

# Deaths Due To Tuberculosis In The State Of Perak 2005

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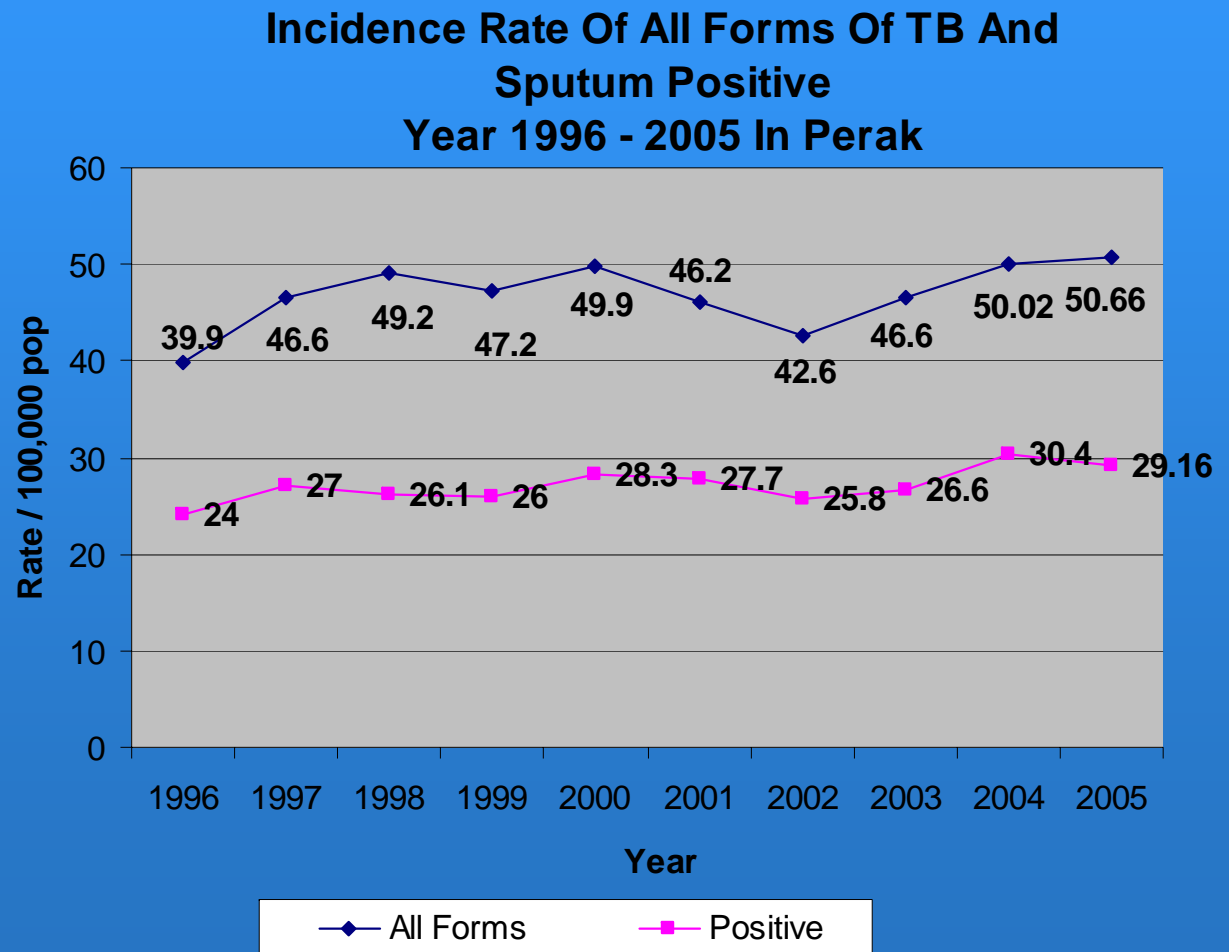
# Introduction

- One third (2 billion) of the world's population are infected.
- > 8million develop active TB annually.
- One third of the near 40 million people living with HIV/AIDS are co-infected with TB.
- An estimated 1.6 million people died of TB in 2005.

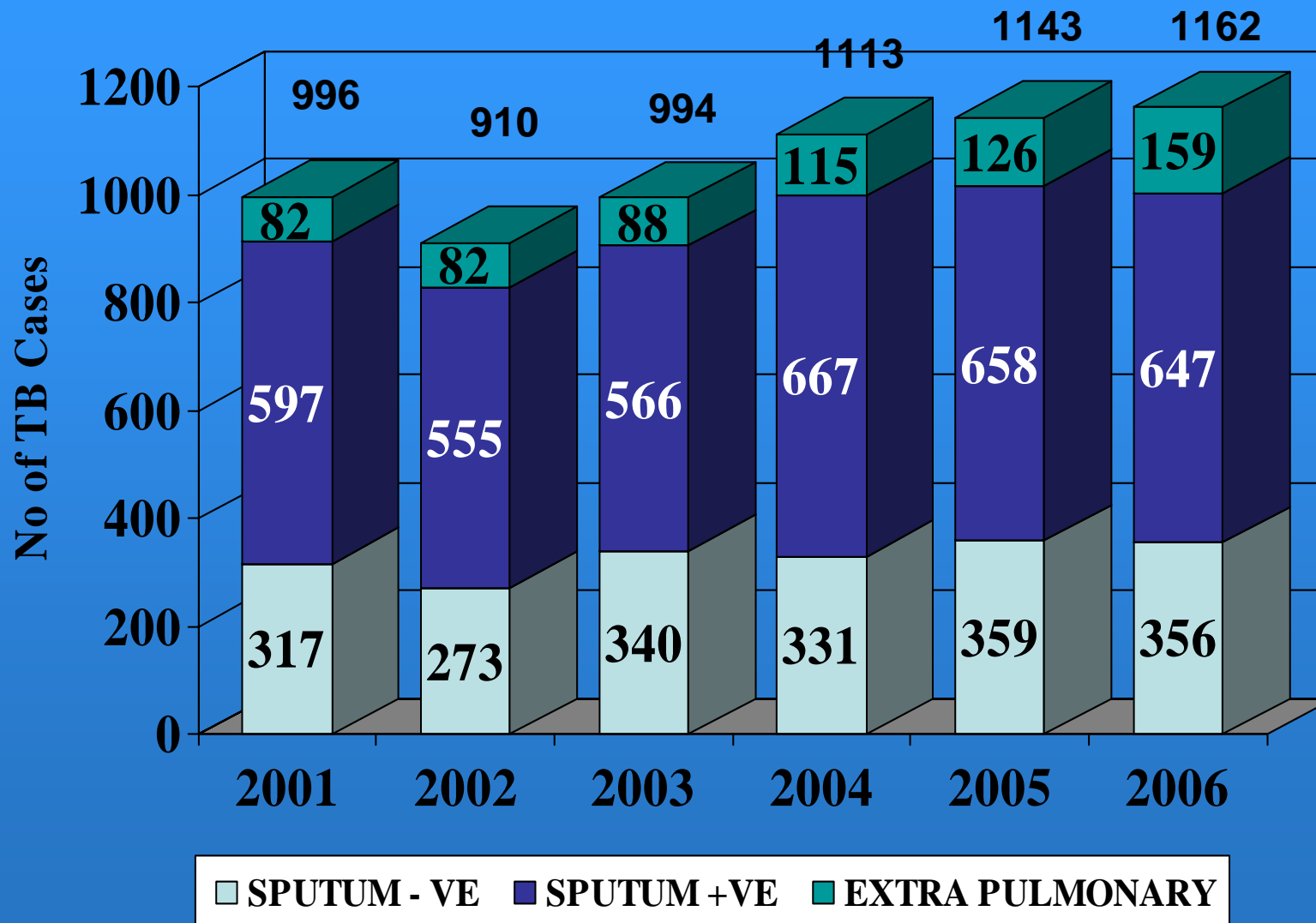
# Incidence of TB in Perak

- Year 2004:- 50.02 / 100,000 population
- Year 2005:- 50.66 / 100,000 population

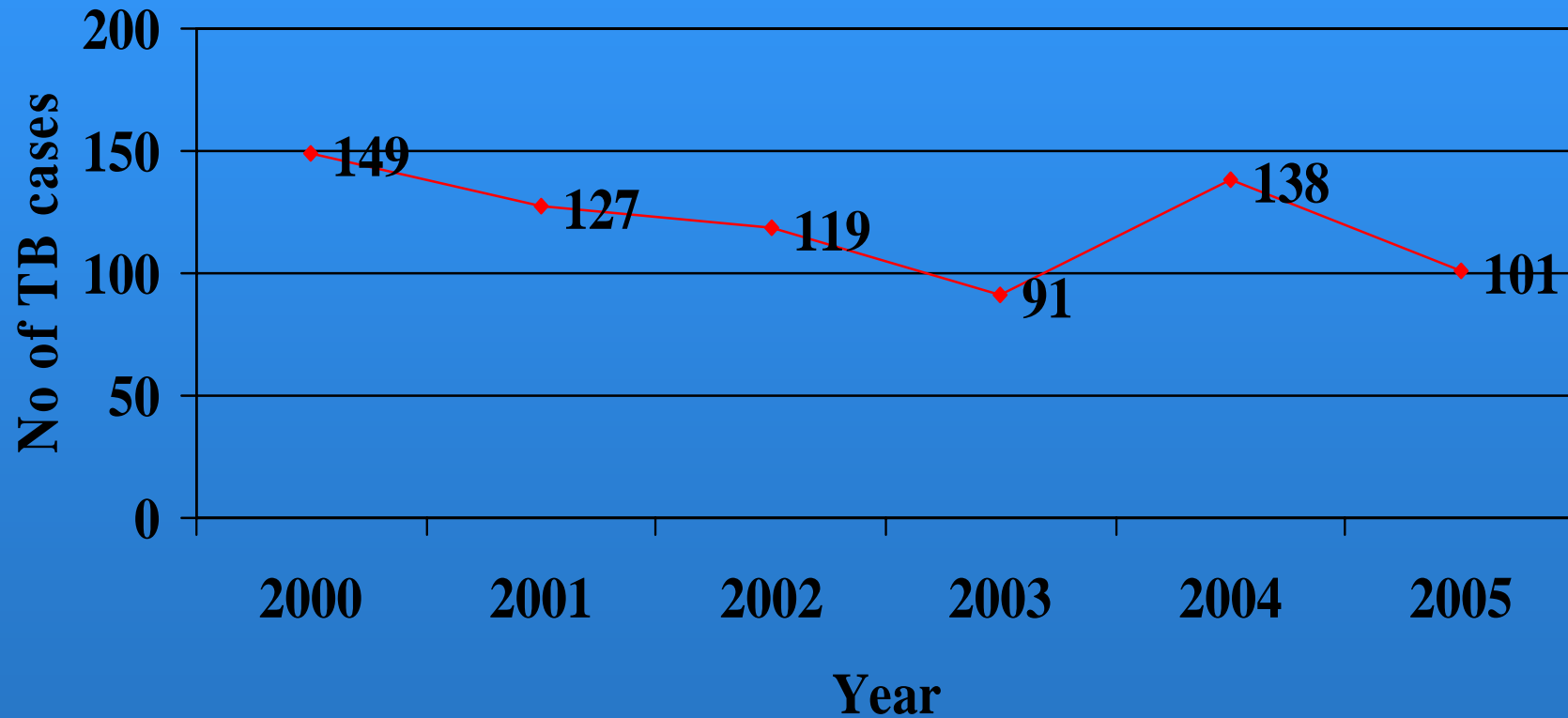
Population distribution:  
2,256,400



# Notification Of New TB Cases In Perak Year 2001 - 2006

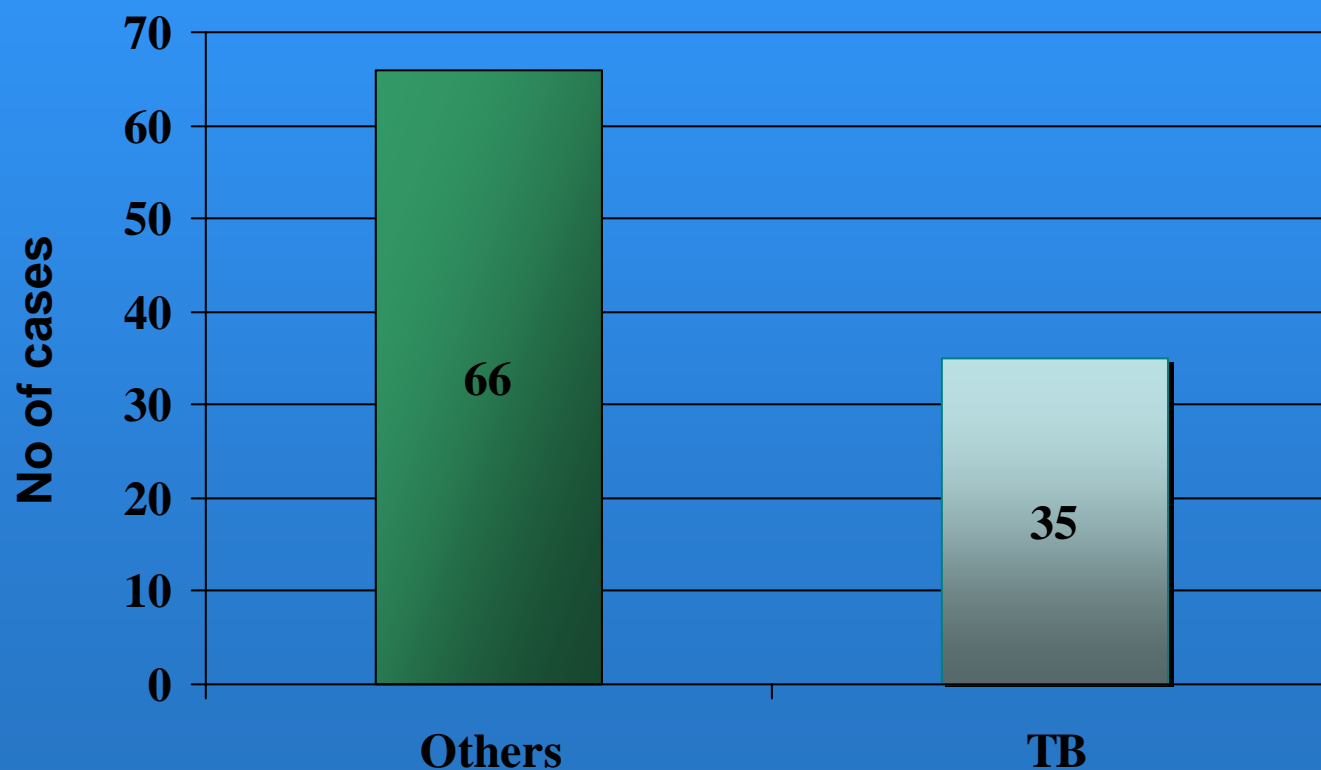


## Notification Of Deaths in TB Patients In Perak 2000 – 2005



◆ NO OF DEATHS

# Patients who died while on TB treatment 2005



## Notification of Deaths

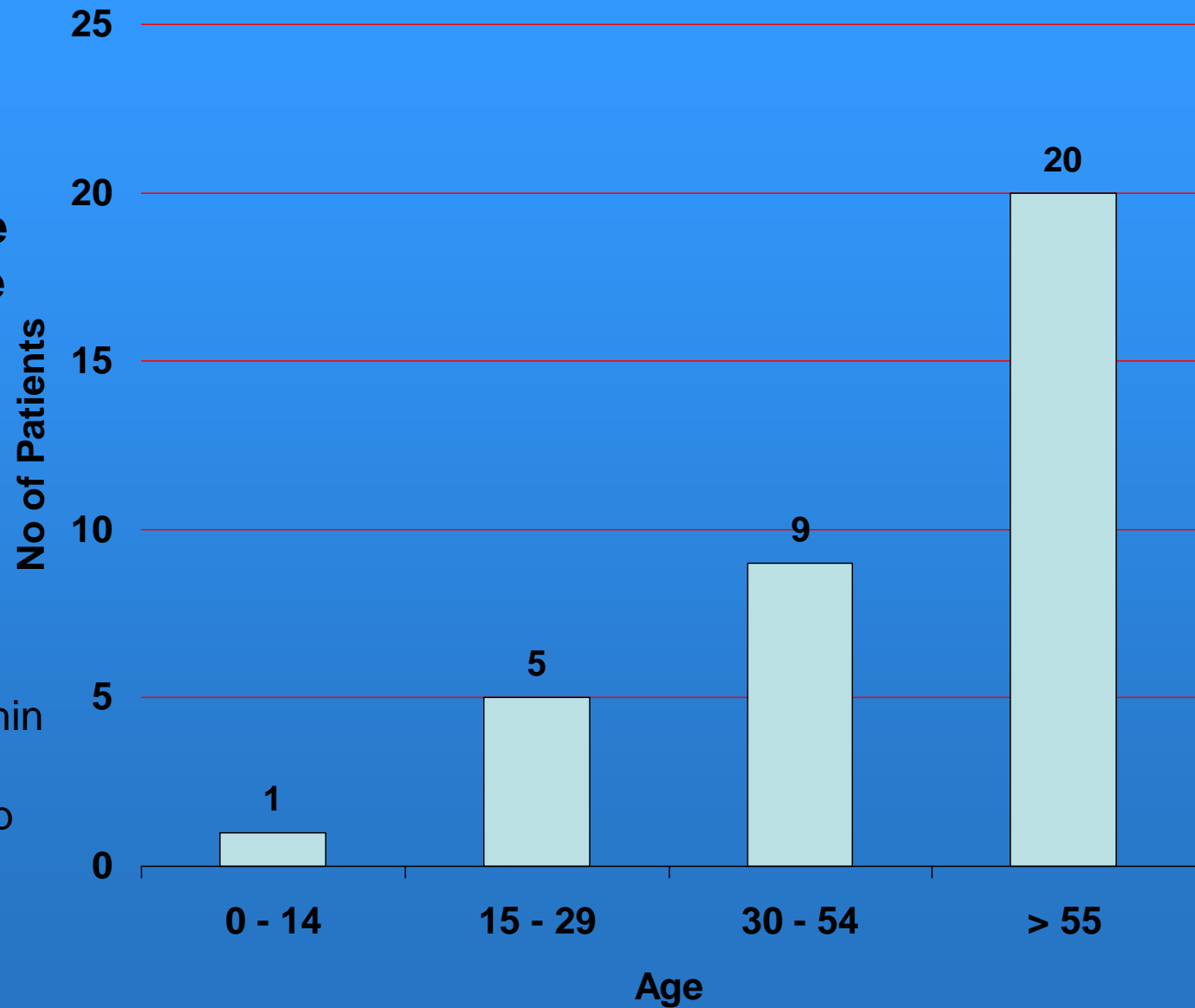
Death notification for patients on TB treatment is done in the form TBIS 10J. There were a total of 101 deaths **notified**, and the actual cause of death is determined after conducting a mortality audit for all these deaths. In 35 (34.6%) cases the actual cause of death was attributed to tuberculosis.

Heldal E, Naalsund A, Kongerud J. Deaths from active tuberculosis: can we rely on notification and mortality figure? *Tuber Lung Dis* 1996;77:215-21

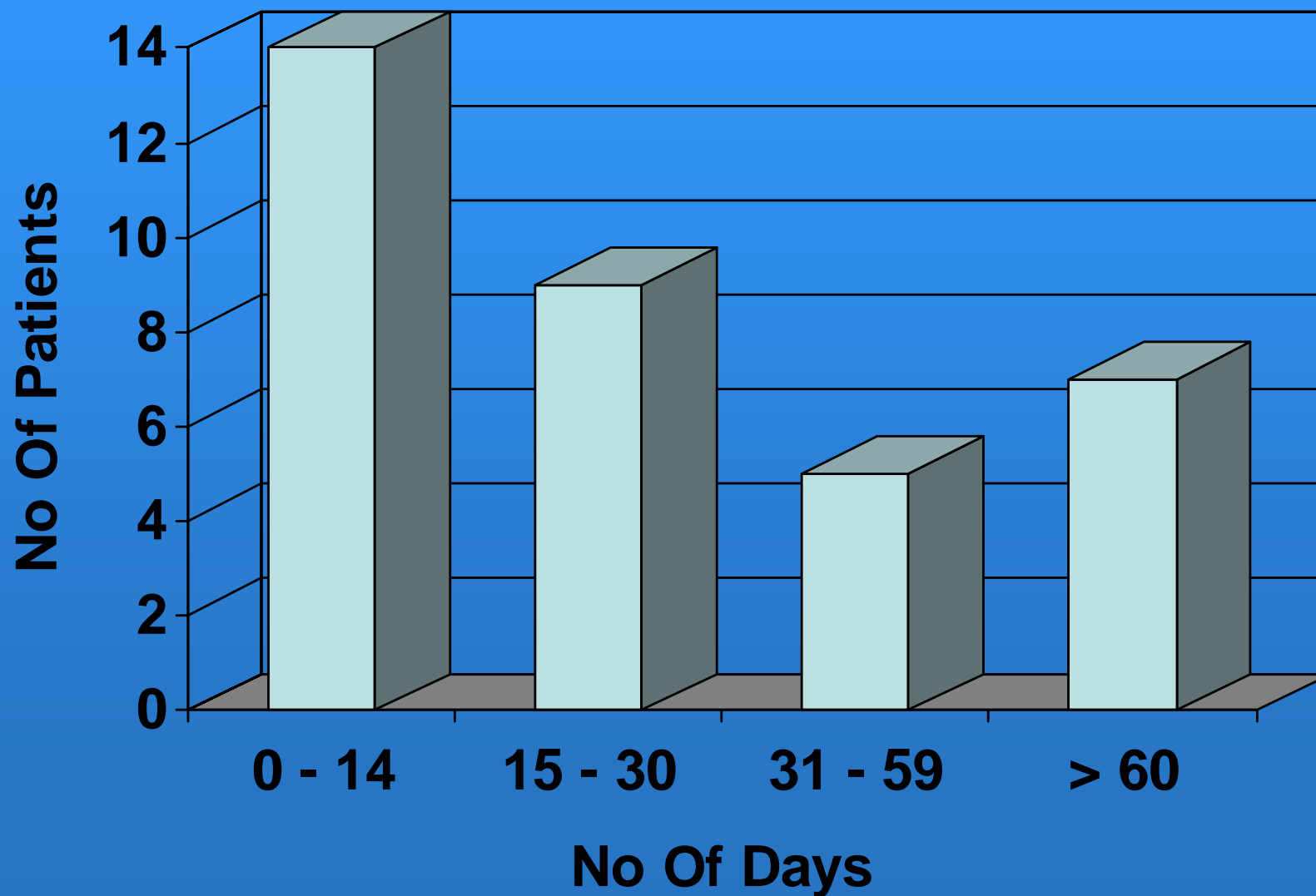
# Age Distribution

**Most deaths were noted to be in the older age group.**

Mathew TA,  
Ovsyanikova T.N., Shin  
S.S. IJTLD, Vol  
10, No.8, Aug 2006 pp  
857-863.



# Deaths Occurring After Initiating Treatment



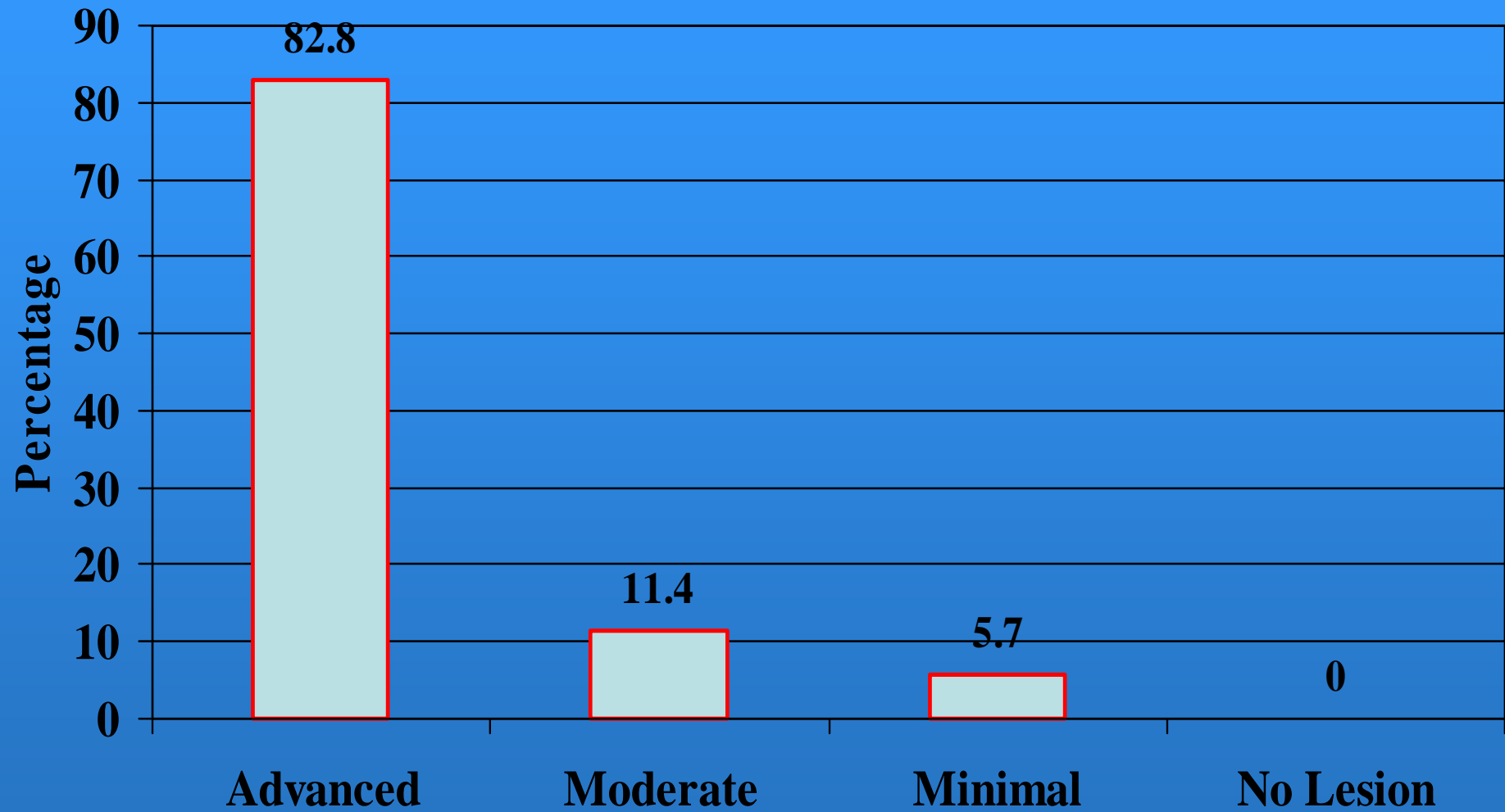
# Period of treatment

- Longer delays before diagnosis, treatment and sputum conversion.
- 21 % died during the first week of treatment.

**(41.9% deaths due to TB)**

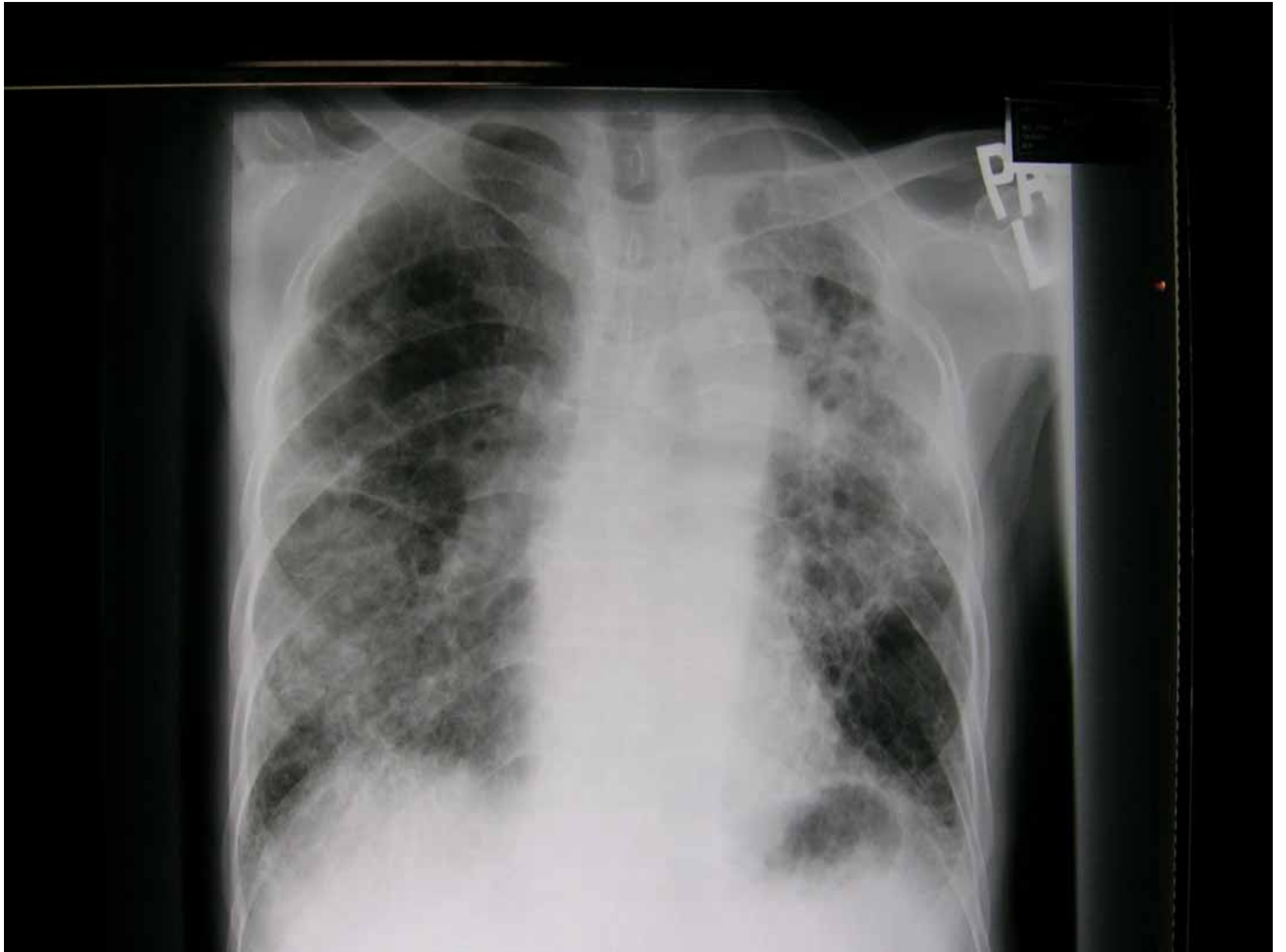
**Mario de Lourdes Garcia, Alfredo Ponce-de-Leon, et al. Emerging Infect Dis 8(11) 2002.**

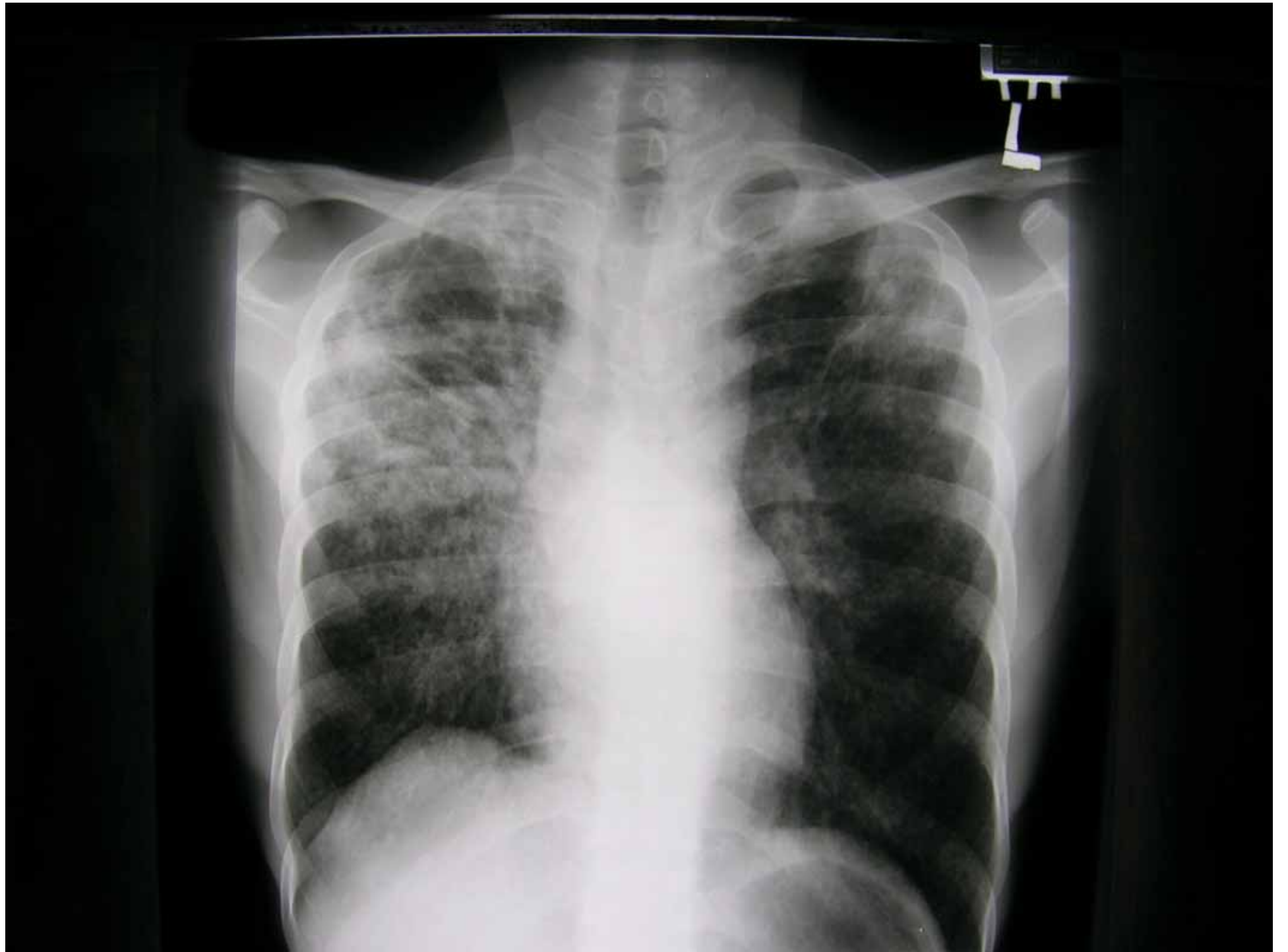
# X Ray Changes



# X-ray findings

- 83% had advanced pulmonary changes and were sputum positive.
- 17%(6) were TB deaths due to extra-pulmonary causes with minimal to moderate X-ray changes.





## Notification Of TB / HIV Cases 1999 - 2005

YEAR	NO. OF TB CASES WITH HIV	DEATHS (HIV/TB)
1999	56	23
2000	84	25
2001	58	19
2002	67	20
2003	55	18
2004	77	19
2005	89	25 (4)

## Notification of HIV/TB cases - 2005

- No. of HIV/TB deaths = 25
- No. of HIV/TB with complications = 21
- Deaths in HIV cases directly related to TB  
= 4 (4/35) 11%.

Connolly C, Impact of HIV epidemic on mortality among adult in SA-Int. J.TB and Lung Dis. 1998

# Treatment defaulters

- The main independent risk factor for death due to TB was treatment default – 3 cases (9%), due to ongoing transmission of TB, may have higher mortality rates than cases due to reactivation of latent disease.

# Conclusion

- Increased mortality risk in patients on TB treatment are more likely due to underlying medical conditions eg. malignancy, HIV, diabetes and alcoholism.
- Elderly age group
- Advanced pulmonary damage with delays in seeking treatment.

# **PERAK** working towards The Millennium Development Goals (MDG)

**Goal 6: Combat HIV/AIDS, malaria and other diseases.....TUBERCULOSIS**

## **Targets**

**MDG 6, Target 8: ...halted by 2015 and begun to reverse the incidence.....**

- **Targets linked to the MDGs and endorsed by the Stop TB Partnership:**
  - by 2005: detect at least 70% of new sputum smear-positive TB cases and cure at least 85% of these cases
  - by 2015: reduce prevalence of and death due to TB by 50% relative to 1990
  - by 2050: eliminate TB as a public health problem (<1 case per million population)

