



HOW MANY CHILDREN REMAIN UNVACCINATED IN SWITZERLAND?

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Definition of completely unvaccinated:

No administered vaccine dose of:

diphtheria, tetanus, pertussis,
Haemophilus influenzae type B, polio,
measles, mumps, rubella and
hepatitis B.



Overview

- Methods
 - SNVCS database, 2005-2010
- Results
 - Percent of kids unvaccinated, by age group, survey period, canton and regions
 - Projection for all unvaccinated kids (2-16 years)
 - Multivariate logistic regression
- Conclusions



The Swiss National Vaccination Coverage Survey (SNVCS)

- Funded by the FOPH (BAG) and the Health Departments in the Cantons
- To determine vaccination coverage for children living in Switzerland in all 26 Cantons within a 3-year period
- Target population: children ages 2, 8 and 16 years
- Period of data collection: 1999-2003, **2005-07, 2008-10, 2011-13**



Participation in the SNVCS for the 2 survey periods

Survey period	# Cantons	Age group	Response		
			Total (n)	n	%
2005-07	24	2	9'787	8'286	84.7
2005-07	25	8	11'866	10'314	86.9
2005-07	25	16	11'776	9'301	79.0
2008-10	26	2	10'243	8'245	80.5
2008-10	25	8	10'266	8'495	82.7
2008-10	25	16	10'761	8'311	77.2
			64'699	52'952	81.8

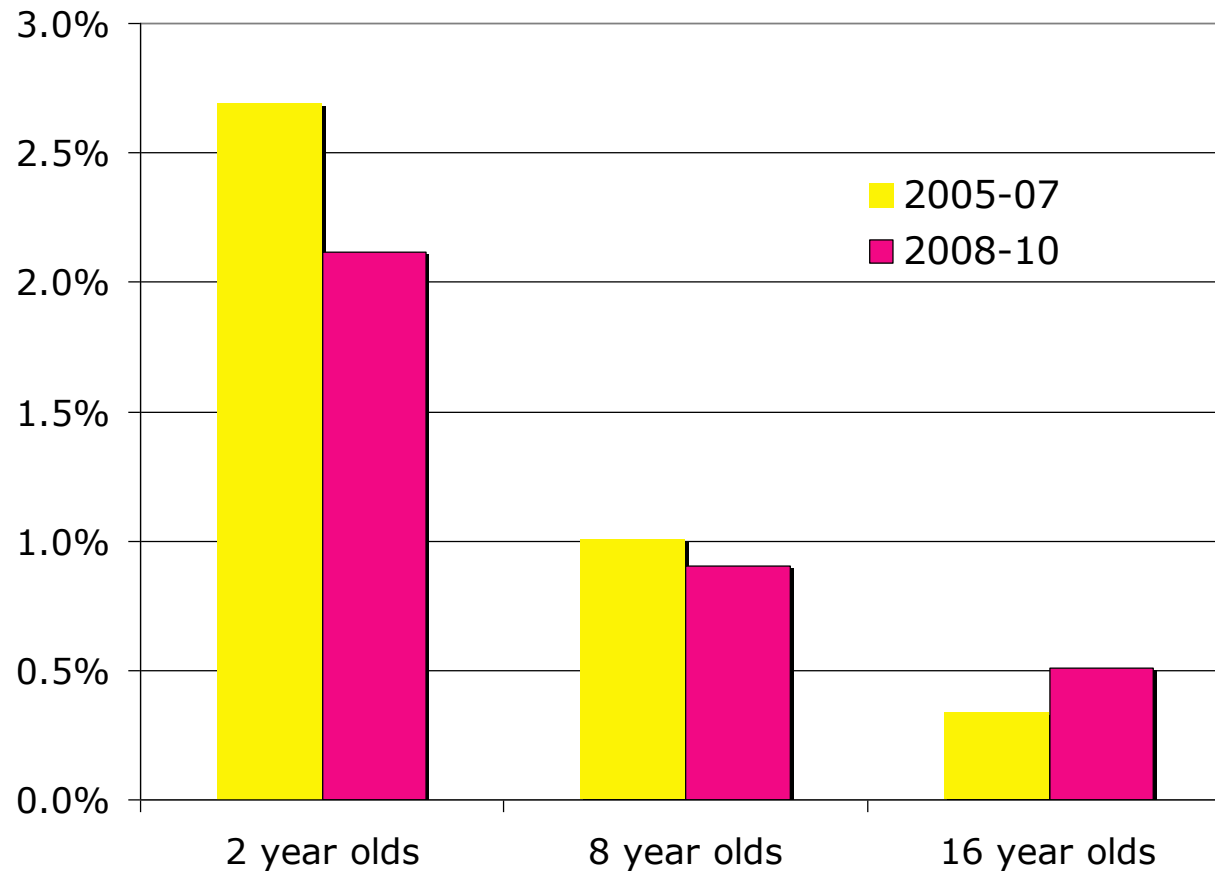


How are the number of unvaccinated kids calculated?

- Database: 2 periods of cross-sectional data for 3 age groups, collected by cantons
- Sample weighted estimates
- To obtain estimates for children aged 2-16 years, linear and quadratic regressions were performed

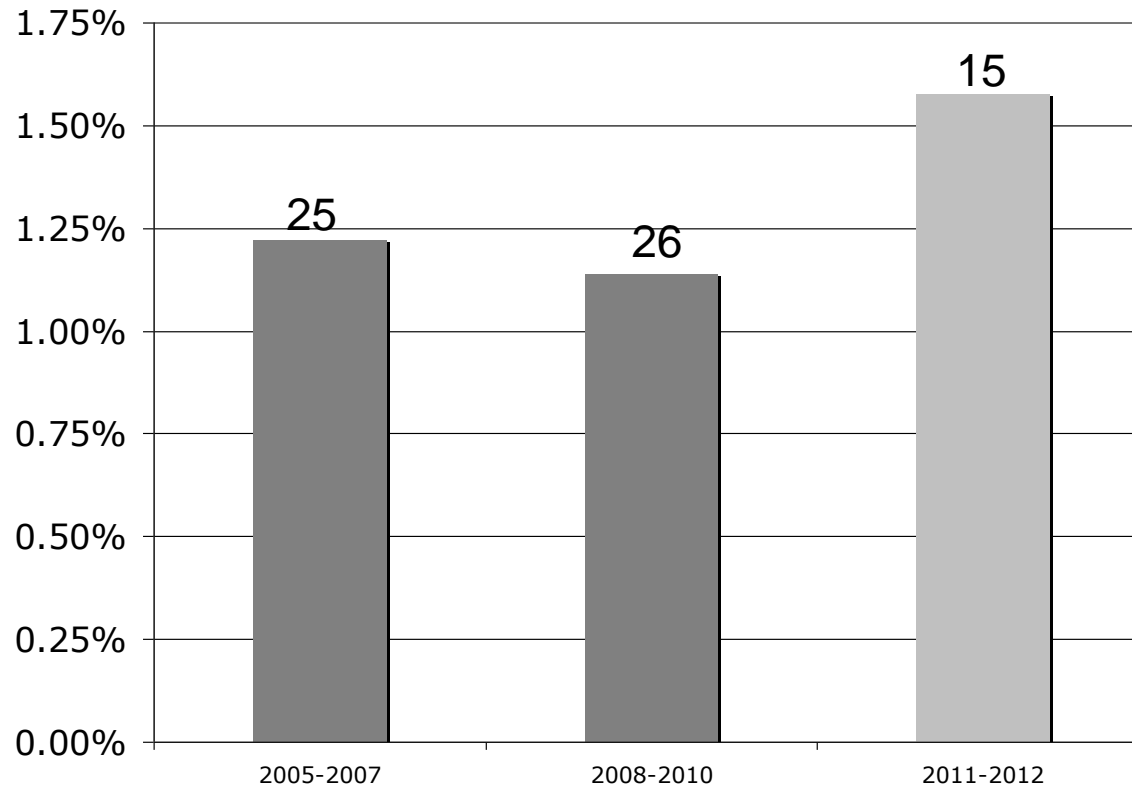


Percent of unvaccinated kids, by age group, 2005-10



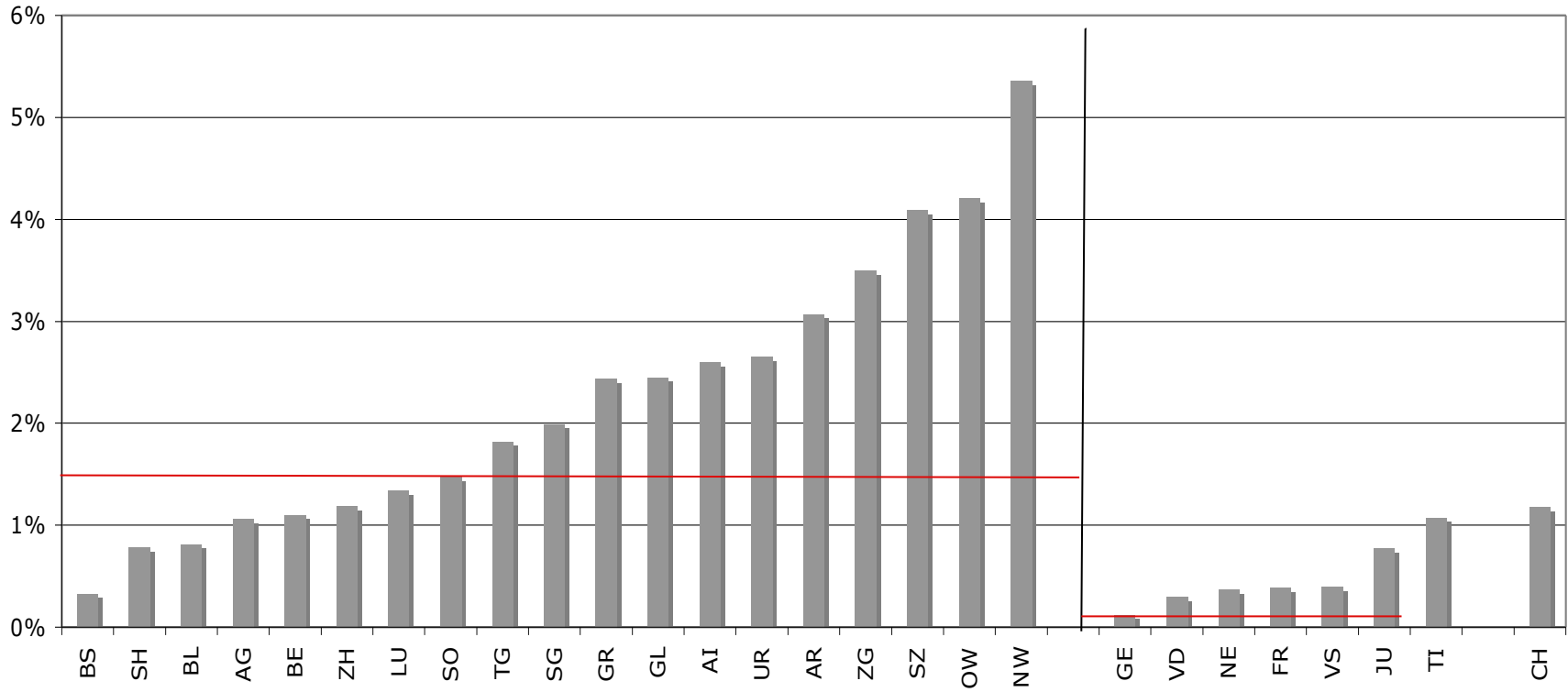


Percent of unvaccinated kids (ages 2, 8, 16 Y) by Survey Period, 2005-12



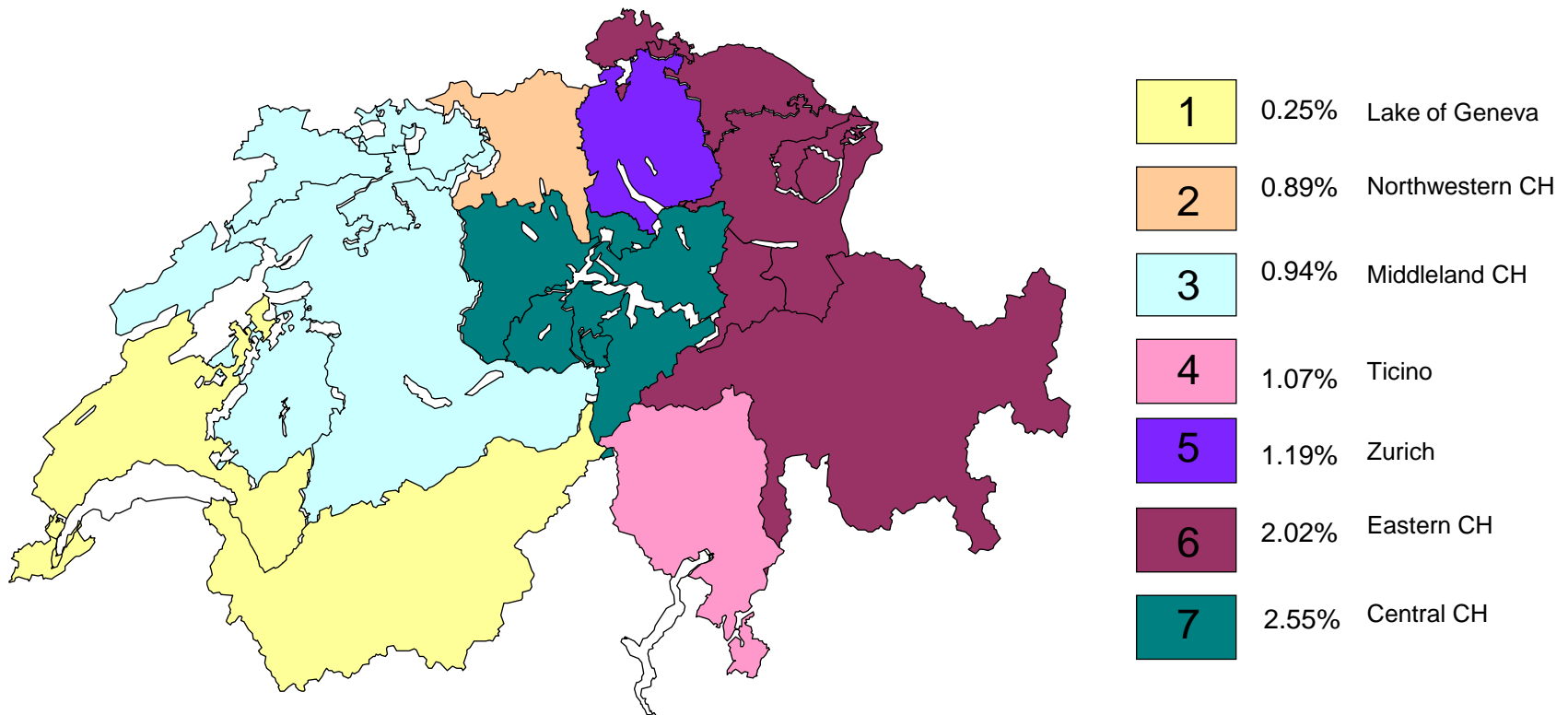


Percent of unvaccinated kids, by canton, 2005-10





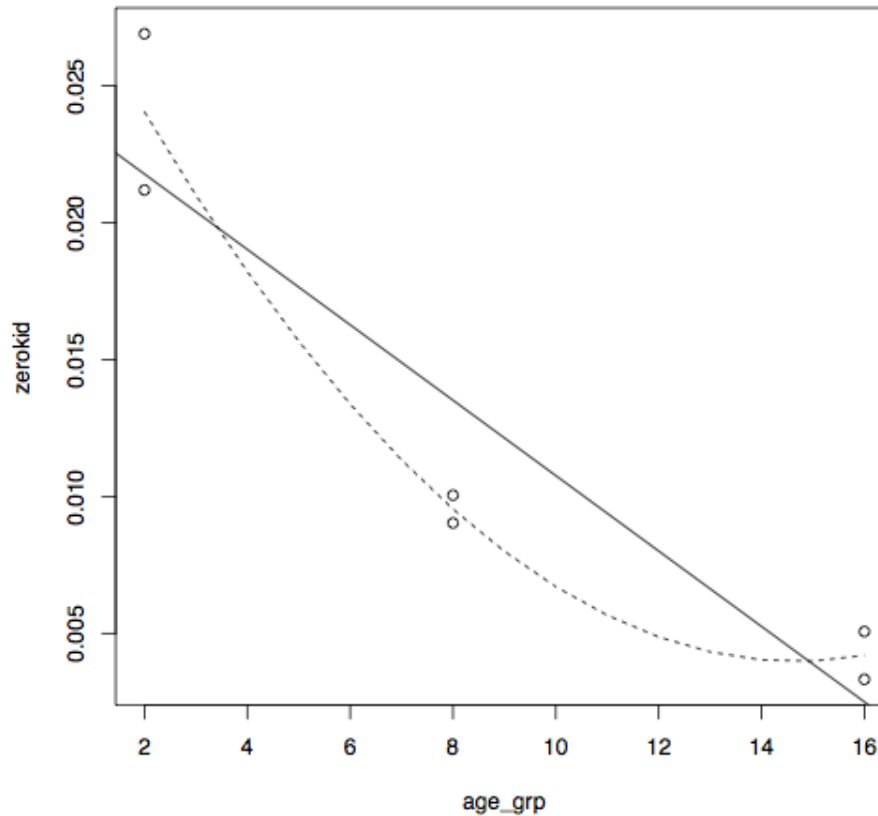
Proportion of kids who remain unvaccinated, detailed by regions in Switzerland, 2005-10



1: GE, VD, VS; 2: AG, BS, BL; 3: NE, JU, FR, BE, SO; 4: TI; 5: ZH;
6: AR, AI, GL, GR, SG, SH, TG; 7: NW, OW, SZ, LU, ZG, UR



Extrapolation for the number of kids (aged 2-16 years) who remain unvaccinated in CH, 2005-10





How many kids are not vaccinated in Switzerland?

1.2 million kids (2-16 year olds)



1.2 % (0.60-1.75%) completely not vaccinated!

14,000 completely not vaccinated!



Multivariate logistic regression: including grossregion, gender, age group, nationality, data collection year, 2005-10

Grossregion Adjusted OR (95%CI)

Grossregion	Adjusted OR (95%CI)
1 Lake of Geneva	1
2 Nordwestern CH	1.6 (0.7-3.8)
3 Middleland CH	2.2 (1.0-4.7)
4 Zurich	2.9 (1.0-8.5)
5 Ticino	4.1 (1.4-12.2)
6 Eastern CH	7.7 (3.9-15)
7 Central CH	14 (6.4-29)

1: GE, VD, VS; 2: AG, BS, BL; 3: NE, JU, FR, BE, SO; 4: ZH; 5: TI;
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Conclusions

- Many families are not completely against vaccination, most decide to delay the process.
- The number of unvaccinated children differ by regions were large indicating a strong influence of local factors affecting vaccine acceptance.
- To improve vaccine acceptance, a national strategy must be implemented that is tailored to the regional and cantonal differences.



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- Municipalities / Offices of Data Protection
- Families of selected children



Thank you for your attention!