

THE EMERGENCE OF UNTREATABLE TB

The South African Experience

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A view of downtown Durban from the waterfront



A view of down town Tugela Ferry from rondavel



Identification of XDR-TB at Church of Scotland Hospital, Tugela Ferry, 2005



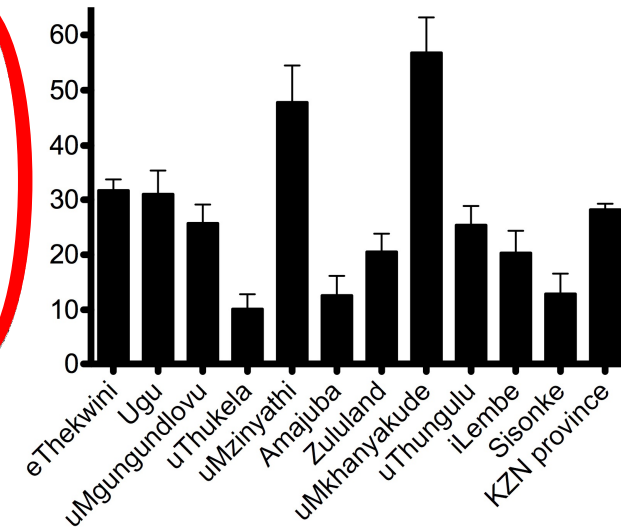
XDR-TB outbreak in Tugela Ferry, KwaZulu-Natal

Gandhi Lancet 2006

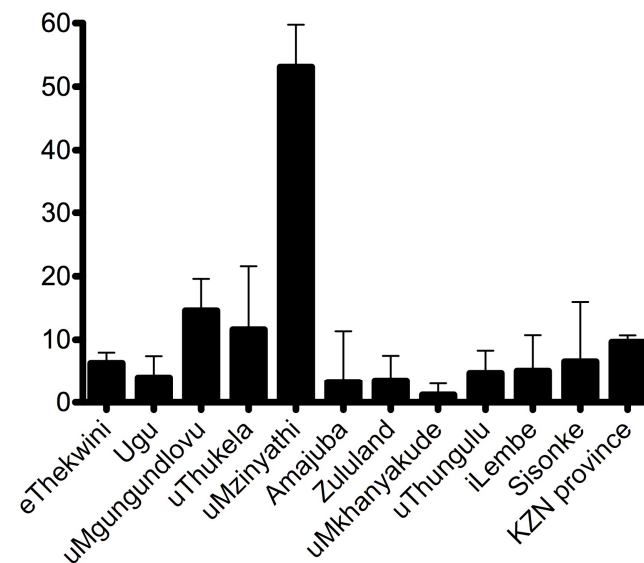
DISTRIBUTION OF DRUG RESISTANCE IN KWAZULU-NATAL



MDR TB / 100,000



XDR/MDR (%)



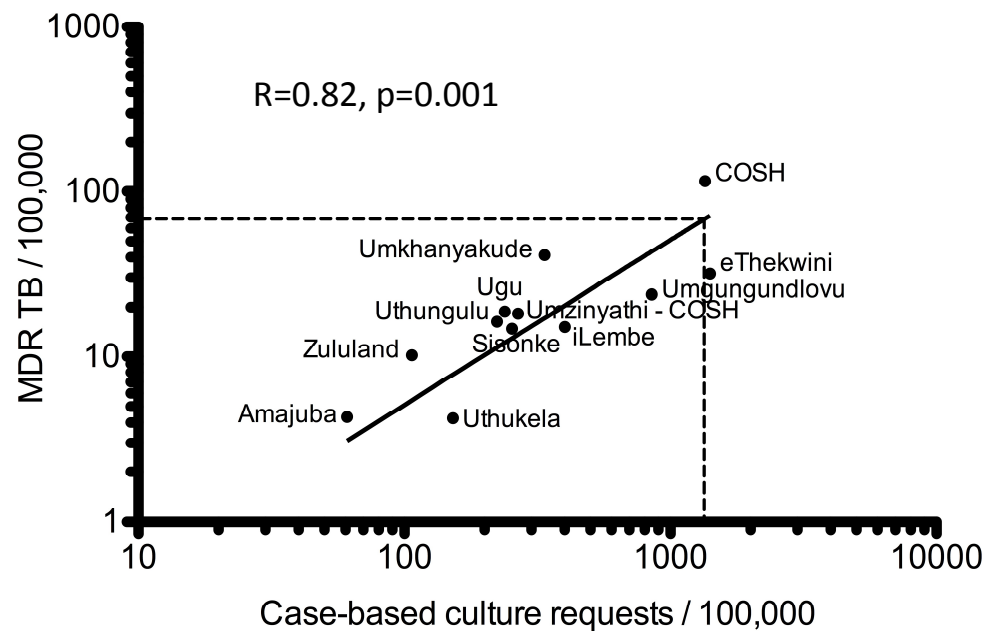
K. Wallengren, EID 2011

KZN	Nr of cases	Incidence	Prevalence
TB	120 000	1 200 / 100 000	
MDR	2800	30 / 100 000	2.5% of all TB
XDR	270	3 / 100 000	10% of MDR
TDR	240		88% of XDR

Paediatric	Nr of cases	Incidence	Prevalence
TB	17 000	520 / 100 000	14% of all cases
MDR	153	4 / 100 000	5.5% of all cases
XDR	9	0.2 / 100 000	3.5% of all cases
TDR	7		

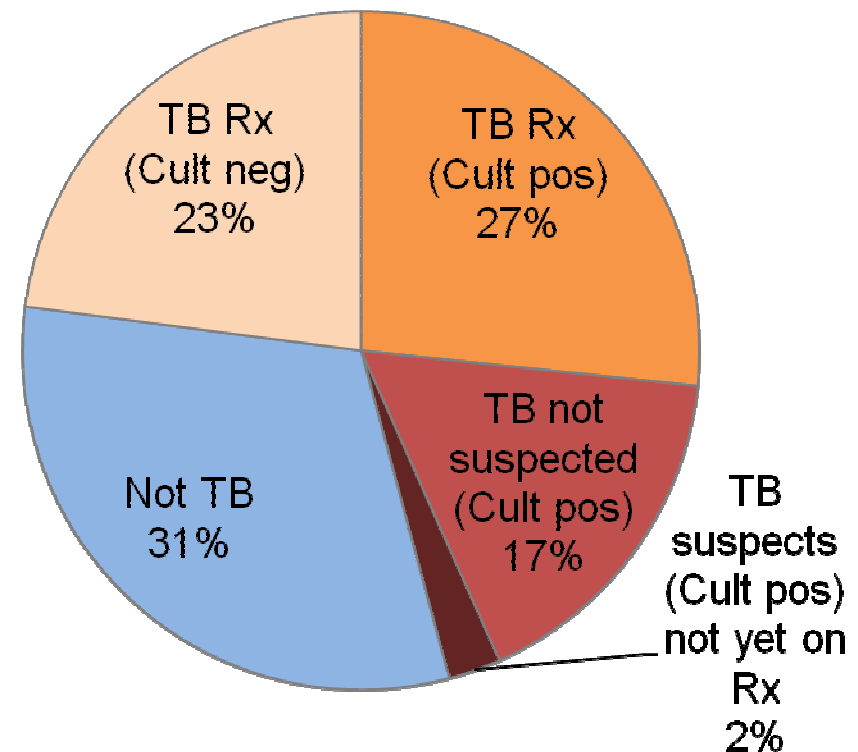
TB AND M/XDR TB COULD BE HIGHER THAN ESTIMATED

CULTURE TAKING PRACTICE VS
IDENTIFIED LEVEL OF MDR TB



Wallengren et al. EID, 2011

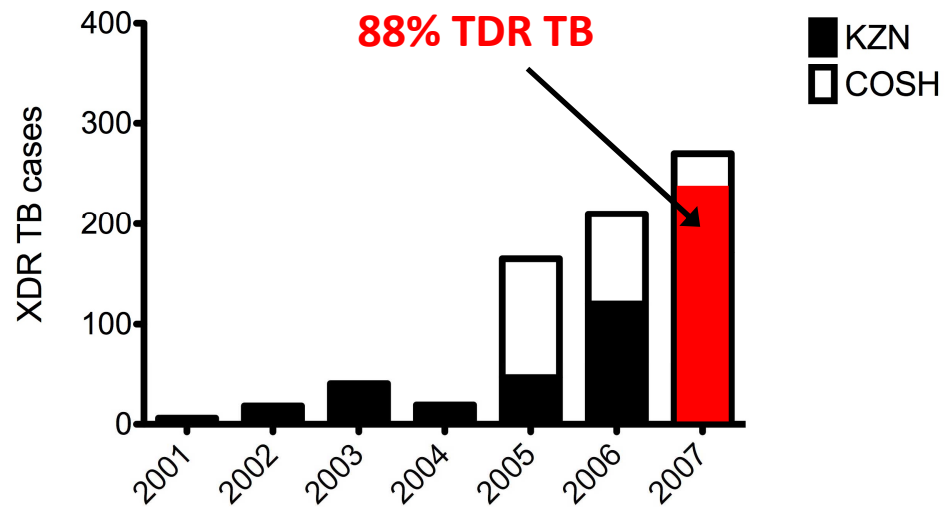
POST MORTEM STUDY (N=240)



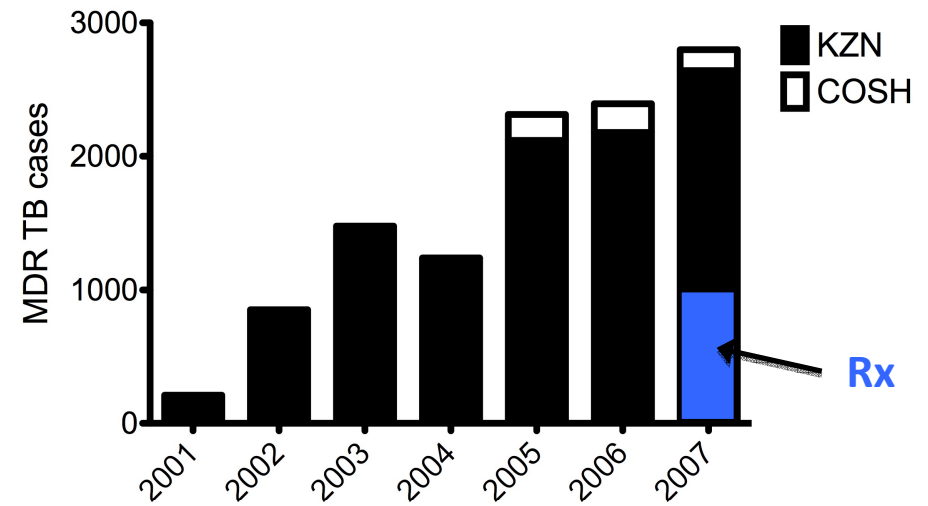
Cohen et al. PLoS Med, 2010

INCREASE OF DRUG RESISTANT TB IN KZN

XDR TB cases



MDR TB cases



K. Wallengren, EID 2011





Why?



Increase in MDR TB due to poor supervision of treatment



Ideal conditions for XDR TB to spread



Injection Team delivering MDR TB treatment in patient's homes

THANK YOU

Acknowledgment

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King George V Hospital
Church of Scotland Hospital



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Pictures: Jonas Steengaard

Situational analysis report available online: <http://arxiv.org/abs/1107.1800>

TREATMENT REGIMENS FOR DR-TB IN KWAZULU-NATAL

MDR

6/12 months injectable (minimum)

Kanamycin (Amikacin)

Ofloxacin

Ethionamide

Terizidone (with Pyridoxine)

Pyrazinamide

+/- Ethambutol

18 months (minimum)

Ofloxacin

Ethionamide

Terizidone (with Pyridoxine)

Pyrazinamide

+/- Ethambutol

XDR

6/12 months injectable (minimum)

Capreomycin

Moxifloxacin

Ethionamide

Terizidone (with Pyridoxine)

Pyrazinamide

PAS

Clofazamine

18 months (minimum)

Moxifloxacin

Ethionamide

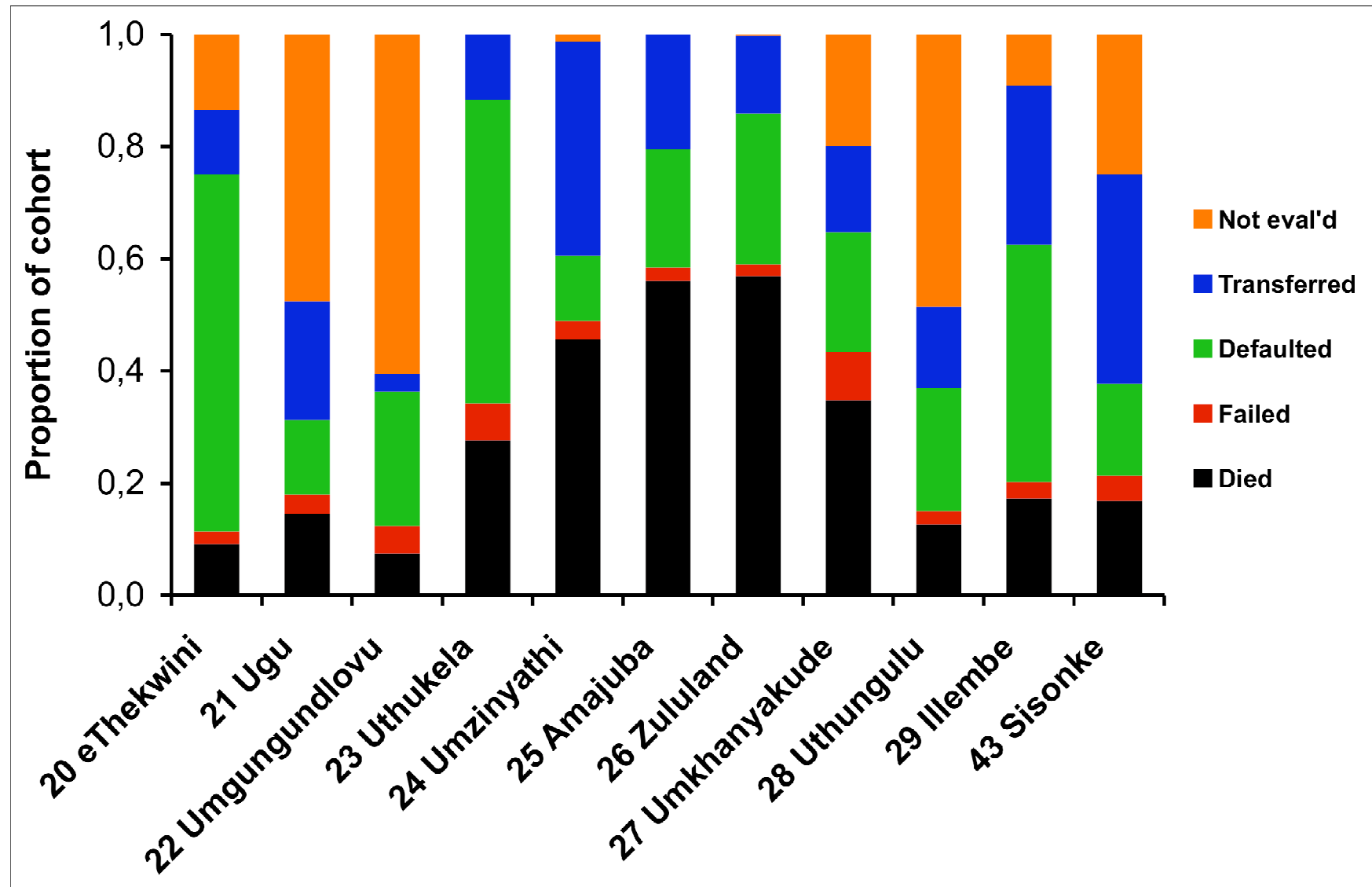
Terizidone (with Pyridoxine)

Pyrazinamide

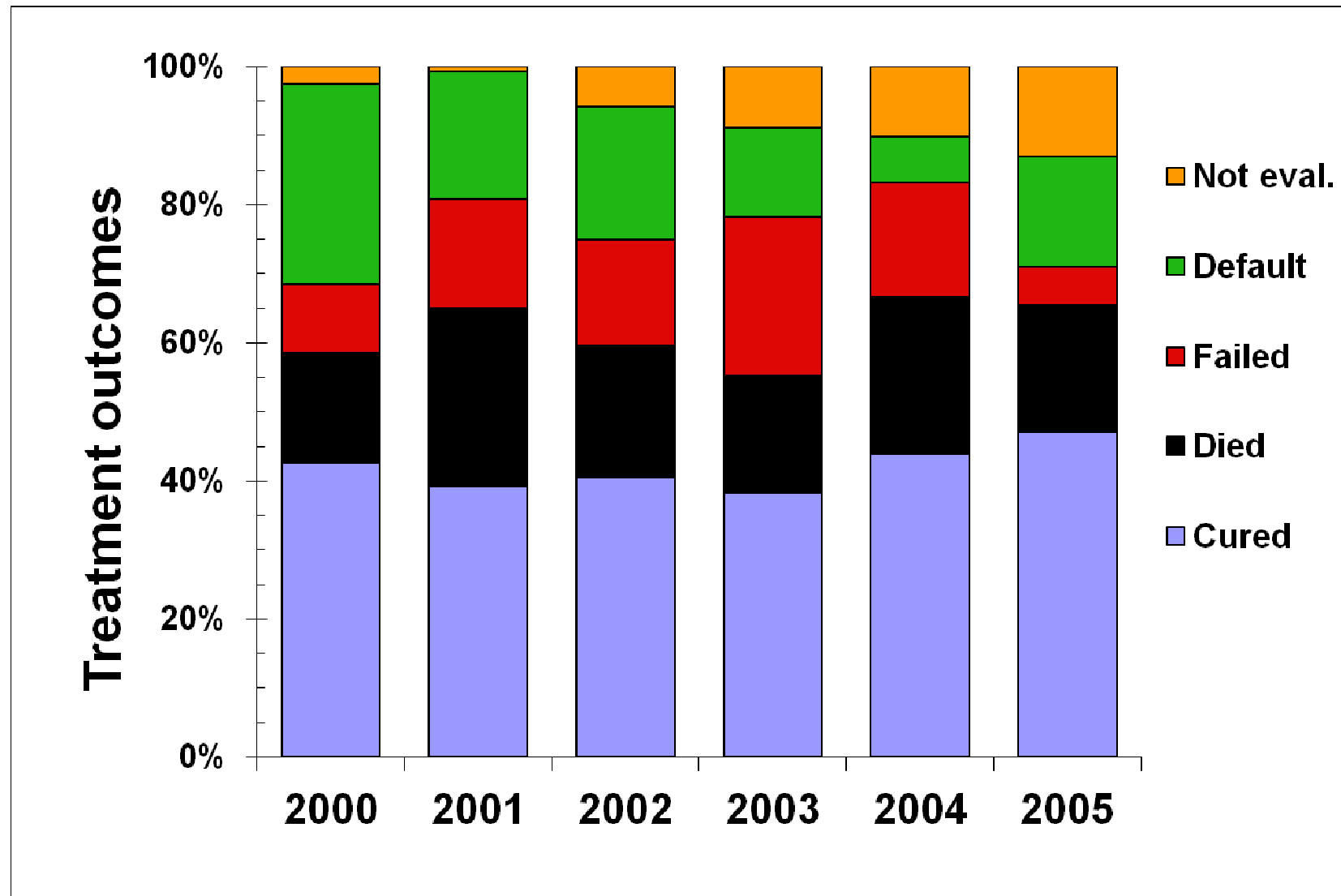
PAS

Clofazamine

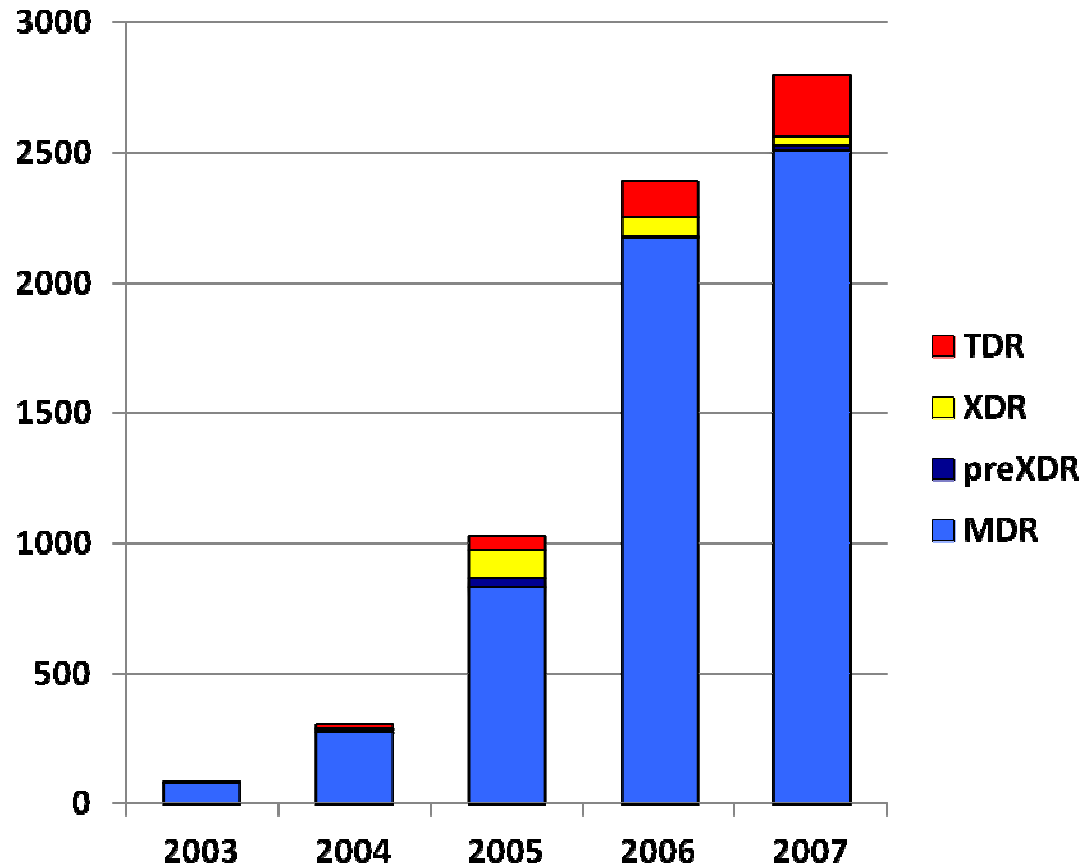
POOR OUTCOMES OF TB TREATMENT IN NEW CASES



MDR TB TREATMENT OUTCOMES AT KGV



“TOTALLY” DRUG RESISTANT TB IN KZN



TDR = resistant to INH,
RIF, STR, ETA, CIP, KAN

KZN, 2007:
88% of XDR was TDR

uMzinyathi district
(Tugela Ferry)
93% (95CI 87-97%) TDR