Targets infants, school-age children, (and adults)
- Administered at preventive services (well baby clinics and school health centers) as well as by clinicians

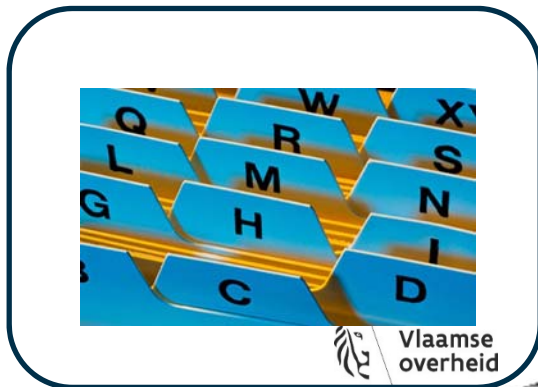
- Only poliomyelitis vaccine (IPV) is mandatory
- Central online ordering and registration system Vaccinnet
- Regular surveys to assess the program

Methods

Coverage studies in Flanders



Flemish register of natural persons



2-step cluster samples

125 clusters



Total numbers reached:
1349-746 infants
1344-1012 adolescents

Field Work

Selected families receive a letter

↓ minimum 1 week later

Trained interviewer visit

↓
- participate

- *Language problem*

- *Not reached*

- **refuse**



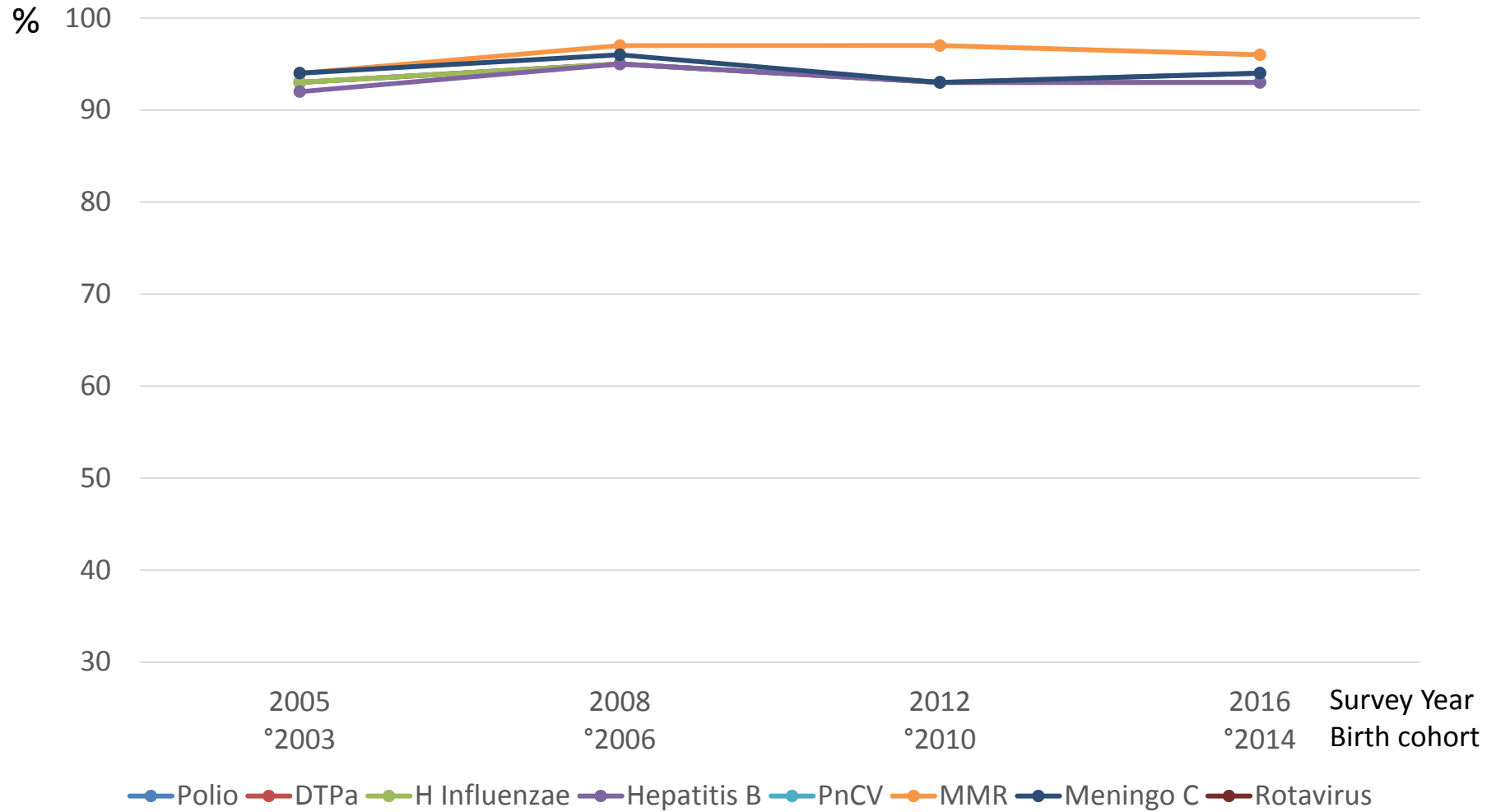
Check vaccination documents
Questionnaire: demographics,
vaccinator, ...



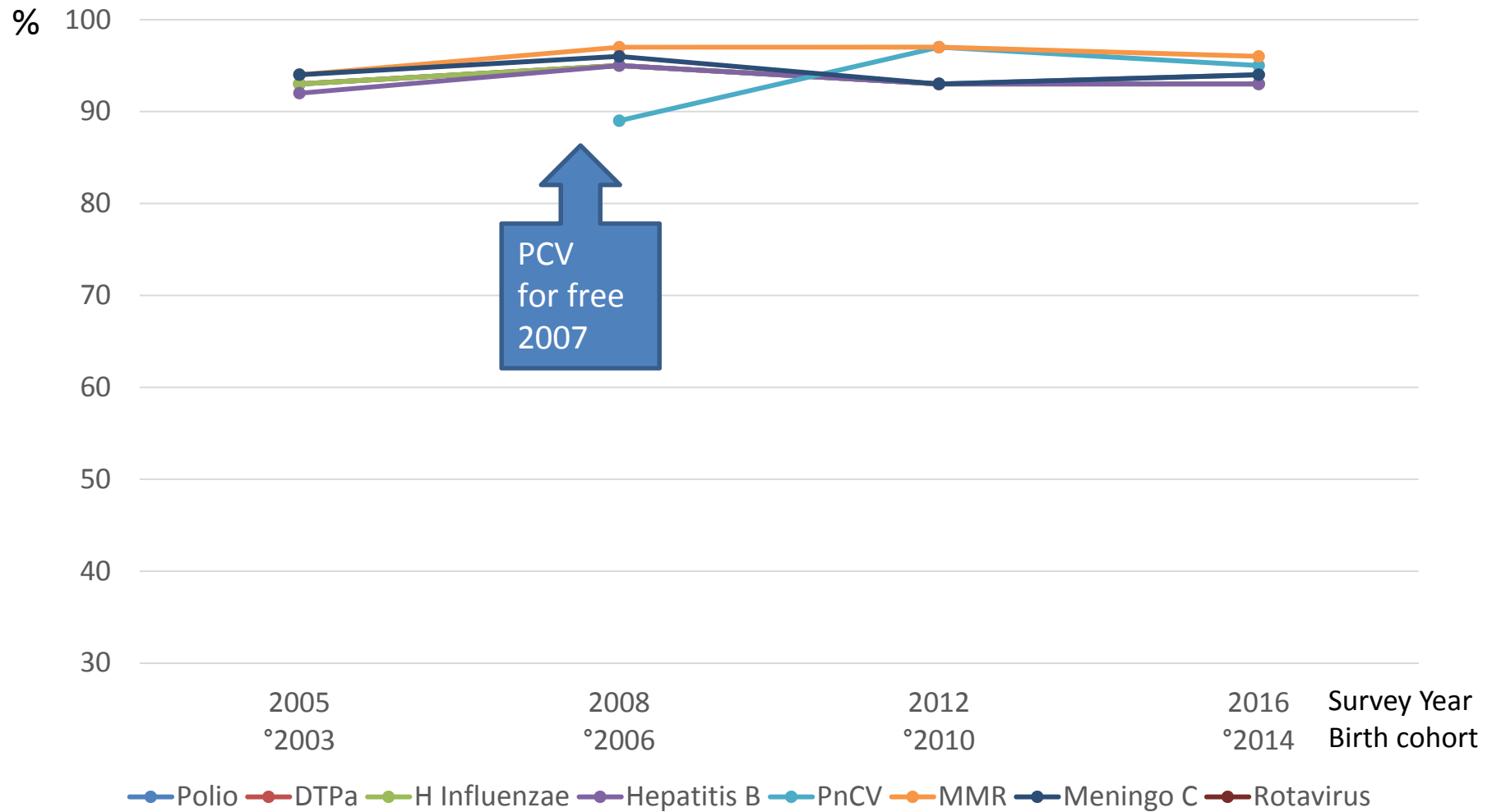
Study conducted in	2005	2008	2012	2016
Birth Year	° 2003	° 2006	° 2010	° 2014
Age at interview	18-24 months			
Number interviewed	1349	915	874	746
§ DTPa-Polio (4 doses)	92.9 (91.6-94.2)	95.2 (93.6-96.4)	93.0 (91.1-94.5)	93.0 (90.5-95.0)

Study conducted in		2005	2008	2012	2016
Birth Year		°1991	°1994	°1998	°2000
Age at interview		14 years	14 years	14 years	16 years
Number interviewed		1349	915	874	746
School Age Boosters	Polio (6 years)	Not measured	90.8 (89.2-92.4)	90.5 (88.7-92.3)	91.9 (90.1-93.7)
	DT/DTPa (6 years)	Not measured	91.1 (89.6-92.7)	90.8 (89.0-92.5)	92.8 (91.1-94.5)
	MMR 2 (10 years)	83.6 (81.4-85.8)	90.6 (89.0-92.2)	92.5 (90.9-94.1)	93.4 (91.8-95.1)
	HPV (12 years)	Not recommended	4.1 (2.6-5.7)	83.5 (80.6-86.4)	89.5 (86.5-92.4)
	HBV (12 years)	75.7 (73.2-79.2)	89.2 (87.4-90.9)	89.2 (87.3-91.2)	85.6 (83.0 – 88.3)
	dTap (14 years)	Not measured	Not measured	Not measured	87.4 (85.0-89.8)

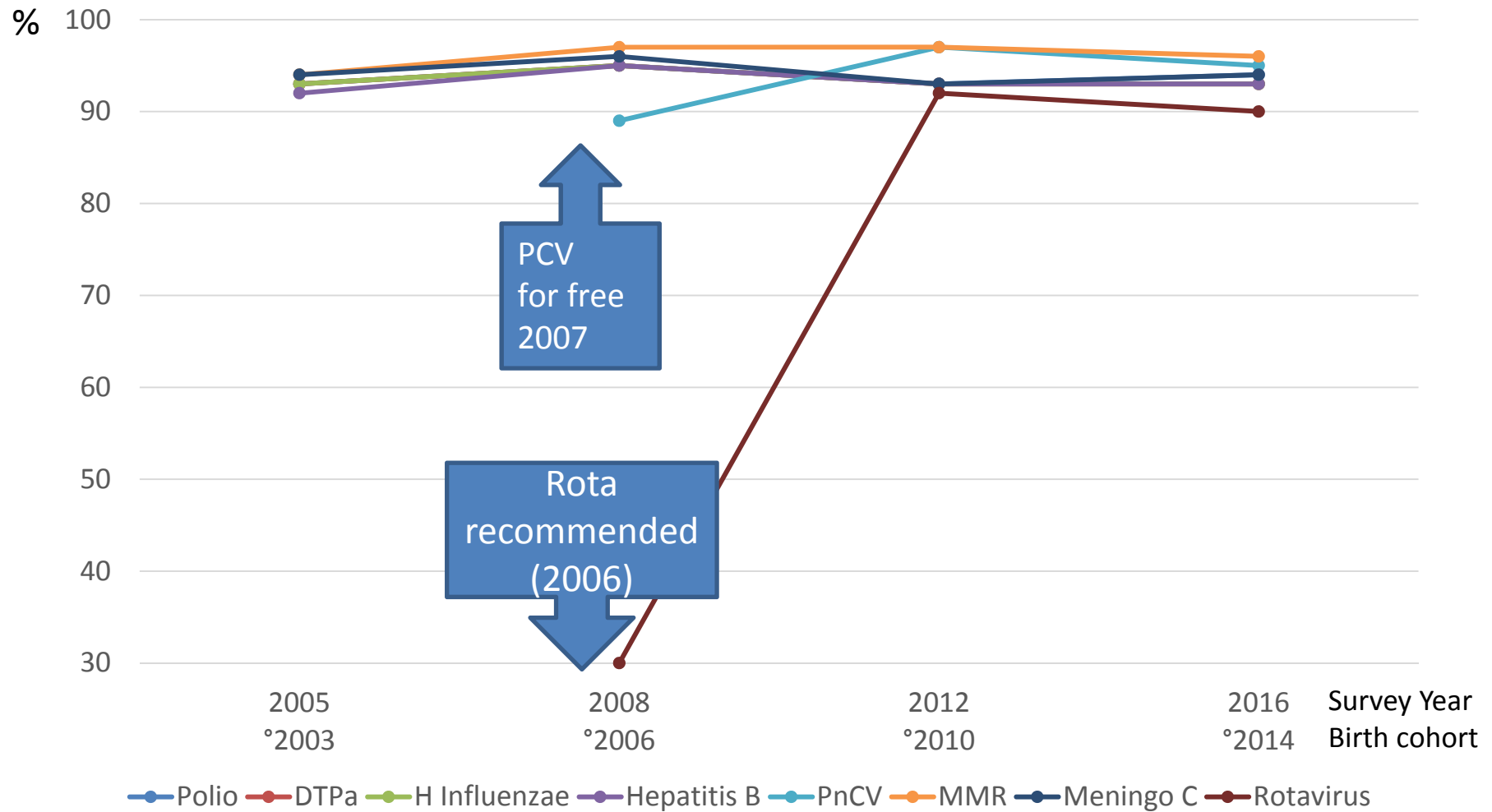
Coverage infants 18-24 months



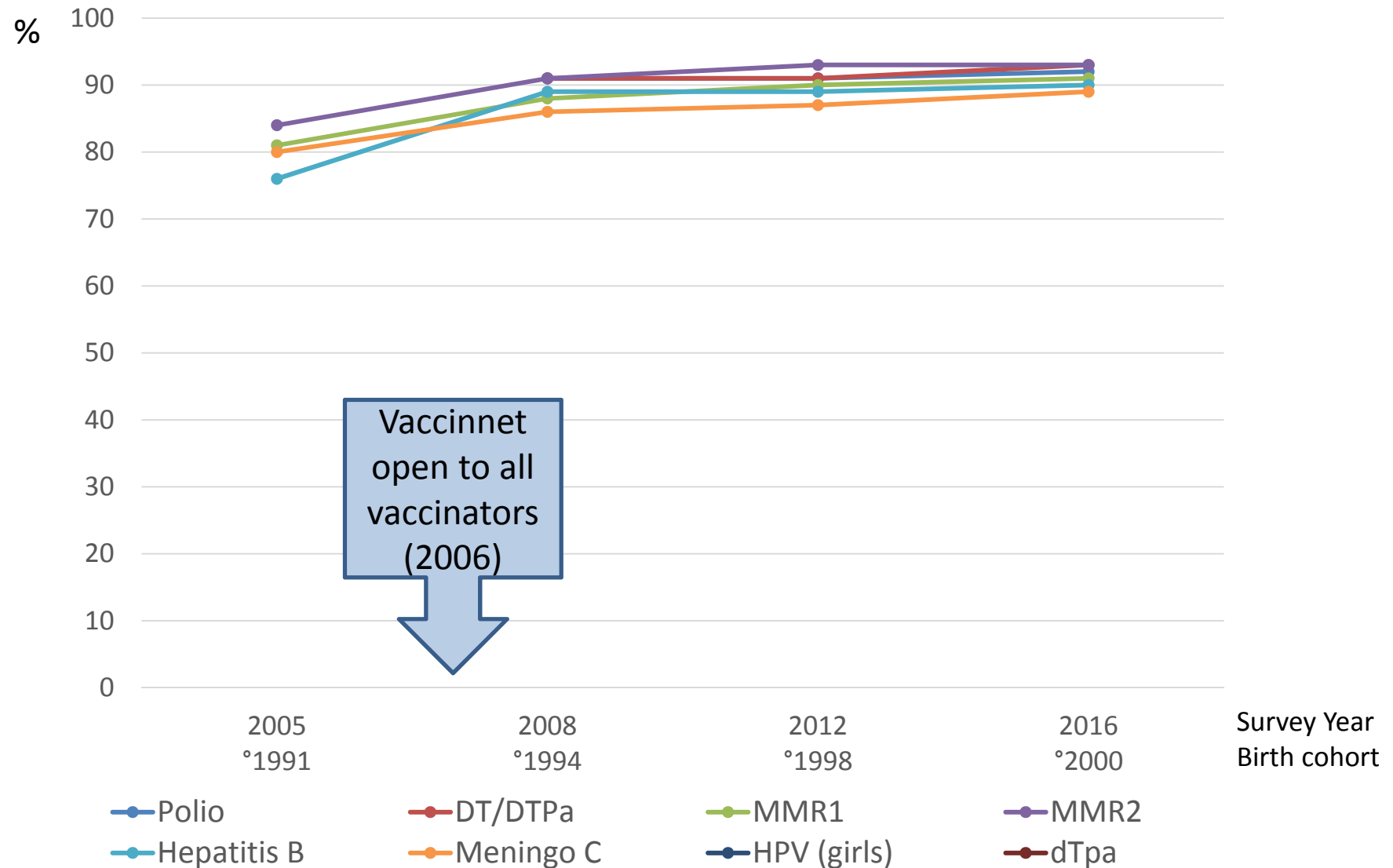
Coverage infants 18-24 months



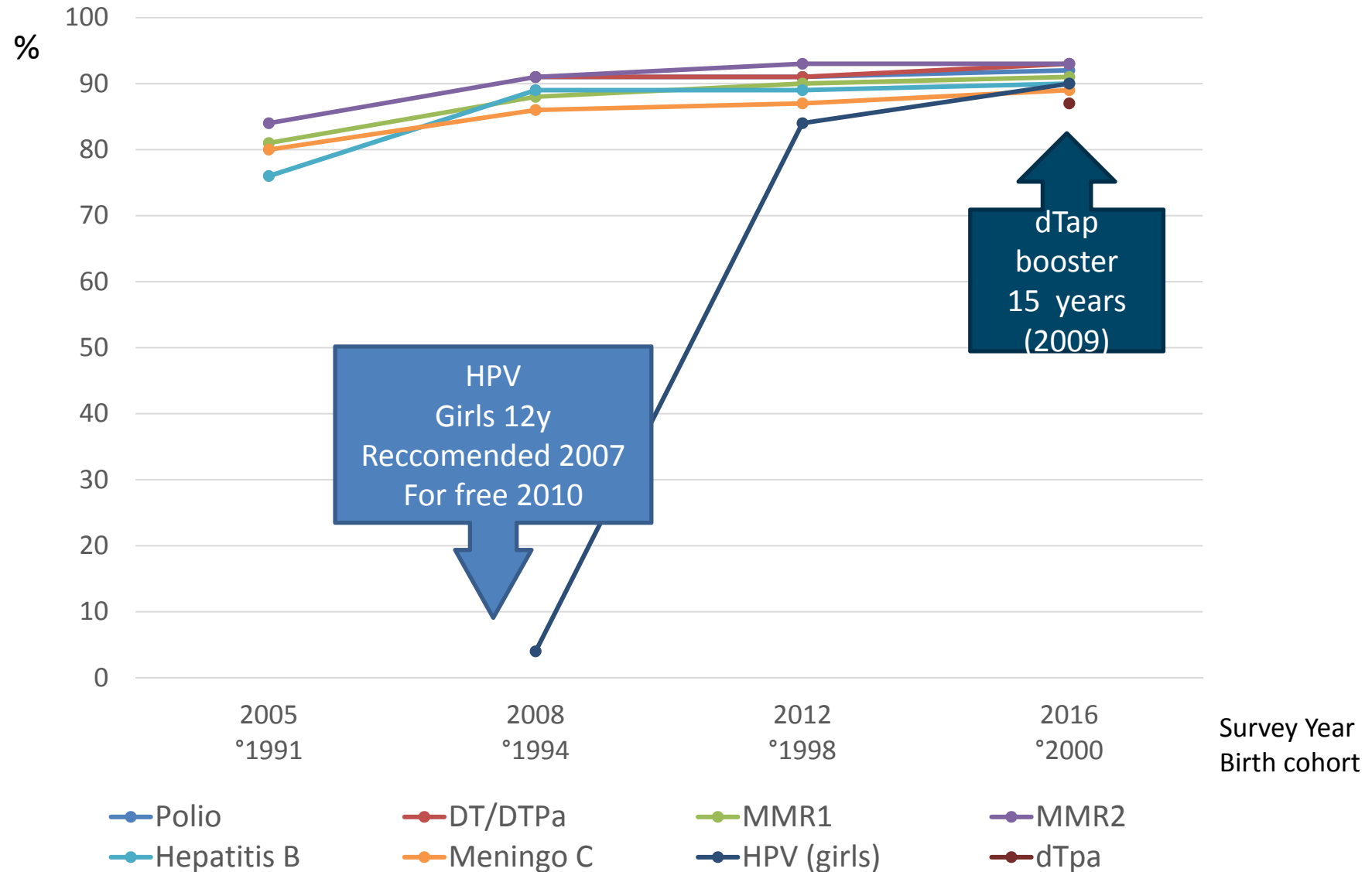
Coverage infants 18-24 months



Coverage adolescents (school age vaccines)



Coverage adolescents (school age vaccines)



Recurrent predictors of incomplete vaccination

Identified by multiple logistic regression, per survey

In infants:

	Odds Ratio: range over years
Vaccinated outside well baby clinic	1,6-16,7
> 1 vaccinator involved	2,6-5,1
Higher number of siblings / birth order	NA
Indicators of poor socio-economic status*	1,9-5,2

*parental income, employment, education, ethnicity..

In adolescents (school age vaccines):

	Odds Ratio: range over years
Delayed school career	1,05-3,7
Foreign ethnicity (non-EU)	1,08-3
Lower family income	1,07-3
"atypical family"*	1,14-2

* divorced, single parent, no mother, ...

Conclusions

- High vaccination coverage has been achieved in Flanders for recommended vaccines, including at school age
- Newly recommended vaccines are quickly adopted once implemented.
- Characteristics of underserved children are similar over the past decennium and require new strategies.

Reference: reports available at

<https://www.zorg-en-gezondheid.be/infectieziekten-en-vaccinaties>