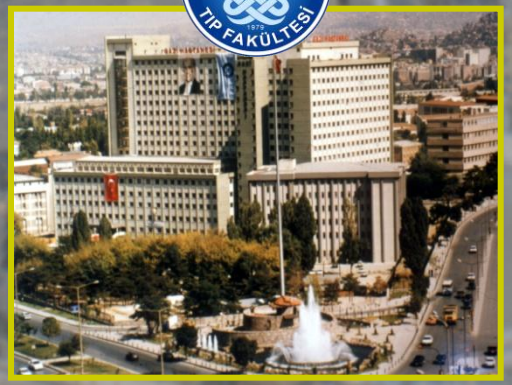
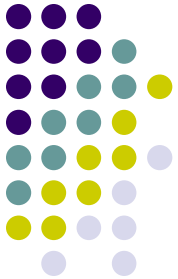
# PNÖMOKOK HASTALIK YÜKÜ VE PNÖMOKOK AŞILARINDAN BEKLENENLER

Prof Dr. Esin ŞENOL

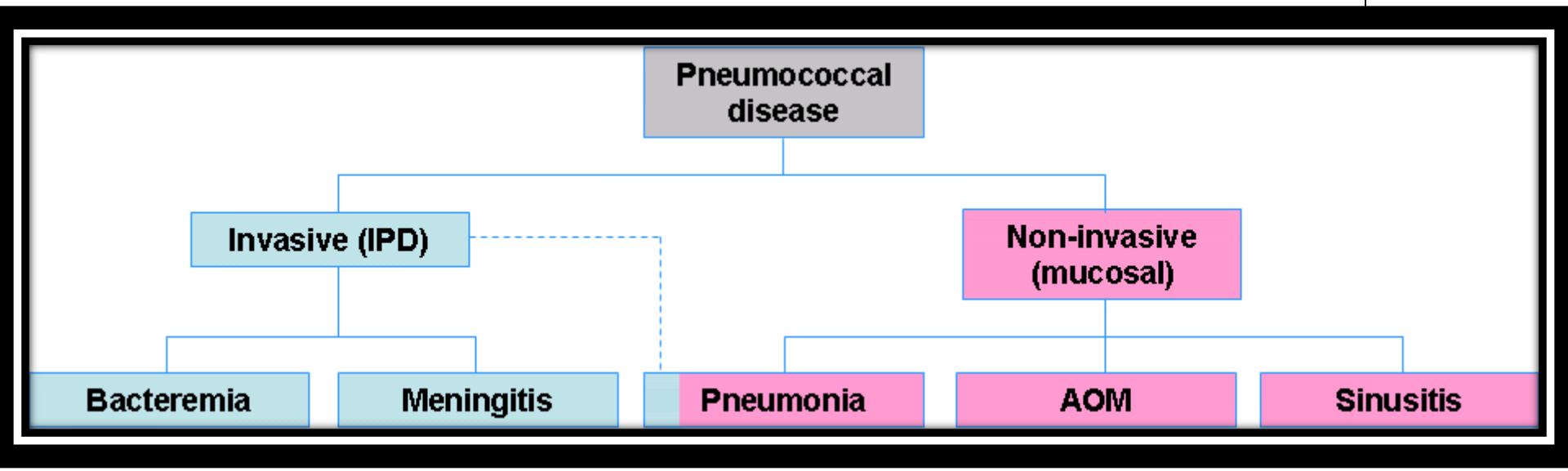


# Erişkinlerde Aşı ile Önelenebilir Hastalıklar



- Difteri,Boğmaca, Tetanoz
- Kızamık,Kızamıkçık, Kabakulak
- Influenza
- Pnömokokal Hastalık
- Hepatit A
- Hepatit B
- Su çiçeği
- Meningokokal Hastalık
- Human papilloma virus
- Herpes zoster

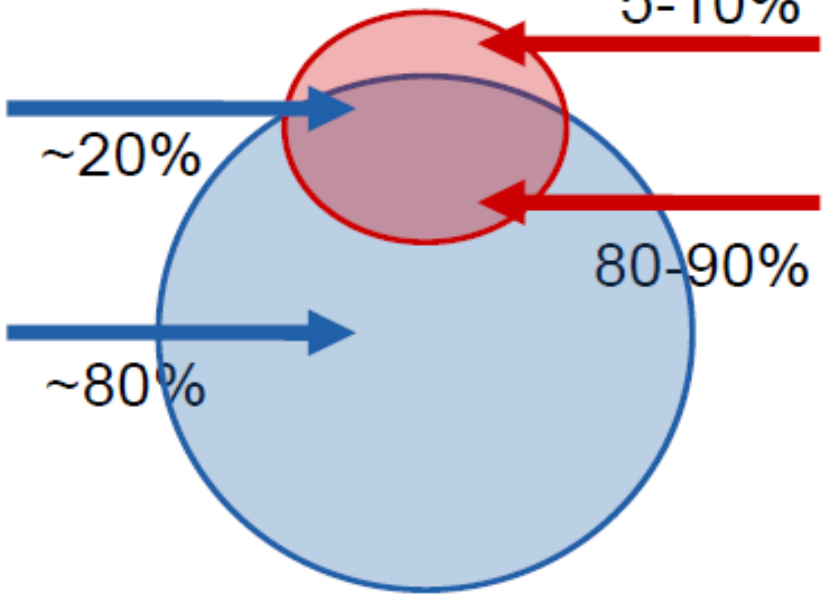
# PNÖMOKOKAL HASTALIK:KLİNİK FORMLAR




- **Pnömokokal hastalık; invaziv ve noninvazif (*mukozal*)**
- **Non-invasiv → invasiv (bakteremik pnömoni)**


- ***WHO. Acute Respiratory Infections (Update September 2009) ttp://www.who.int/vaccine_research/diseases/ari/en/index3.html Accessed October 24, 2011; 2. CDC. Epidemiology and prevention of vaccine-preventable diseases. 11th ed. 2009;217–230.***

# Pnömokokal Hastalık




Large circle: pneumococcal pneumonia
Small circle: invasive pneumococcal disease

*Fedson, Musher, in Vaccines, 2004*
*Lynch JP III, Semin Respir Crit Care Med, 2009*

# PNÖMOKOKAL HASTALIKLARIN YÜKÜ

- **MORTAL- PP (%5-7->%40), Bakteremi (%20-60), Menenjit ( %30-80) : 1:20, 2:10, 3:10**
- **Dünyada:PH:1.600.000 ölüm/yıl, Pnömoni:3-4 milyon ölüm/yıl**
- **AÖH ARASINDA 2.SIKLIKTAKİ ÖLÜM NEDENİ**
- **Influenza mevsim ve pandemiler; pnömonilerin %50'sinden ve neredeyse tüm ölümler ve komplikasyonlardan sorumlu**
- **Risk grupları ve yaşlılarda insidans yüksek, mortalite 2-8 kat..**


- *Lynch JP,Zhanel GG.Semin Resp Crit Care Med 2009:30:189-209*
- *Brundage JF.Lancet Infect Dis 2006:6:303-12*
- *Ludwig E.Eur Respir Rev.212:21:123:57-65*

# PNÖMOKOKAL HASTALIKLARIN YÜKÜ

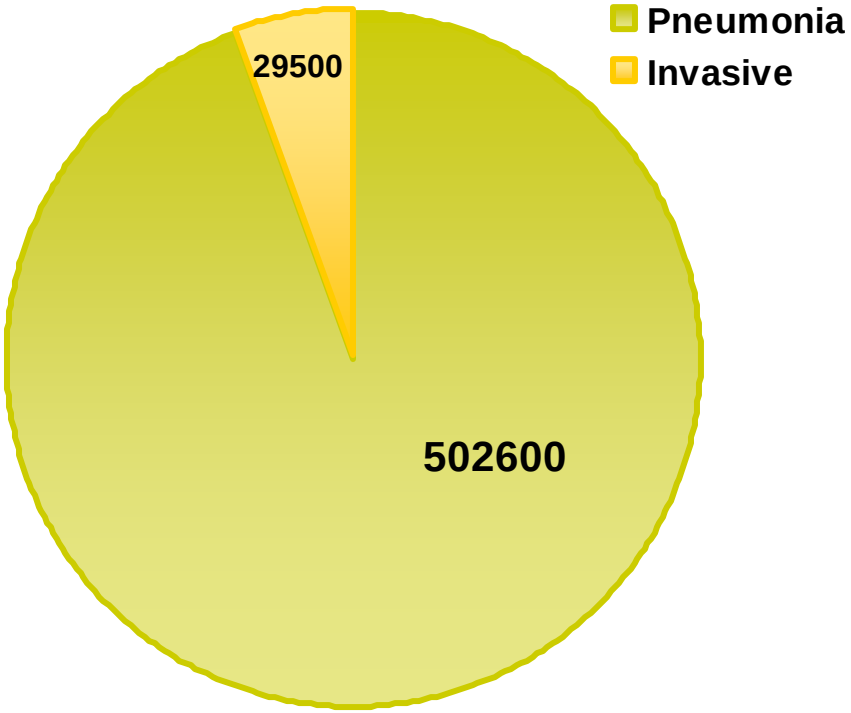
- **Hastalık yükü- TKP**
- **10.1 milyar €, solunum sistemi hastalıklarına bağlı hastane günlerinin >%30 –işgücü kaybı - 3.5 milyar € -AVRUPA**
- **US > 50 y, 3.7 milyar $ in total direk ve 1.8 milyar $ total indirek maliyet**
- **Ayaktan pnömonilerin % 21'i KV problem ile komplike - KV FONKSİYONLARIN ARAŞTIRILMASI**


1. *Weycker D et al. Vaccine 2010;28:4955–60.*
2. *European Respiratory Society/European Lung Foundation. Pneumonia In: European Lung White Book. 2nd Edition: European Respiratory Society/European Lung Foundation, 2003*

*3. Corrales-Medina V,Lancet 2013:381:496-505*

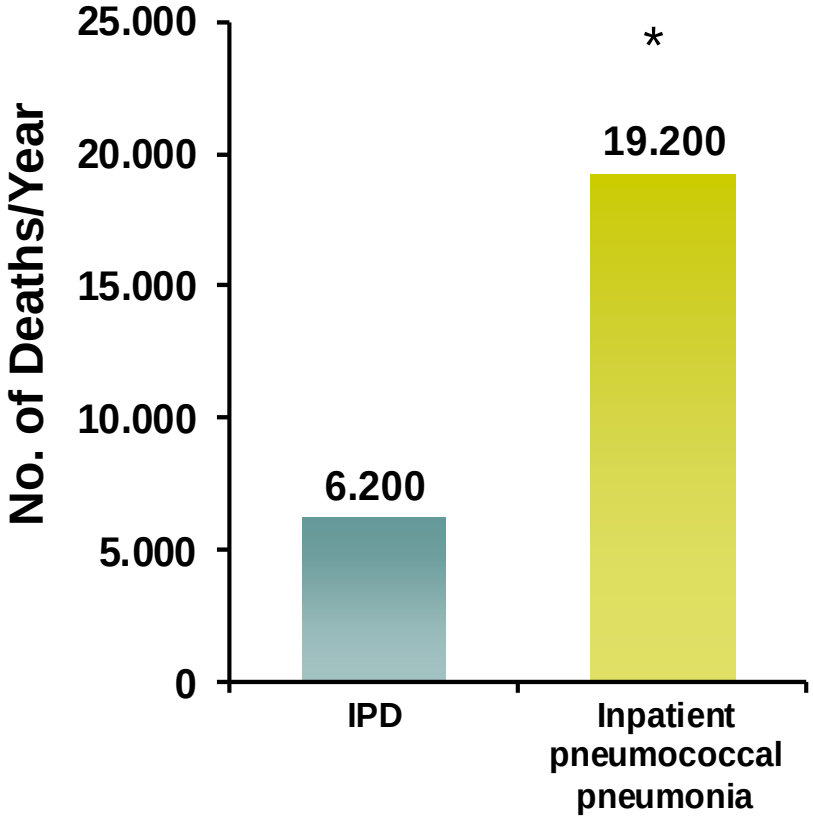
# PH- USA-YÜKÜ:≥50 Yaş Olgular ve Ölüm

Tahmini olgu /yıl




**PH:4 milyon hastalık epizod/yıl**

Estimated Number of Deaths Due to Pneumococcal Disease per Year




*Nonbacteremic.
IPD, invasive pneumococcal disease.

Weycker D *et al. Vaccine* 2010;28:4955–60.

## Incidence and mortality rates of invasive pneumococcal disease in the United States, 2010 — Active Bacterial Core Surveillance (ABCs) report, Emerging Infections Program Network

| Age (years) | Cases | | Deaths | |
|---|---|---|---|---|
| | Number | (Rate*) | Number | (Rate*) |
| <1 | 142 | (34.2) | 1 | (0.24) |
| 1 | 112 | (26.6) | 1 | (0.24) |
| 2 to 4 | 171 | (13.1) | 1 | (0.08) |
| 5 to 17 | 111 | (2.2) | 1 | (0.02) |
| 18 to 34 | 260 | (3.8) | 18 | (0.26) |
| 35 to 49 | 670 | (10.5) | 43 | (0.68) |
| 50 to 64 | 1064 | (18.8) | 103 | (1.82) |
| ≥65 | 1292 | (36.4) | 199 | (5.61) |
| **Total:** | **3822** | **(12.8)** | **367** | **(1.23)** |

* Cases or deaths per 100,000 population for ABCs areas, which represent nearly 30,000,000 persons in certain counties in 10 states in the United States.

*Reproduced from: Centers for Disease Control and Prevention. Active Bacterial Core Surveillance (ABCs) report, Emerging Infections Program Network Streptococcus pneumoniae, 2010. Available at: http://www.cdc.gov/abcs/reports-findings/survreports/spneu10-orig.pdf (Accessed March 21, 2013).*

# YÜKSEK RİSKLİ DURUMLAR

- İmmunsupresyon
- Aspleni (fonksiyonel veya anatomik)
- Kronik kalp,  pulmoner, karaciğer veya böbrek hastalıkları
- Sigara içimi,alkol
- Serebrospinal sıvı (BOS) kaçakları
- Kohlear implant

# The Influence of Chronic Illnesses on the Incidence of Invasive Pneumococcal Disease in Adults

Moe H. Kyaw,[1] Charles E. Rose, Jr.,[1,a] Alicia M. Fry,[1,a] James A. Singleton,[2] Zack Moore,[1,a] Elizabeth R. Zell,[1] and Cynthia G. Whitney,[1] for the Active Bacterial Core Surveillance Program of the Emerging Infections Program Network[b]

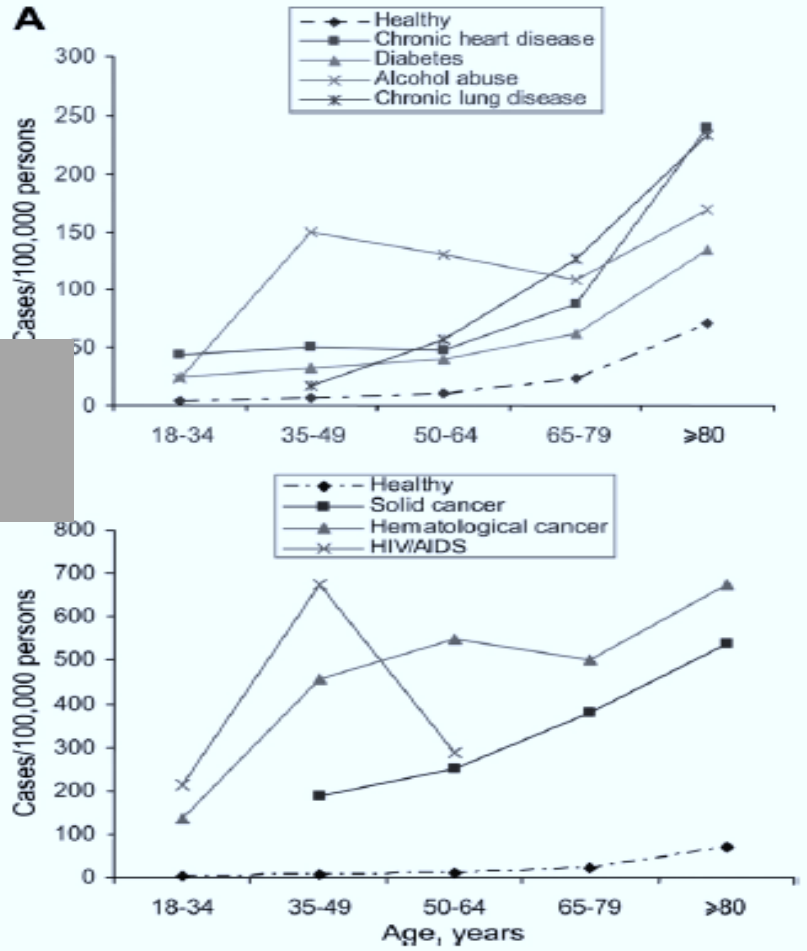



**Figure 1.** Age-specific incidence of invasive pneumococcal disease in healthy adults (≥18 years old) vs. adults with chronic illnesses *(A)* and adults with immunocompromising conditions *(B)*—United States, 1999–2000. Rates in adults ≥65 years old with HIV/AIDS and in adults 18–34 years old with chronic heart disease, chronic lung disease, and solid cancer were not calculated, because of insufficient numbers.

- DM:51.4
- KOAH:62.9
- KAH:93.7
- ALKOL:100

| Age, years | Cases, rate* |
|---|---|
| 18–49 | 16 |
| 50–64 | 21.2 |
| ≥65 | 38.7 |

- **Toplam bakteremik pnömoni olgular : 2.932(70.4%)kültürle konfirme**

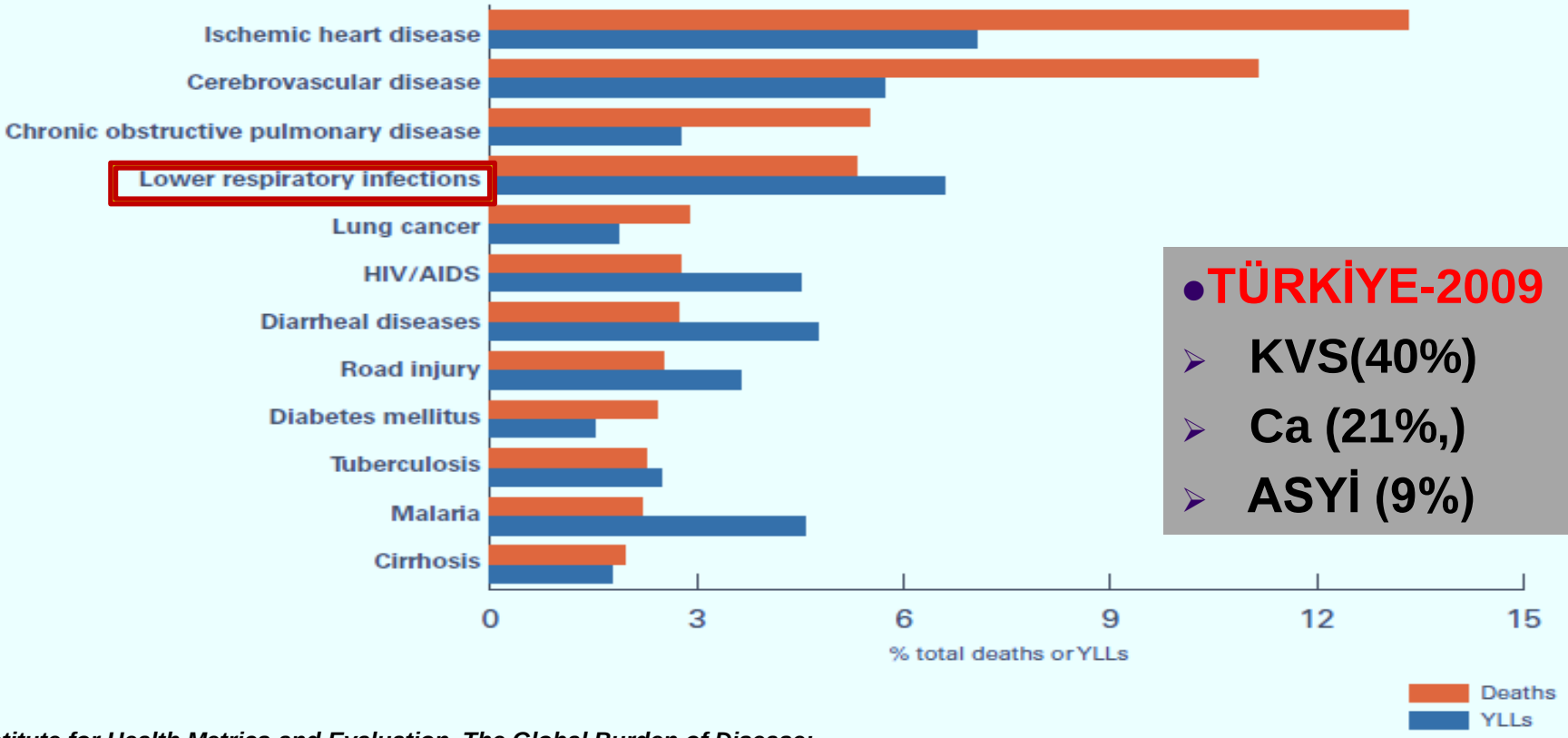
- Centers for Disease Control and Prevention Center. ABCs report *Streptococcus pneumoniae*, 2009.(cited 2010 December)- http://www.cdc.gov/abcs/index.htm

# THE GLOBAL BURDEN OF DISEASE: GENERATING EVIDENCE, GUIDING POLICY

- This report was prepared by the Institute for Health Metrics and Evaluation (IHME)
- based on seven papers for the Global Burden of Disease Study 2010 (GBD 2010)
- published in The Lancet (2012 Dec 13; 380). GBD 2010 had 488 co-authors from 303
- institutions in 50 countries. The work was made possible through core funding from
- the Bill & Melinda Gates Foundation. The views expressed are those of the authors.

INSTITUTE FOR HEALTH METRICS AND EVALUATION UNIVERSITY OF WASHINGTON

Figure 2: Leading causes of global death and premature death, 2010




- **TÜRKİYE-2009**
  - **KVS(40%)**
  - **Ca (21%,)**
  - **ASYİ (9%)**

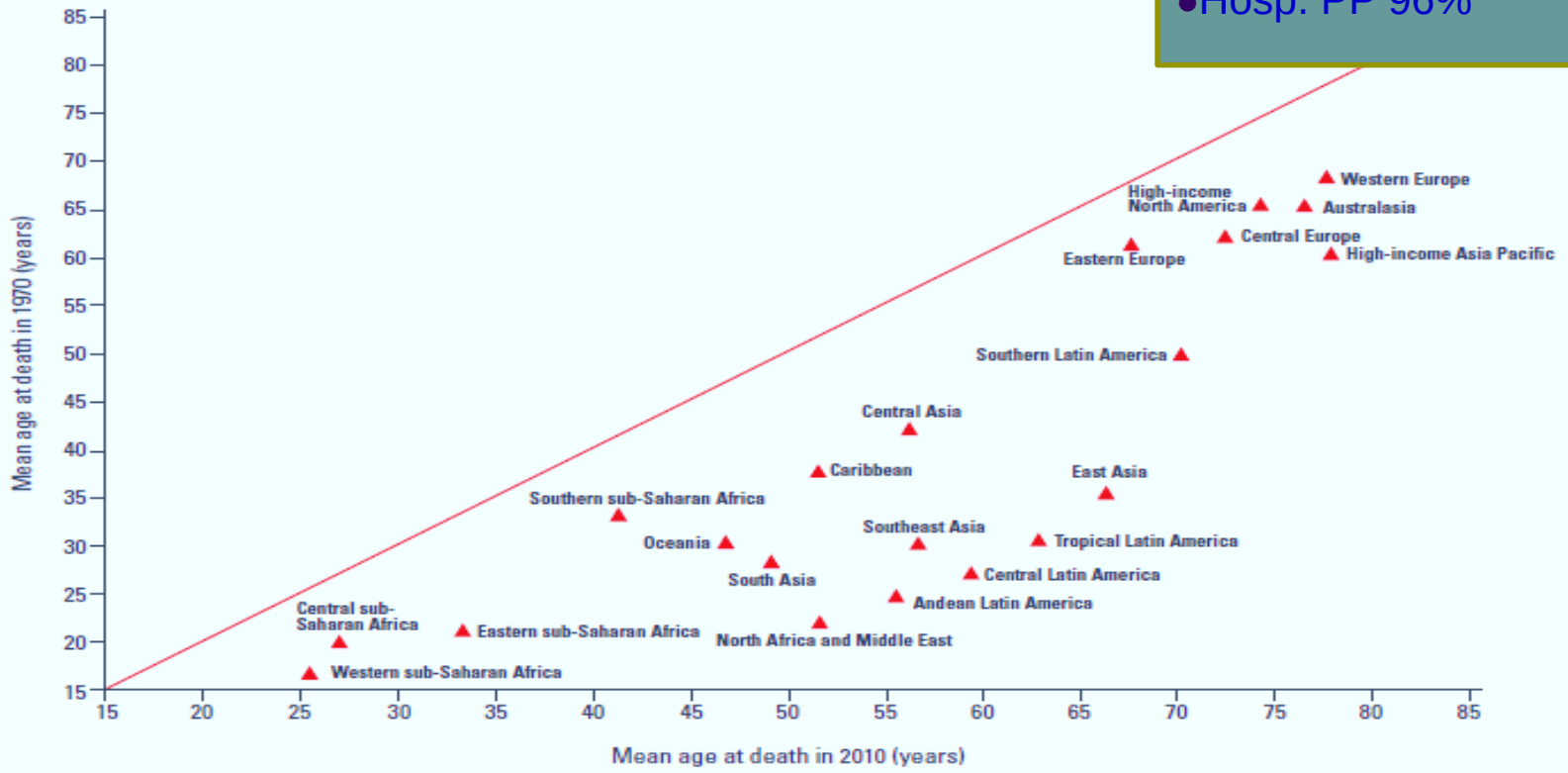
- *Institute for Health Metrics and Evaluation. The Global Burden of Disease:*
- *Generating Evidence, Guiding Policy. Seattle, WA: IHME, 2013*

## MOST OF THE WORLD'S POPULATION IS LIVING LONGER AND DYING AT LOWER RATES

In much of the world, GBD 2010 found that people are living to older ages than ever before, and the entire population is getting older. Since 1970, the average age of death has increased 35 years. Figure 5 illustrates the dramatic changes that have occurred in Asia and Latin America. In East Asia, which includes China, the Democratic People's Republic of Korea, and Taiwan, people lived 36 years on average in 1970, increasing to 66 years in 2010. The average age of death increased from 31 to 63 in tropical Latin America, which includes Brazil and Paraguay. People in the Middle East and North Africa lived 30 years longer on average in 2010 than they did in 1970.

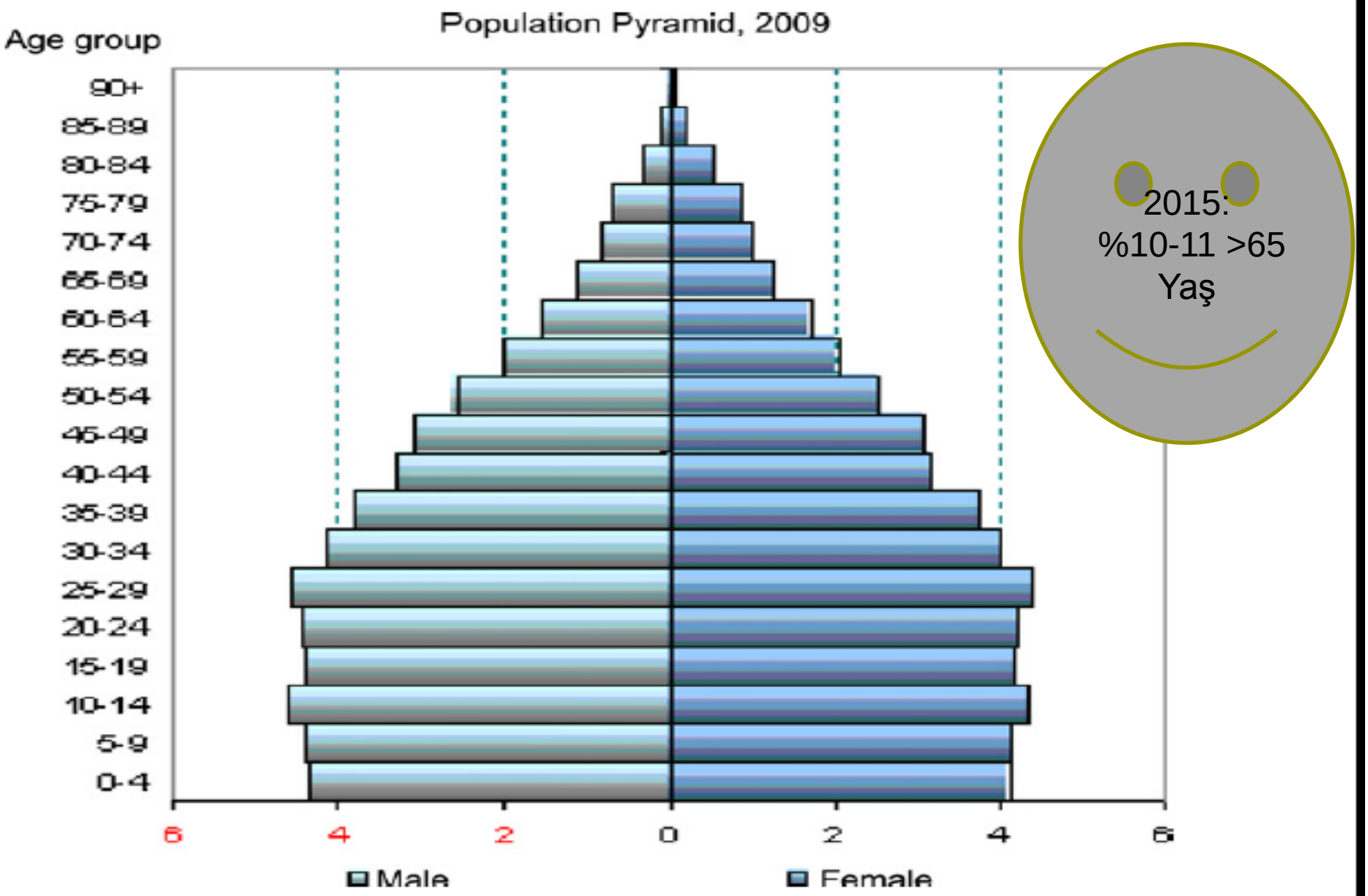
- US pop .38% 2040
- Hosp. PP 96%

**Figure 5: Average age of death, 1970 compared with 2010**




- Wroe PC *et al. J Infect Dis.* 2012;205:1589–92.

# TÜRK İSTATİSTİK ENSTİTÜSÜ: ARALIK 31,2009:72.561.312




2015:
%10-11 >65
Yaş

Contents lists available at SciVerse ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

# Influenza vaccination in Turkey: Prevalence of risk groups, current vaccination status, factors influencing vaccine uptake and steps taken to increase vaccination rate

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*Istanbul University, Istanbul Faculty of Medicine, Department of Medical Microbiology, National Influenza Reference Laboratory, Istanbul, Turkey*

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Vaccination
Turkey

ABSTRACT

Influenza infections cause considerable morbidity and mortality not only during the pandemics but also during annual epidemics. Vaccines are the most effective tools for preventing the infection. Although World Health Organization (WHO) and Ministry of Health (MoH) recommends vaccination for people at increased risk, sales data indicate that vaccination rate remains low in Turkey. Vaccine recommended groups are well defined and reimbursed in Turkey. However, the prevalence of people in risk groups, current vaccination rates and factors influencing vaccine uptake which are essential in order to develop and sustain effective strategies to increase vaccination rate are not documented. A thorough literature review was performed to determine the estimated number of people in risk groups, vaccination rates, factors influencing vaccine uptake in Turkey. Actions taken by the health authorities in order to increase the vaccine uptake among specified risk groups are also summarized. Based on the published prevalence rates, current study calculated that there are approximately 27 to 33 million people in risk groups. In addition, there are 428,000 health care providers serving in the public sector who are at increased risk for influenza infections. The lowest reported vaccination rate (5.9%) was in the elderly ≥65 years of age and the highest (27.3%) in patients with COPD. Finally, survey results indicated that leading factor negatively influencing vaccine uptake was disbelief in the effectiveness of vaccine. In order to increase vaccination coverage, vaccines are provided to health care providers free of charge and reimbursed for those in the risk groups. Realizing the fact that combating flu requires multidisciplinary collaboration, a stakeholder network, Grip Platformu, has been established in 2011 with the endorsement of the MoH to increase influenza awareness and vaccine coverage rates among risk groups in accordance with WHO recommendations.

# TÜRKİYEDE –RİSK FAKTÖRLERİ

| DİABETES | COPD | CAD | ASTHMA | CKD | >65 YEARS | TOTAL |
|---|---|---|---|---|---|---|
| 13.7% | 19.1% | 13% | 9.1% | 15.7% | 7% | 27-33 MİLLİON |
| TURDEP-I ve TURDEP-II http://diyabet.gov.tr/content/files/bilimsel_arastirmalar/turdep_1_turdep_2.pdf | GOLD | TEKHARF | PARFAIT | CREDIT | TSI | |

# Acute pneumonia and the cardiovascular system

Vicente F Corrales-Medina, Daniel M Musher, Svetlana Shachkina, Julio A Chirinos

Lancet 2013; 381: 496–505
Published Online January 16, 2012 http://dx.doi.org/10.1016/S0140-6736(12)61266-5

Department of Medicine, University of Ottawa, ON, Canada (V F Corrales-Medina MD, S Shachkina MD); Ottawa Hospital Research Institute, ON, Canada (V F Corrales-Medina, S Shachkina); Departments of Medicine and Molecular

Although traditionally regarded as a disease confined to the lungs, acute pneumonia has important effects on the cardiovascular system at all severities of infection. Pneumonia tends to affect individuals who are also at high cardiovascular risk. Results of recent studies show that about a quarter of adults admitted to hospital with pneumonia develop a major acute cardiac complication during their hospital stay, which is associated with a 60% increase in short-term mortality. These findings suggest that outcomes of patients with pneumonia can be improved by prevention of the development and progression of associated cardiac complications. Before this hypothesis can be tested, however, an adequate mechanistic understanding of the cardiovascular changes that occur during pneumonia, and their role in the trigger of various cardiac complications, is needed. In this Review, we summarise knowledge about the burden of cardiac complications in adults with acute pneumonia, the cardiovascular response to this infection, the potential effects of commonly used cardiovascular and anti-infective drugs on these associations, and possible directions for future research.

MAKROLİD,FQ

| | Effect of pneumonia |
|---|---|
| Vascular endothelium and peripheral vessels | Impaired reactive hyperaemia response and response to nitric oxide;[35] decreased peripheral vascular resistance in most young adults, but increased peripheral vascular resistance in up to a third of middle-aged adults (no data available for elderly patients);[36–39] increased concentrations of endothelin-1 and adrenomedullin[40,41] |
| Myocardium | Depression of left ventricular function;[37,38,42] myocarditis;[43] increased concentrations of troponins, BNP, and ANP[44–47] |
| Cardiac rhythm | Acute cardiac arrhythmias[39,48,49] |
| Coronary arteries | Possible acute inflammatory changes in atherosclerotic plaques;[50–52] possible coronary vasoconstriction[53] |
| Pulmonary circulation | Increased pulmonary artery pressures[54] |
| Cardiac autonomic function | Impairment of cardiovascular autonomic reflexes[55] |
| Coagulation | Increased procoagulant activity[56–58] |
| Renal function and fluid and sodium balance | Increased production of vasopressin;[41,58,60] decreased ACE activity;[61–63] water retention;[59] acute kidney injury[64,65] |

BNP=B-type natriuretic peptide. ANP=atrial natriuretic peptide. ACE=angiotensin-converting enzyme.

*Table:* Effects of pneumonia on the cardiovascular system

# PNÖMOKOK AŞILARI

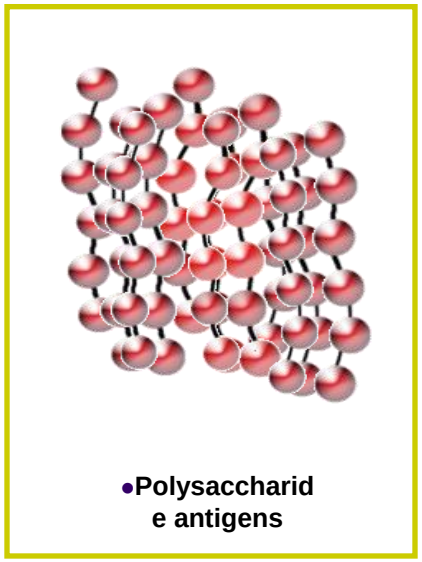
- 1977
- 1983
- 2000
- 2010

- 14-valent polysaccharide vaccine
- 23-valent polysaccharide vaccine (PPV23)
- 7-valent conjugate vaccine (PCV7)
- 13-valent conjugate vaccine (PCV13)

**FDA expands use of Prevenar 13 vaccine for people ages 50 and older.**
**http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm285431.htm**
**●(Accessed on January 03, 2012).**

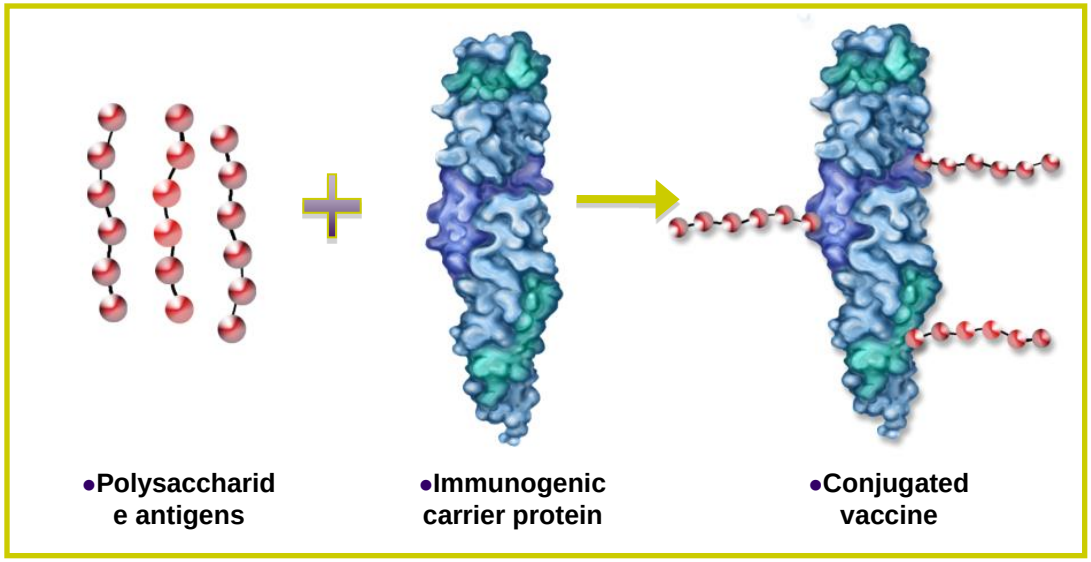
# FARKLI BİR İMMUNOLOJİK YANIT OLUŞTURMAK

- Plain Polysaccharide Vaccine
- Conjugated Vaccine



- Polysaccharide antigens

- Schematic representation



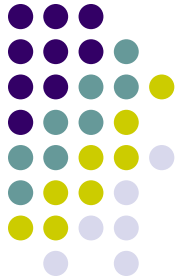
- Polysaccharide antigens
- Immunogenic carrier protein
- Conjugated vaccine

- Schematic representation

**Polisakkarid aşıların taşıyıcı bir proteine bağlanmasıyla, polisakkarid spesifik bellek B hücre cevabı ile bellek cevap**


- *1.Pollard AJ et al. Nature Reviews Immunology. 2009;9(3):213-20.*

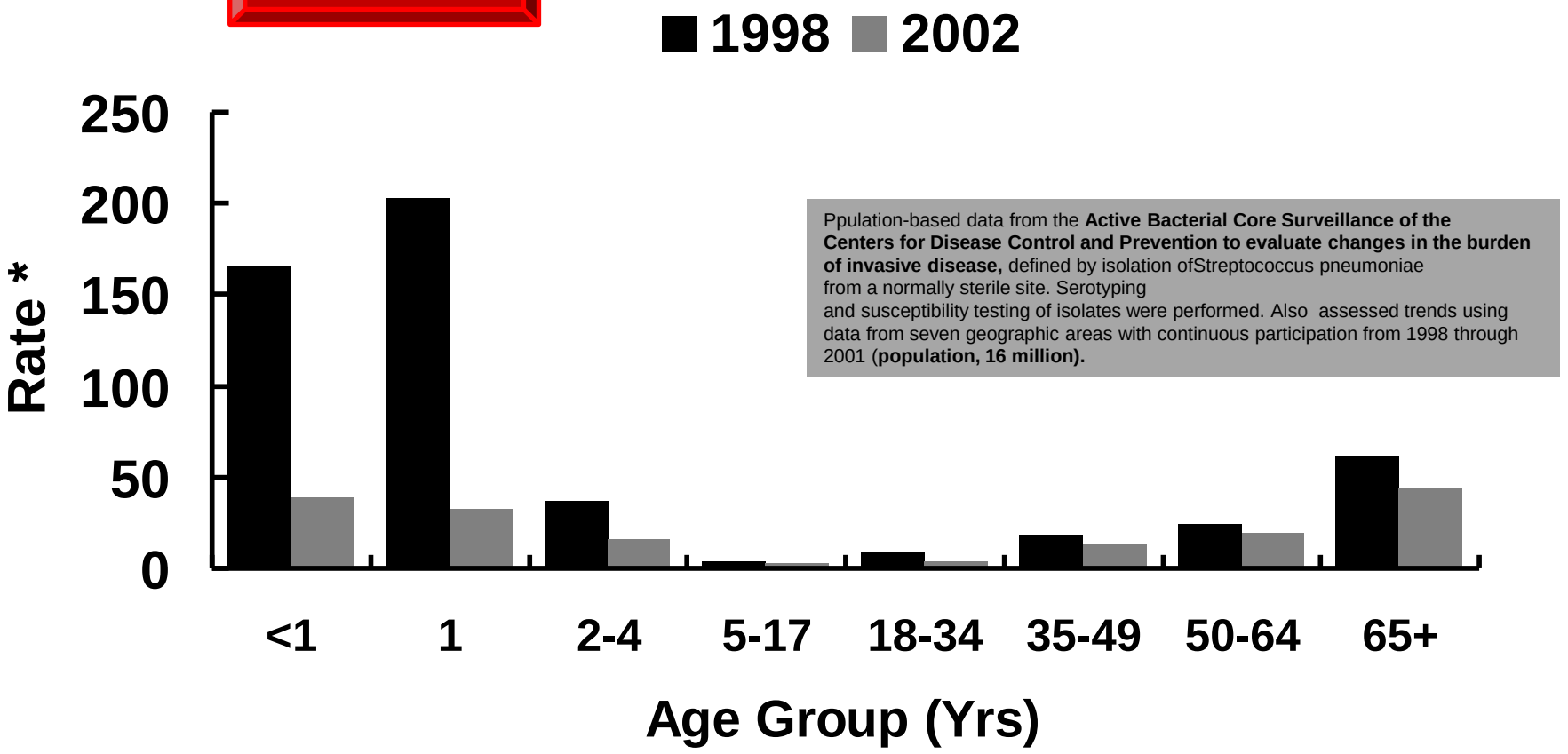
# KONJUGE AŞILAR-2000



- İNFANTLARDA ANTİKOR OLUŞUMU
- YAŞLI VE İMMUNYETMEZLİKLİDE DAHA İYİ ANTİKOR OLUŞUMU
- UZUN SÜRELİ İMMUNİTE
- MUKOZAL İMMUNİTE
- «HERD» İMMUNITE

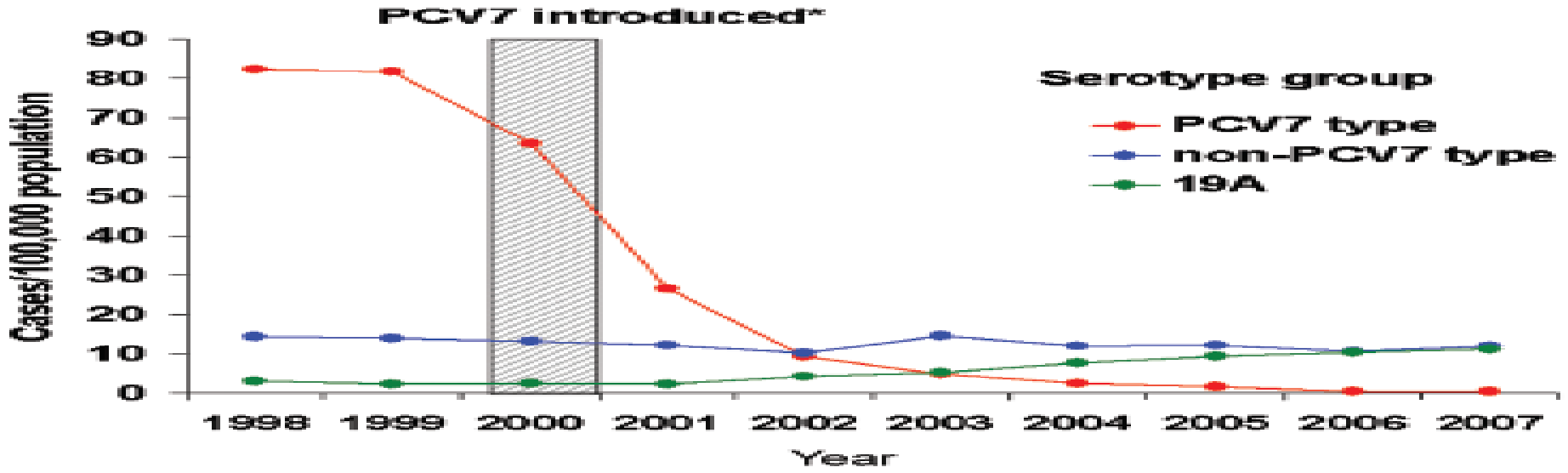
# Invasive Pneumococcal Disease Incidence by Age Group, 1998 and 2002

%79↓




Ppulation-based data from the **Active Bacterial Core Surveillance of the Centers for Disease Control and Prevention to evaluate changes in the burden of invasive disease,** defined by isolation ofStreptococcus pneumoniae from a normally sterile site. Serotyping and susceptibility testing of isolates were performed. Also assessed trends using data from seven geographic areas with continuous participation from 1998 through 2001 (**population, 16 million).**

***Whitney CG.N Engl J Med:2003:348:1737-46***




AŞI TİPLERİ İÇİN IPV%94↓

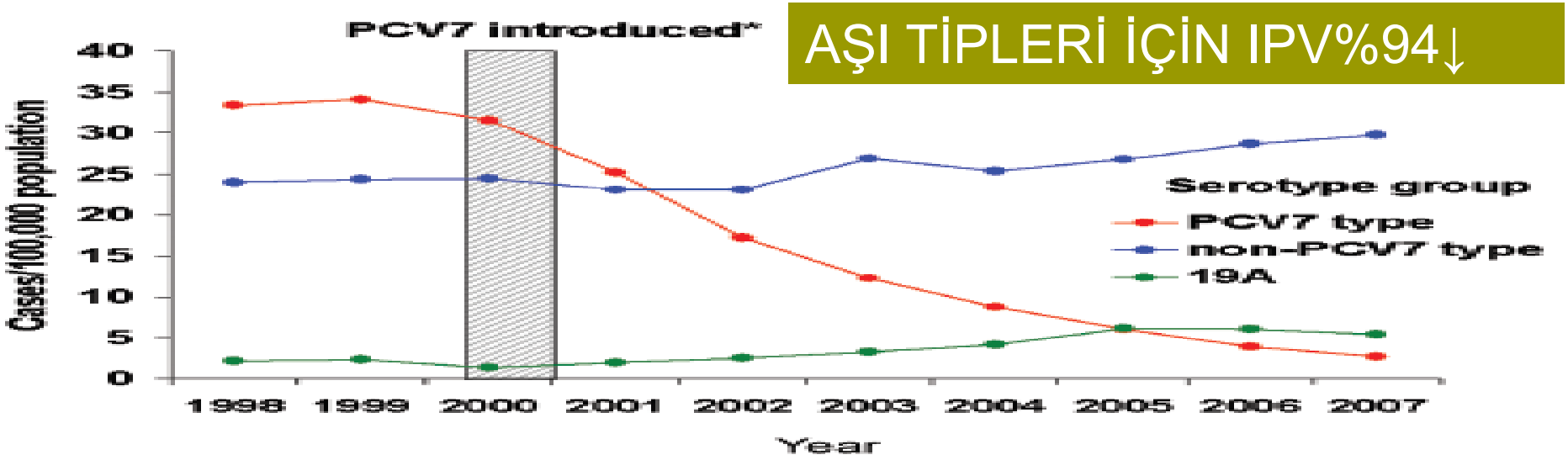



**Figure 2.** Changes in invasive pneumococcal disease (IPD) incidence by serotype group among children aged <5 years *(A)* and adults aged ≥65 years *(B)*, 1998–2007. *Seven-valent pneumococcal conjugate vaccine (PCV7) was introduced in the United States for routine use among young children and infants in the second half of 2000.

# Sustained Reductions in Invasive Pneumococcal Disease in the Era of Conjugate Vaccine

Tamara Pilishvili,[1] Catherine Lexau,[8] Monica M. Farley,[3,4] James Hadler,[5] Lee H. Harrison,[6] Nancy M. Bennett,[7] Arthur Reingold,[9] Ann Thomas,[10] William Schaffner,[11] Allen S. Craig,[12] Philip J. Smith,[2] Bernard W. Beall,[1] Cynthia G. Whitney,[1] and Matthew R. Moore,[1] for the Active Bacterial Core Surveillance/Emerging Infections Program Network*

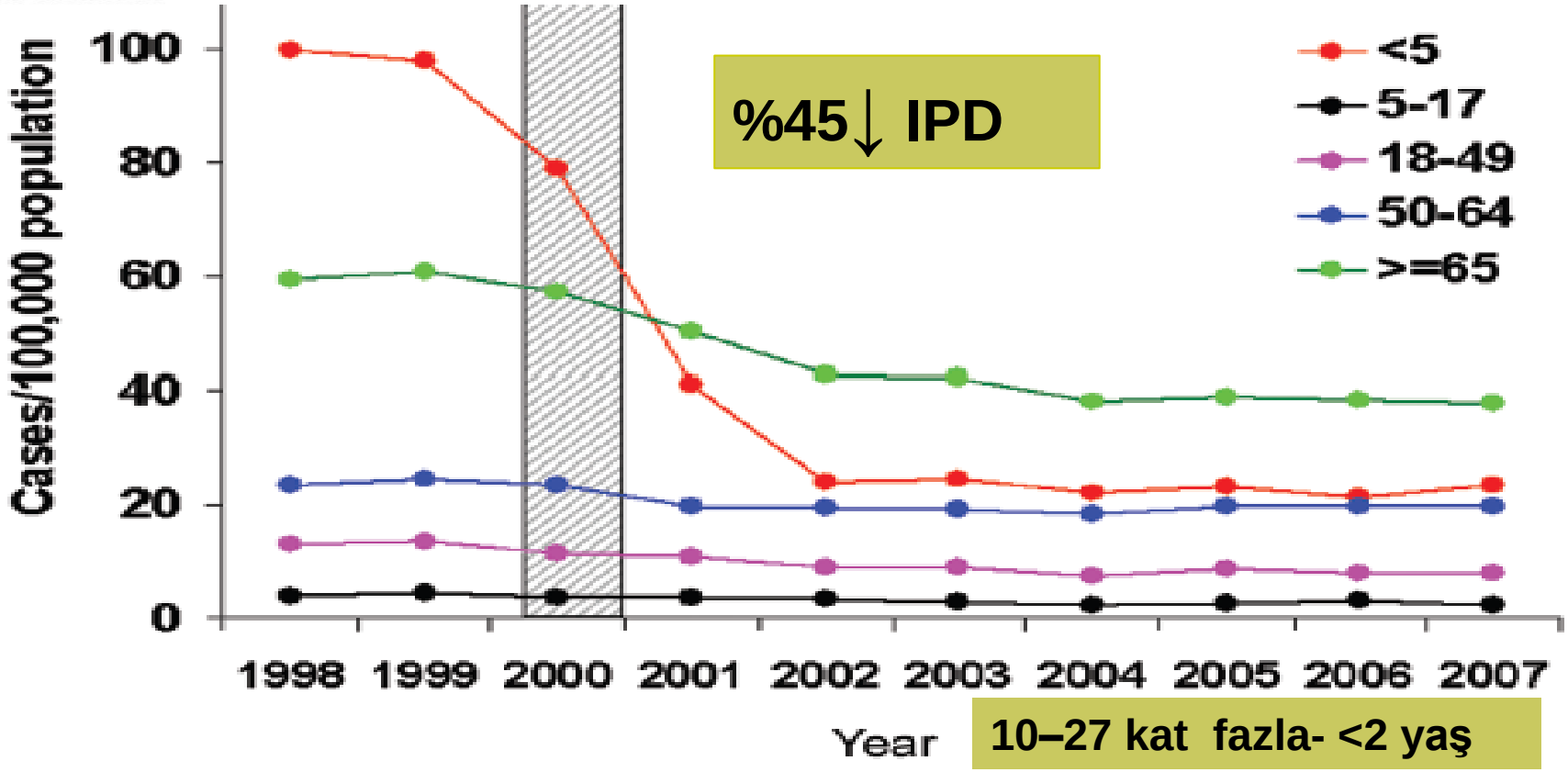



**Figure 1.** Changes in overall invasive pneumococcal disease (IPD) incidence rates by age group, 1998–2007. *Seven-valent pneumococcal conjugate vaccine (PCV7) was introduced in the United States for routine use among young children and infants in the second half of 2000.

# ANTİBİYOTİK DİRENÇ EĞİLİMİ

- 1990lar  Pen-RSP
- 2000 ler DRSP azalma
- 1998–99 vs 2008 ; <5 yaş % 64 azalma ve >65 yaş %45 azalma
- 2007–2008 serotypes – %78-97 PCV13 kapsadığı PCV7 de olmayan serotipler

**6A, 6B, 9V, 14, 19F, 23F - >80% PRSP olanlar**

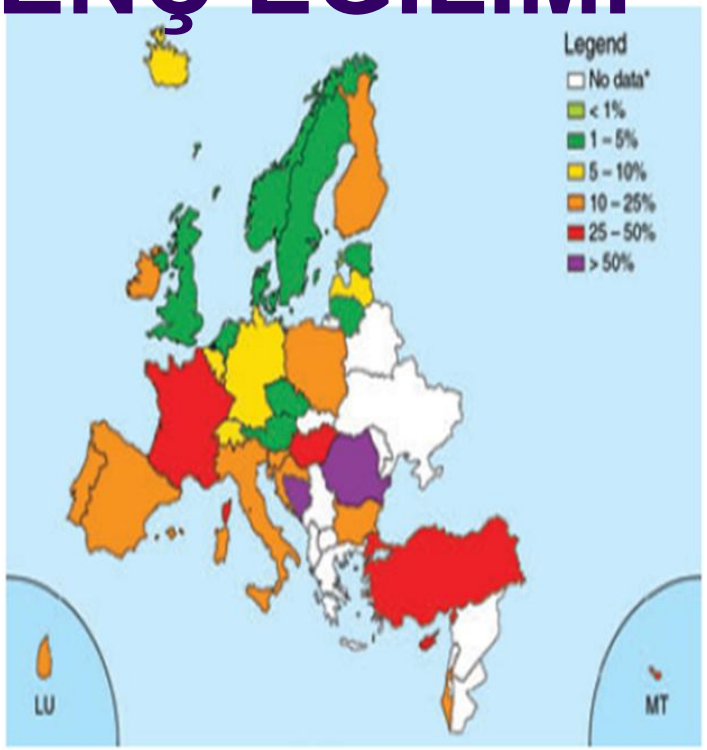



FIG. 1. *Streptococcus pneumoniae*: proportion of invasive isolates non-susceptible to penicillin (PNSP) in 2008. *These countries did not report any data or reported <10 isolates.

1. European Antimicrobial Resistance Surveillance Network (EARS-Net). Antimicrobial resistance surveillance in Europe 2009; Available at http://ecdc.europa.eu/en/publications/Publications/1011_SUR_annual_EARS_Net_2009.pdf (Accessed September 2014) 2. Liñares J *et al. Clin Microbiol Infect.* 2010;16:402–410; 3. Kyaw MH *et al. NE ngl J Med.* 2006;354:1455–1463. 4. Hampton LM *et al. J Infect Dis.* 2012;205:401–-11. 5. Lynch JP 3rd *et al. Semin Respir Crit Care Med.* 2005;26(6):575–616.

# ERİŞKİN AŞILAMASINDA HEDEFLER-HEALTHY PEOPLE 2010-CDC and 2020-CDC

- Azalma-IPD √
- Azalma – DRSP in çocuklar ≈≈≈
- %90 uyum ; Pnömokok aşılaması

- Daha azaltmak- IPD
- Azalma –DRSP hem çocuk hem erişkin


- **CDC: Healthy People 2010:http://www.cdc.gov/nchs/healthy-people/hp2010_final review.htm-National Center for Health Statistics.Healthy People 2010 Final Review.**
- **Hyattsville, MD. 2012.**
- **United States Department of Health and Human Services.Healthy People 2020. www.healthypeople.gov**

# Epidemiology of Invasive Pneumococcal Disease Among High-Risk Adults Since the Introduction of Pneumococcal Conjugate Vaccine for Children

Clinical Infectious Diseases 2013;56(5):e59–67

Riyadh D. Muhammad,[1,a] Reena Oza-Frank,[2] Elizabeth Zell,[1] Ruth Link-Gelles,[1] K. M. Venkat Narayan,[2] William Schaffner,[3] Ann Thomas,[4] Catherine Lexau,[5] Nancy M. Bennett,[6] Monica M. Farley,[7] Lee H. Harrison,[8] Arthur Reingold,[9] James Hadler,[10] Bernard Beall,[1] Keith P. Klugman,[2] and Matthew R. Moore[1]

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***Background.*** Certain chronic diseases increase risk for invasive pneumococcal disease (IPD) and are indications for receipt of 23-valent pneumococcal polysaccharide vaccine (PPV23). Since the pediatric introduction of 7-valent pneumococcal conjugate vaccine (PCV7) in 2000, incidence of IPD among adults has declined. The relative magnitude of these indirect effects among persons with and without PPV23 indications is unknown.

***Methods.*** We evaluated IPD incidence among adults with and without PPV23 indications using population- and laboratory-based data collected during 1998–2009 and estimates of the denominator populations with PPV23 indications from the National Health Interview Survey. We compared rates before and after PCV7 use by age, race, PPV23 indication, and serotype.

***Results.*** The proportion of adult IPD cases with PPV23 indications increased from 51% before to 61% after PCV7 introduction ($P < .0001$). PCV7-serotype IPD declined among all race, age, and PPV23 indication strata, ranging from 82% to 97%. Overall IPD rates declined in most strata, by up to 65%. However, incidence remained highest among adults with PPV23 indications compared with those without (34.9 vs 8.8 cases per 100 000 population, respectively). Apart from age ≥65 years, diabetes is now the most common indication for PPV23 (20% of all cases vs 10% of cases in 1998–1999).

**Table 2. Characteristics of Observed Invasive Pneumococcal Disease Cases, 1998–1999 Combined and 2009**

| | 1998–1999 (n = 5699) | 2009 (n = 3338) |
|---|---|---|
| Age, y, median (range) | 56 (18–101) | 58 (18–104) |
| Race | | |
| White | 62% | 70% |
| Black | 35% | 24% |
| Other | 2% | 5% |
| Sex | | |
| Male | 54% | 51% |
| Case fatality ratio[a,b] | 13% | 11% |
| Meningitis | 5% | 5% |
| Bacteremia without focus[a] | 25% | 15% |
| Bacteremic pneumonia[a] | 68% | 75% |
| ACIP Indication for PPV23[a,c] | 51% | 61% |

Abbreviations: ACIP, Advisory Committee on Immunization Practices; PPV23, 23-valentpneumococcal polysaccharide vaccine.

[a] $P$ value < .05.

[b] Excludes cases with unknown outcome (60 in 1998–1999 and 25 in 2009).

[c] Includes all ACIP indications except age ≥65 years.

## Comparison of serotypes in pneumococcal vaccines

| Conjugate vaccines | | | | Polysaccharide vaccine | |
|---|---|---|---|---|---|
| PCV7 | PCV10* | PCV13 | PCV15• | PPSV23 | |
| 4 | 4 | 4 | 4 | 4 | 2 |
| 6B | 6B | 6B | 6B | 6B | 8 |
| 9V | 9V | 9V | 9V | 9V | 9N |
| 14 | 14 | 14 | 14 | 14 | 10A |
| 18C | 18C | 18C | 18C | 18C | 11A |
| 19F | 19F | 19F | 19F | 19F | 12F |
| 23F | 23F | 23F | 23F | 23F | 15B |
| | | | | | 17F |
| | 1 | 1 | 1 | 1 | 20 |
| | 5 | 5 | 5 | 5 | 22F |
| | | 3 | 3 | 3 | 33F |
| | 7F | 7F | 7F | 7F | |
| | | 19A | 19A | 19A | |
| | | 6A | 6A | | |
| | | | 22F | | |
| | | | 33F | | |

PCV7: 7-valent pneumococcal conjugate vaccine; PCV10: 10-valent pneumococcal conjugate vaccine; PCV13: 13-valent pneumococcal conjugate vaccine; PCV15: 15-valent pneumococcal conjugate

**3,6A,19F;high mortality-elderly:19 A-DR**

**IPD:>60.000 isolates, >70 countries; 1,5,6A,6B,19F,23F:**

**European Centre for Disease Prevention and Control. ECDC surveillance report: reporting on 2010 surveillance data and 2011 epidemic intelligence data: 2012. Stockholm: ECDC, 2013, Johnson HL.PLoS Med 7(10): e1000348. doi:10.1371/journal.pmed.1000348**

# PNÖMOKOK AŞILARI

## PCV7

- 2000: 2-23 AY,2-5 yaş risk
- 2007: 2 ay-5 yaş

## PCV13

- 2010:2 ay-5 yaş
- 2011: <50 yaş FDA ONAY: pnömoni ve IPD
- 2012:>19 yaş, immunsupresyon,BOS kaçağı,aspeleni,kohlear implant
- 2014:PPSV 23 ile >65 yaş

## PPSV23

- 5-64 yaş ;risk faktörleri
- 2010: >65 yaş

# PNÖMOKOK AŞI ENDİKASYONLARI;CDC-Ekim 2012

**Indications for administration of PPV23 and PCV13 in adults aged 19 to 64 years**

| Risk Group | Medical Condition | PCV13 | PPV23 | PPV23 Revax[a] |
|---|---|---|---|---|
| Presumed Immunocompetent | Asplenia (including hemoglobinopathies) | X | X | X |
| | CSF leaks | X | X | — |
| | Cochlear implant | X | X | — |
| | Chronic heart disease | — | X | — |
| | Cigarette smoking | — | X | — |
| | Chronic lung disease | — | X | — |
| | Diabetes | — | X | — |
| | Alcoholism | — | X | — |
| | Chronic liver disease | — | X | — |
| Immunocompromised | Congenital or acquired immunodeficiencies | X | X | X |
| | HIV infection | X | X | X |
| | Chronic renal failure | X | X | X |
| | Nephrotic syndrome | X | X | X |
| | Leukemia | X | X | X |
| | Lymphoma | X | X | X |
| | Hodgkin disease | X | X | X |
| | Generalized malignancy | X | X | X |
| | Iatrogenic immunosuppression | X | X | X |
| | Solid organ transplant | X | X | X |
| | Multiple myeloma | X | X | X |

- Önce PCV13
- 8 hf.sonra PPSV23

- İlk doz PPSV23
- 1 yıl sonra PCV13

[a] Single revaccination 5 years after a prior vaccination.

# PCV13-HIZLANDIRILMIŞ ONAYLAR

Morbidity and Mortality Weekly Report

## Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine Among Adults Aged ≥65 Years: Recommendations of the Advisory Committee on Immunization Practices (ACIP)

Sara Tomczyk, MSc[1,2], Nancy M. Bennett, MD[3,4], Charles Stoecker, PhD[5], Ryan Gierke, MPH[2], Matthew R. Moore, MD[2], Cynthia G. Whitney, MD[2], Stephen Hadler, MD[2], Tamara Pilishvili, MPH[2] (Author affiliations at end of text)

**2011 deki FDA onayı ≥50 yaş, koruyucu olarak anlamlı tedavi edici etki:bakteremik olmayan pnömoni ve pnömoni+IPD**

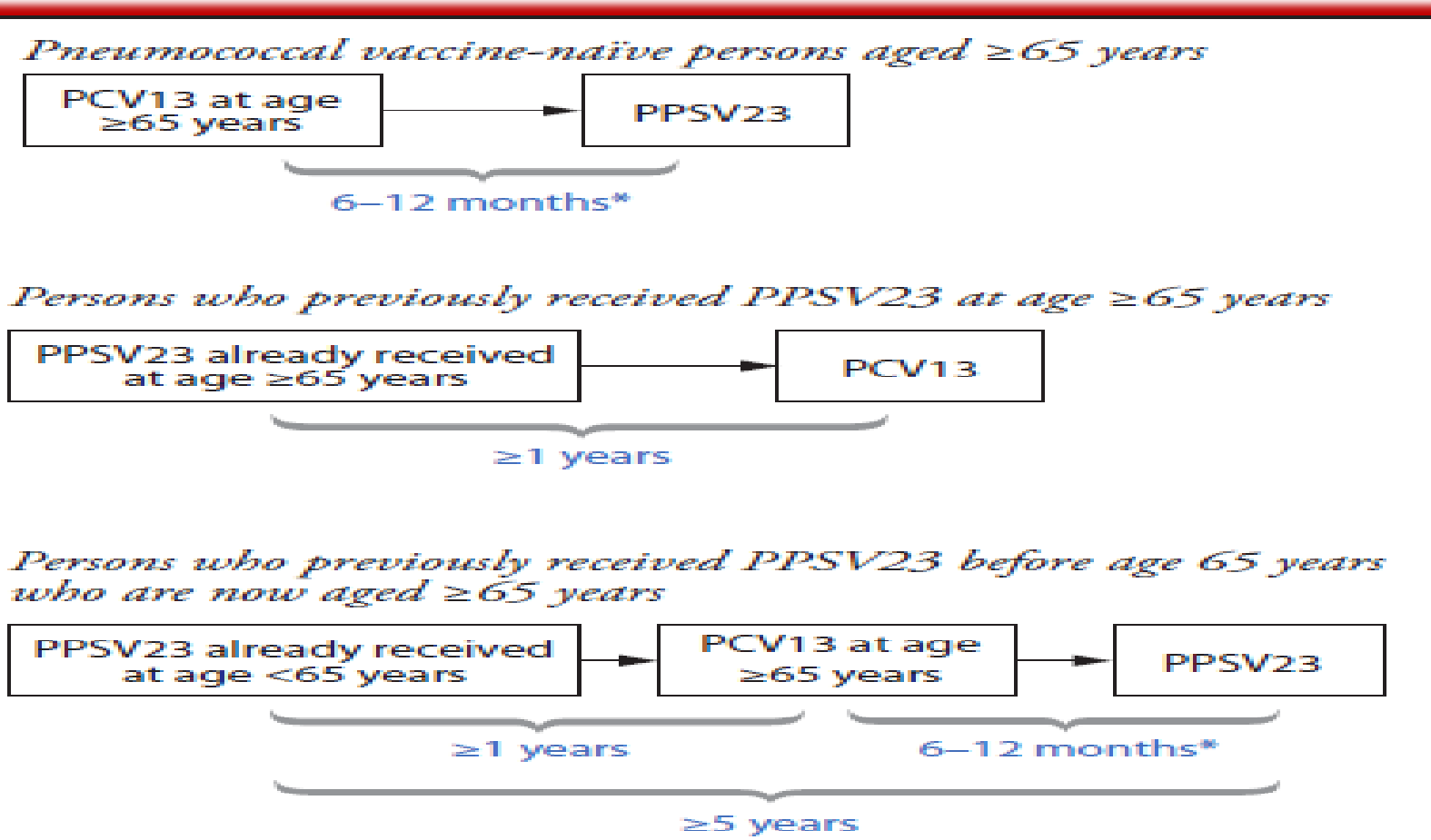
***Jackson LA,Vaccine 2013(karşılaştırmalı immunojenite ve güvenilirlik çalışma)***

**2013- 2010 dan beri PCV13≥65 yaş,aşı serotipleri ile IPD %50 azalttı ama hala 13.500 IPD≥65 yaş**

**CAPITA:85.000 erişkin,2008-2012,plasebo-kontrollü, randomize,%45.6(%95 CI:%21.8-%62.5) pnömoni,%75 IPD (CI:%41.4-%90.8)aşı serotipleri**

***Morbidity and Mortality Weekly Report ,2014 ; 63 (37): 822-825***

# Sequential administration and recommended intervals for PCV13 and PPSV23 for adults aged ≥65 years — Advisory Committee on Immunization Practices, United States




**Abbreviations:** PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

* Minimum interval between sequential administration of PCV13 and PPSV23 is 8 weeks; PPSV23 can be given later than 6–12 months after PCV13 if this window is missed.

Morbidity and Mortality Weekly Report ,2014 ; 63 (37): 822-825

Commentary

# Successful Control of Vaccine-Preventable Diseases Requires More than Vaccines

Walter A. Orenstein, MD, Lance E. Rodewald, MD

Am J Prev Med 2000;19(3S)

# Türkiye Erişkin Bağışıklama Oranları

## Tüm olgular ( n = 12.235 )

| | n | % |
|---|---|---|
| AŞI ( - ) | 11151 | 91,1 |
| AŞI ( + ) | 1084 | 8,9 |
| Hepatit B | 504 | 4,1 |
| İnfluenza | 547 | 4,5 |
| Pnömokok* | 117 | 1,0 |

EGE BÖLGESİ ERİŞKİN İMMÜNİZASYONU TARAMA ÇALIŞMASI-**TÜRK İÇ HASTALIKLARI UZMANLIK DERNEĞİ EGE BÖLGESİ ÇALIŞMA GRUBU**

# Türkiye'deki riskli gruplarda aşılama oranları


**TIHUD**

**Ege Bölgesi Çalışma Grubu**

**Türkiye'de Diyabetik Hastalardaki Aşılama Oranları**

**%0.1** pnömokok aşılama oranı

**%9.1** influenza aşılama oranı

- DM;KKY;KOAH,KBY ve >65 yaş üzeri, yüz-yüze anket çalışması,2029 kişi
- Influenza aşılanma oranı %12.8 and pnömokok %2.7.
- Aşılanmamış kişilerin % 95.3ü hekim önerisi olsaydı yaptıracaklarını bildirmişler

***Yaşlı ve yüksek riskli hastada influenza ve pnömokok aşılanma oranları, Yozgat, Ayşe Erbay***

*Original Article*

# Ten-year surveillance of invasive *Streptococcus pneumoniae* isolates in central Turkey prior to the introduction of a conjugate vaccine

Duygu Percin[1], Yasemin Ay Altintop[1], Bulent Sumerkan[1]

[1]*Department of Microbiology and Clinical Microbiology, Faculty of Medicine, Erciyes University, 38039-Kayseri/Turkey*

## Abstract

Introduction: The aim of this study was to characterize the serotypes and antimicrobial susceptibility patterns of invasive *Streptococcus pneumoniae* isolates in central Turkey.

Methodology: A total of 332 invasive *S. pneumoniae* isolates were identified, serotyped and tested for antimicrobial susceptibility by routine microbiological methods.

Results: The most common serogroups/serotypes were 1, 19, 3, 18, 6, 14, and 7 in rank order. Serogroup/serotype coverage of the 23-valent polysaccharide vaccine, and the 7-, 10-, and 13-valent conjugate vaccines were 96%, 44%, 78.6%, 96.4%, respectively. Overall, 20 (6%) of the isolates were resistant to penicillin, 1 (0.3%) to cefotaxime, 20 (6%) to erythromycin, 13 (4%) to cloramphenicol, and 120 (36%) to trimethoprim-sulfamethoxasole. Among cerebrospinal fluid (CSF) isolates, 20 (18.5%) were resistant to penicillin (26.3% and 11.5%, respectively, of child and adult meningitis cases; $p \geq 0.05$).

Conclusions: Although the seven-valent conjugate vaccine is expected to protect less than half of children younger than three years of age, of the incorporation of this vaccine into the routine immunization program of Turkey is advised to continue. However, the 13-valent conjugate vaccine, including serotypes 1, 3, 5, and 7, has the most potential prevent the highest burden of invasive pneumococcal diseases in this age group.

**Key words:** *Streptococcus pneumoniae*, vaccine, serotyping, antimicrobial susceptibility

*J Infect Dev Ctries* 2010; 4(9):560-565.

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# GEREKSİNİMLER -2014

- GENİŞLETİLMİŞ KAPSAM -PCV7 sonrası –AŞIDA OLMAYAN DRSP SEROTİPLER
- İMMUNOJENİTENİN ARTIRILMASI – yaşlı ve immunsuprese populasyonun artması
- AŞILAMA ORANLARININ ARTIRILMASI
- ERİŞKİNLER AÖH ;  350-kat fazla ölüm
- PCVs >11 milyon  pnömokokal hastalığa bağlı ölümün >300,000 prematur ölümün önümüzdeki  10 yılda önlenmesi bekleniyor.

# *Teşekkürler*