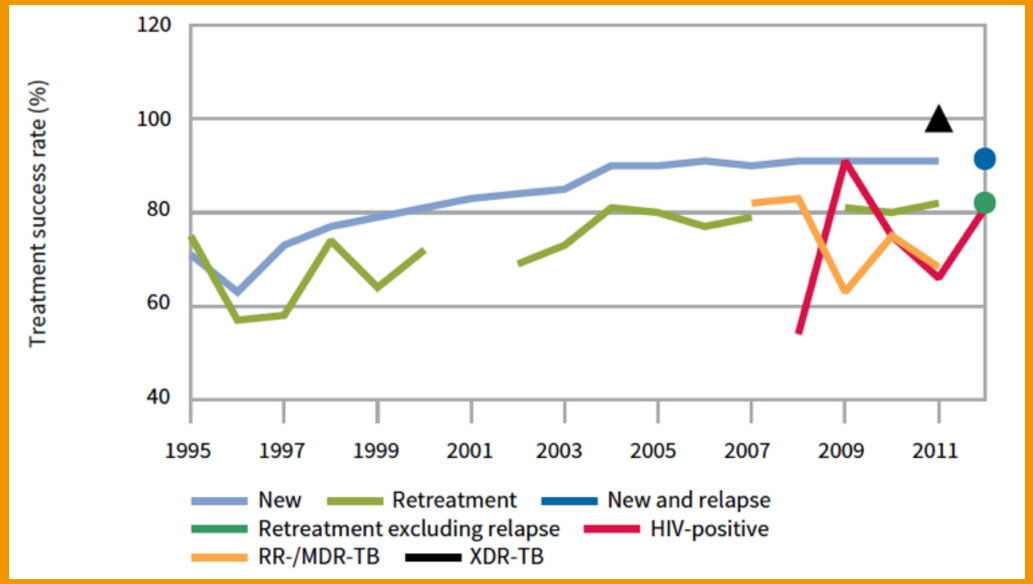
Child TB Bangladesh

Khurshid Talukder
Centre for Woman and Child Health

5th highest burden country



TB case notifications 2013

	NEW[b]	RELAPSE
Pulmonary, bacteriologically confirmed	105 539	2 869
Pulmonary, clinically diagnosed	42 394	0
Extrapulmonary	33 704	0

Total new and relapse	**184 506**
Previously treated, excluding relapses	6 385
Total cases notified	**190 891**

Among 181 637 new cases:

5 051 (3%) cases aged under 15 years; male:female ratio: 1.5

Missed opportunities for diagnoses

- No contact tracing
- No IYCF or growth monitoring
- ARI brains
- NTP focus on sputum
- MCH services unaware

Significant features of children with +CXR with TB

1. Contact +
2. Increased duration of cough
3. TST positive

Chishti 2013

Parameters	Classification of TB			P value – compare Confirmed TB to Not TB
	Confirmed n = 27 n (%)	Not confirmed (probable) n = 60 n (%)	Not TB n = 298 n (%)	
Age in months (median, IQR)	14.0 (6.0, 24.0)	11.0 (6.0, 16.0)	9.0 (4.9, 18)	0.12
Male	18 (67)	35 (58)	166 (56)	0.37
Low socio-economic status	24 (89)	50 (83)	250 (84)	0.78
Reported household TB contact	5 (19)	8 (13)	1 (0.3)	<0.01
BCG immunization	23 (85)	56 (93)	252 (85)	1.0
Cough present	25 (93)	63 (93)	254 (85)	0.39
Duration of cough in days (median, IQR)	7 (3.5, 8.0)	5 (4, 7)	5 (3, 7)	0.05
Bacterial isolates in blood	0 (0)	6 (10)	12 (4)	0.61
TST positive	6 (22)	56 (93)	3 (1)	<0.01

CWCH

How much child TB is there in Bangladesh?

	NTP 2007	Damien 2008	Madhupur 2008-09
	n=49 million	n=9.4 million	n=150,000
All types	9	6	52
SS +	2	3	7
SS -			39
Extrapulmonary			6

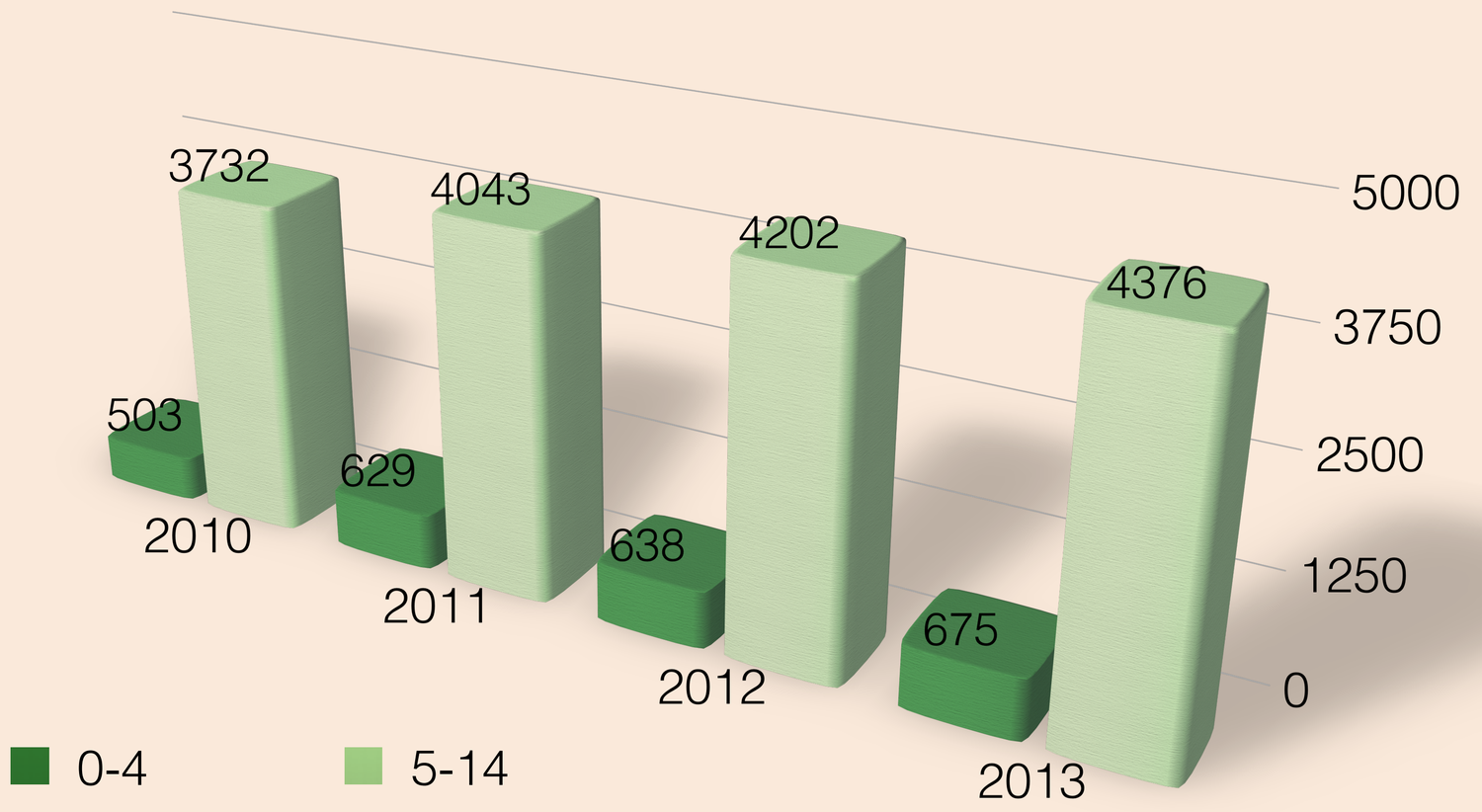
Thus potentially in 2008….

52x 48,608,812 = **25,277** children could have
100,000
been diagnosed with TB

Whereas the NTP actually diagnosed

9 x 48,608,812 = **4,375** children
100,000

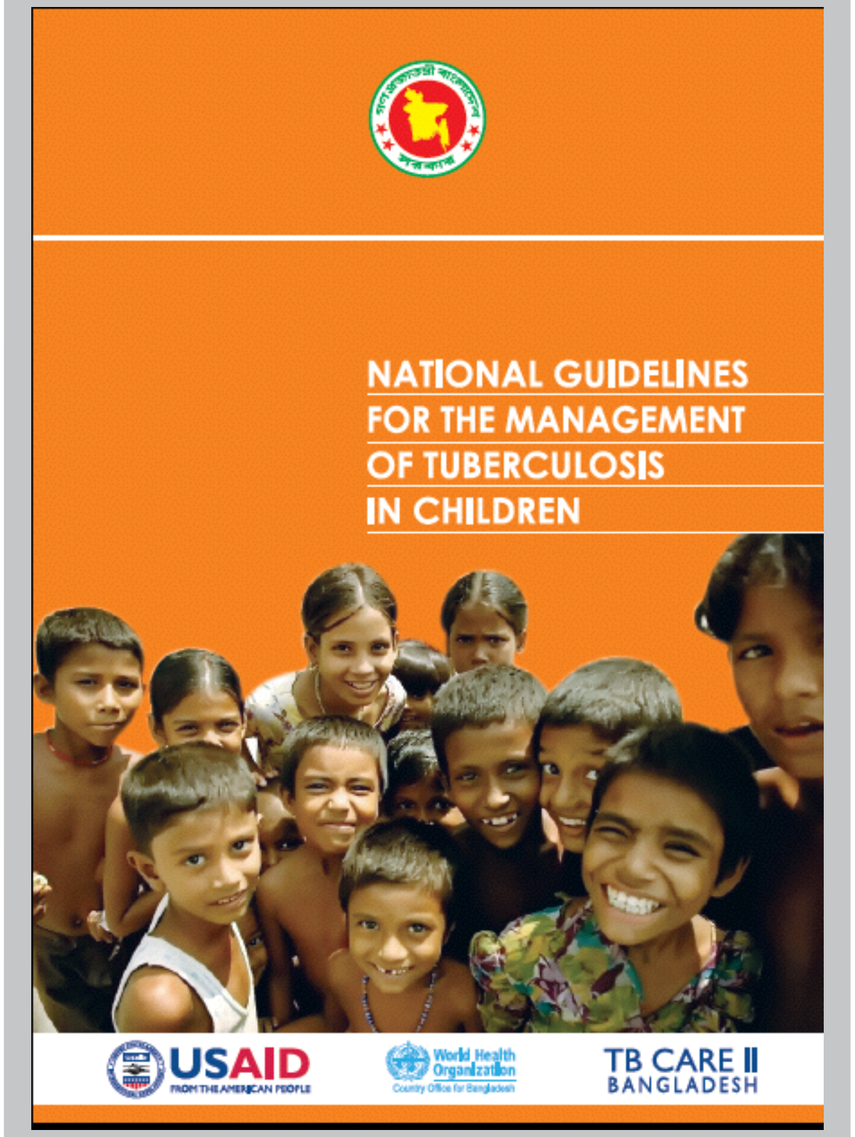
Low child TB, lower preschool TB notification



21-member Child TB Advisory Group

NTP
Academia- BPA, CWCH
NGOs- BRAC, DF
NATAB
WHO

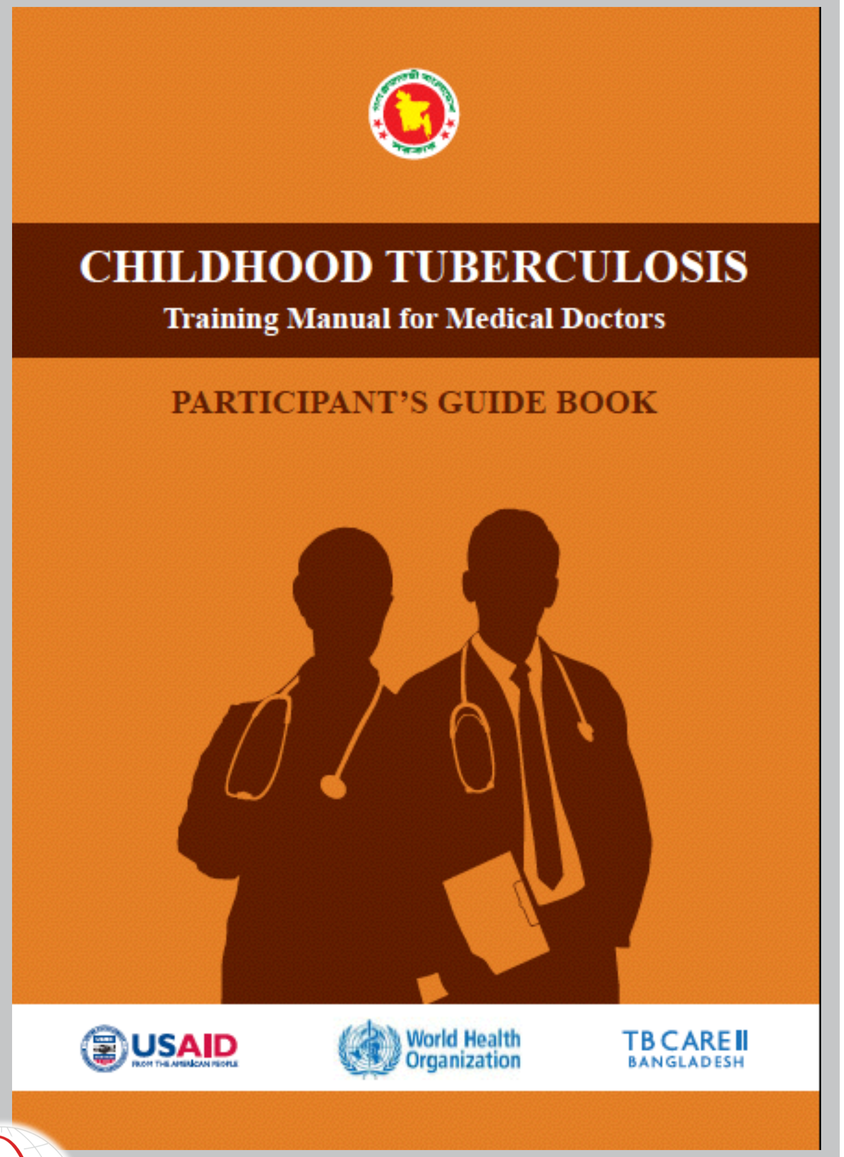
One patient representative to be included



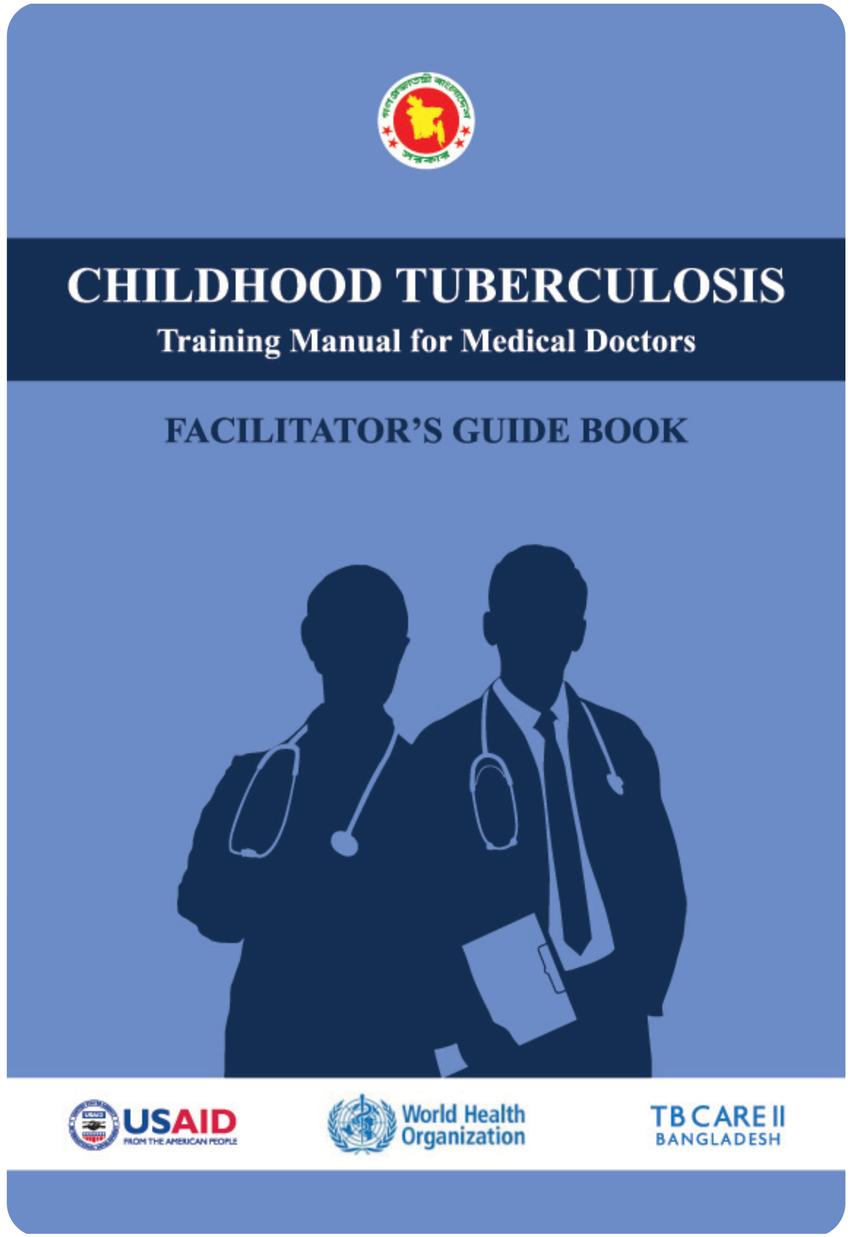
Bangladesh Child TB Guidelines 2012

http://tbcare2.org/content/national-guidelines-management-tuberculosis-children

CWCH



Training module for doctors



CWCH

Doctors training

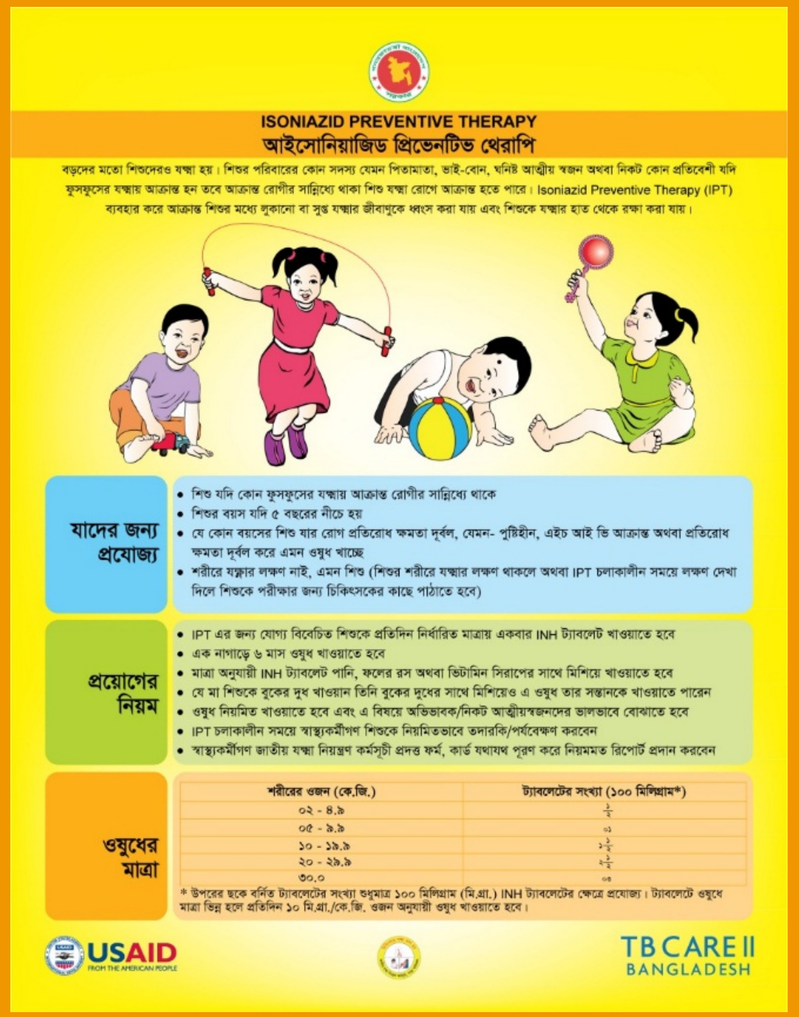
Health Worker Training

Booklet for Health Workers

Participants Trained	
Doctors (4-day training)	581
Doctors (1-day orientation)	544
Facilitators (4-day)	39
Health Care Worker	8,358
Others	43

Posters


পরিবারে কারো যক্ষ্মা হলে শিশুর যক্ষ্মা
হওয়ার সম্ভাবনা অনেক বেড়ে যায়
পরিবারের কেউ যক্ষ্মায় আক্রান্ত হলে দেরি না করে
শিশুর জন্য নিকটবর্তী স্বাস্থ্যকেন্দ্রের চিকিৎসক
বা স্বাস্থ্যকর্মীর সহায়তা নিন
সরকারি হাসপাতাল ও কিছু নির্দিষ্ট এনজিও ক্লিনিকে
বিনামূল্যে যক্ষ্মার চিকিৎসা পাওয়া যায়
USAID
TB CARE II
BANGLADESH


ISONIAZID PREVENTIVE THERAPY
আইসোনিয়াজিড প্রিভেনটিভ থেরাপি
বড়দের মতো শিশুদেরও যক্ষ্মা হয়। শিশুর পরিবারের কোন সদস্য যেমন পিতামাতা, ভাই-বোন, ঘনিষ্ট আত্মীয় স্বজন অথবা নিকট কোন প্রতিবেশী যদি ফুসফুসের যক্ষ্মায় আক্রান্ত হন তবে আক্রান্ত রোগীর সান্নিধ্যে থাকা শিশু যক্ষ্মা রোগে আক্রান্ত হতে পারে। Isoniazid Preventive Therapy (IPT) ব্যবহার করে আক্রান্ত শিশুর মধ্যে লুকানো বা সুপ্ত যক্ষ্মার জীবাণুকে ধ্বংস করা যায় এবং শিশুকে যক্ষ্মার হাত থেকে রক্ষা করা যায়।
যাদের জন্য প্রযোজ্য
• শিশু যদি কোন ফুসফুসের যক্ষ্মায় আক্রান্ত রোগীর সান্নিধ্যে থাকে
• শিশুর বয়স যদি ৫ বছরের নীচে হয়
• যে কোন বয়সের শিশু যার রোগ প্রতিরোধ ক্ষমতা দূর্বল, যেমন- পুষ্টিহীন, এইচ আই ভি আক্রান্ত অথবা প্রতিরোধ ক্ষমতা দূর্বল করে এমন ওষুধ খাচ্ছে
• শরীরে যক্ষ্মার লক্ষণ নাই, এমন শিশু (শিশুর শরীরে যক্ষ্মার লক্ষণ থাকলে অথবা IPT চলাকালীন সময়ে লক্ষণ দেখা দিলে শিশুকে পরীক্ষার জন্য চিকিৎসকের কাছে পাঠাতে হবে)
প্রয়োগের নিয়ম
• IPT এর জন্য যোগ্য বিবেচিত শিশুকে প্রতিদিন নির্ধারিত মাত্রায় একবার INH ট্যাবলেট খাওয়াতে হবে
• এক নাগাড়ে ৬ মাস ওষুধ খাওয়াতে হবে
• মাত্রা অনুযায়ী INH ট্যাবলেট পানি, ফলের রস অথবা ভিটামিন সিরাপের সাথে মিশিয়ে খাওয়াতে হবে
• যে মা শিশুকে বুকের দুধ খাওয়ান তিনি বুকের দুধের সাথে মিশিয়েও এ ওষুধ তার সন্তানকে খাওয়াতে পারেন
• ওষুধ নিয়মিত খাওয়াতে হবে এবং এ বিষয়ে অভিভাবক/নিকট আত্মীয়স্বজনদের ভালভাবে বোঝাতে হবে
• IPT চলাকালীন সময়ে স্বাস্থ্যকর্মীগণ শিশুকে নিয়মিতভাবে তদারকি/পর্যবেক্ষণ করবেন
• স্বাস্থ্যকর্মীগণ জাতীয় যক্ষ্মা নিয়ন্ত্রণ কর্মসূচী প্রদত্ত ফর্ম, কার্ড যথাযথ পূরণ করে নিয়মমত রিপোর্ট প্রদান করবেন
ওষুধের মাত্রা
শরীরের ওজন (কে.জি.) | ট্যাবলেটের সংখ্যা (১০০ মিলিগ্রাম*)
০২ - ৪.৯ | ½
০৫ - ৯.৯ | ১
১০ - ১৯.৯ | ১½
২০ - ২৯.৯ | ২½
৩০.০ | ৩
* উপরের ছকে বর্নিত ট্যাবলেটের সংখ্যা শুধুমাত্র ১০০ মিলিগ্রাম (মি.গ্রা.) INH ট্যাবলেটের ক্ষেত্রে প্রযোজ্য। ট্যাবলেটে ওষুধে মাত্রা ভিন্ন হলে প্রতিদিন ১০ মি.গ্রা./কে.জি. ওজন অনুযায়ী ওষুধ খাওয়াতে হবে।
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TB CARE II
BANGLADESH

Contact tracing and IPT

Capacity building

- Doctors, HCW, CHCP

Engagement of new players with TB services

- IMCI
- MCH
- National nutrition Services
- Professional bodies - BPA
- Community engagement
  - TB patient
  - Non-formal health service provider

Three immediate priorities

INT J TUBERC LUNG DIS 16(1):70–75

http://dx.doi.org/10.5588/ijtld.11.0060

Intervention to increase detection of childhood tuberculosis in Bangladesh

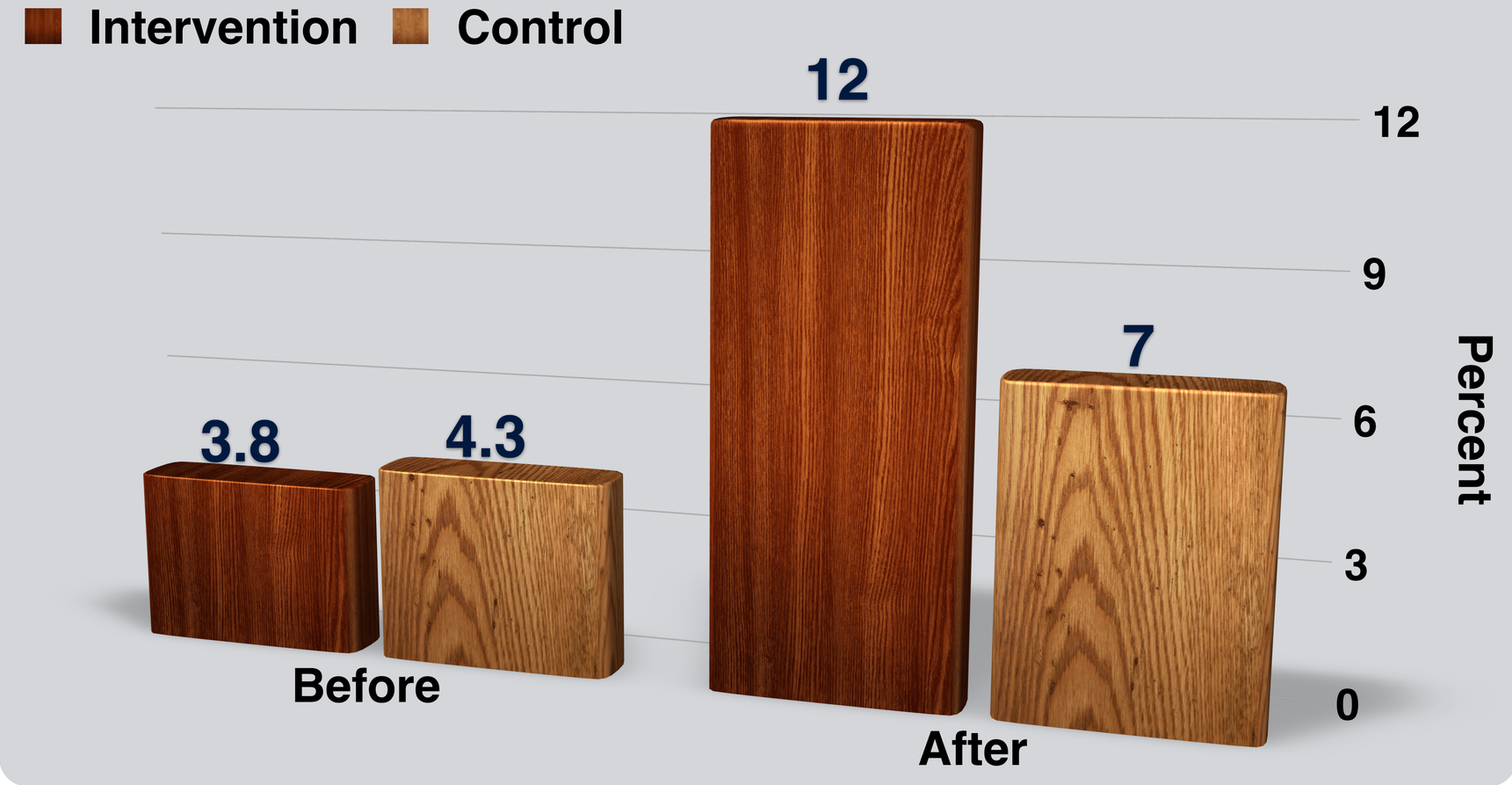
Increasing community detection

A community based intervention

1. **to increase referral of children with suspected TB and**
2. **case detection at microscopy centres at the upazila level**

CWCH

Child TB diagnosed before and after intervention



How will trained people work?

Assessment of system

Contact tracing by DOTS workers

Screening by Microscpy Centre Staff

Detection by doctors - usually attached to microscopy centres

MCH / IMCI services

Private services for child health

Non-formal practitioners

Assessment

OPEN ACCESS Freely available online

PLoS MEDICINE

Policy Forum

Closing the Policy-Practice Gap in the Management of Child Contacts of Tuberculosis Cases in Developing Countries

Philip C. Hill[1]*, Merrin E. Rutherford[1], Rick Audas[2], Reinout van Crevel[3], Stephen M. Graham[4,5]

1 Centre for International Health, Department of Preventive and Social Medicine, University of Otago School of Medicine, Dunedin, New Zealand, **2** Department of Preventive and Social Medicine, University of Otago School of Medicine, Dunedin, New Zealand, **3** Department of Medicine, Radboud University Njimegen Medical Centre, Njimegen, The Netherlands, **4** Centre for International Child Health, Department of Paediatrics, University of Melbourne, Melbourne, Australia, **5** International Union Against Tuberculosis and Lung Disease, Paris, France

Assessment

Parameter	Indicator	Specific Study Details/Design
Screening and diagnosis	Number of child contacts of TB cases and their basic characteristics	Routinely record details of all cases and their household contacts
	Proportion of children who attend for screening in community and at the clinic	Cohort study of consecutive household contacts ($n = 500$)[a]
	Proportion of children diagnosed with or without TB that are misclassified	Review of all case notes over the previous 6 months
	Proportion of children who require clinical follow up to clarify diagnosis	Review of all case notes over the previous 6 months
	Proportion of those who require follow-up that complete it to a diagnostic decision	Review of all case notes over the previous 6 months

Assessment

Adherence/ acceptability	Proportion of adherent children	Cohort of consecutively treated children ($n = 500$)[b]
	Proportion of temporary default children	Cohort of consecutively treated children ($n = 500$)[b]
	Proportion of permanent default children	Cohort of consecutively treated children ($n = 1{,}000$)[b]
	Patient/parent acceptability	Qualitative survey of caregivers ($n = 30$-50)
	Clinician and staff acceptability	Qualitative survey of staff from various disciplines ($n = 30$–50)
Treatment outcome	Number of children (<5 years) on preventive treatment who develop TB	Cohort of consecutively treated children, 1 year follow-up ($n = 2{,}000$)[c]
	Proportion with side effects of preventive treatment	Cohort of consecutively treated children ($n = 200$)[d]
	Proportion stopping treatment because of side effects of medication	Cohort of consecutively treated children ($n = 200$)[d]
Cost	Cost to clinic	Survey of key staff ($n = 10$)
	Direct and indirect costs to child and caregiver	Survey of primary caregivers ($n = 50$)

Non-formal sector

Policy and Practice

Turning liabilities into resources: informal village doctors and tuberculosis control in Bangladesh

MA Hamid Salim,[a] Mukund Uplekar,[b] Paul Daru,[a] Maug Aung,[a] E Declercq,[c] & Knut Lönnroth[b]

Abstract In 1998, the Damien Foundation Bangladesh invited semi-qualified, private "gram dakter" (Bangla for "village doctors") to participate in tuberculosis (TB) programmes in a population of 26 million people in rural Bangladesh. The organization trained 12 525 village doctors to not only refer suspected TB cases for free diagnosis but also to provide directly observed treatment (DOT) free of charge. Source of referral and place of DOT was recorded as part of the standardized TB recording and reporting system, which enabled us to quantify the contribution of village doctors to case detection rates and also allowed disaggregated cohort analysis of treatment outcome. During 2002 and 2003, 11% of all TB cases with positive sputum smears in the study area had been referred by village doctors; the rate of positive tests in patients referred by village doctors was 14.4%. 18 792 patients received DOT from

Village doctors

- Trained 12 525 village doctors
- During 2002 and 2003
  - 11% of all TB cases with positive sputum smears in the study area had been referred by village doctors;
  - the rate of positive tests in patients referred by village doctors was 14.4%.
  - 18 792 patients received DOT from village doctors, accounting for between 20% and 45% of patients on treatment during the 1998–2003 period.
  - The treatment success rate was about 90% throughout the period. Urine samples taken during random checks of treatment compliance were positive for isoniazid in 98% of patients treated by village doctors

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Road map in Bangldesh

- Include the needs of children and adolescents in research, policy development and clinical practice
- Collect and report better data, including data on prevention
- Develop training and reference materials for health care workers
- Foster local expertise and leadership
- Do not miss critical opportunities for intervention
- Engage key stakeholders
- Develop integrated family-centred and community-centred strategies
- Address research gaps
- Meet funding needs for child TB
- Form coalitions and partnerships to improve tools for diagnosis and treatment

Thank you for your attention

National Assembly Building, Dhaka

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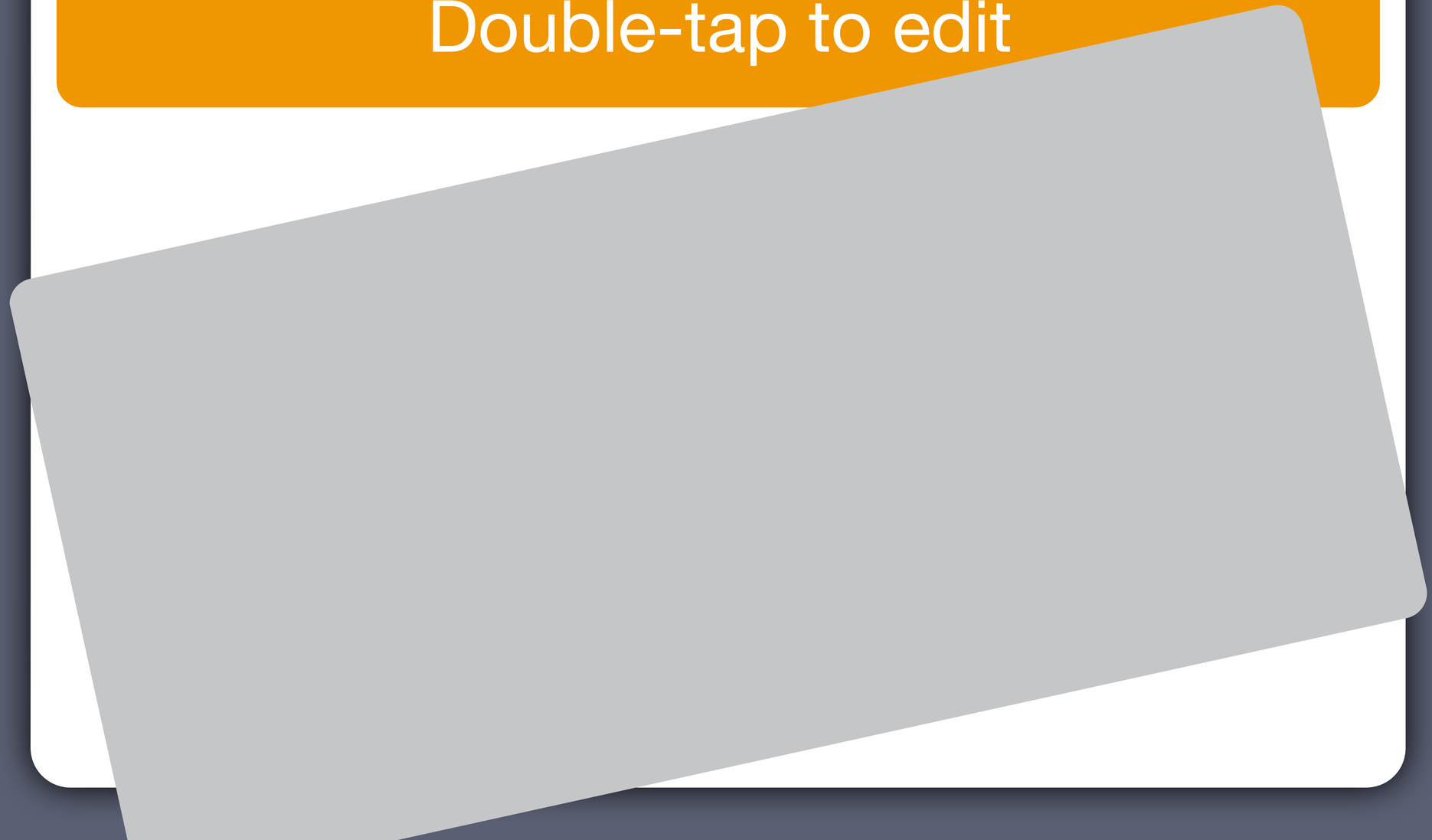

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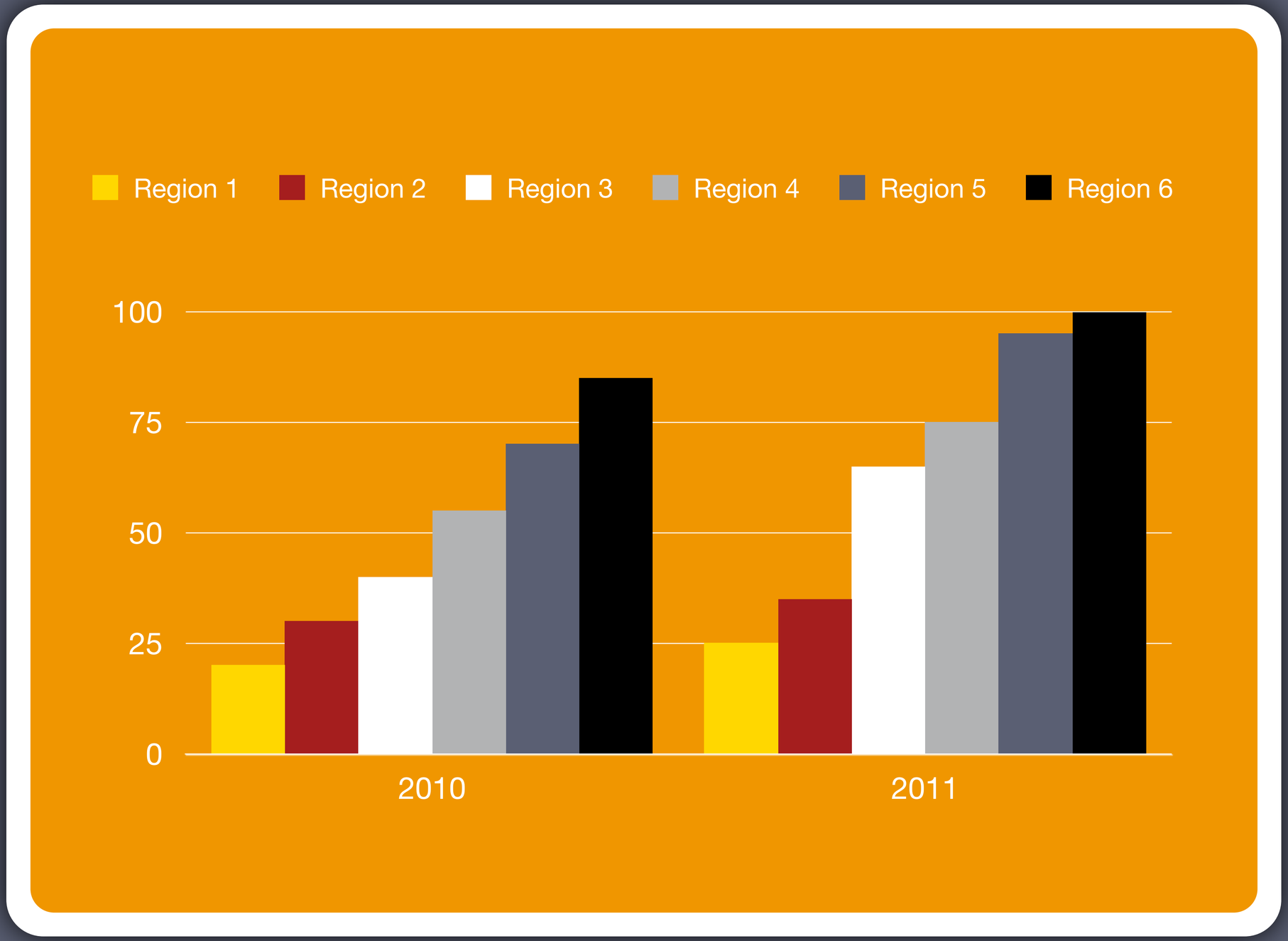
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Region 2
Region 3
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Region 5
Region 6
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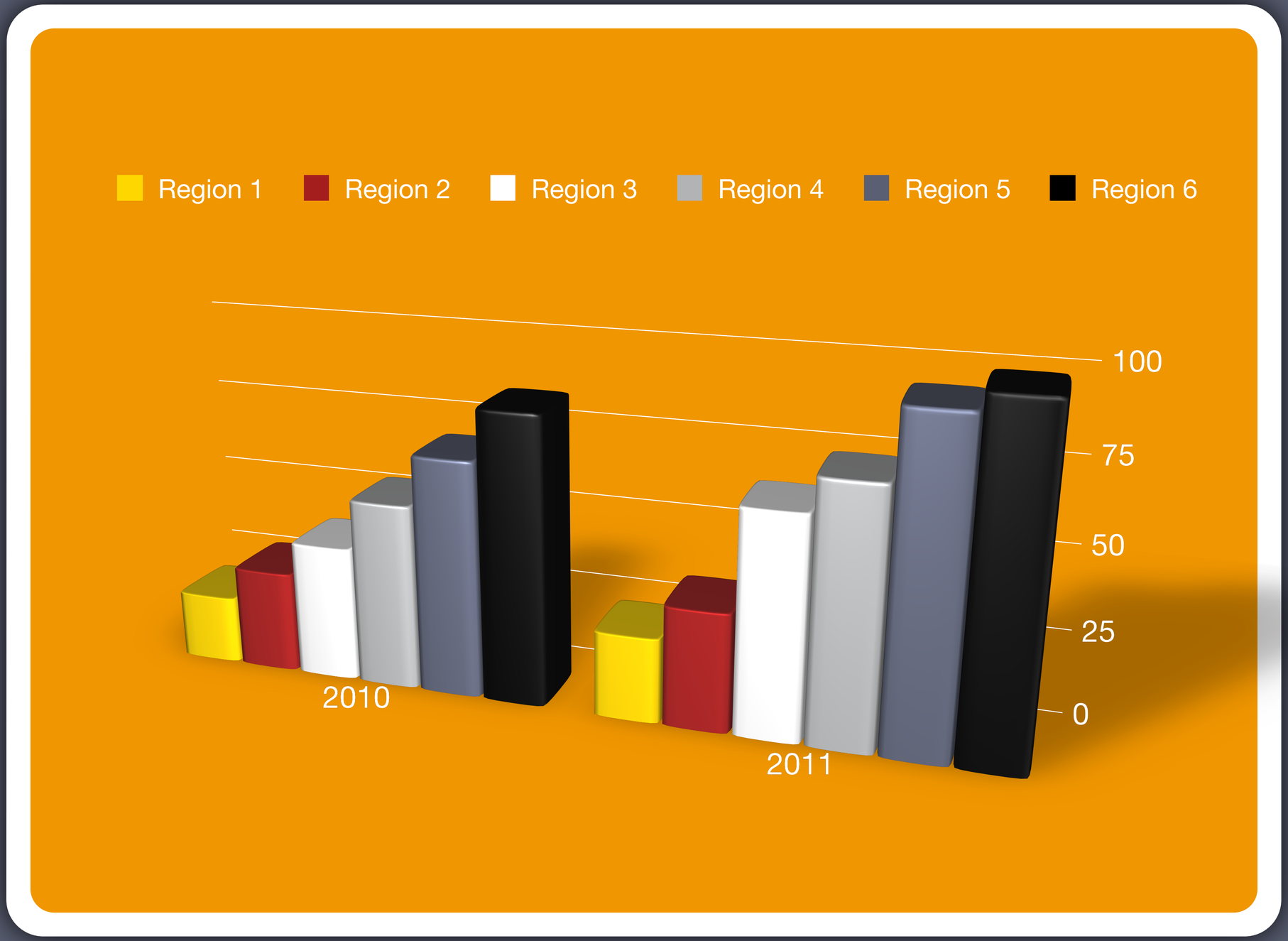
2011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