

Adult and Elderly Vaccination; Turkey

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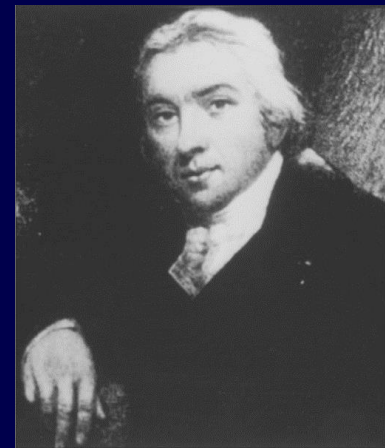


When meditating over a disease,
I never think of finding a remedy for it,
but, instead, a means of preventing it.

Louis Pasteur
(1822-1895)

General aspects of vaccination

- Vaccination has a short history when measured against the centuries during which man has sought desperately to rid himself of various plagues and pestilences
- Only in the 20th century: Routine vaccination of large populations started
- Despite its relative youth, since the time of Edward Jenner vaccination has controlled 12 major diseases



Edward Jenner

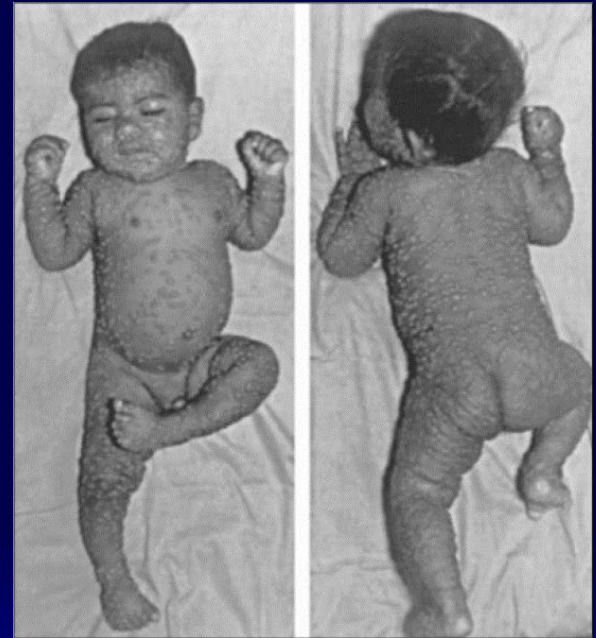


Louis Pasteur

Infant/Childhood immunization – one of the top public health success stories of the 20th century

Vaccination has controlled 12 major infectious diseases

- At least in parts of the world:
 - 1. Smallpox
 - 2. Diphtheria
 - 3. Tetanus
 - 4. Yellow fever
 - 5. Pertussis
 - 6. Haemophilus influenzae type b disease
 - 7. Poliomyelitis
 - 8. Measles
 - 9. Mumps
 - 10. Rubella
 - 11. Typhoid
 - 12. Rabies



A typical case of variola major about 7 days after the onset of rash.
(From the World Health Organization Smallpox Recognition Card)

In the case of smallpox, the dream of eradication has been fulfilled

Cases of poliomyelitis have been reduced by 99%

Vaccine Related Complications?

- Commercially available vaccines are safe
- Most vaccine adverse events are minor
 - sore arm or mild fever
- Serious adverse events rare
 - 1/1000 to 1/1,000,000 of doses
 - some so rare that risk cannot be accurately assessed
- Statistical risk of death attributed to vaccines so rare it is hard to assess
- Of deaths reported to VAERS (Vaccine Adverse Event Reporting System) 1990-92, only one believed vaccine related
- The Institute of Medicine in 1994 stated risk of death from vaccines is "extraordinarily low."

Cost Effectiveness

- Per dollar spent on vaccination saves:
 - Pertussis DTP: \$29
 - Measles/mumps/rubella: \$21
 - Oral polio: \$6
 - Varicella (Chicken pox): \$5
 - Haemophilus influenza type b: \$2
 - Influenza: \$31

Immunization Principles and Vaccine Use. G Keusch, K Bart.
-Annals of Internal Medicine, 2002;137(4):225-231).

The efficacy, effectiveness and cost-effectiveness of inactivated influenza virus vaccines. Nichol, KL.
Vaccine, 2003;21(16):1769-75)

Harrison's Principles of Internal Medicine. 15th Edition.

TABLE. Vaccination coverage, by vaccine and World Health Organization (WHO) region* — worldwide, 2010

WHO region	Vaccine coverage (%)					
	BCG	DTP3	Polio3	MCV1	HepB3	Hib3
Total (worldwide)	90	85	86	85	75	42
African	85	77	79	76	76	62
American	96	93	93	93	89	92
Eastern Mediterranean	88	87	87	85	84	58
European	94	96	96	95	78	75
South-East Asian	89	77	77	79	52	9
Western Pacific	97	96	96	97	91	10

Abbreviations: BCG = Bacille Calmette-Guérin; DTP3 = 3 doses of diphtheria-tetanus-pertussis vaccine; Polio3 = 3 doses of polio vaccine; MCV1 = 1 dose of measles-containing vaccine; HepB3 = 3 doses of hepatitis B vaccine; Hib3 = 3 doses of *Haemophilus influenzae* type b vaccine.

* Weighted regional average.

Rationale for Adult Immunization

- Ageing : more susceptible.

Adult deaths from vaccine
preventable diseases = 60,000

This is 200-fold greater mortality compared
with
children (300 children died).

Rationale for Adult Immunization

- Ageing : more susceptible.
- New vaccines targeted at adults.
- Recognition of the burden of adult vaccine-preventable disease.

Select Vaccine Preventable Diseases That Can Affect Adults: Estimated Annual Burden (US)^a

- Pneumococcal Disease¹
 - 175,000 hospitalizations for pneumonia
 - 50,000 cases of bacteremia
 - 3,000–6,000 cases of meningitis
- Influenza²
 - >200,000 hospitalizations
 - Persons >50 years of age at high risk
 - About 36,000 deaths from related complications
- Human Papillomavirus (HPV)
 - ~3,700 deaths due to cervical cancer³
 - ~1.4 million new cases of cervical dysplasia⁸
 - 1 million new cases of genital warts⁴
- Hepatitis B
 - 4,713 acute symptomatic cases reported and 46,000 estimated new infections in 2006⁵
 - Fatality rate among persons with reported cases is 0.5% to 1% and is highest in those >60 years of age⁶
- Herpes Zoster
 - About 1 million new cases⁷
 - More than 90% of US adults are susceptible to zoster⁸
 - Lifetime risk is approximately 30%⁹

^aNumber of cases shown on the slide may also include persons <18 years of age

1. Centers for Disease Control and Prevention. In: Atkinson W et al. *Epidemiology and Prevention of Vaccine-Preventable Diseases—The Pink Book. Pneumococcal Disease*. 10th ed. Public Health Foundation; 2007:255–268. 2. Nichol KL. *Cleve Clin J Med*. 2006;73:1009–1015. 3. American Cancer Society. *Cancer Facts & Figures 2007*. Atlanta, Ga: American Cancer Society; 2007:4. 4. Fleischer AB et al. *Sex Transm Dis*. 2001;28:643–647. 5. Centers for Disease Control and Prevention. Surveillance for acute viral hepatitis — United States, 2006. *MMWR*. 2008;57(SS-2):1–25. 6. CDC. *MMWR*. 2006;55(RR-16):1–33. 7. Insinga RP et al. *J Gen Intern Med*. 2005;20:748–753. 8. Gnann JW et al. *N Engl J Med*. 2002;347:340–346. 9. Yawn, BP et al. *Mayo Clin Proc*. 2007;82(11):1341–1349.

Rationale for Adult Immunization

- Ageing : more susceptible.
- New vaccines targeted at adults.
- Recognition of the burden of adult vaccine-preventable disease.
- Increasing antimicrobial resistance.
- No equivalent “Vaccines for Adults” program.
- Build on success of infant/childhood, adolescent immunization program.

Recommended Adult Immunization Schedule—United States • 2014

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

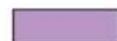
Figure 1. Recommended adult immunization schedule, by vaccine and age group¹

VACCINE ▼	AGE GROUP ►	19–21 years	22–26 years	27–49 years	50–59 years	60–64 years	≥65 years
Influenza ^{2,*}		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella ^{4,*}		2 doses					
Human papillomavirus (HPV) Female ^{5,*}		3 doses					
Human papillomavirus (HPV) Male ^{5,*}		3 doses					
Zoster ⁶						1 dose	
Measles, mumps, rubella (MMR) ^{7,*}		1 or 2 doses					
Pneumococcal 13-valent conjugate (PCV13) ^{8,*}		1 dose					
Pneumococcal polysaccharide (PPSV23) ^{9,10}		1 or 2 doses					1 dose
Meningococcal ^{11,*}		1 or more doses					
Hepatitis A ^{12,*}		2 doses					
Hepatitis B ^{13,*}		3 doses					
<i>Haemophilus influenzae</i> type b (Hib) ^{14,*}		1 or 3 doses					

*Covered by the Vaccine Injury Compensation Program



For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster



Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)



No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, NW, Washington, DC 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. – 8:00 p.m. Eastern Time, Monday – Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), American Academy of Family Physicians (AAFP), American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG), and American College of Nurse-Midwives (ACNM).



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention

Recommended Adult Immunization Schedule—United States • 2014

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 2. Vaccines that might be indicated for adults based on medical and other indications¹

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,8,15}	HIV infection CD4+ T lymphocyte count ^{4,7,8,15}		Men who have sex with men (MSM)	Kidney failure, end-stage renal disease, receipt of hemodialysis	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement component deficiencies) ^{8,14}	Chronic liver disease	Diabetes	Health care personnel
				<200 cells/μL	≥200 cells/μL							
Influenza ^{2,*}			1 dose IIV annually			1 dose IIV or LAIV annually		1 dose IIV annually				1 dose IIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs									
Varicella ^{4,*}			Contraindicated					2 doses				
Human papillomavirus (HPV) Female ^{5,*}			3 doses through age 26 yrs					3 doses through age 26 yrs				
Human papillomavirus (HPV) Male ^{5,*}			3 doses through age 26 yrs					3 doses through age 21 yrs				
Zoster ⁶			Contraindicated					1 dose				
Measles, mumps, rubella (MMR) ^{7,*}			Contraindicated					1 or 2 doses				
Pneumococcal 13-valent conjugate (PCV13) ^{8,*}							1 dose					
Pneumococcal polysaccharide (PPSV23) ^{9,10}							1 or 2 doses					
Meningococcal ^{11,*}							1 or more doses					
Hepatitis A ^{12,*}							2 doses					
Hepatitis B ^{13,*}							3 doses					
<i>Haemophilus influenzae</i> type b (Hib) ^{14,*}			post-HSCT recipients only				1 or 3 doses					

*Covered by the Vaccine Injury Compensation Program

- For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)
- No recommendation

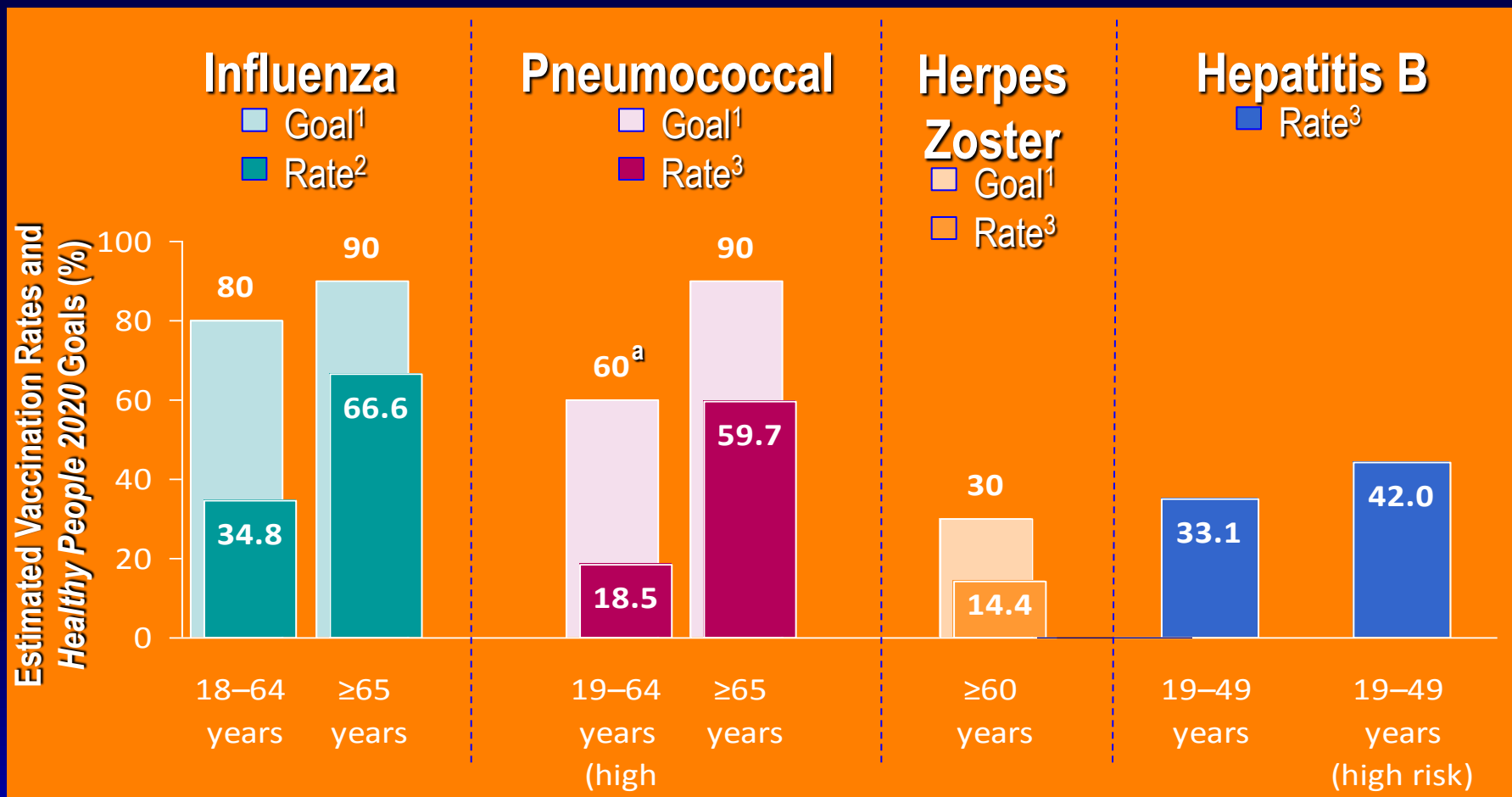
These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of February 1, 2014. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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Select Adult Vaccination Rates, 2010



^aGoal for persons 18 to 64 years of age.

1. US Department of Health and Human Services. healthypeople.gov/2020/topicsobjectives2020/pdfs/HP2020objectives.pdf. Accessed May 14, 2012.

2. Centers for Disease Control and Prevention (CDC). Final state specific influenza vaccination coverage estimates for the 2010–11 season—United States, National Immunization Survey and Behavioral Risk Factor Surveillance System, August 2010 through May 2011. cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm. Accessed April 13, 2012.

3. CDC. *MMWR*. 2012;61:61–80.

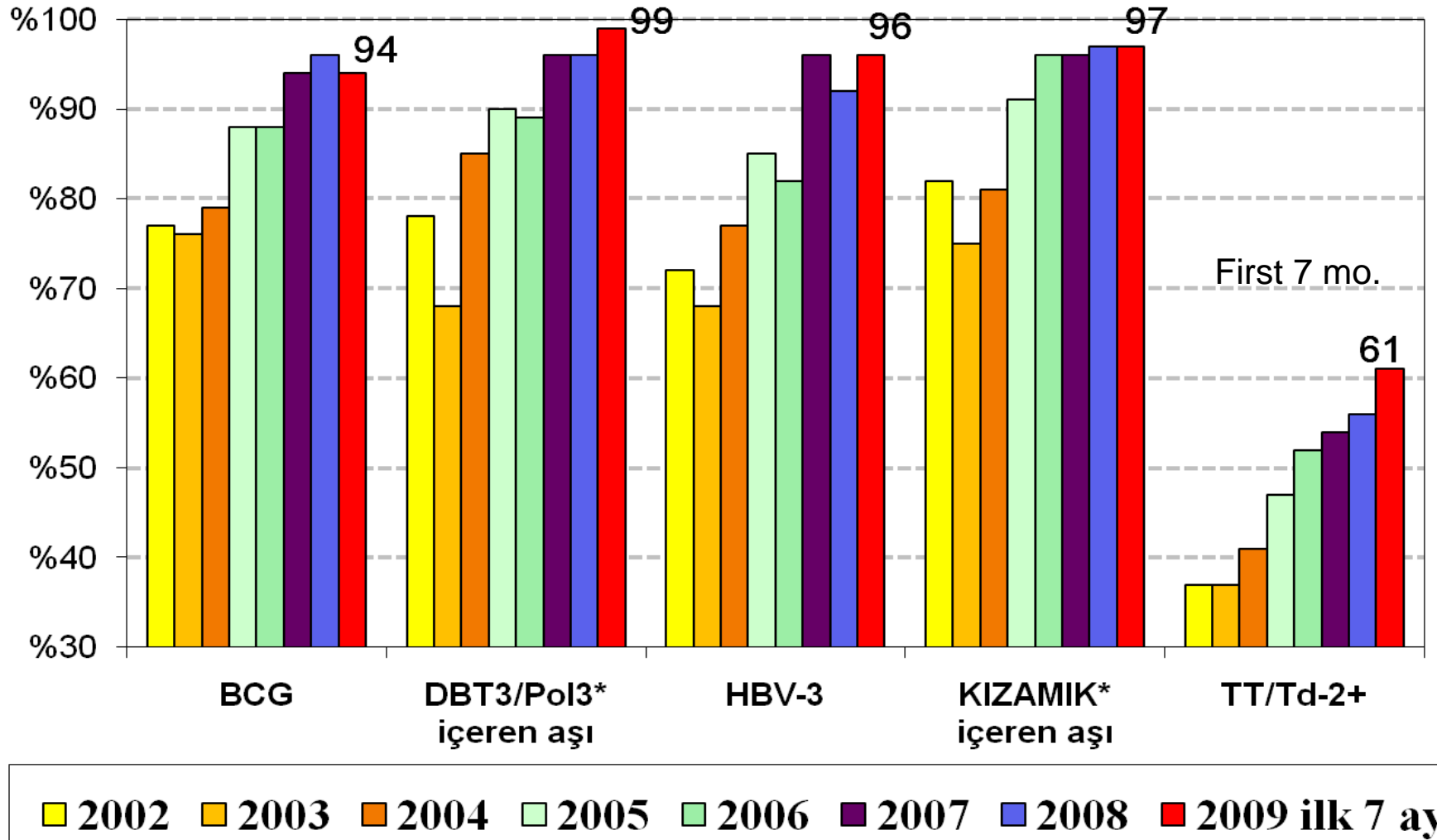
Table 3

Most recent available adult coverage estimates for tetanus, diphtheria, pneumococcal disease polio vaccine and meningococcal disease among 29 European countries, 2010.

Vaccine	Country	Coverage (%)	Target group	Year
Tetanus	BE	61	All adults	2008
	BG	74	Adults at 25–35–45–55–65 and 75+ years	2009
	DE	73	All adults	2009
	FR	71	All adults	2002
	LV	62	Adults >25 years	2009
	PT	61	Adults at 65 years	2010
Diphtheria	BE	61	All adults	2008
	BG	74	Adults at 25–35–45–55–65 and 75+ years	2009
	FR	34	All adults	2002 ^A
	LV	62	Adults >25 years	2009
	PT	61	Adults at 65 years	2010
Pneumococcal dis- ease	BE	13	Adults >60 years	2008
	IE	10	All adults	2006
	LV	<1	All adults	2009
Polio	FR	40	–	2002
Meningococcal disease	IE	30	Adults 18–22 years	2002

^A Before recommendation of adult diphtheria booster.

Pediatric Vaccination Rates 2002-2008 Turkey



*2006 yılından itibaren Kızamık aşısı yerine KKK aşısı ve 2008 yılından itibaren DBT aşısı yerine DaBT-IPV-Hib aşısı uygulanmaya başlanmıştır.

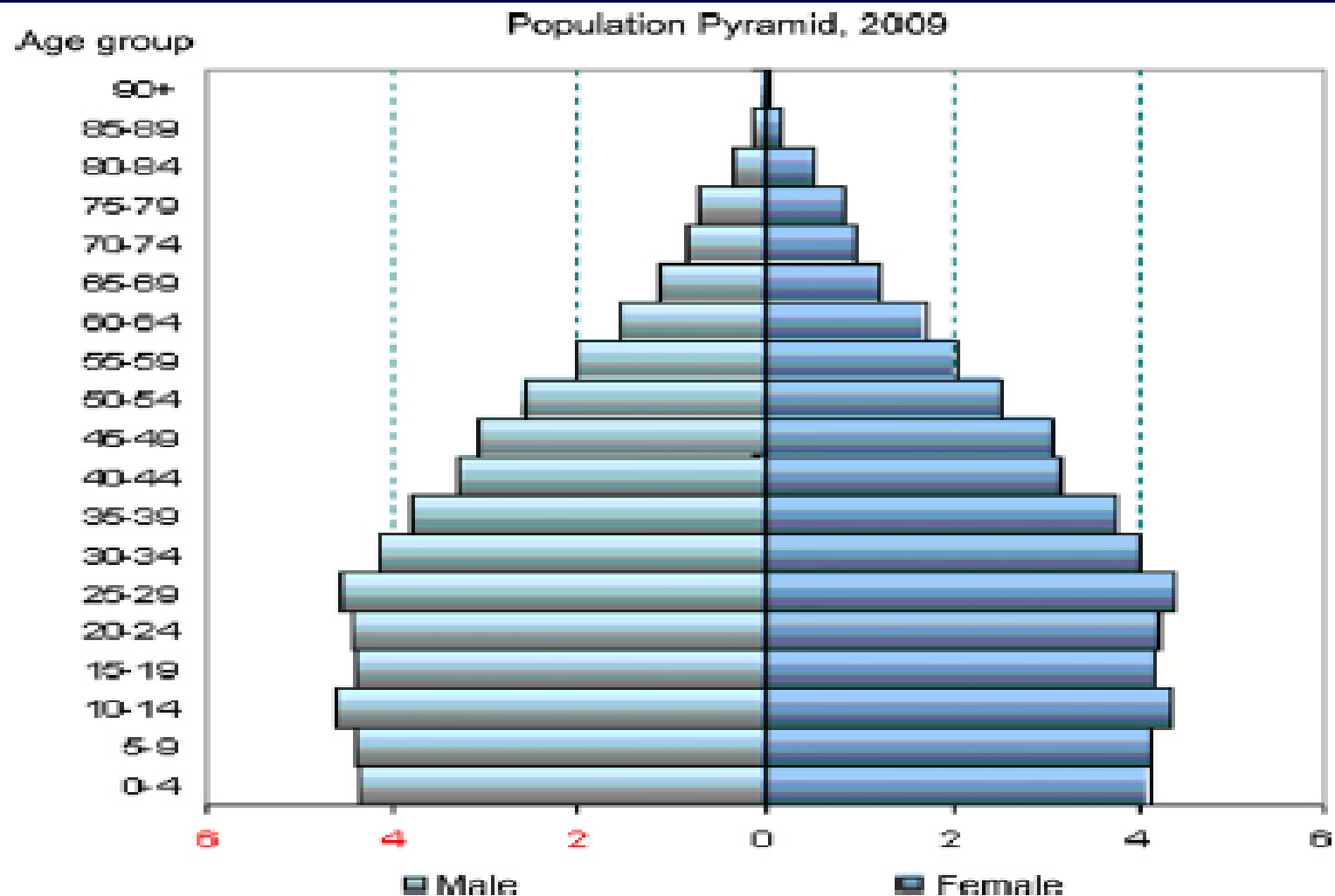


Fig. 1. Population pyramid in Turkey, 2009 [9]. The proportion of the population in the 65 and over age group is 7%.

Meral Akcay Ciblak, and Grip Platform. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Number of major vaccine recommended groups in the whole population.

Diseases/groups	Age group (years)	Total number of indicated age group in the whole population	Prevalence rate (%) of the risk groups/diseases as reported by studies	Countrywide estimated total number of indicated risk groups
Elderly	≥65	5,083,414	7	5,083,414
Diabetes	>20	47,467,358	13.7	6,503,028
COPD	>40	23,262,036	19.1	4,443,049
Asthma	>19	72,561,312	9.1	6,609,700
CKD	>19	47,467,358	15.7	7,452,375
CAD	≥35	28,767,349	13	3,734,169
Total				33,825,735

Total population in Turkey by 2009 was 72,561,312 [9]. The prevalence rate and the total number of the elderly in the population were retrieved from Turkish Statistical Institute [9]. Number of the risk groups in the whole population was calculated based on the disease prevalence rate reported by the studies in given age groups and census data [10–15,29].

Meral Akcay Ciblak, and Grip Platformu. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Number of major vaccine recommended groups in the whole population.

Diseases	Age group (years)	Total number of specified age groups in the whole population	Prevalence rate (%) of the risk groups/diseases as reported by studies	Countrywide estimated total number of risk groups
Diabetes	20-65	42,383,944	13.7	5,806,600
COPD	40-65	18,178,622	19.1	3,472,117
Asthma	20-65	42,383,944	9.1	3,856,939
CKD	20-65	42,383,944	15.7	6,654,279
CAD	35-65	23,683,935	13	3,078,912
Total				22,868,847.

Disease prevalence was calculated for the indicated age range indicated below. People ≥ 65 years of age were not included in total number.

Meral Akcay Ciblak, and Grip Platformu. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Annual influenza vaccine sales figures in Turkey (2006-11). IMS health data review 2011.

	Units year/06	Units year/07	Units year/08	Units year/09	Units year/10	Units year/11
VAXIGRIP ^a	1,437,046	1,636,912	828,067	1,173,179	1,526,160	1,931,908
FLUARIX ^b	593,932	286,594	1,048,938	725,885	687,506	540,489
INFLUVAC ^c	60,303	99,816	38,365	90,422	-	-
INTANZA ¹	-	-	-	-	4180	5325
Total	2,091,281	2,023,322	1,915,370	1,989,486	2,217,846	2,477,722

^a Vaxigrip and Intanza are trademarks of Sanofi Pasteur.

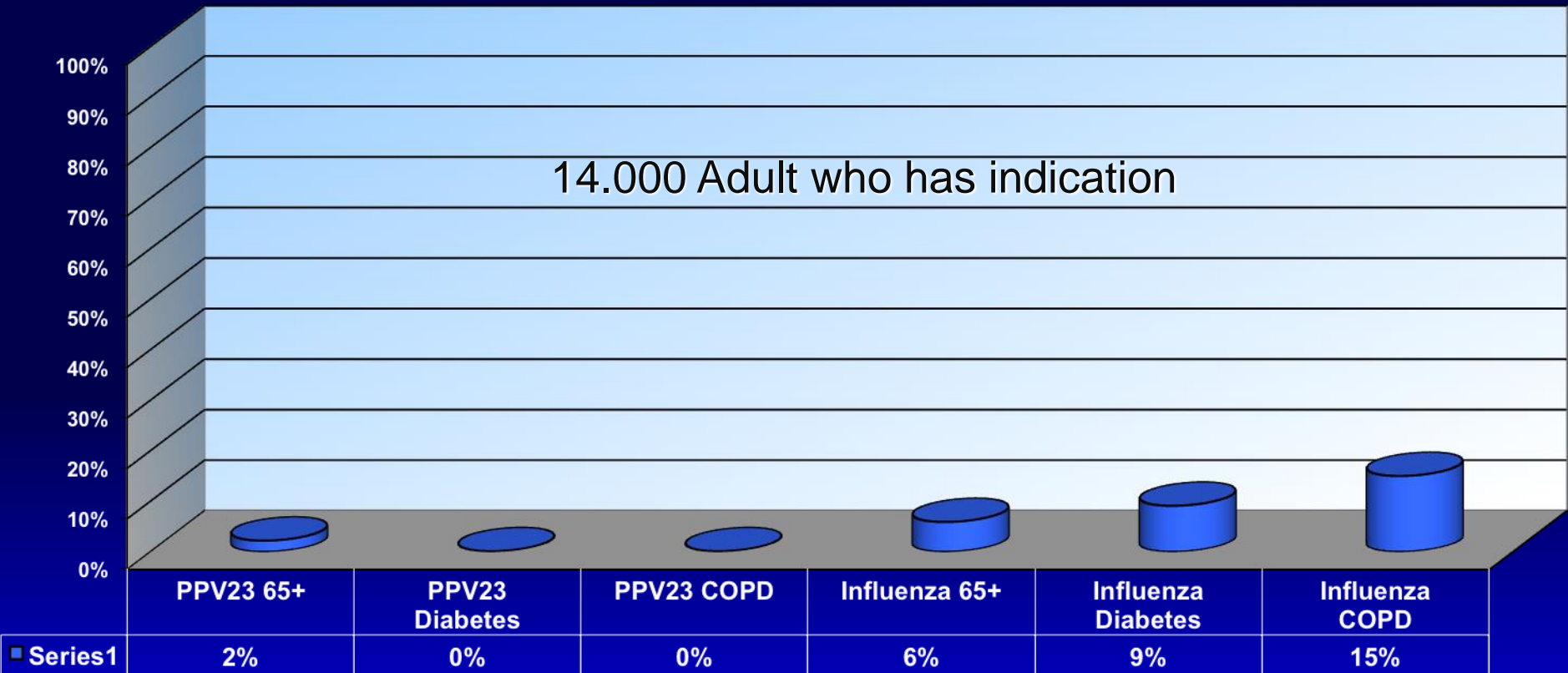
^b Fluarix is a trademark of GSK.

^c Influvac is a trademark of Abbott.

Meral Akcay Ciblak, and Grip Platformu. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Current Coverages in Turkey

No Vaccination Coverage Target in Adults in Turkey and many of the countries !!





Adults
Let's vaccinate

2009



Türk İç Hastalıkları Uzmanlık Derneği
Cemal Nadir Sok. No:12/6 Çankaya Ankara
Tel : +90 312 441 98 23
Fax : +90 312 441 99 83

[Erişkin Aşı Takip Kartı]



“Aşı karnesi kavramı
yaşam boyu olmalıdır”



HAYDİ BÜYÜKLER

AŞIYA

Detaylı bilgi için
HEPATİT B
TETANOZ&DİFTERİ
ZATÜRE
VE GRİPTEN
KORUNUN
doktorunuza başvurunuz.



Türk İç Hastalıkları
Uzmanlık Derneği



T.C. SAĞLIK BAKANLIĞI



aşı çalışma grubu

Adı ve Soyadı:	
Kronik Hastalık:	
Adres:	
Telefon:	GSM:

Hepatit B Aşısı		0. ay	1. ay	6. ay	
	Ürün adı				
	Tarih				
	Lot No				

Tetanoz Difteri Aşısı		0. ay	1. ay	6. ay	Tekrar Doz	Tekrar Doz	1990 sonrası doğanlarda aşı kayıtlarının bulunması durumunda, uygun aralıklarla yapılmış en az 3 doz difteri ve tetanoz içeren aşı, 2 doz difteri ve tetanoz dozu yerine sayılır ve aşı takvimine kalındığı yerden devam edilir. Rapel dozların aralıkları hekim tarafından belirlenir.
	Ürün adı						
	Tarih						
	Lot No						

Zatürre Pnömonokok Aşısı		Tek Doz	Tekrar Doz	Tekrar doz pnömonokok aşısı hekim tarafından belirlenir.
	Ürün adı			
	Tarih			
	Lot No			

Grip Aşısı		2007	2008	2009	2010	2011	2012
	Ürün adı						
	Tarih						
	Lot No						

Ministry of Health

Adult Immunization Guideline, 2009

Tablo 6. Normal ve risk grubu yetişkinlerde aşılama şeması

Aşı	18-49 yaş	50-64 yaş	65 ≥ yaş
¹ Tetanoz, difteri (Td)	Her 10 yılda bir rapel doz aşı		
^{2,3} Kızamık (K)/ Kızamık, kızamıkçık, kabakulak (KKK)	1 veya 2 doz aşı		
Hepatit B	3 doz aşı (0, 1, 6. aylar)		
İnfluenza	Yılda 1 doz aşı	Reimbursed	Yılda 1 doz aşı
⁴ Pnömonokok (polisakkarid)	1-2 doz aşı	Reimbursed	1 doz aşı
Hepatit A	2 doz aşı (0, 6 ya da 18. aylar)		
² Suçiçeği	2 doz aşı (0, 1 ya da 2. aylar)		
⁵ Meningokok	1 ya da daha fazla doz aşı		



İmmünitesi ve kontrendikasyonu olmayan tüm bireyleri kapsar.



Risk faktörü olan ve kontrendikasyonu olmayan bireyleri kapsar.

¹ Tetanoz aşısı için primer immünizasyonu tamamlamış kişilerdeki şemadır.

² Gebelikte kontrendikedir.

³ Bir ya da iki doz kızamık aşısı yapıldı ise bir doz KKK aşısı yapılır. İlk doz KKK aşısı olarak yapıldı ise 2. doz kızamık aşısı olarak yapılır. İki doz KKK aşısı yapıldı ise tekrar aşıya gerek yoktur.

⁴ Beş yıl ara ile risk gruplarına yapılır (her risk grubu özel olarak değerlendirilir).

⁵ Koruyuculuk süresi 2 yıldır.

Pneumococcal Vaccine - Antalya

- Prospective study
- Akdeniz University, Faculty of Medicine, Antalya
- Interview with 2383 adults
 - 10.7 % are aware of pneumococcal vaccine
 - Only 0.9 % are vaccinated
 - Family physician advised 68.2 %
 - Self learned 31.8 %
 - In the hospital 45.4 %
 - Self paid 55.4 %



Pneumococcal vaccination coverage in elderly population: before and after setting a target with a one-day educational program

Serhat Unal ^a, Mine Durusu Tanrıöver ^b

Hacettepe University Faculty of Medicine, Department of Medicine

^a Section of Infectious Diseases

^b Section of General Internal Medicine

Ünal S, Durusu Tanrıöver M, Taş E, Güner İ, Çetin ÖY, Sayar İ. Pneumococcal vaccination coverage in the elderly population: before and after setting a target with a one-day educational program. FLORA 2014;19 (in press)

Accompanying diseases and vaccination rates of specific groups before the intervention

	Accompanying diseases n (%)	Vaccination coverage among patients with chronic diseases before intervention n (%)
Study population	80,047	40,388
Accompanying disease*	40,388 (50.5)	5,601 (13.9)
Heart failure and CAD	17,686 (43.8)	3,094 (7.7)
Diabetes	12,566 (15.7)	2,285 (5.7)
COPD	6,452 (8.1)	1,248 (3.1)
Collagen vascular disease	1,563 (2.0)	204 (0.5)
Hematologic disease	796 (1.0)	130 (0.3)
Others	842 (1.1)	146 (0.4)

* one person may have more than one chronic condition.

CAD, coronary artery disease; COPD, chronic obstructive lung disease

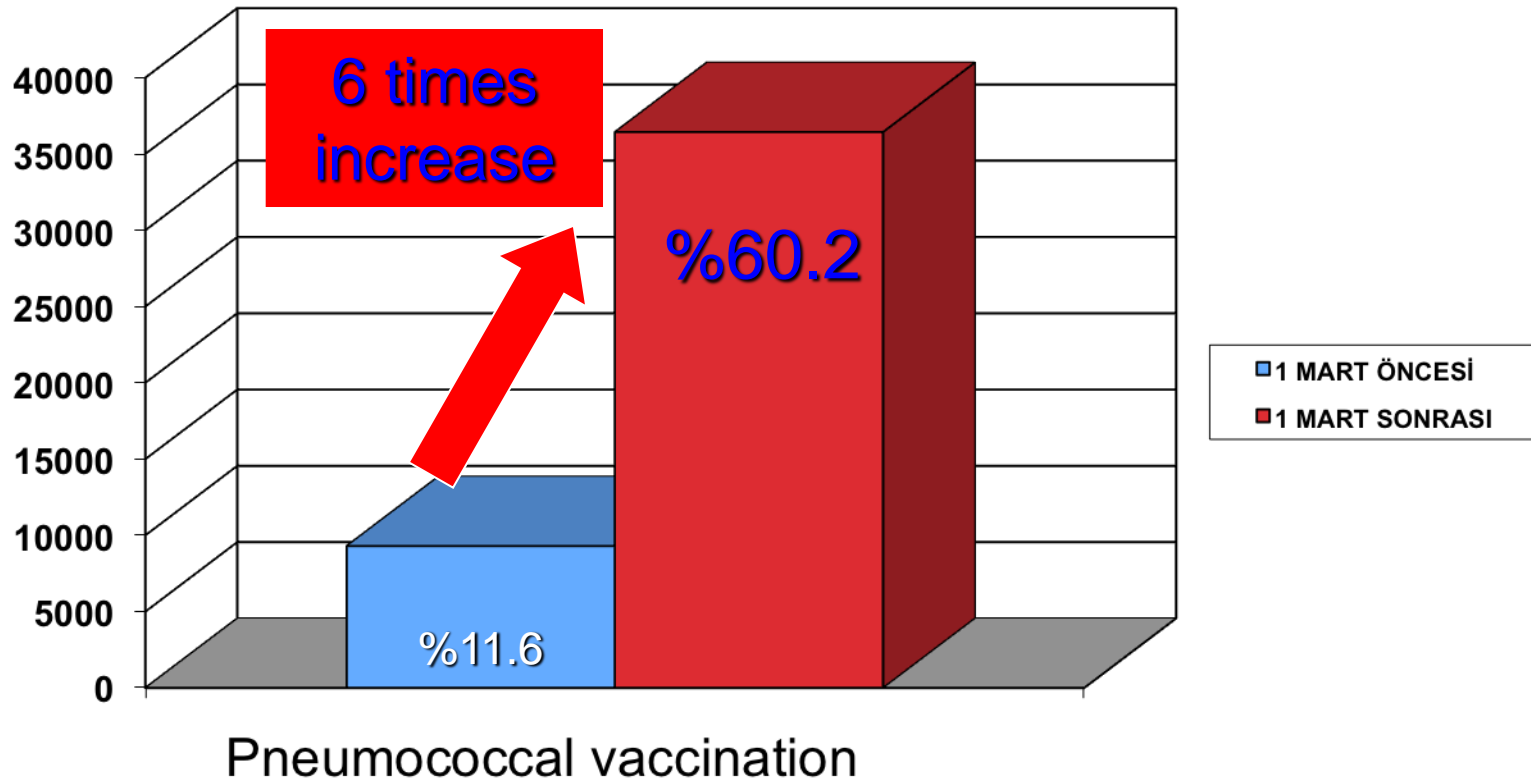
Others refer to chronic kidney disease, splenectomy and chronic liver diseases

Vaccination rates over 65 years of age with selected vaccines

Vaccination	n= 80,047 (%)
Tetanus (within last 10 years)	2,076 (2.6)
Hepatitis B	203 (0.3)
Influenza (within 1 year)	11,215 (14)
Pneumococcus (within 5 years)	9,297 (11.6)

* one person may have more than one vaccination with any of the vaccines stated above

Increase in Pneumococcal Vaccine > 65 y/o* November 2011



Pneumococcal vaccination coverage in elderly population: before and after setting a target with a one-day educational program

Reasons for not to had vaccination

	n= 80,047 (%)
My doctor advised me, but I didn't receive it	32,484 (40.6)
I have never heard about it	22,836 (28.5)
I have been vaccinated*	17,224 (21.5)
I have negative impressions on vaccination	4,088 (5.1)
My doctor haven't adviced about it	1,562 (2.0)
I don't know the significance of vaccination	430 (0.5)
Contraindicated *	87 (0.1)

* depending on the patient's disclosure

Challenges to Adult Immunization: Pneumococcal Vaccine, 2006, US

Consumer reasons for not receiving vaccine

Health, don't need it	~60%
Doctor hasn't told me I need it	~58%
Side effects	~40%
Don't when to get it	~25%
May not work well	~22%
Dislike needles or shots	~19%
Might get the disease	~18%
Could worsen current conditions	~16%
Not covered by insurance	~15%
Could interact with medications	~15%

Select Proven Strategies for Improving Adult **Vaccination** Rates¹

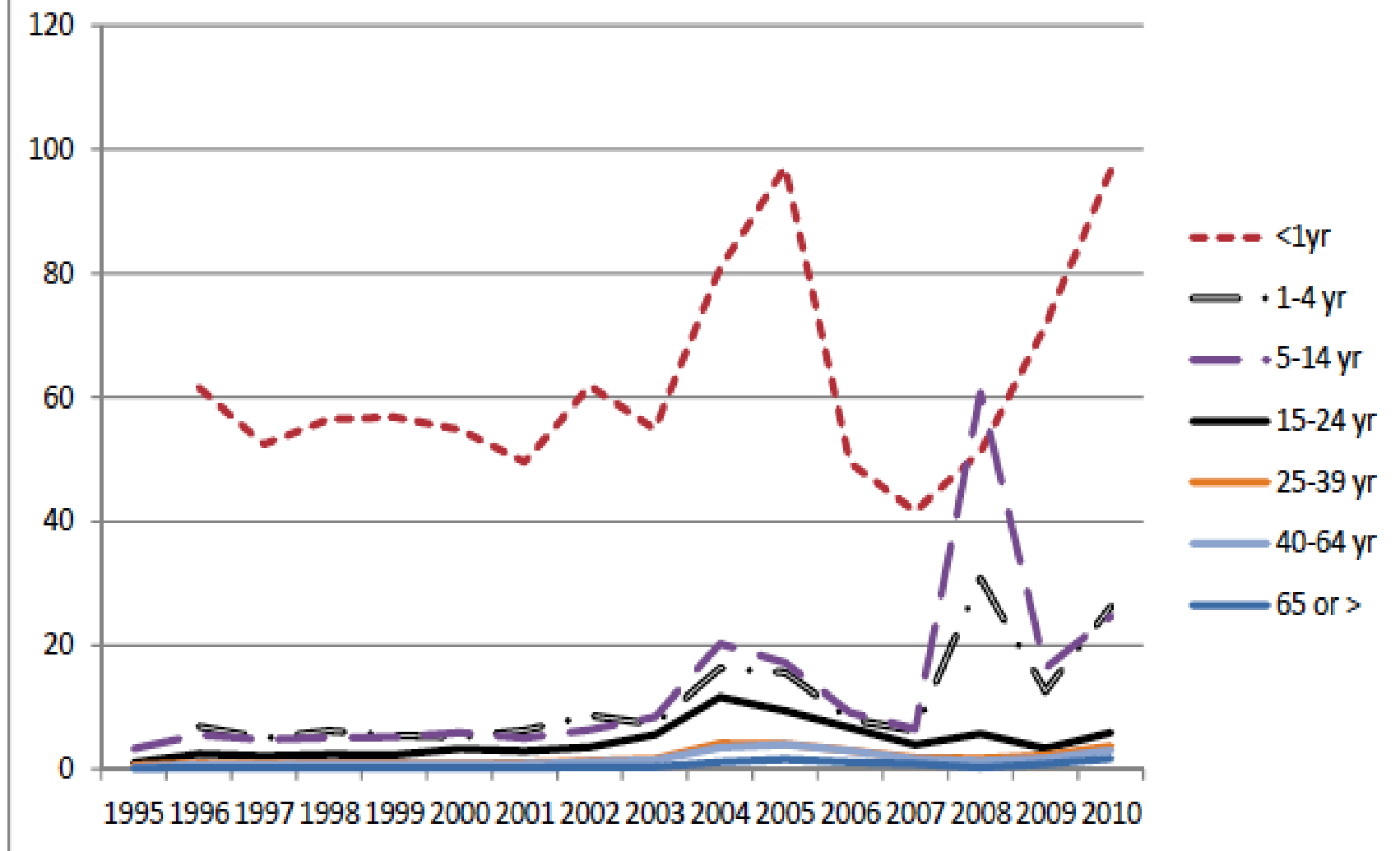
Strategy	Advantages	Disadvantages
Home Visits	<ul style="list-style-type: none"> • Efficient, if using existing home health care delivery services. • May help access lower income and other disadvantaged persons. 	<ul style="list-style-type: none"> • Increased staff time, expense, and possible training requirements, particularly if implemented solely for vaccination services. • Clients may lack records, or recall, of previous vaccinations.
Mailed Reminders and Telephone Scripts	<ul style="list-style-type: none"> • Reaches patients who otherwise may not have scheduled visits. • Easy to implement, requiring minimal staff time. • Mailed reminders work well for literate patients; telephone reminders may be more effective for less literate patients. 	<ul style="list-style-type: none"> • Not useful in practices with high patient turnover or with a population that changes residences frequently. • May need bilingual reminders. • Generating the list of patients who should receive reminders may be difficult in some practices (e.g., for those without computerized records).
Personal Health Records	<ul style="list-style-type: none"> • Empowers patients and encourages them to be proactive in their own health care. • Simple and inexpensive. 	<ul style="list-style-type: none"> • Requires patient to take initiative (schedule and keep appointments) and remember to bring personal health record with them. • Requires acceptance, promotion, and reinforcement of method by provider.
Expanding Access	<ul style="list-style-type: none"> • Increase access to those not already in the system. • May help access lower income and other disadvantaged persons. 	<ul style="list-style-type: none"> • Increased staff time and expense. • New clients may lack records, or recall, of previous vaccinations.

Select Proven Strategies for Improving Adult **Vaccination** Rates¹

Strategy	Advantages	Disadvantages
Computerized Record Reminders	<ul style="list-style-type: none">• Can be effective, efficient, and inexpensive once the computerized system is in place.	<ul style="list-style-type: none">• Only reaches patients with office visits.
Chart Reminders	<ul style="list-style-type: none">• Inexpensive and efficient.	<ul style="list-style-type: none">• Only reaches patients with office visits. .
Performance Feedback	<ul style="list-style-type: none">• Competition increases physician motivation and compliance with vaccination recommendations• Provides immediate feedback on each physician's performance.• Relatively easy to implement with minimal disruption of office activity.	<ul style="list-style-type: none">• Time to train staff and implement strategy.• Can be difficult to continually track vaccination rates.
Standing Orders	<ul style="list-style-type: none">• The most consistently effective method for increasing adult vaccination rates.• Easy to implement.	<ul style="list-style-type: none">• Only reaches patients already contacting the health care system.

1. The Gerontological Society of America. *An Interdisciplinary Look at Strategies to Improve Immunization Rates for Older Adults.* 2012:1-16.

Figure 1. Pertussis Incidence, by Year and Age Group



Source: Data from Centers for Disease Control and Prevention annual Summary of Notifiable Diseases reports.

ONE BOY'S BATTLE TO LIVE



Table 2. Evolving Tdap Recommendations in the U.S.

Date	Recommendation
	with an infant <12 months should receive a single dose of Tdap if they have not previously received Tdap
March 2012 (ACOG Committee Opinion)	Women's health care providers should implement a Tdap vaccination program for pregnant women who previously have not received Tdap. Providers should administer Tdap during pregnancy, preferably after 20 weeks gestation
June 29, 2012 (MMWR)	Tdap administration recommended for all adults age 65 years and older. All adults age 19 years and older who have not yet received a dose of Tdap should receive a single dose
October 24, 2012 (CDC Media Advisory)	ACIP recommended that prenatal care providers administer a dose of Tdap to pregnant women during <u>each pregnancy</u> , regardless of patient's prior Tdap history
December 6, 2012 (ACIP Provisional Recommendation)	Pregnant women who were not previously vaccinated with Tdap: 1) receive Tdap in the immediate postpartum period prior to discharge from the hospital or birthing center, 2) may receive Tdap at an interval as short as two years since the most recent Td vaccine, 3) receive Td during pregnancy for tetanus and diphtheria protection when indicated, or 4) defer the Td vaccine indicated during pregnancy to substitute Tdap vaccine in the immediate postpartum period

Cocooning Immunization Strategy

- Selective immunization of
 - New mothers
 - Family members
 - Close contacts of un-immunized or incompletely immunized young infants
- Selective immunization of
 - Health care workers
 - Child care workers



Supported by Turkish Society of Internal Medicine

Seroprevalence of tetanus, diphtheria, pertussis and measles in Turkish adults: implications for adult vaccination

Mine Durusu Tanrıöver, Canan Aycan, Sibel Aşçıoğlu, Serhat Ünal

Hacettepe University Faculty of Medicine
Ankara, Turkey

Accepted for publication. Low seroprevalance of diphtheria, tetanus and pertussis in ambulatory adult patients: the need for lifelong vaccination. European Journal of Internal Medicine

Objective

- Primary aim: to investigate the prevalence of seropositivity against tetanus, diphtheria, pertussis and measles in adult and elderly patients.
- Second aim: to determine the need for booster vaccination with regard to predefined cut off antibody levels.

Patients and Methods

- Adult and elderly patients between May - Dec 2011 prospectively included.
- Demographic and clinical data; blood samples for tetanus, diphtheria, pertussis and measles antitoxoid antibodies were obtained. IgG levels were determined by ELISA.
- Results were evaluated in terms of seropositivity, need for booster vaccination and protection with regard to recommended cut-off values.

Results

- 1367 patients consented, 1303 blood samples were available.
- Mean age: 57.1 ± 15.8 and 68% were female.
- Diabetes was the most prevalent chronic disease (23.5%).

Seropositivity

Variable	Number of patients (%)
Tetanus	
No protection	899 (69)
Protection	404 (31)
Diphtheria	
No protection	849 (65.2)
Protection	454 (34.8)
Pertussis	
No protection	1177 (90.3)
Protection	126 (9.7)
Measles	
No protection	16 (1.2)
Protection	1287 (98.8)

Booster vaccine indication

Variable	Number of patients (%)
Tetanus	
Vaccine indicated	1007 (77.3)
Vaccine not indicated	296 (22.7)
Diphtheria	
Vaccine indicated	1256 (96.4)
Vaccine not indicated	47 (3.6)
Pertussis	
Vaccine indicated	1177 (90.3)
Vaccine not indicated	126 (9.7)
Measles	
Vaccine indicated	24 (1.8)
Vaccine not indicated	1279 (98.2)

Adult vaccination coverage has been low, despite the increasing attention and constantly updated guidelines released by national and international authorities.

Booster vaccinations are required in adult life in accordance with national and international adult vaccination guidelines.

Factors that influence the clinical outcome in patients admitted with influenza like illness and the effect of glucocorticoid treatment

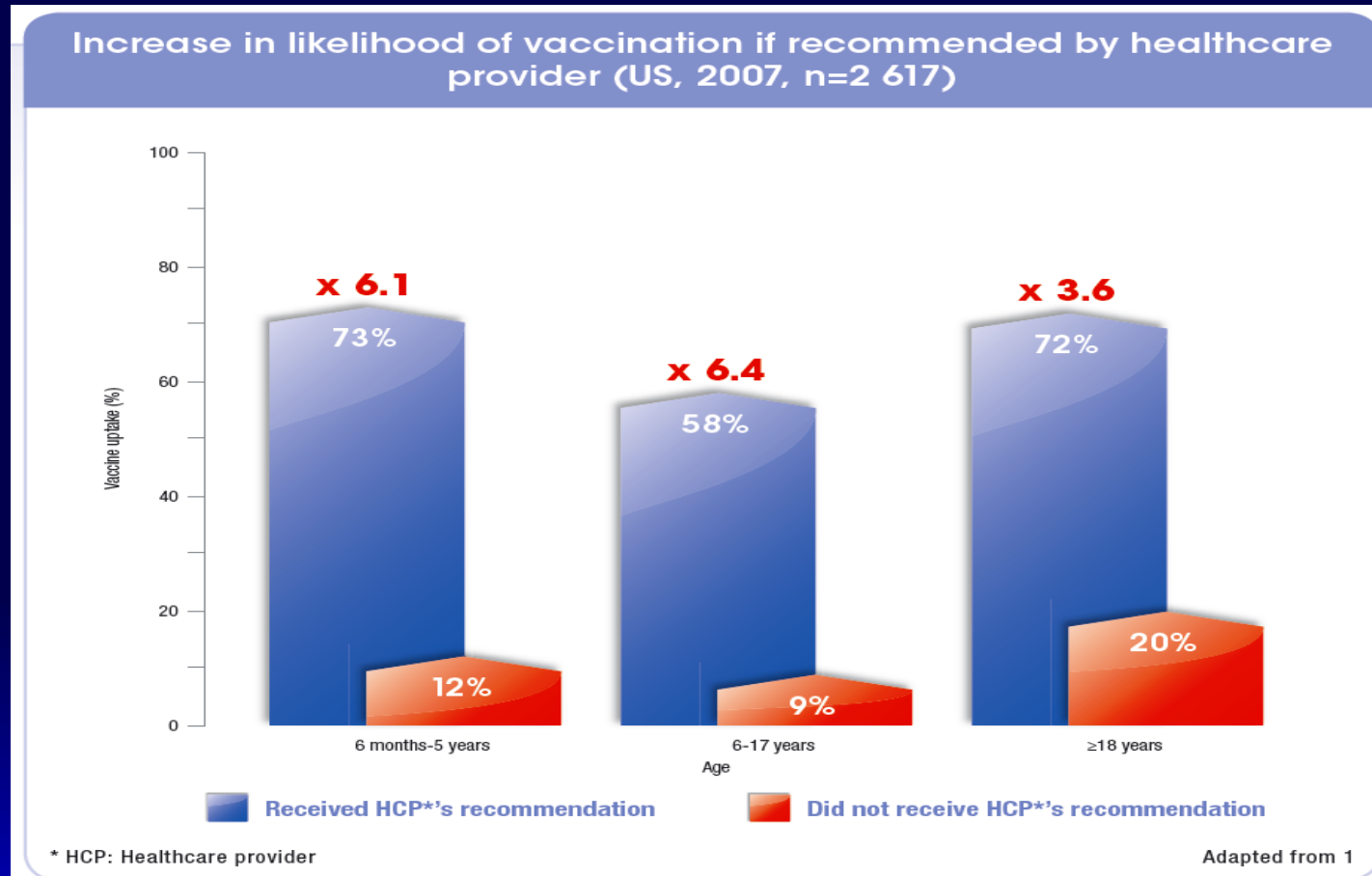
- Influenza is a vaccine preventable disease, which can cause devastating illness in adults, especially in those with chronic diseases. Severe cases may require hospitalization, even result in death
- Patients admitted from the Adult Emergency Department of a University Hospital were screened for influenza like illness. Those who required hospitalization for at least 24 hours and who consented were sampled with nasal/nasopharyngeal swab
- A total of 75 patients were enrolled between January 16 and March 16, 2013. The viral panel yielded at least one viral etiology in 25 of the patients. Seven patients died.

Conclusion

This small, pilot surveillance study has demonstrated that influenza viruses were the major causative respiratory viral pathogen in hospitalized patients with underlying diseases (76 % of all detected viral pathogens). Respiratory viral infections may be fatal in adult patients. One fourth of patients who had influenza A infection diagnosed died

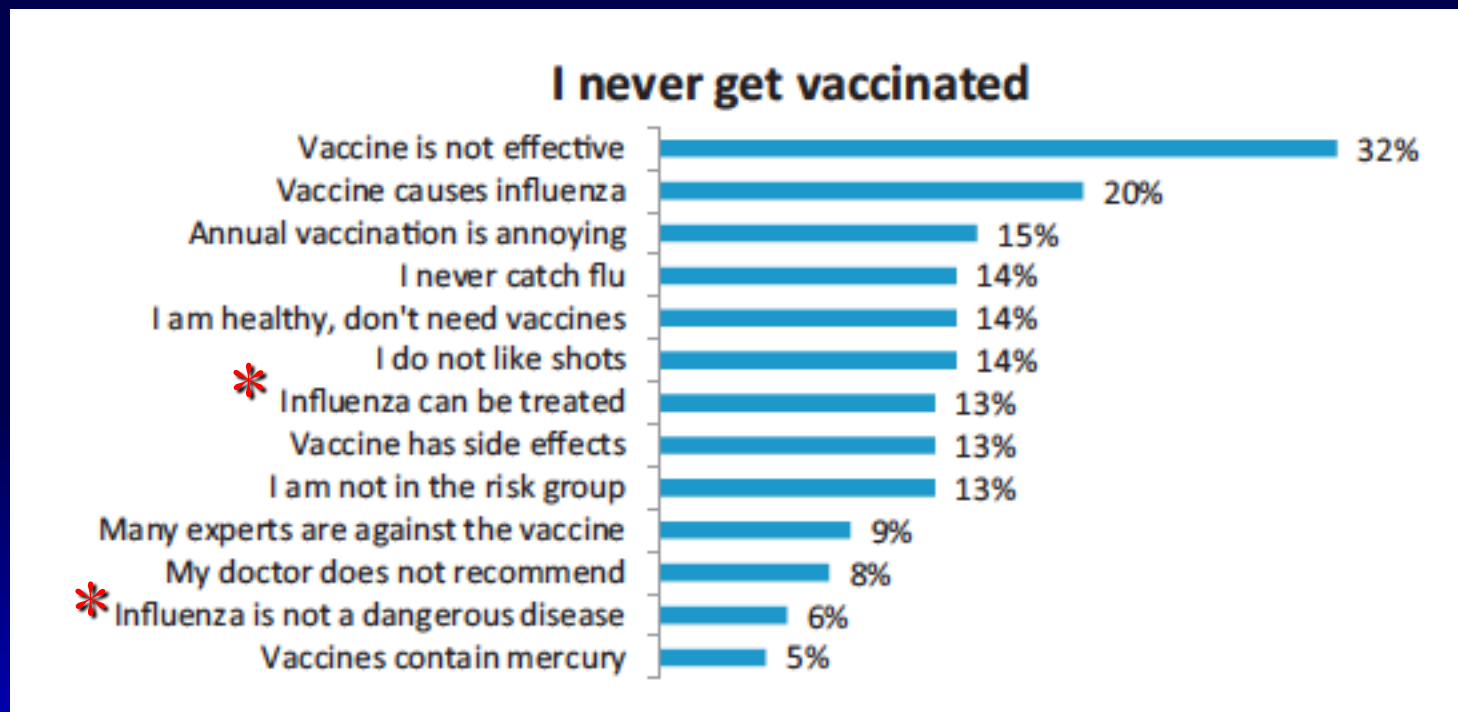
Virus	Number (%)
Influenza A H1N1pdm09	17 (68)
Influenza A	1 (4)
Influenza A H3N2	1 (4)
Rhinovirus	3 (12)
Parainfluenza virus type 2	1 (4)
Parainfluenza virus type 2 + metapneumovirus	1 (4)
CoronavirusOC43	1 (4)

When recommended by their healthcare provider...



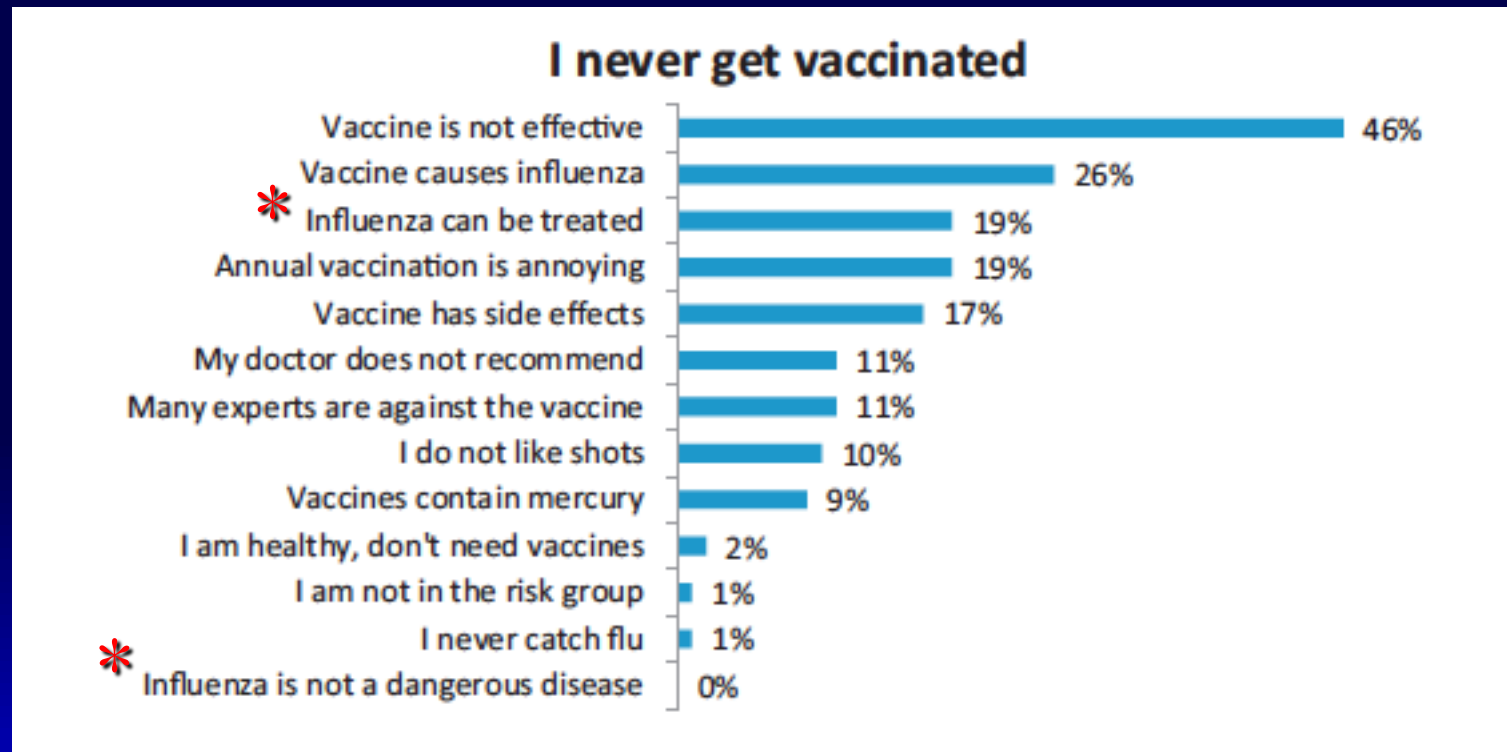
Market research shows patients are at least **3 times** more likely to get vaccinated

Survey results conducted at **pharmacists** to determine factors adversely influencing vaccine uptake. Total of 509 people participated in the survey. 216 (42%) stated that they never get vaccinated. Participants were asked to answer all questions that applied to them.



Meral Akcay Ciblak, and Grip Platformu. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Survey results conducted by occupational **physicians** to determine factors adversely influencing vaccine uptake. Total of 325 people participated in the survey. 181 (55%) stated that they never get vaccinated. Participants were asked to answer all questions that applied to them.



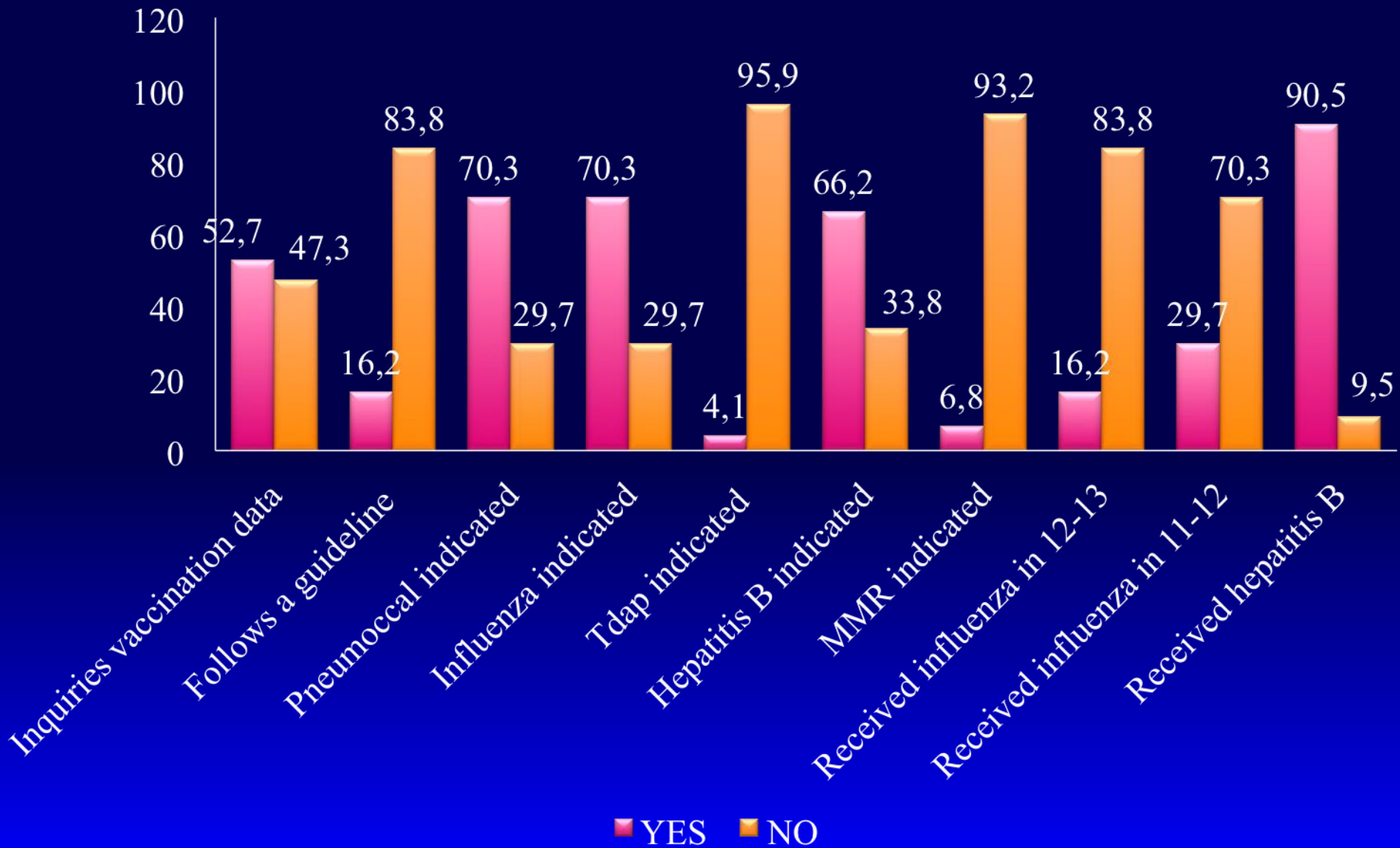
Meral Akcay Ciblak, and Grip Platformu. Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate. Vaccine 31 (2013) 518– 523

Low awareness of adult vaccination among internal medicine residents

Tugba Akin Telli, Lale Ozisik, Mine
Durusu Tanriover, Serhat Unal

Hacettepe University Faculty of Medicine

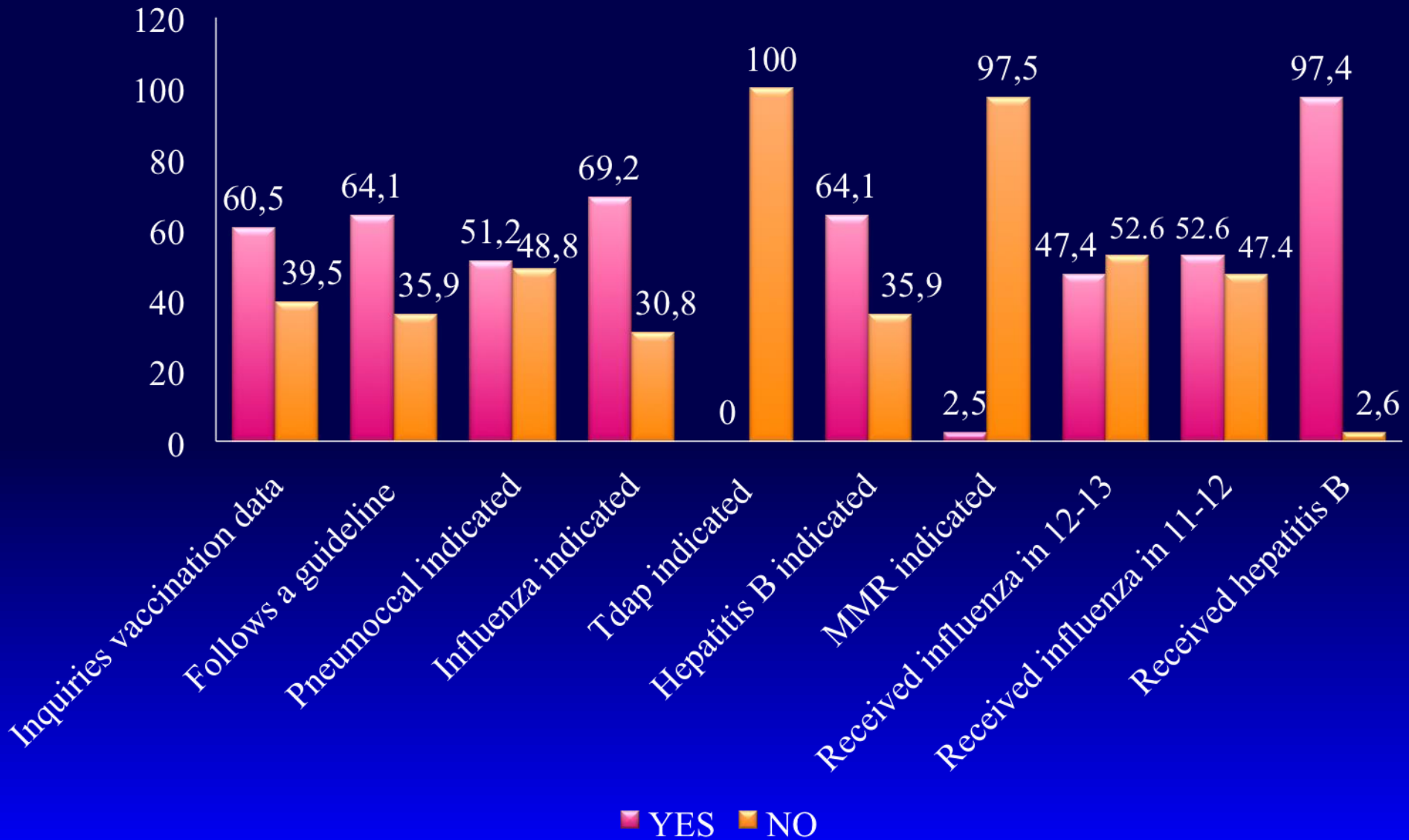
IM Residents in a Single University Hospital (n=74)



Awareness of adult vaccination among internal medicine residents in Europe

Tugba Akin Telli, Burçin Halaçlı

ESIM 2013 Residents (n=39)



Pneumococcal Infection – Low Awareness as a Potential Barrier to Vaccination: Results of a European Survey

	Primary care physicians (%)	Specialists (%)
	(n = 1,300)	(n = 926)
Pneumococcal pneumonia (non-invasive)	93	96
Pneumococcal meningitis	94	96
Pneumococcal sepsis	91	97
Bacteraemic pneumococcal pneumonia	82	92
Pneumococcal bacteraemia	75	92
<i>Invasive pneumococcal diseases</i>	<i>50*</i>	<i>71*</i>
*Physicians were presented with a list of terms and asked which of them they knew. *P<0,001 versus other terms		

“ADVICE”

Adult Vaccination Campaign in Europe

Mine Durusu Tanriover MD
Serhat Unal MD

EFIM 2013
Administrative Council Meeting
May 2013 Helsinki, Finland

General epidemiology of adult vaccination in Europe

- Sero-prevalance data
- Doctor awareness and compliance data
- Patient perception data

Epidemiology of vaccine preventable diseases in Europe

- Influenza
- Pneumococcus
- Hepatitis B
- Diphtheria-tetanus-pertussis

Adult Vaccination Working Group EFIM-AWWG

Appointment of a representative from
each country

sunal@hacettepe.edu.tr

www.efim.org

Collaboration with International Federation on Ageing