The hepatitis A vaccination program in Greece:

Targeted versus universal immunization

V. Papaevangelou

Hepatitis A vaccination in Greece today

- Hepatitis A vaccine available in Greece since 1995. Recommended but not included in NIP.
- Recommendation for use in high risk groups.
- Vaccines available in Greece today:
  - HAVRIX (GSK): 720EU και 1,440EU
  - VAQTA (MSD): 25U και 50U
  - Epaxal (Berna): 24IU.
- Most private pediatricians vaccinate upon entrance to DCC, others at adolescence.

National Immunization Program

ΕΘΝΙΚΟ ΠΡΟΓΡΑΜΜΑ ΕΜΒΟΛΙΑΣΜΩΝ - Χρονοδιάγραμμα Εμβολιασμών για Παιδιά και Εφήβους

Ηλικία / Εμβόλιο	Γέννηση	1 μην	2μην	4 μην	6 μην	12 μην	15 μην	18 μην	24 μην	4-6 ετ	11-12 ετ	13-18 ετ
Ηπατίτιδας Β (Hep B)	Hep B[1]	Hep B[2] (1-2 δόσεις)			Hep B							
			Hep B[3]	Hep B	Hep B				Hep B (όλες οι δόσεις)			
Διφθερίτιδας, Τετάνου, Κοκκύτη (DTaP)[4]			DTaP	DTaP	DTaP		DTaP			DTaP	Td[5](1 δόση/10ετία)	
Πολιομυελίτιδας IPV IPV[6]			IPV	IPV	IPV					IPV		
Αιμόφιλου τύπου Β[7]			Hib	Hib	Hib	Hib						
Μηνιγγιτιδόκοκκου C (MCC)[8]			MCC	MCC		MCC						
Πνευμονιόκοκκου (PCV)[9]			PCV	PCV	PCV	PCV			PCV (PPV)[10]			
Ιλαράς, Παρωτίτιδας, Ερυθράς (MMR)[11]						MMR				MMR		
Ανεμευλογιάς (Var)[12]						Var						Var (2 δόσεις)
Φυματίωσης (BCG)[13]						Mantoux				Mantoux[13α] BCG	Mantoux[13β]	
Ηπατίτιδας Α (Hep A)[14]									Hep A (2 δόσεις)			
Γρίππης (INFL)[15]									INFL (ετησίως)			

Εικ. 1 *Χρονοδιάγραμμα εμβολιασμών για παιδιά και εφήβους*

Τα εμβόλια κάτω από τη διακεκομμένη γραμμή συνιστώνται για επιλεκτικό εμβολιασμό (βλέπε επεξηγήσεις της εικ. 1)

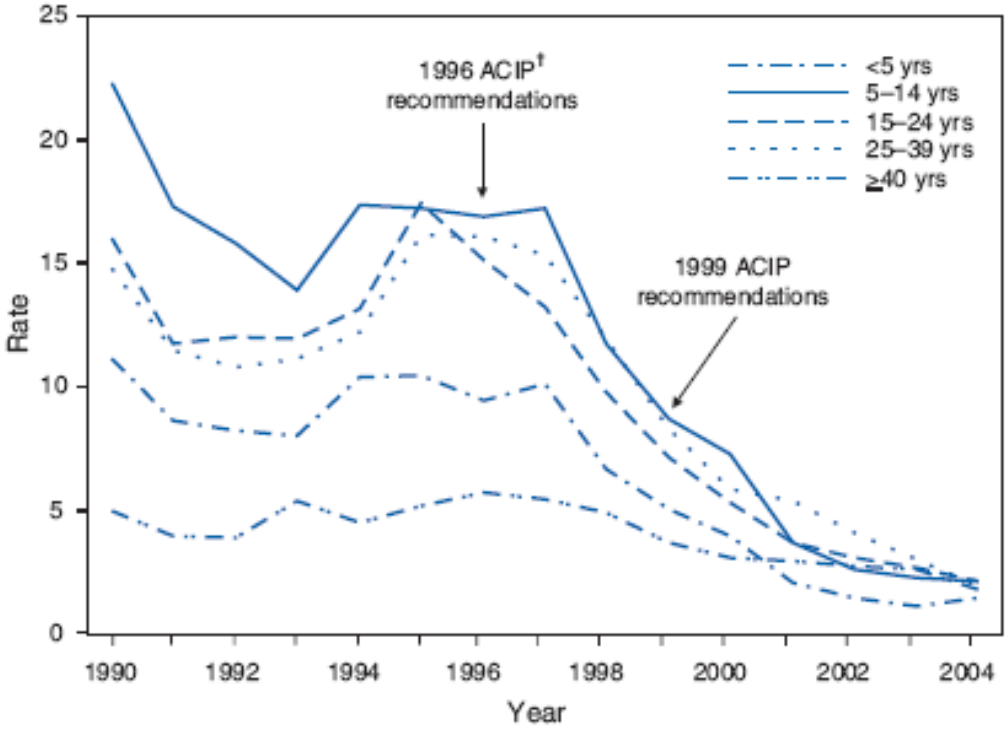
Εύρος ηλικιών διενέργειας του εμβολιασμού. Στην παρένθεση αναγράφονται οι δόσεις του εμβολίου που γίνονται σ' αυτό το εύρος ηλικιών, όταν είναι περισσότερες από μία. Το εύρος ηλικιών διενέργειας του εμβολιασμού δίνει τη δυνατότητα να χρησιμοποιούνται μονοδύναμα ή πολυδύναμα (συνδυασμένα) εμβόλια ή/και συνδυασμός μονοδύναμων-συνδυασμένων

Εύρος ηλικιών διενέργειας του εμβολιασμού όταν αυτός δεν έχει προηγηθεί κατά το συνιστώμενο σχήμα ως προς την ηλικία και τις δόσεις (βλέπε επεξηγήσεις πινάκων 5 και 6)

Targeted Immunization

- Targeted immunization of high risk groups has been proven ineffective:
  - HBV vaccination in many areas in the world
  - HAV vaccination: in 1999 (USA) when universal vaccination was first implemented **only** in states with high disease incidence.

FIGURE 1. Rate* of reported hepatitis A, by age group and year — United States, 1990–2004



SOURCE: National Notifiable Diseases Surveillance System.
* Per 100,000 population.
† Advisory Committee on Immunization Practices.

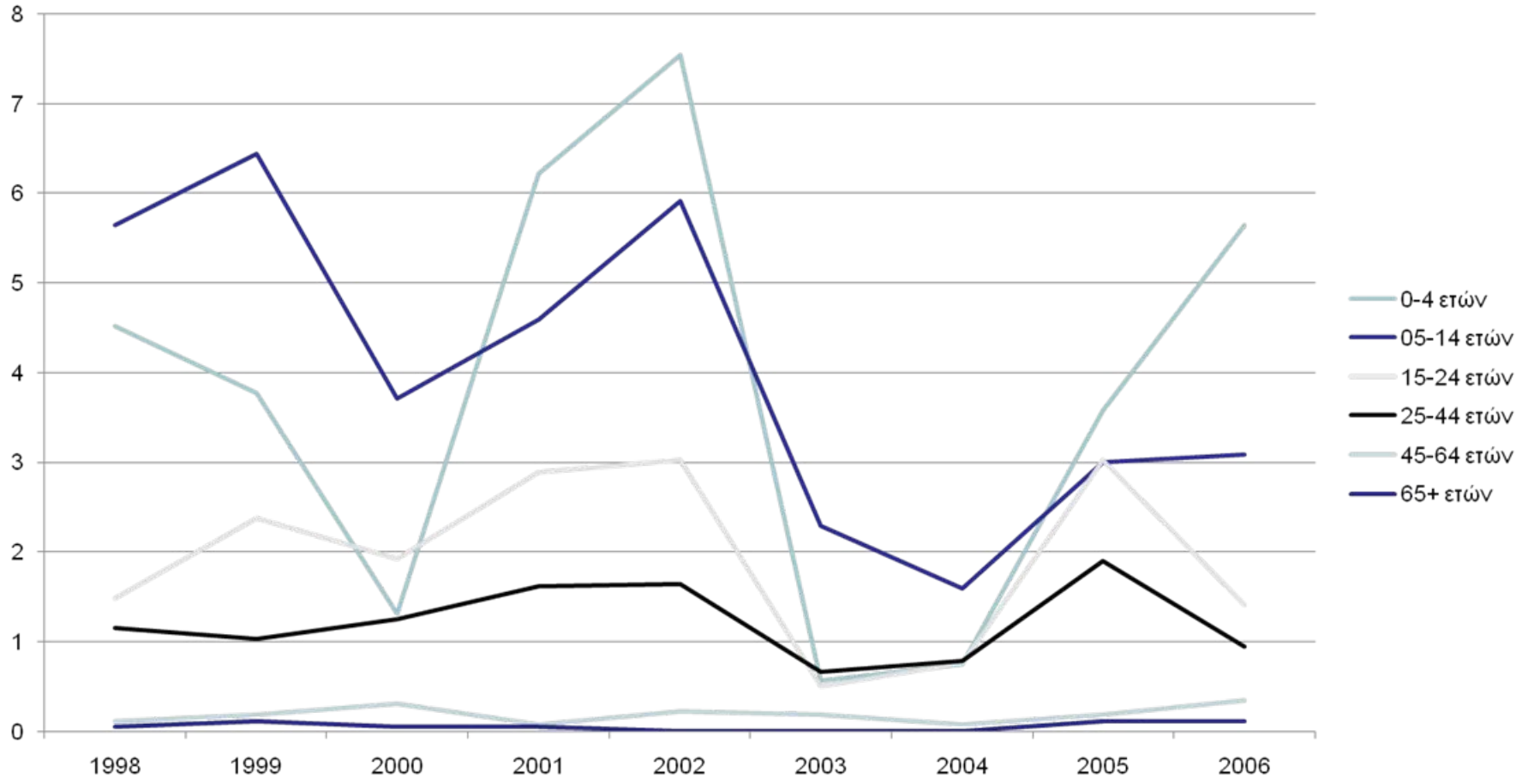
MMWR

- similar incidence rates across the country
- changes in age distribution of cases

Overview of disease burden in Greece

- Very difficult to estimate:
  - Surveillance system existing but significant underreporting….
  - <10% of children will have symptomatic disease
  - No data on duration of hospitalization complications or societal costs.
- Recent seroprevalence data implies that the virus indeed “circulates” in Greece

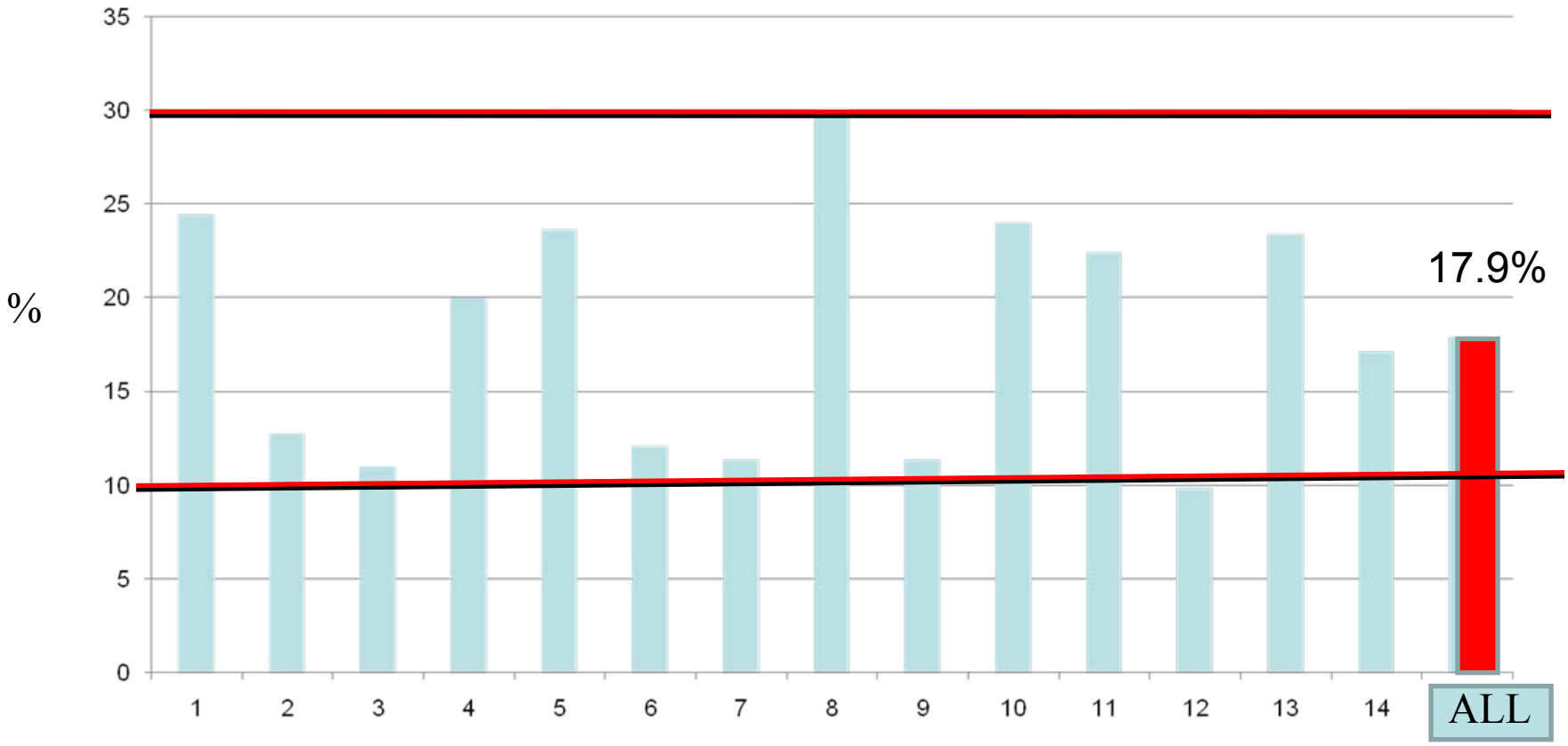
Hepatitis A surveilance data 1998- 2006



ΚΕΕΛΠΝΟ

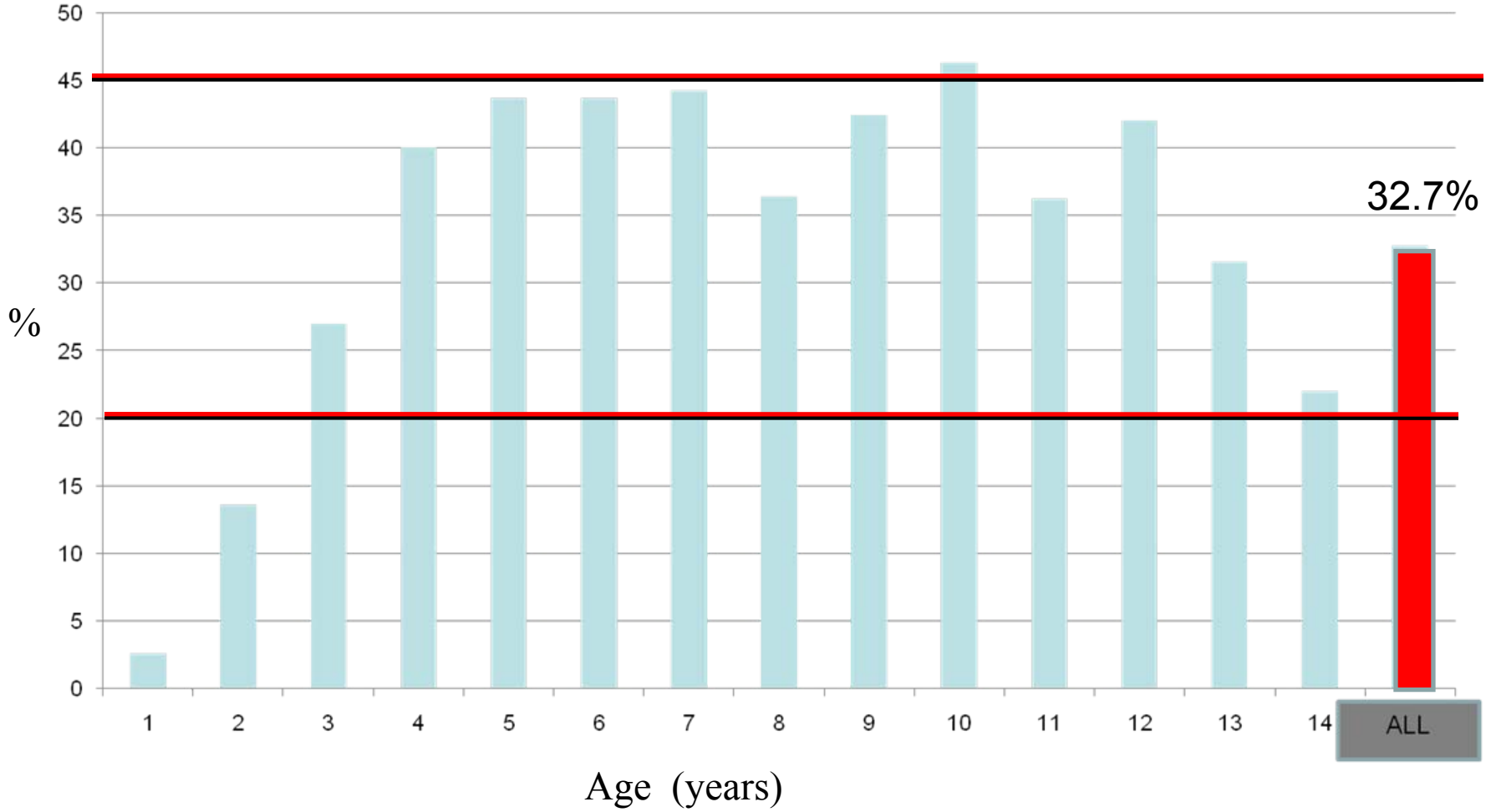
Results

Natural immunity in unvaccinated children >1 y.o.



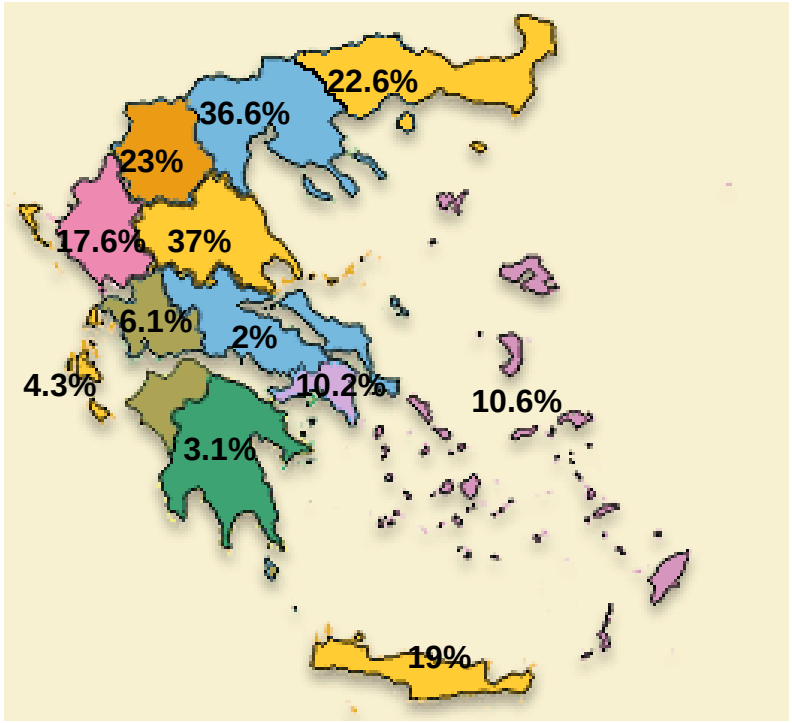
Results

Vaccination coverage against hep. A



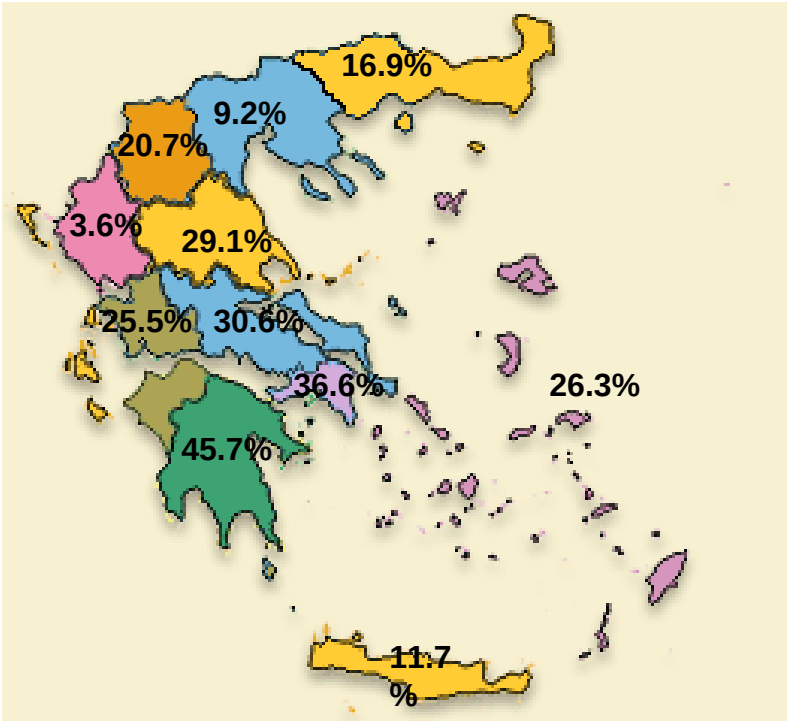
Natural Immunity and vaccination coverage by geographic area

Natural Immunity



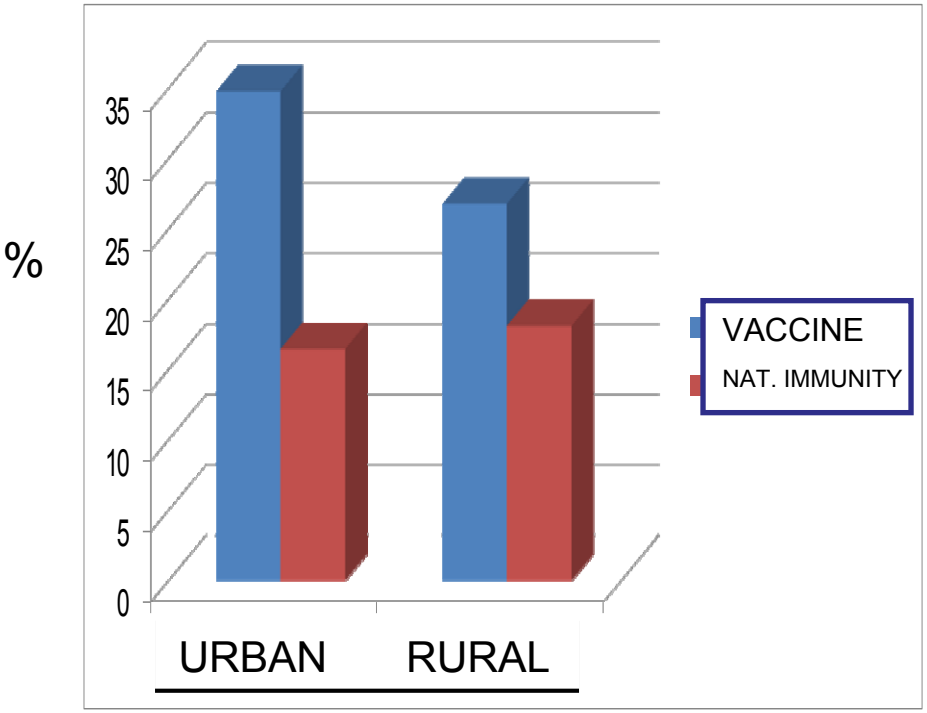
TOTAL: 17.9%

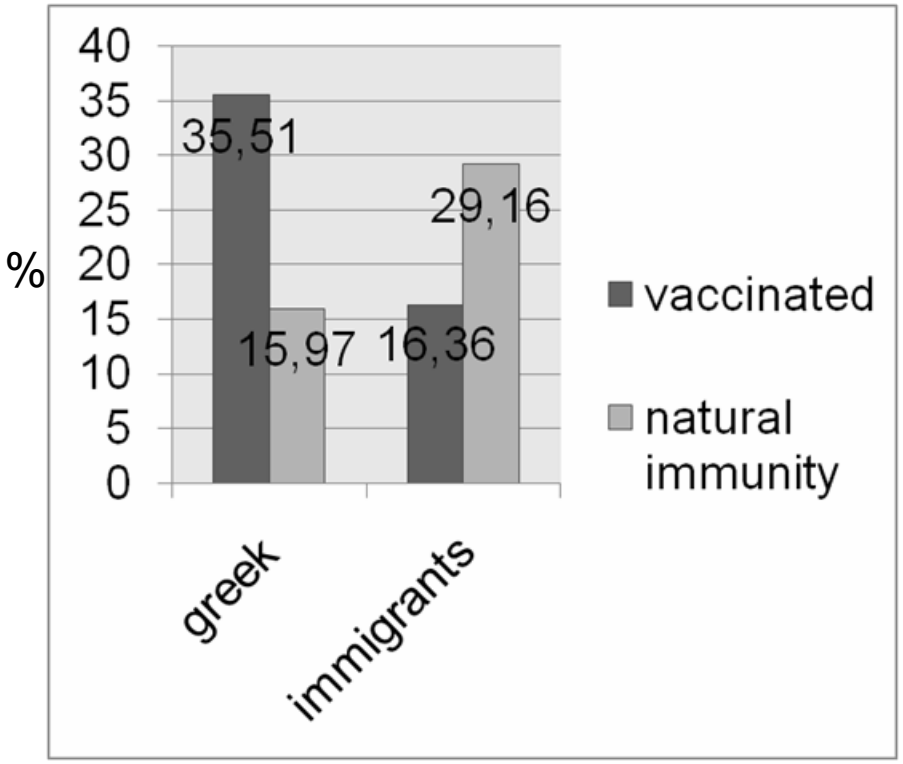
Vaccination coverage



TOTAL: 32.7%

Hepatitis A vaccine and inequalities





Cost – effectiveness study on hepatitis A vaccination

- Based calculations on their own data:
  - 161 children hospitalized between 1990-1995.
  - Mean hospitalization stay: 11+/- 3 days!!
- Conclusion:
  - Vaccination is cost-effective only in high-risk groups with a seroprevalence > 10%
  - All low-risk adolescents should get immunized

C. Bora et al. Paediatriki 1995

Hepatitis A vaccination in Greece
The way forward

- Besides cost-effectiveness studies
- This is difficult time to introduce hepatitis A vaccine in our NIP
  - Most recently varicella vaccine and conjugated pneumococcal vaccine have been introduced
  - Likely to introduce HPV vaccine within 2007.
- Vaccine widely used but not for those that need it most.