



# **Routine MDR surveillance: an essential component of national TB control**

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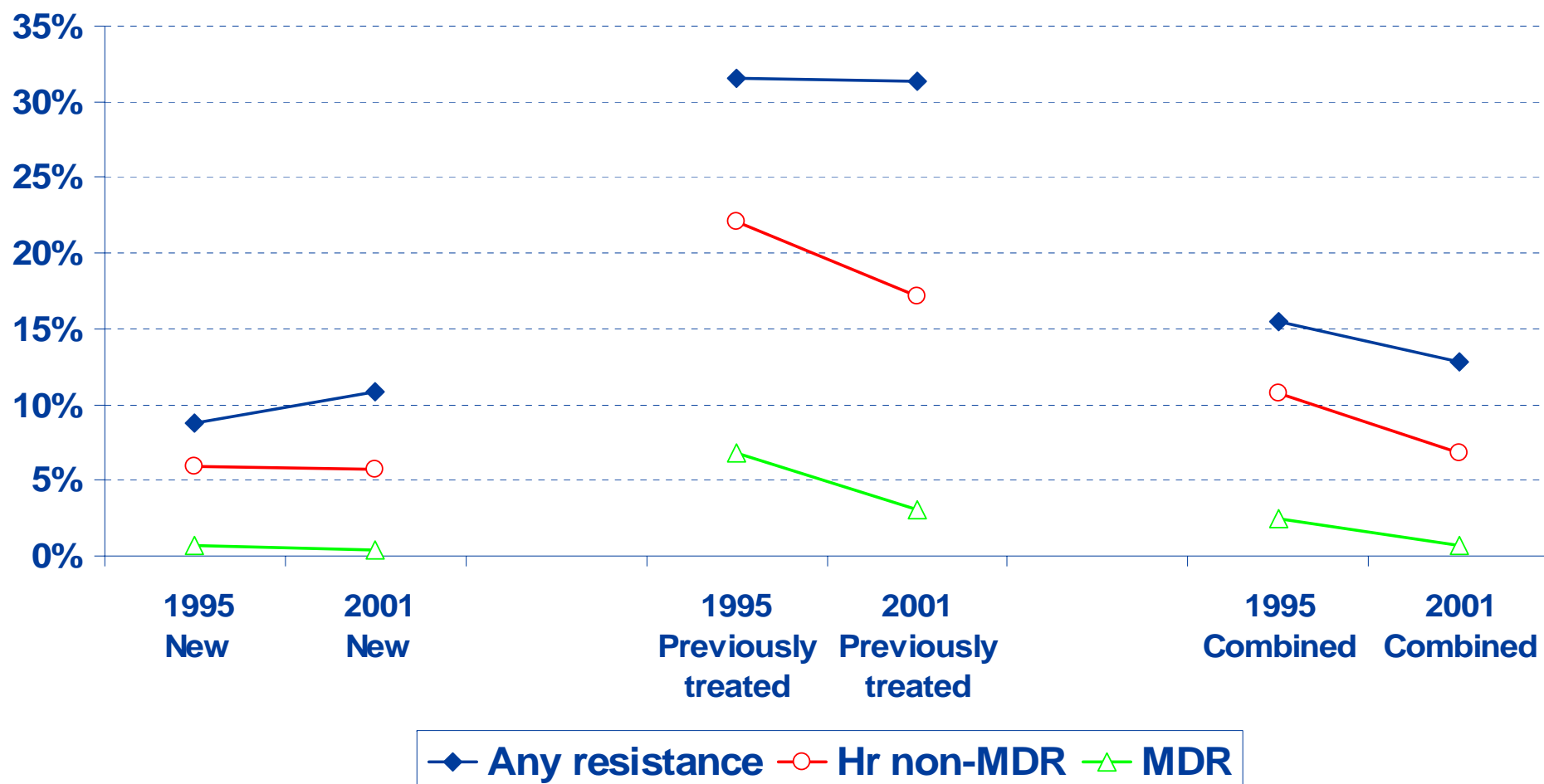
The Union

# Why monitor drug resistance?

- Epidemiological information
  - traditional approach: surveys among new smear+
  - point prevalences; trends difficult to see
  - all first-line drugs (except PZA)
- More important: trends and NTP performance; MDR-TB diagnosis
  - switch to 6-month regimens: RMP?
  - rarely feasible with traditional approach
    - excessive burden on reference lab
    - limited & varying coverage
    - lab variations
    - inefficient



## Evolution of drug resistance by type of patient DF Bangladesh, 1995-2001

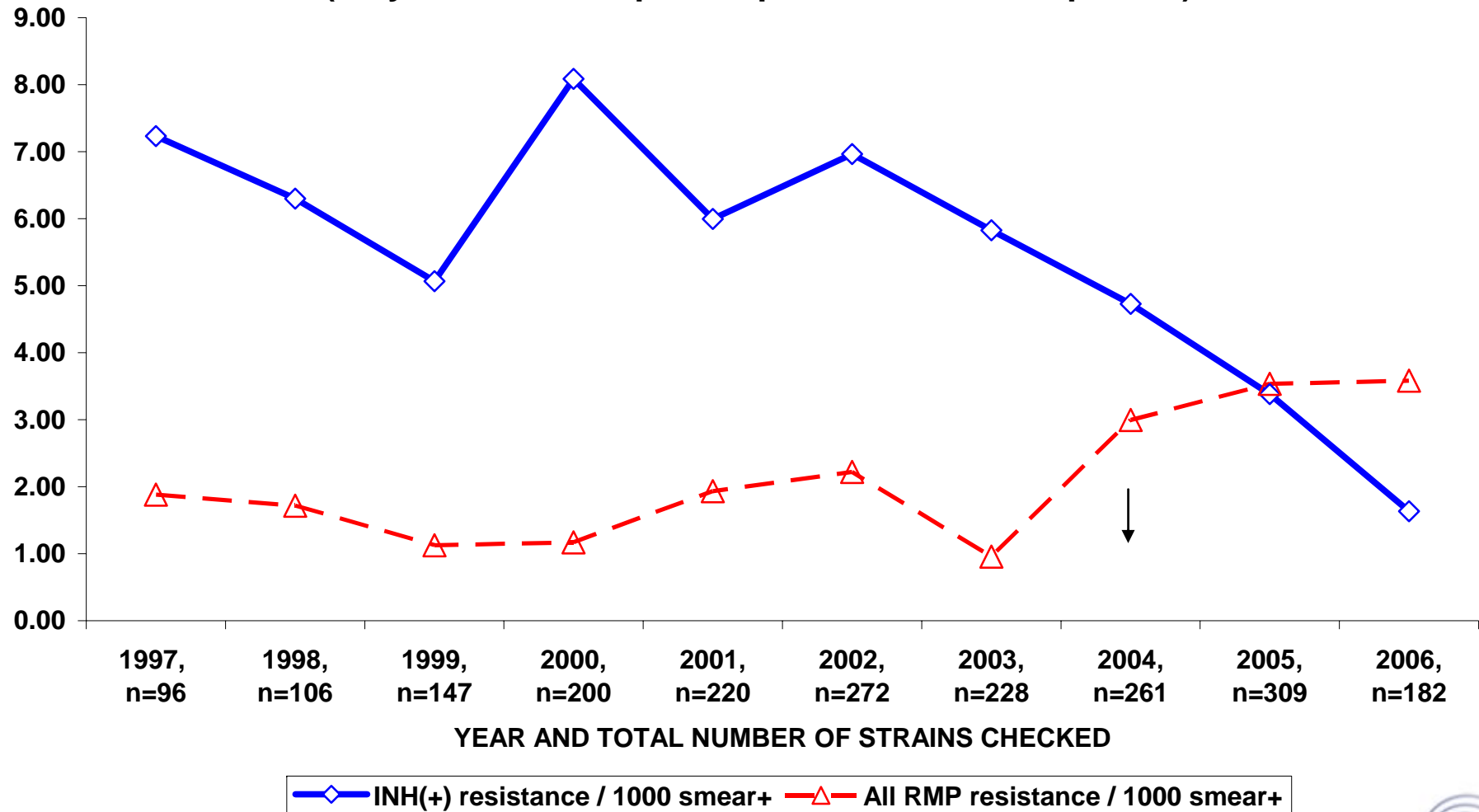


# Efficient DRS

- Focused on retreatment cases
  - first-treatment failures and relapses
    - NOT a proxy for acquired drug resistance
    - mainly concentrate of primary drug resistance
    - trends monitoring: mix primary / acquired
  - better geographic coverage possible
    - continuous, workload spread out (lab)
    - just needs good organisation, sensibilisation
  - main drugs only
    - RMP: decisive for first-line outcome
    - INH: useful mainly with 8-month regimens
    - other drugs less important & less accurate tests



**DF B.DESH: INCIDENCE OF RESISTANCE IN CAT. 1 FAILURE AND RELAPSE ISOLATES, PER 1000 SMEAR-POSITIVES REGISTERED (only 1 treatment episode per RMP-resistant patient)**

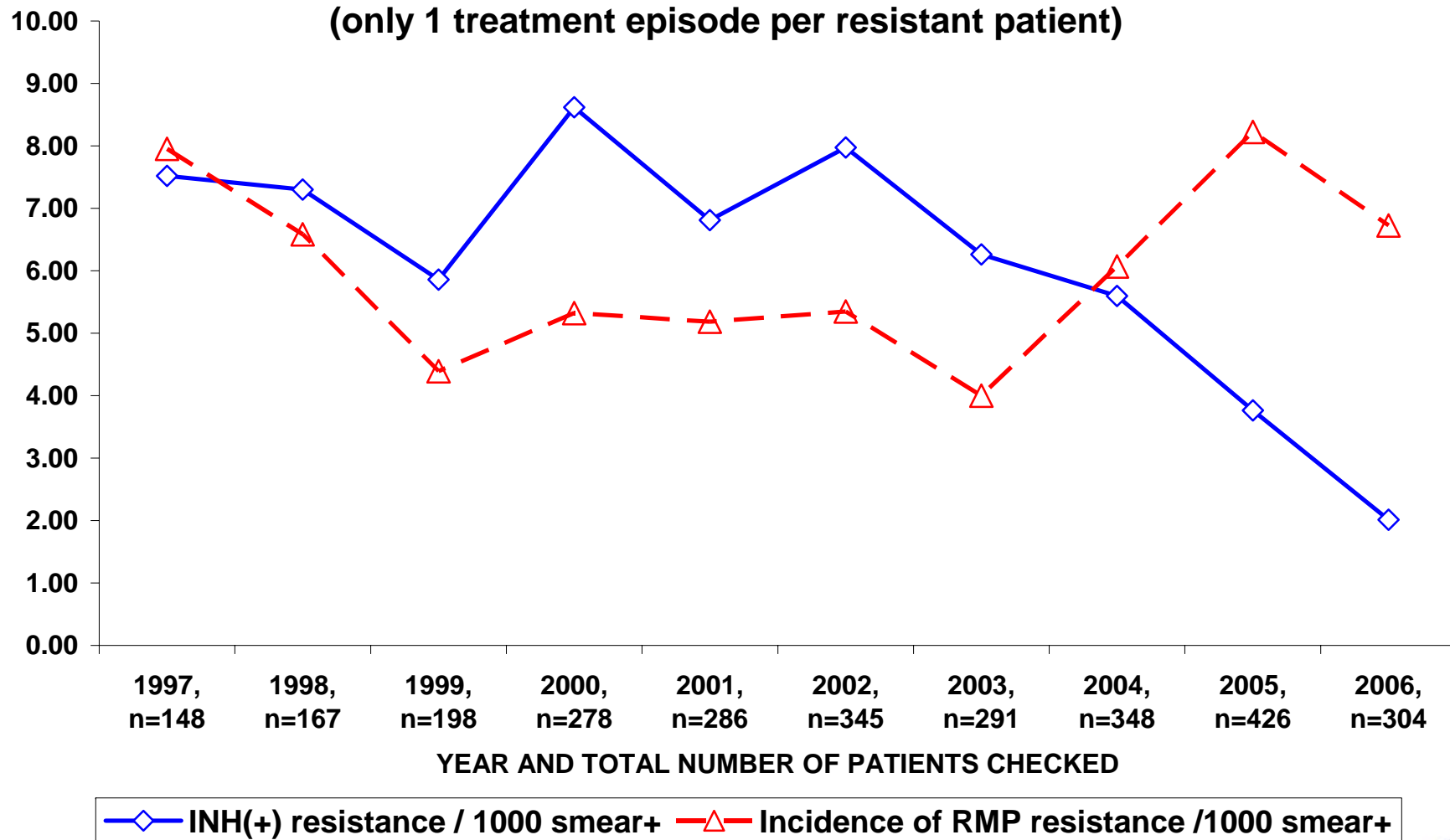


## Efficient DRS (2)

- Cat. 2 failures and relapses
  - mainly for individual MDR-TB diagnosis (RMP)
  - failures almost all MDR: no need to wait for result
  - relapses
    - around 50% MDR
    - difficult: low-level RMP resistance! Genetic tests!
  - FQ & injectables
    - monitor second-line resistance and XDR-TB
    - only in this group: avoid excessive false resistance
  - can be combined with first-treatment monitoring:  
global effect of NTP interventions



**DF B.DESH: TREND OF RESISTANCE IN CAT. 1+2 FAILURES & RELAPSES,  
PER 1000 SMEAR-POSITIVES REGISTERED  
(only 1 treatment episode per resistant patient)**



# Pitfalls and questions remaining

- Patient selection
  - best systematic: all failures & relapses
    - NO selection by clinicians
    - few accessible sentinel centres acceptable
  - include patients only once
    - at start of re-treatment episode
      - exact timing of “failure” declaration?
      - earlier than 4-5 months: negative cultures; transient resistance?
    - combining trend Cat. 1 + 2: count only once if resistant



# Pitfalls and questions remaining (2)

- Best denominator ??
  - NOT all DST done for a cohort
  - NOT all patient treatment episodes with DST done
  - all registered smear-positive cases (cohort-wise)?
  - whole population of the area?
- Influence of lab quality variations ?
- Influence of coverage variations ?
- Influence of reinfection (versus relapse) ?
- How to account for private sector?

