

Influenza vaccination of children – yesterday, today, tomorrow

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- Recent developments and future expectations

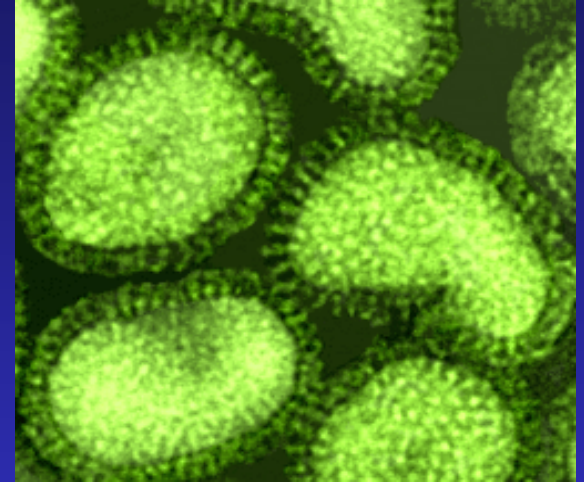
Influenza vaccination of children – yesterday, today, tomorrow

- Current recommendations for influenza immunization in children in Switzerland
- Recent developments and future expectations
- Benefits of and hurdles for universal influenza immunization in children

Current recommendations for influenza immunization in children in Switzerland

Influenza immunization

- Indication for risk groups
- from 6 months onwards
- various vaccines available
- yearly immunization



Indications for Influenza immunization in children in Switzerland (≥ 6 months of age)

BAG, Supplementum XIII, 8/2000

- Chronic heart diseases
- Chronic lung diseases
- Metabolic diseases
- Renal insufficiency
- Haemoglobinopathy
- Any Immunodeficiency
- Contact persons of high risk patients
- Persons >65 years of age
- Health care workers

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Rationale:

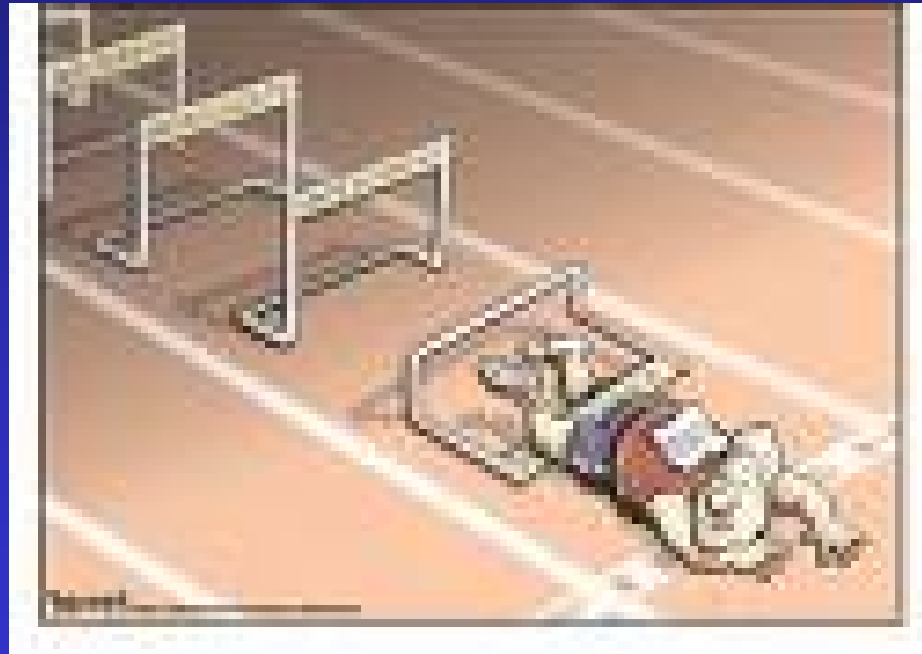
↑ risk for infection

↑ risk for complication

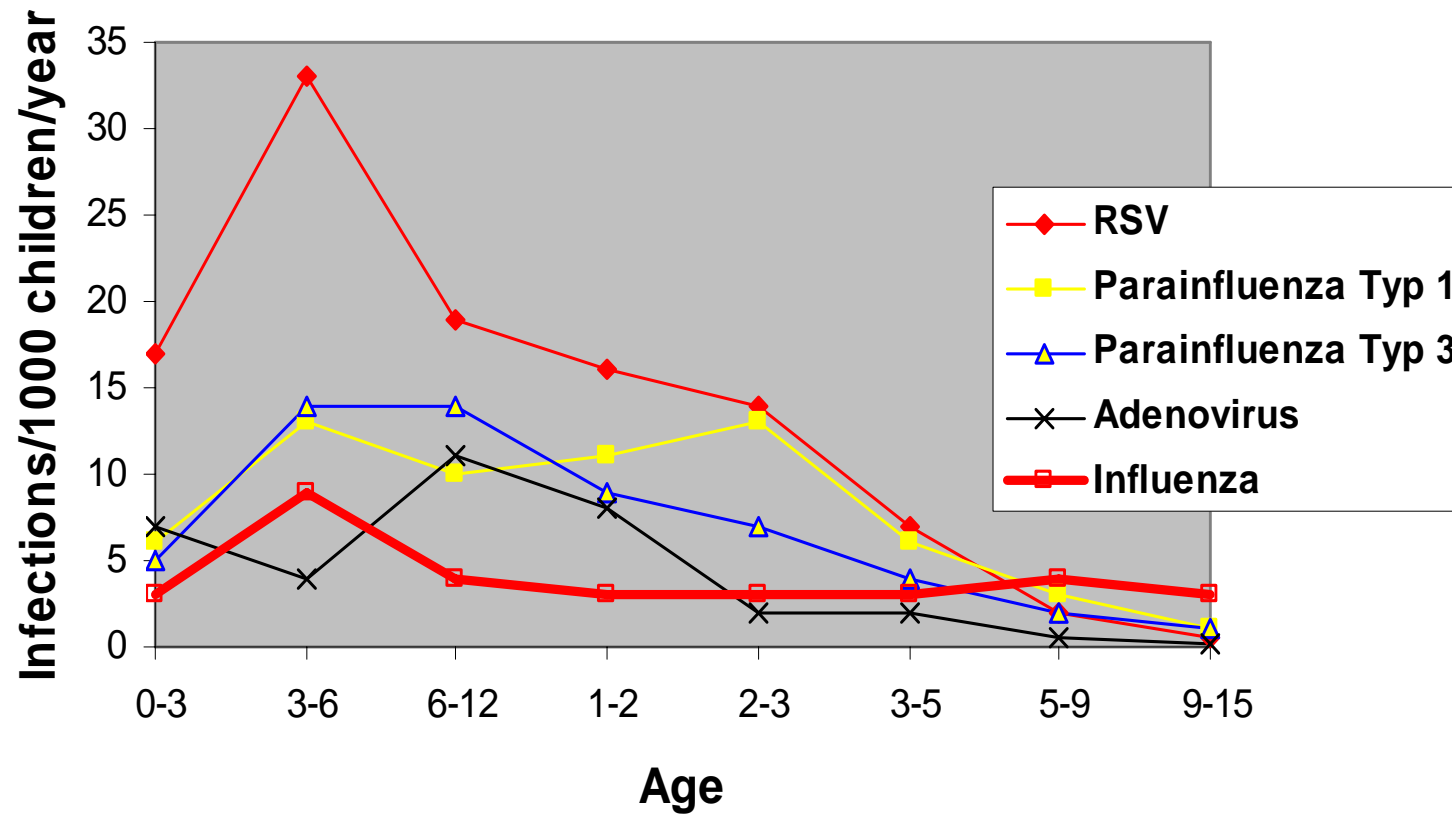
indirect protection

Benefits of and hurdles for
universal influenza
immunization in children

Hurdles for universal influenza immunization *in children*



Influenza is one of many respiratory pathogens...



Acceptance of influenza
immunization?

Reasons for decline of influenza immunization among HCW (UKBB; n=25)

	<u>N (%)</u>	<u>Major reason</u>
? efficacy	13 (56)	12 (48)
? Necessity	8 (32)	6 (24)
Side effects	6 (24)	5 (20)
missed opport.	6 (24)	4 (16)
Principal decline	3 (12)	2 (8)
fear of Injection	1 (4)	1 (4)

INFOVAC Surveillance: How did or would pediatricians immunize their own children?

- 2070 questionnaires distributed by email to INFOVAC subscribers in October 2004 (870 pediatricians)
- 11 questions; anonymous
- 1017 returned (49.1 %)

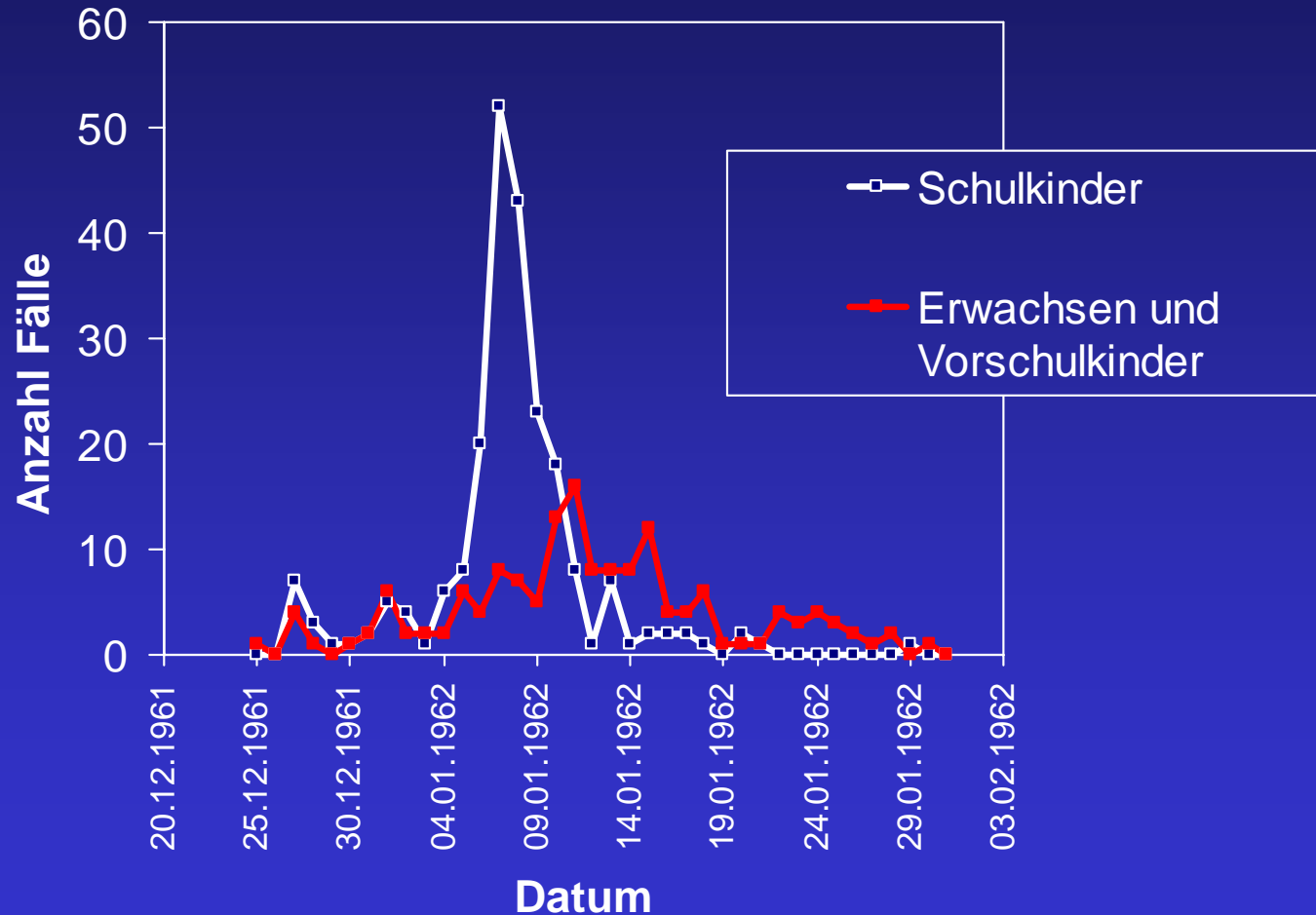
How *would* pediatricians have immunized their own children in 2004?

• Diphtheria	99.6%	Hepatitis B	95.9%
• Tetanus	99.6%	MenC	40.8%
• Pertussis	99.1%	PCV	18.3%
• Polio	98.9%	FSME	11.4%
• Hib	98.7%	Varicella	9.2%
• Measles	98.7%	Influenza	8.7%
• Mumps	96.5%		
• Rubella	98.0%		

Benefits of universal influenza immunization *in children*



Influenza B Outbreak, Hazleton, IA, Winter 1961/62



Influenza in hospitalized UKBB patients

Results

Mean Age

RSV: 4 mo (IQR: 54 d - 1 yr)

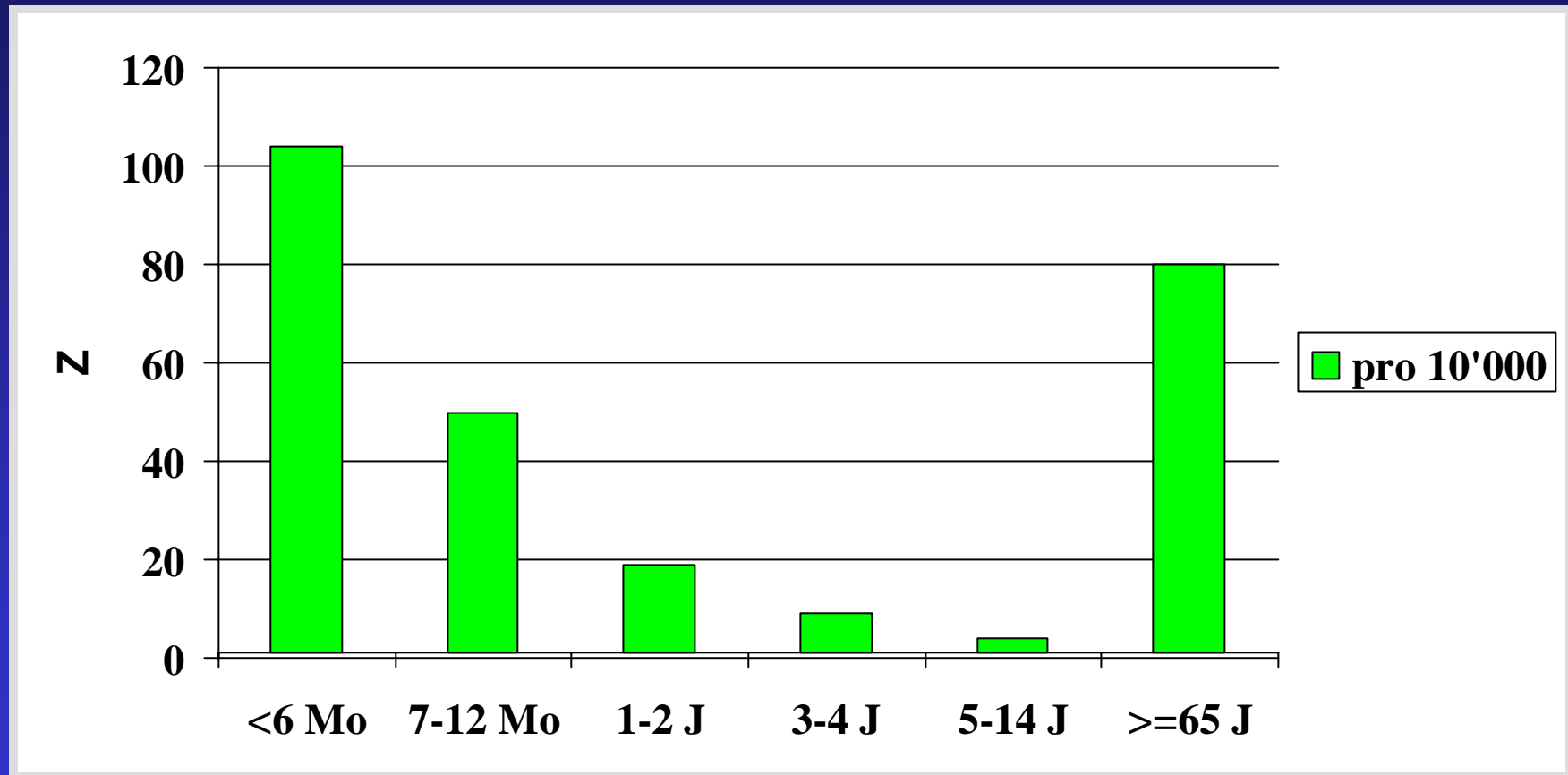
Influenza A: 2.3 yr (IQR: 1 - 3 yr)

Influenza B: 6.1 yr (IQR: 4.7 - 9.5 yr)

RSV: 75% infants

Influenza: 10% infants

Influenza – excess hospitalisations



Reduced use of antibiotics in children immunized against influenza

- Double-blind, randomized study in the USA (CAIV-T vs. Plazebo)
- 1070/532; 15-71 months old children
- Follow-up for 6-8 months (= one influenza season)

Reduced use of antibiotics in children immunized against influenza

- Efficacy against influenza: 93% (88-96)
 - side benefits:
 - febrile disease: 0.71 vs. 0.90
 - febrile otitis media: 0.14 vs. 0.20
- (NN^{“P”}=16)

Inflexal V -

Clinical and economic impact of influenza vaccination on healthy children aged 2-5 years

- 303 previously unprimed healthy children
- blindly randomised in a 2:1 ratio to receive:
 - 2 doses of Inflexal V (n=202)
 - no vaccination (n=101)

Inflexal V - Clinical impact

Outcome ⁺	Inflexal V	Controls	% VE
URTI	1.66	2.47	33*
LRTI	0.32	0.41	22
+ fever	2.47	3.32	26*
Hosp.	0.01	0.02	50
Antibiotics	1.36	1.98	32*
Antipyretics	4.70	6.59	29*

+ Episodes per child

Vaccine 2006;24:629-35

*p<0.001

Inflexal V - Economic impact

Outcome	Inflexal V	None	% VE
Parental work loss (days)	1.91	2.93	35*
mothers	3.22	4.78	33*
fathers	0.56	0.98	43*
Missed school days (siblings)	1.43	2.93	51*

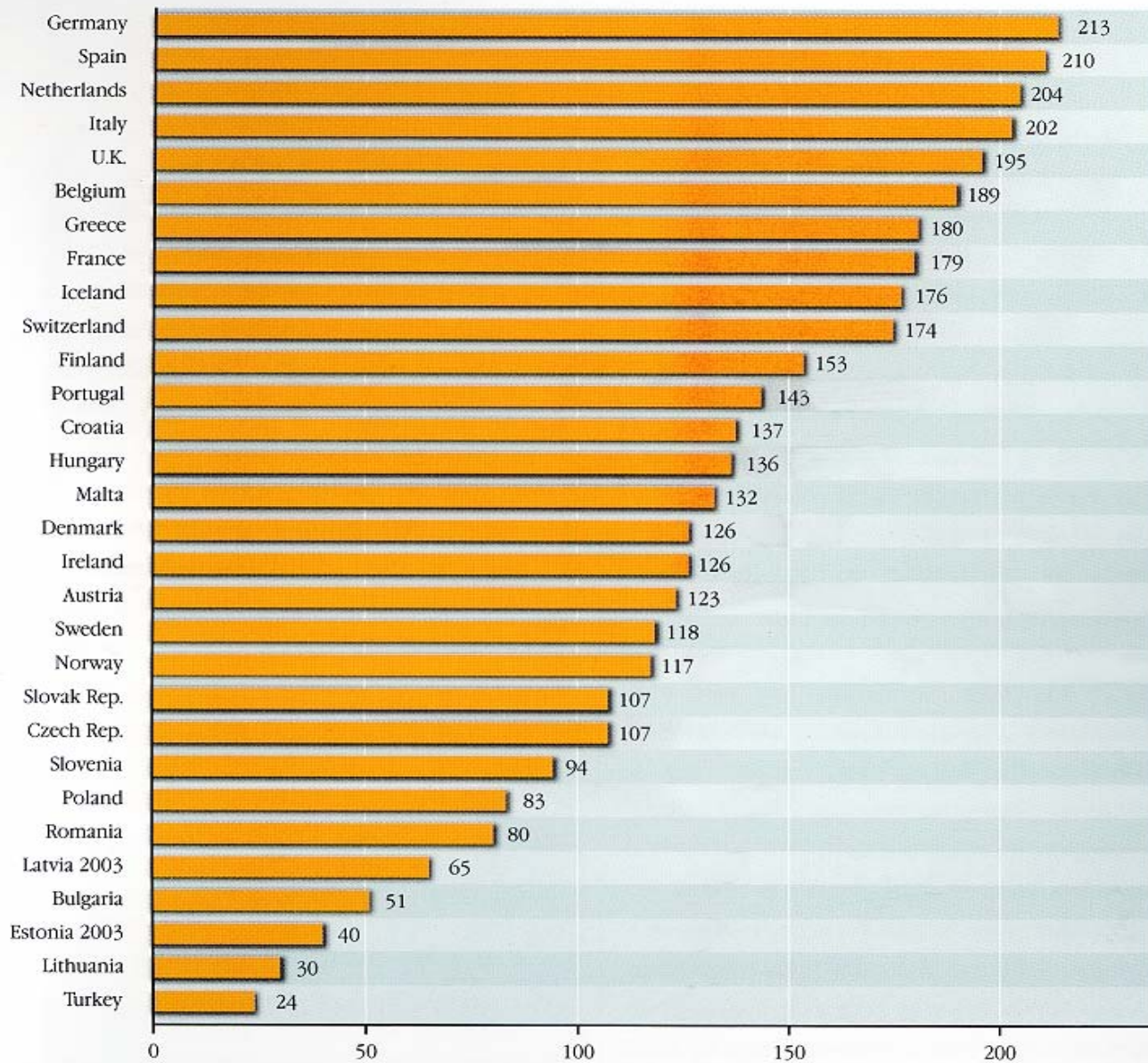
* $p \leq 0.001$

Inflexal V - clinical and economic impact

Authors' conclusions

„Influenza vaccination of healthy children...
substantially reduces influenza-like illnesses
and related costs in the children... and their
families...“

Recent developments and future expectations



Use of influenza vaccine in the general population in Europe

Eur. Scientific Working Group on Influenza (ESWI)
Newsletter 01/2006

Future expectations (hopes?) regarding influenza immunization

- Education about the frequency and risks of influenza in children – for the public and for physicians
- Political commitments towards influenza immunization
- Modified (broader) recommendations by national boards
- Make vaccines available for free
- Develop vaccines with *prolonged* efficacy

FIGHT FLU

If you are traveling or at risk of suffering complications from a flu infection (e.g. pneumonia, hospitalization which can be life threatening) such as:

- ✓ Elderly
 - ✓ Diabetic
 - ✓ Asthmatic
 - ✓ Heart problem
- or ✓ between 6-24 months old,



If you were vaccinated one year ago, you need revaccination as the circulating flu viruses have changed.