

Undergraduate Education on TB at Medical Schools and TB Control in Turkey

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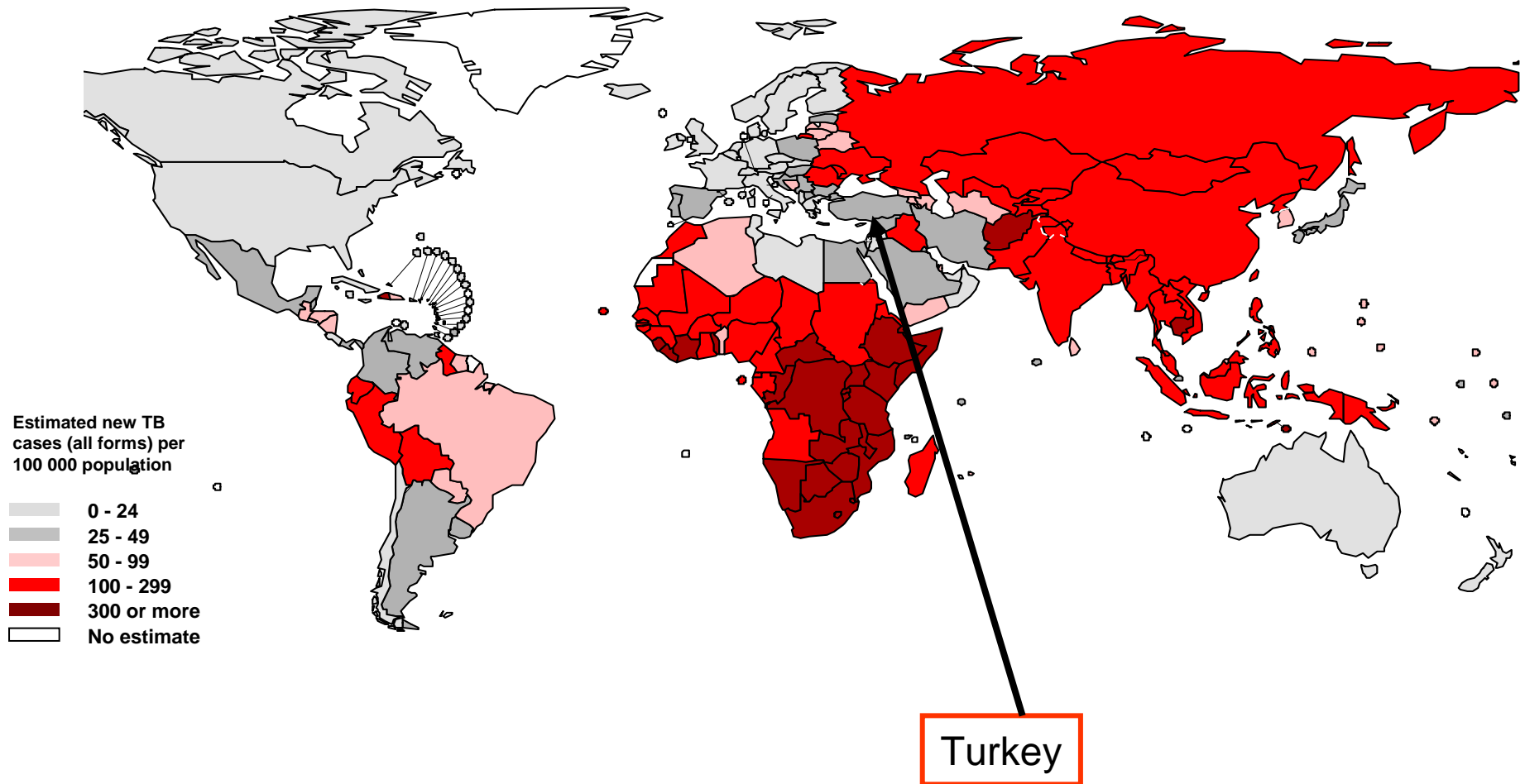
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Istanbul Anti-TB Association and Turkish TB Federation



Estimated population in 2005	72.8 million
Gross national product (GNP per capita)	~5000 \$
Total health expenditure	580 \$ (per capita-OECD)
Government expenditure on health	4.3 %
Government expenditure on health	135.3 \$ (per capita)
Infant mortality rate	21.5/1000
Fertility rate	2.6
Birth rate	17.2/1000

TB: Global Incidence, 2004

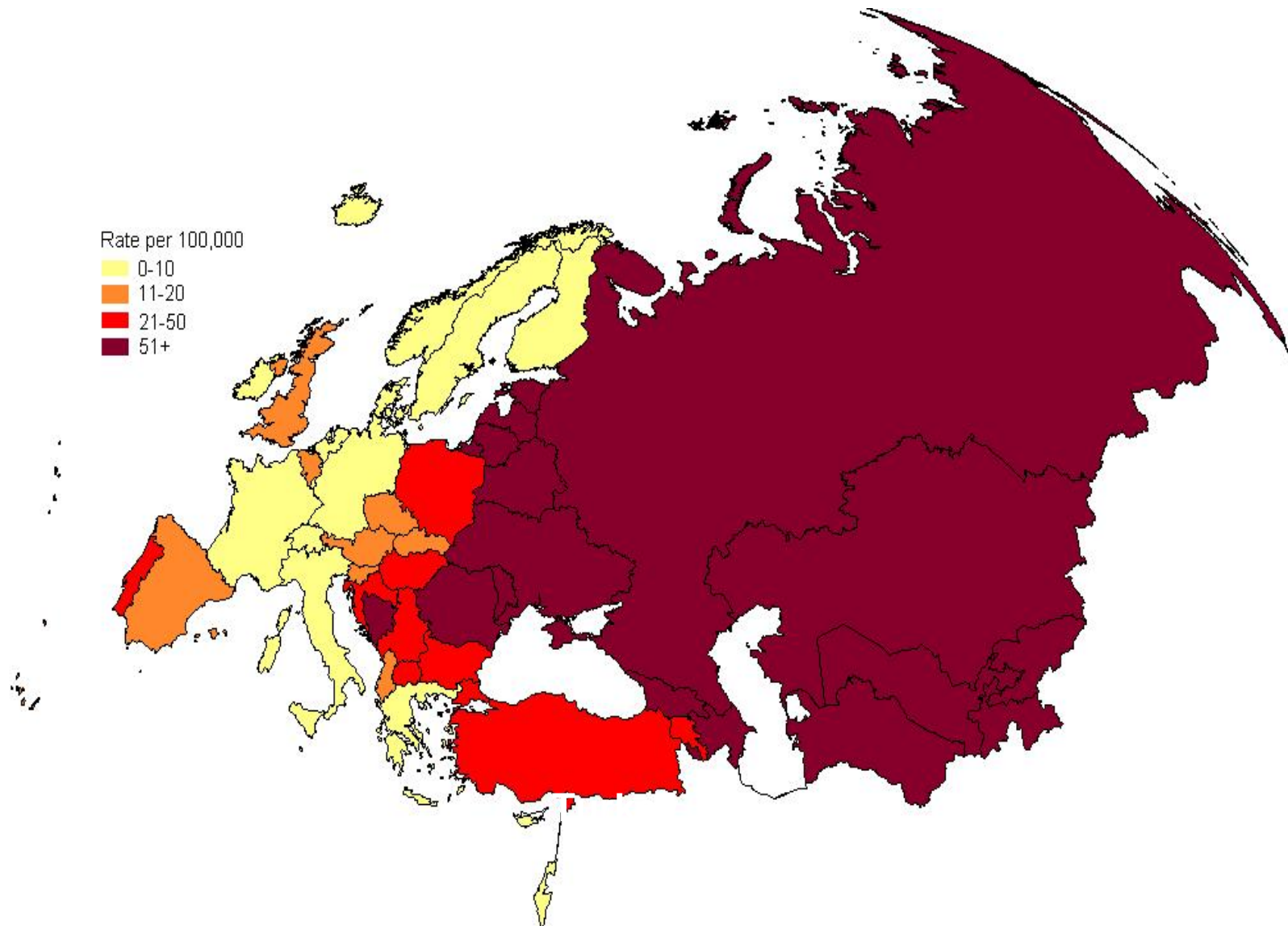


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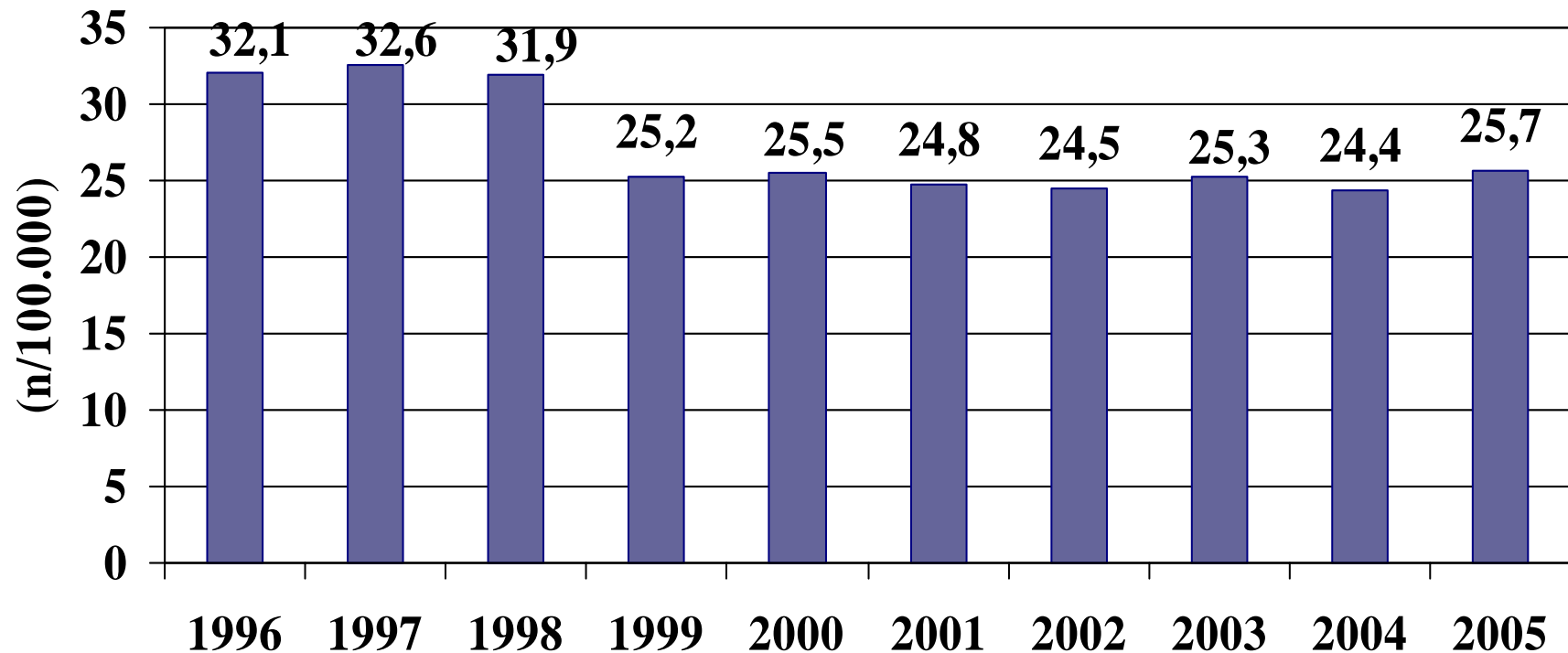
TB notification rates per 100,000 population, Europe, 2002





TB incidence rate	:25.7/100 000 (2005)
Number of TB patients	:18 753
Number of smear (+) patients	:7 295

TB Incidence in Turkey, 1996-2004



It decreases but ...

Turkish data of TB incidence is based on registered cases in TB dispensaries.

How many TB patients are registered in TB dispensaries ?

- TB patients who are not registered in TB dispensaries are:

28 % in Ankara 1998-2001(1)

60 % in Sivas 1999-2001(2)

40 % in Istanbul 2002(3)

1.Çiçek MA ve ark. (XXIII.National Tuberculosis and Chest Diseases Congress, Malatya 2003.

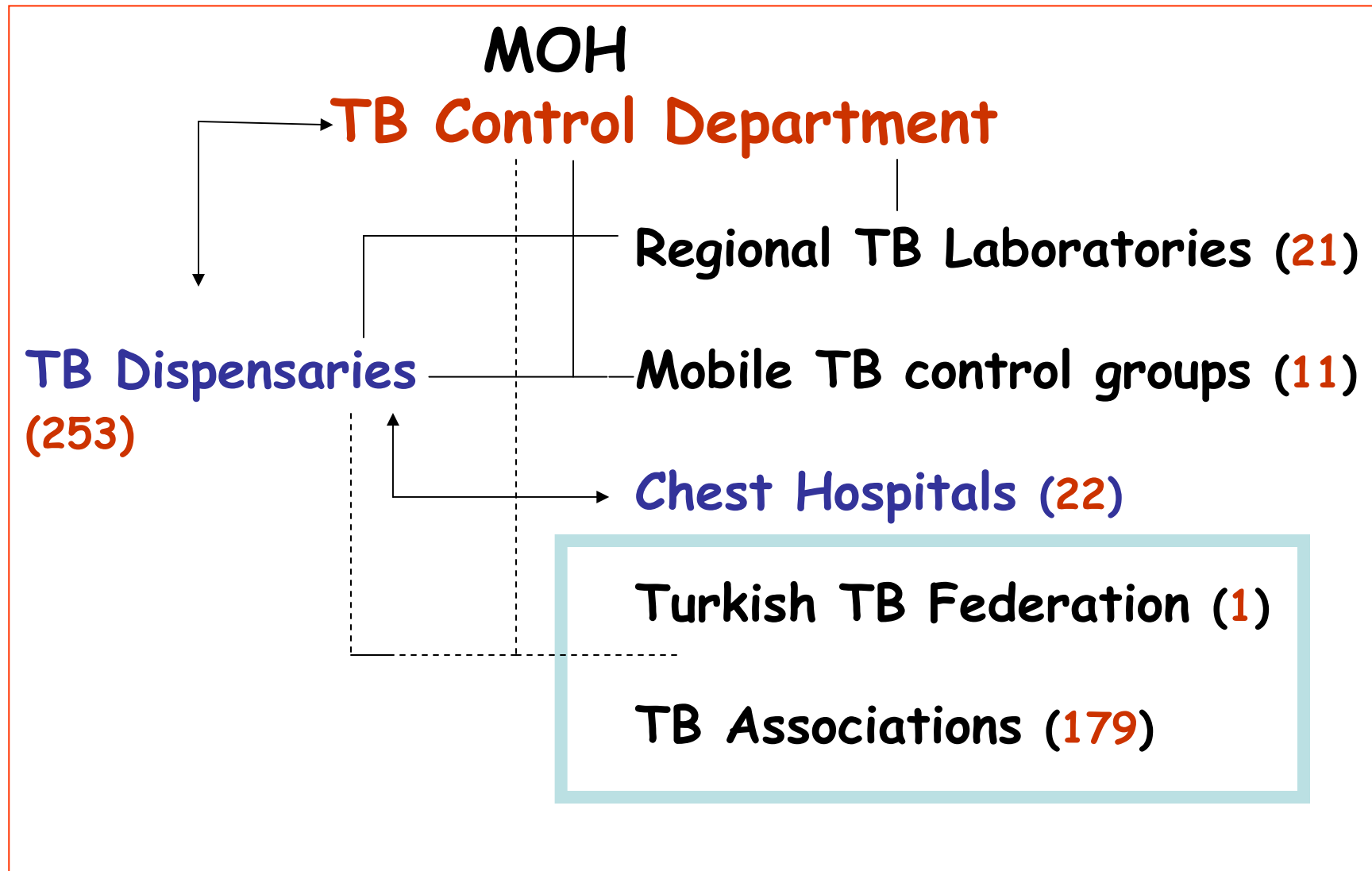
2.Özşahin SL ve ark. (XXIII. National Tuberculosis and Chest Diseases Congress, Malatya 2003.

3.Kılıçaslan Z (unpublished study,2003)

HIV and Tuberculosis in Turkey

- 1515 HIV (+) and AIDS cases were reported to MOH between 1985 and 2003.
- There is no data about the co-infection of TB/HIV at the national level.
- The rate of HIV(+) TB patients is 0.08 % (5/6269) in Yedikule Chest Hospital, 1999-2002 (Unpublished data)

The Structure of TB Control Program in Turkey-1



NTP Budget- 2006

MOH	49.324.000 USD
NGOs	~1.000.000 USD

Budget categories of MOH

Human resources	65,5 %
Drugs, BCG, x-ray	22 %
Infrastructure, materials, others	12,5 %

Training-supervision-monitoring ?

Main Features of the National TB Program-1

- There is a new TB handbook prepared according to WHO TB guidelines.
- X-ray and bacteriologic examinations in TB dispensaries
- Short-course standardised chemotherapy

All new cases

2 HRZE(S)

4 HR

Relapse/Return after default

2 HRZES/1HRZE

5 HRE

Failure/Chronic

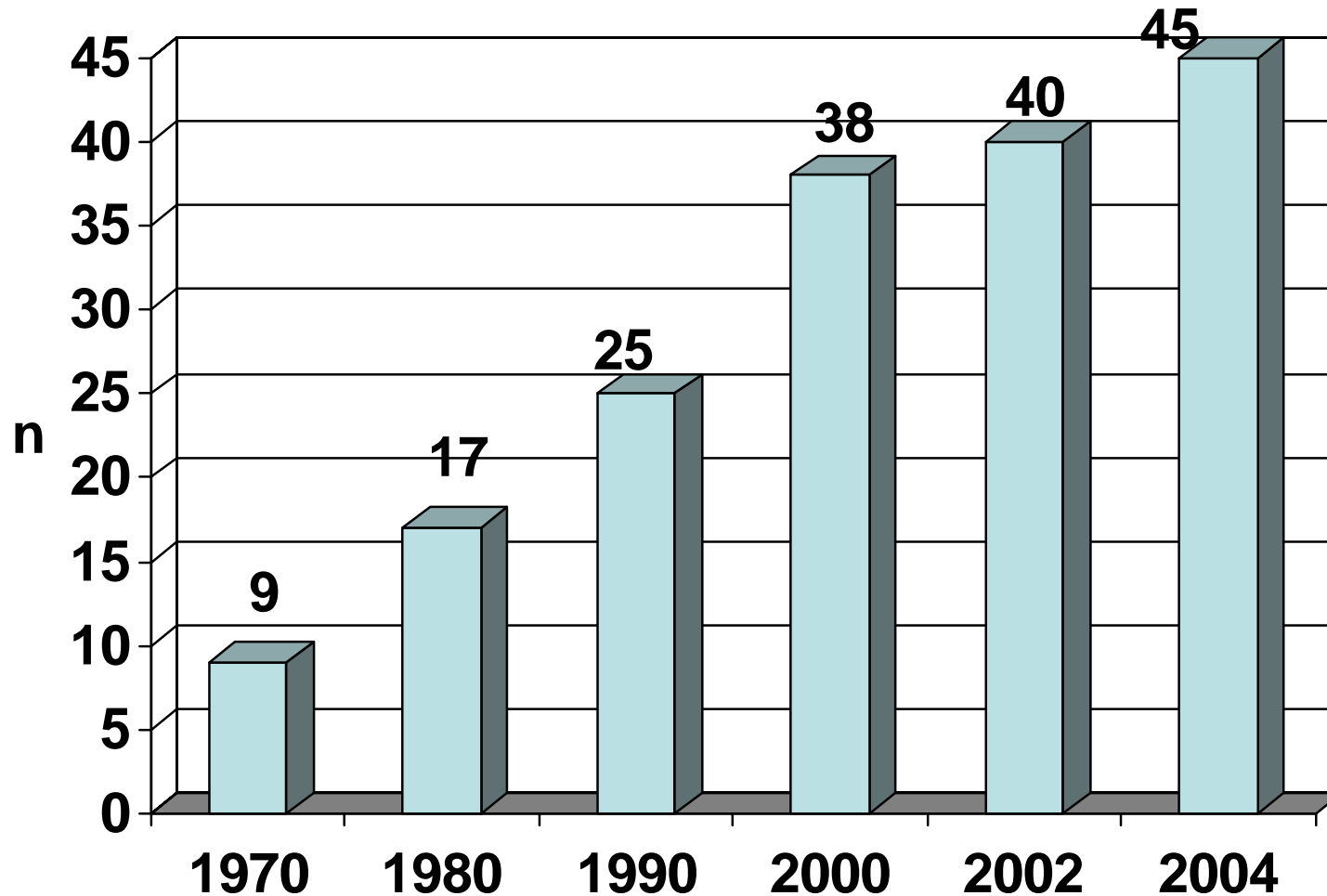
Individual therapy in specialised centre.

Main Features of the National TB Program-2

- Treatment is free of charge (Second-line drugs free only for reference hospitals since 2001)
- Ambulatory treatment with monthly dispensary control.
- BCG immunisation (two times) is mandatory.
- Investigation of close contacts.
- Prophylactic therapy in contacts under 15 years old.

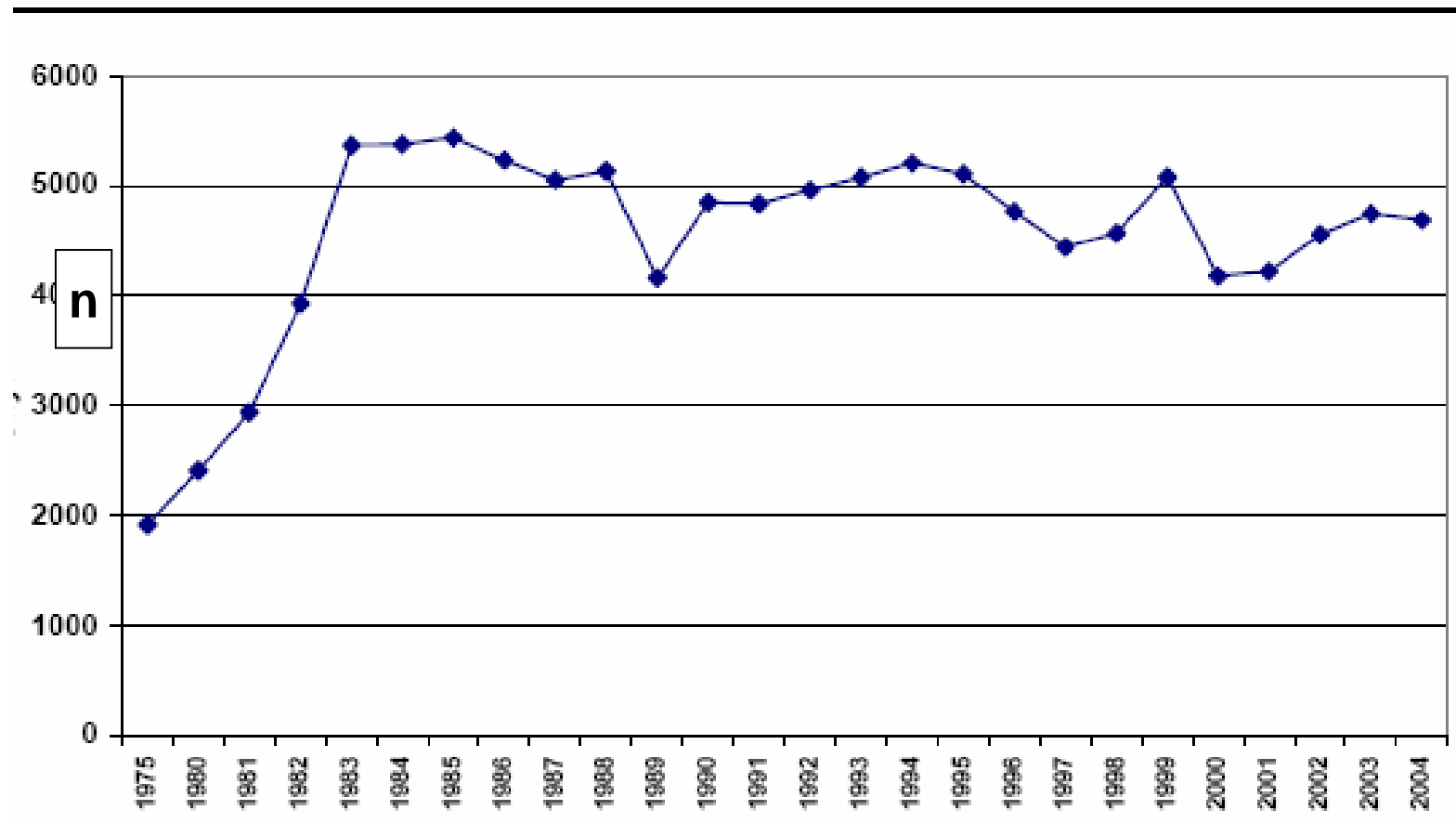
Medical Education in Turkey

Number of Medical Schools



Medical Education in Turkey

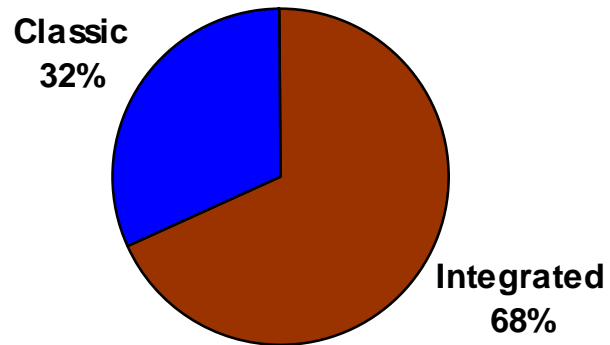
Number of students enrolled in medical schools, 1975-2004



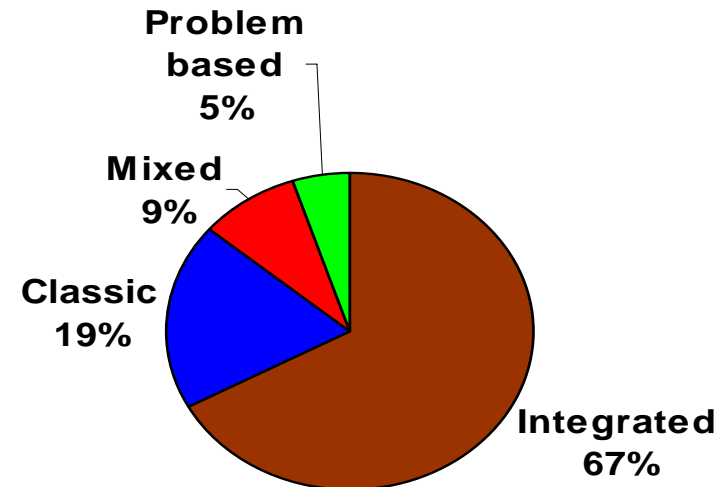
Medical Education Strategy in Turkey

Type of Curriculum

1997



2004



Medical Educations in Turkey

Assessment

- **Classic theoretical examination**

In the majority of medical schools

- **Assessment of clinical manner and practical abilities. OSCE (Objective Structured Clinical Examination)**

Only in a few medical school.

Tuberculosis Education in Turkey

- Microbiology at the 2nd and/or 3rd year
- Pathology at the 3rd year
- Chest medicine at the 4th or 5th year
- Public health at the 6th year (only in a few schools)

Tuberculosis Education in Turkey

Practical education in tuberculosis dispensaries- **only in a few faculties**

Tuberculosis education as an special course- **NO**

Structural relation with NTP-**NO**

Tuberculosis Education in Turkey

Istanbul Medical Faculty. Examination questions between 1998 and 2000 (1)

Only 9 of 23 objectives determined by WHO* for tuberculosis education are included.

* TB control and medical schools. WHO/TB/98.236, 1998

1. Evaluation of undergraduate training on tuberculosis at Istanbul Medical School. Kilicaslan Z. Int J Tuberc Lung Dis 7(2):159-164 2003

Tuberculosis Education in Turkey

Istanbul Medical Faculty, examination questions between 1998 and 2000 (1)

- 77.8% of questions are about clinical-radiological findings and drug informations.

1.Evaluation of undergraduate training on tuberculosis at Istanbul Medical School. Kilicaslan Z. Int J Tuberc Lung Dis 7(2):159-164 2003

Tuberculosis Education in Turkey

Interns interpreted 40.4% of AFB positive smears as false-negative

and

25.9% of negative smears as false-positive.

Evaluation of undergraduate training on tuberculosis at Istanbul Medical School. Kilicaslan Z. Int J Tuberc Lung Dis 7(2):159-164 2003

Tuberculosis Education in Turkey

Evaluation of examination questions about TB at 10 medical schools which contain 37.5% of medical students in Turkey, in 2005

206 questions

57 (27,7%) about priorities of NTP

73 (35.4%) clinic, radiology, pathology and immunology

29 (9.7%) drug side effects

48 (23.3%) PPD-contact-prophylaxis-BCG

Tuberculosis Education/Knowledge in Turkey-1

Median delay in the diagnosis and treatment of tuberculosis in Turkey is very long. (1,2)

1.Yurdakul AS, et al. Solunum Hastalıkları 2000; 11:

2.Yılmaz A, et al. Respir Med 2001; 95: 802-805.

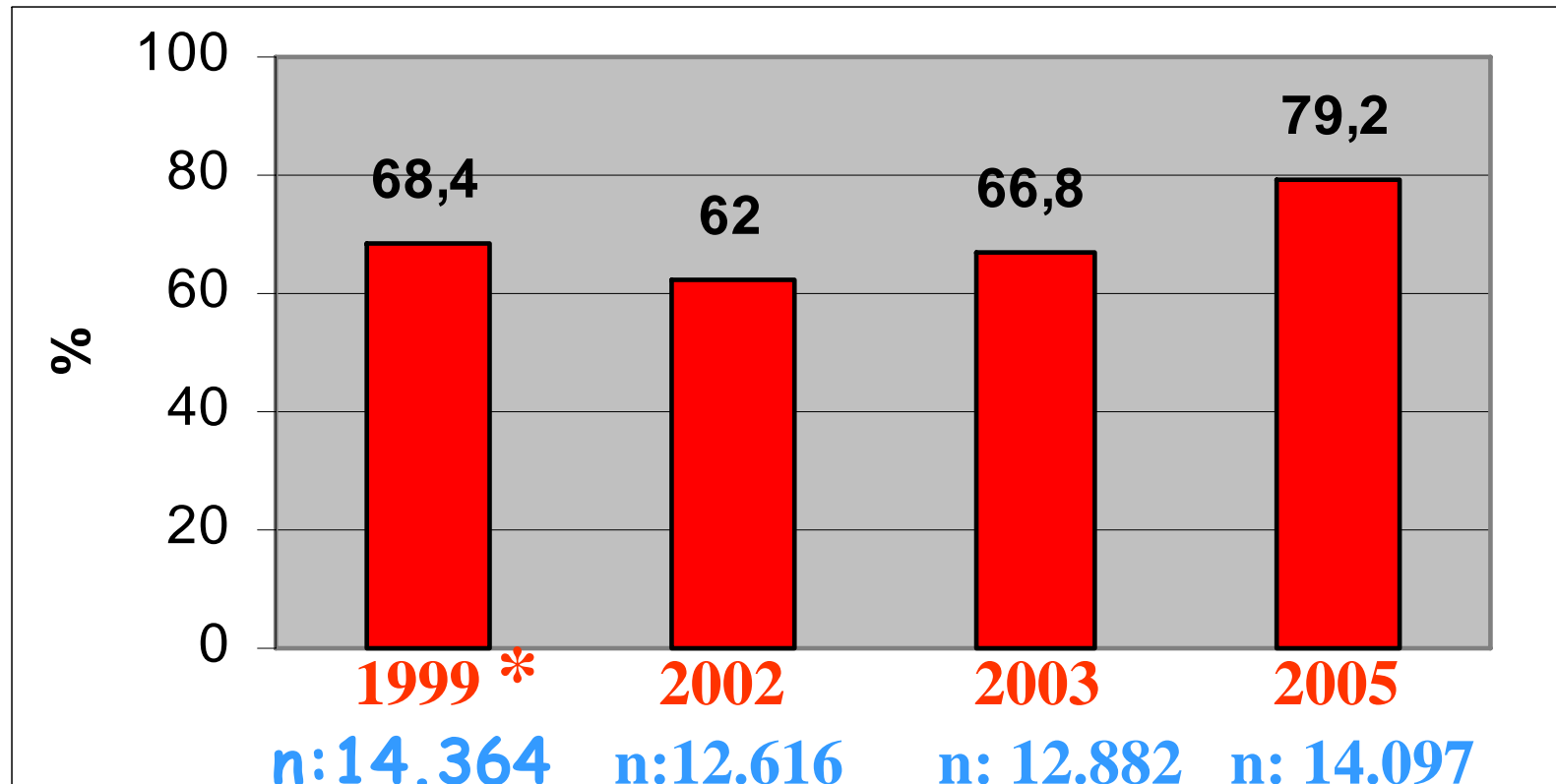
Tuberculosis Education/Knowledge in Turkey-2

Accurate treatment choice in new cases: 30,8%

(208 doctors)

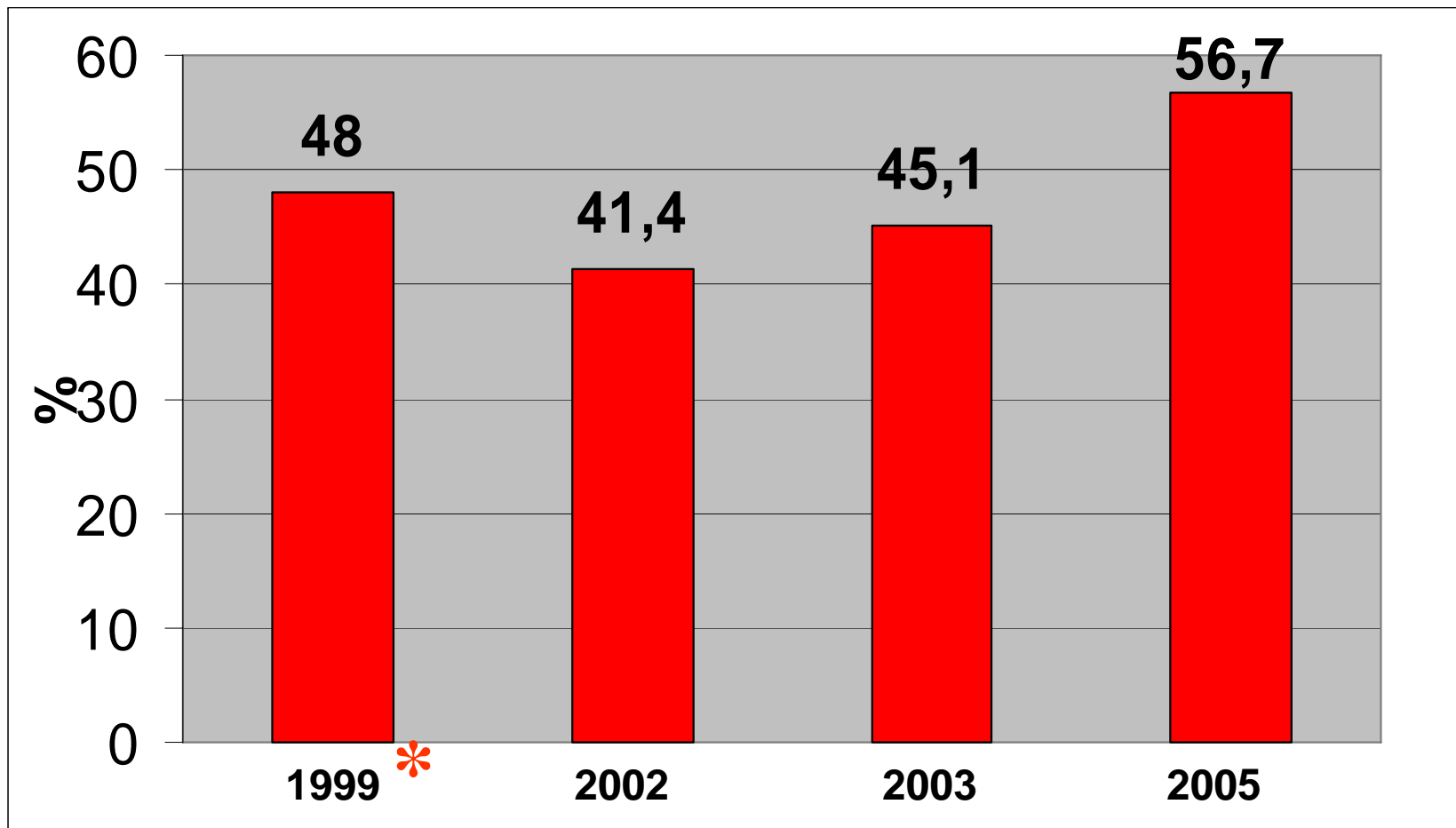
Cirit M, Orman A, Unlu M. Int J Tuberc Lung Dis. 2003; 7(3): 243-7.

Bacteriologic examination in pulmonary TB



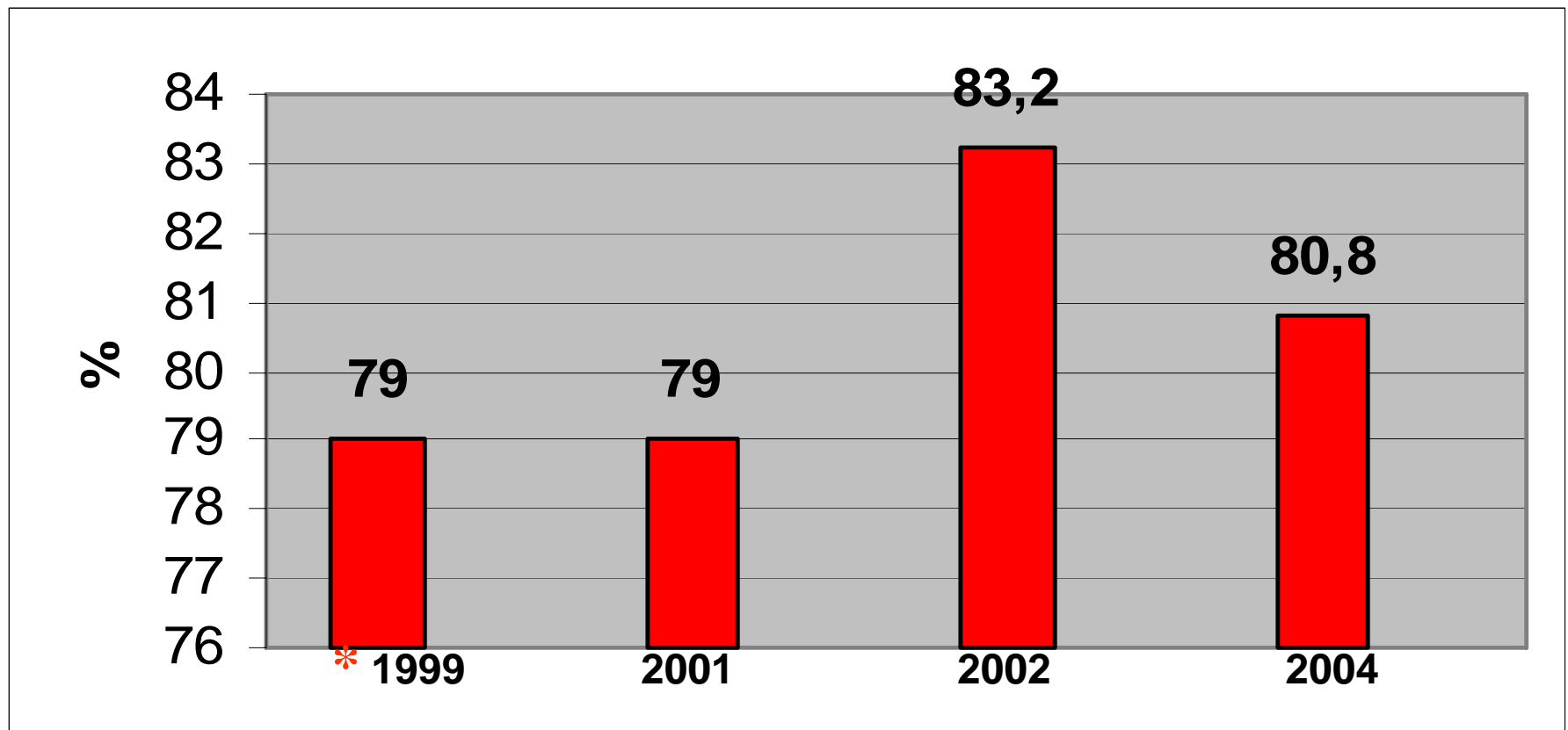
* a retrospective study based on medical report

Positive smear rate in Pulmonary TB Cases



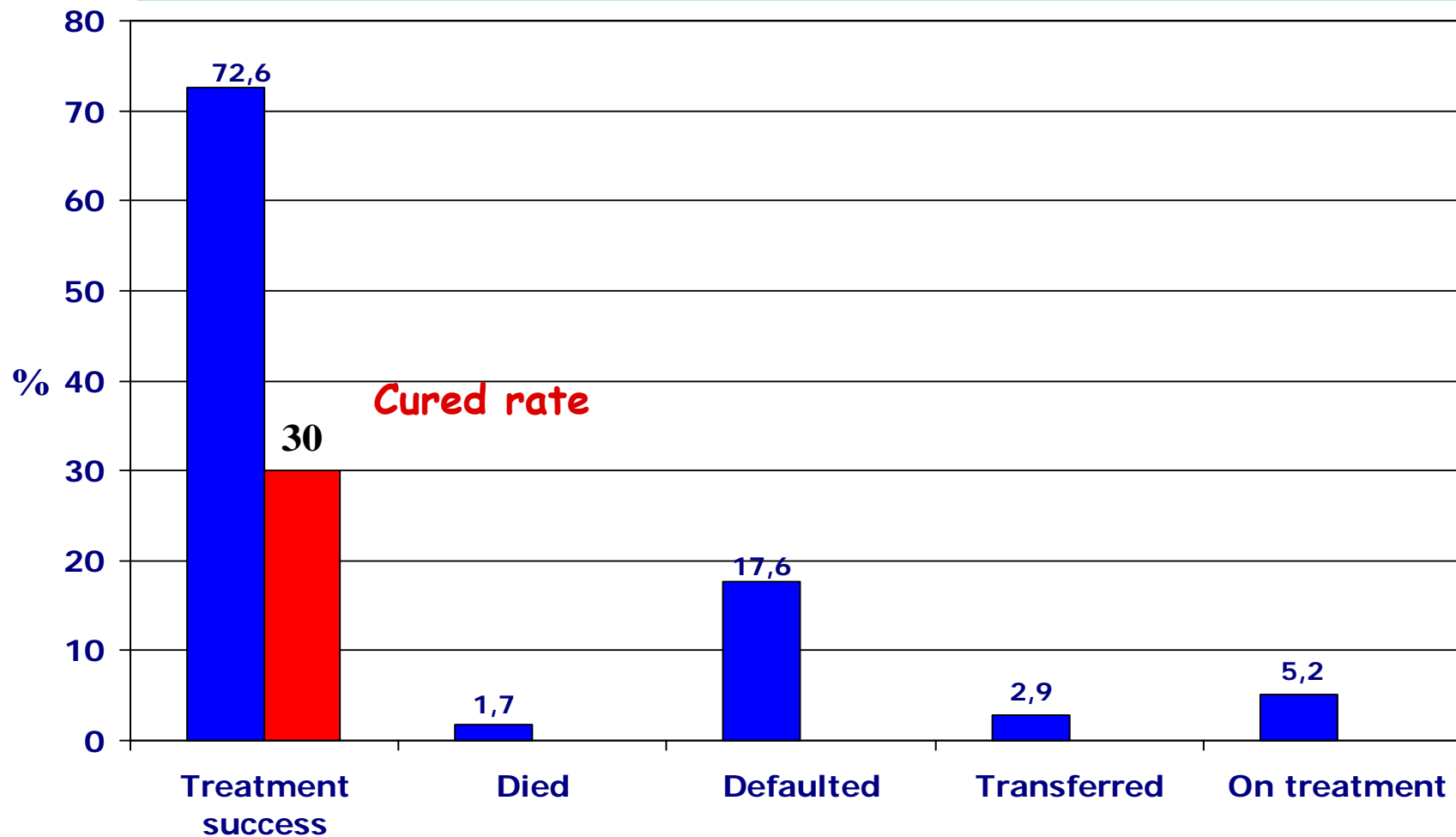
* a retrospective study based on medical report

Treatment success rate in new pulmonary TB cases



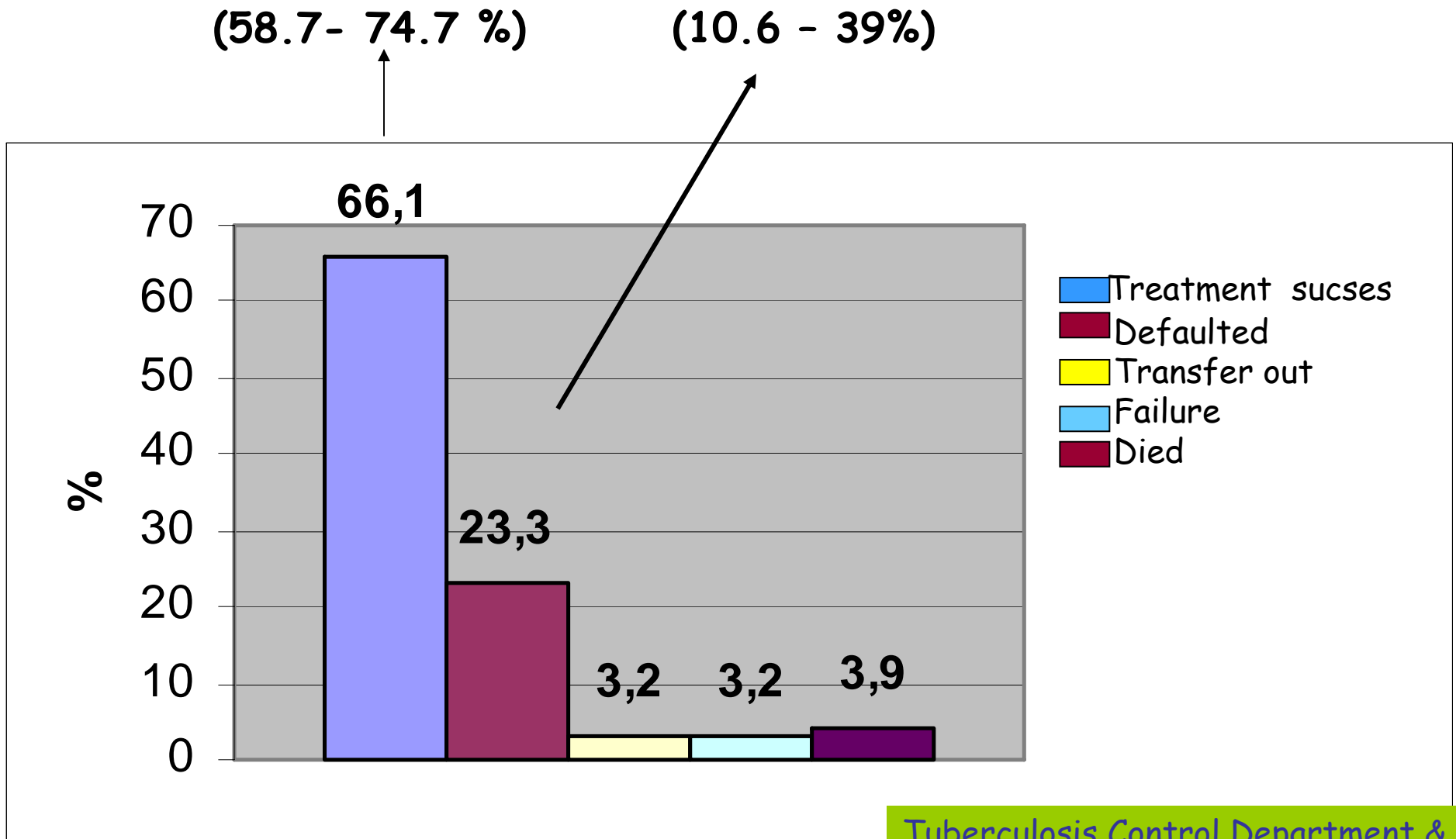
*a retrospective study based on medical report data

Treatment outcomes among new smear (+) cases-2003



Treatment Outcomes in "Old" TB Cases, 1999

(n:1.658)



Tuberculosis Control Department & Turkish Anti-TB Federation

Drug resistance in Turkey

- No drug resistance survey in Turkey
- Results from Central Laboratory of Istanbul Society Against Tuberculosis, 1999

	New Cases (n)	%	Old cases (n)	%
R to at least one drug	209	19.9	131	40.4
MDR	33	3.1	60	18.5
Total	1046	100	324	100

WHO's new Stop TB Strategy

***Improvement of whole health system**

***A small amount of patients are getting diagnosed and treated properly. All service providing associations must be improved.**

***Importance of medical education !!**

*Mario C Raviglione, Mukund W Uplekar. Lancet
2006; 367: 952-55*

The Pioneer Role of Doctors in Tuberculosis Control

- If the doctors are inadequate, DOTS will fail.
- Tuberculosis is a problem of public health and has priority.
- **Medical faculties have to take responsibility !**

Transition to DOTS in Turkey

According to WHO suggestions, pilot studies have been started in Turkey in 2003, but expansion of DOTS could not be achieved.

However DOT has been started in many regions of Turkey with the help of local efforts.

Transition to DOTS in Turkey

In 2006, Turkish NTP has been reviewed by WHO European region
(evaluation is still continuing)

And now,

It is time to take serious steps for expansion of DOTS.

Revision TB Education in Turkey

- TB education must be revised in the directions of NTP and cooperation with national speciality associations.
- We need a National Tuberculosis Curriculum Consortium !

Conclusions

- In Turkey, TB education curricula is currently based on TB as a "disease" rather than "TB control".
- As we are recently implementing DOTS as a National Strategy, TB education should be revised considering the priorities of TB control.



THANK YOU